Resource Materials for Liberal Studies Teachers

Catering for the Learning Needs of Non-Chinese Speaking (NCS) Students

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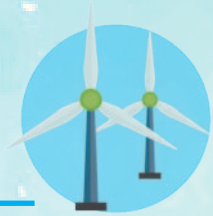
Senior Secondary Liberal Studies
Learning and Teaching Exemplar
for NCS students (1)

Revamping fuel mix for electricity generation in Hong Kong

Revamping fuel mix for electricity generation in Hong Kong

A. Basic information of the lessons



Topic Revamping fuel mix for electricity generation in Hong Kong

Relevant modules, themes and issues for enquiry

Leading Module 6: Energy Technology and the Environment

Theme 1: The Influence of Energy Technology

- To what extent does the development of energy technology create or solve environmental problems?
- What are the implications of environmental change on the development of energy technology?

Theme 2: The Environment and Sustainable Development

- How do the living styles of people and social development affect the environment and the use of energy?
- What responses could be made by different sectors of society, governments and international organizations regarding the future of sustainable development?

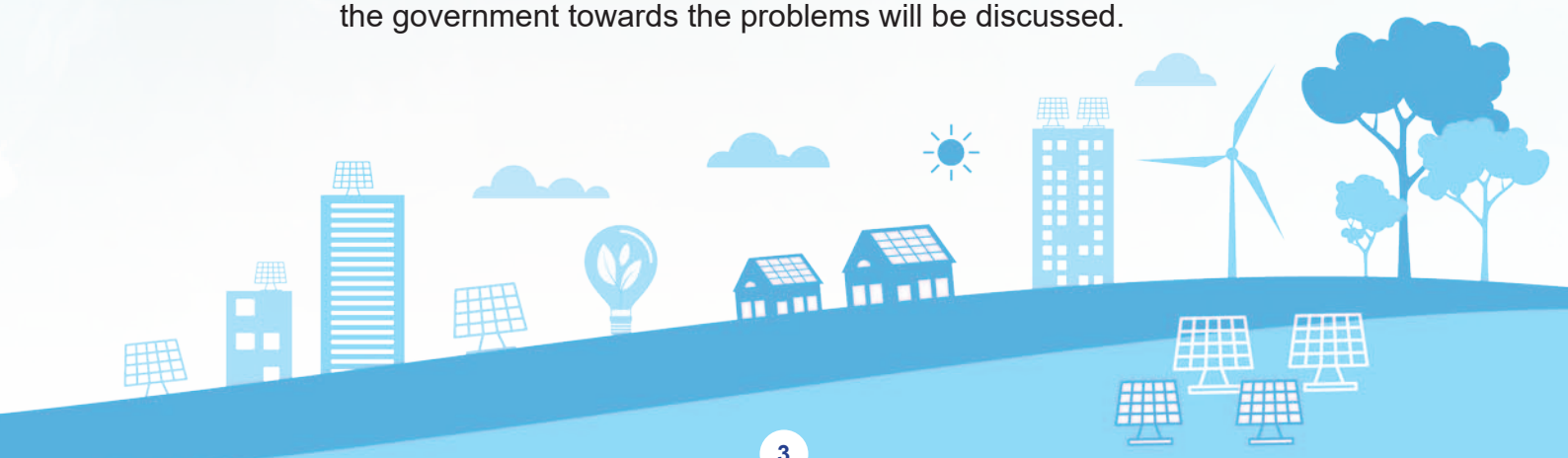
Related Module 2: Hong Kong Today;

Theme 1: Quality of Life

- Which aspects of the quality of life are seen to be more important? Which are seen to be immediate needs? Who might make the decisions? Why?
- What are the different opinions of Hong Kong residents on the priorities which constitute the quality of life?

Overall design rationale

The lessons start from examining the background for revamping fuel mix for electricity in Hong Kong. Students will identify the strengths and weaknesses of the current fuel mix with reference to the data provided and their understanding about different energy. Energy problems and the response of the government towards the problems will be discussed.



Students will discuss the criteria/ factors affecting decisions made on fuel mix with a view to design an optimal fuel mix with justification. During the discussion, emphasis would be given to the contextualization and conceptualization of the factors considered.

The lessons end by summarizing the energy problems and different measures addressing to the problems.

Time required

3 lessons (40 minutes per lesson), approximately 120 minutes in total

Learning objectives

Knowledge:

- To enhance the understanding of the pros and cons associated with different energy sources
- To understand the factors affecting decisions made on the fuel mix
- To understand and explore feasible ways to reduce energy problems

Skills:

- To develop data interpretation and processing skills
- To make conceptual observations based on the available data in exploring the issues
- To apply relevant knowledge and concepts in discussing contemporary issues
- To analyze issue from critical multiple perspectives and the skills of conceptualization and contextualization
- To respond immediately to queries
- To express ideas in speaking and writing

Values and attitudes:

- To consider personal and social issues from multiple perspectives and make sound judgments with reasoning and creativity
- To foster positive attitude towards balancing different views and comprehensive consideration
- To understand the importance of environmental protection and sustainable development, to respect natural resources, and to practise a green lifestyle

Basic Concepts for application

Basic concepts:

Energy technology, non-renewable energy, renewable energy, resource depletion, climate change, air pollution, sustainable development, green lifestyle

Other related concepts:

Quality of life, energy equity, eco-friendliness, availability, feasibility, affordability, reliability, safety, stability, sustainability, security, cost-effectiveness

Relevant learning experience at junior secondary levels

- To have a general idea about energy types and energy use
- To have a basic understanding of the pros and cons of different energy sources
- To have acquired a basic understanding of the energy problems facing Hong Kong and the world e.g. air pollution, global warming, the greenhouse effect
- To have studied some principles of power generation
- To have fostered the value about the role of individuals in environmental protection.

Catering the learning needs of NCS students

- Generally, NCS students are not strong in processing statistical data. The attached data file will offer students with different types of statistical data with a view to equipping them with necessary skills in tackling statistical data during lessons.
- Guiding questions are set after each source in the data file. The questions guide students to process the data and generalize the implication of the data step by step. The questions could be used for lesson preparation or in-class discussion.
- Audio-visual learning materials may enhance the motivation of students in learning Liberal Studies.

B. Design of classroom learning and teaching

Lesson Learning and teaching strategies and flow

Before class

Lesson preparation

Ask students to study the sources in the data file (Appendix 1) and answer the simple guiding questions that followed. This would facilitate the discussion and learning activities in the coming lessons.

1

Lead in (around 10 minutes)

- Remind students about the **<u>importance of electricity in people's lives and supporting the development of Hong Kong</u>** (e.g. we cannot live a day in comfort without electricity. Our lighting, home appliances, computers, entertainment, the mass transport systems e.g. MTR trains and numerous other machines are all powered by electricity). Teachers may highlight the concepts such as industrialization, urbanization, commercialization and economic development when discussing the background for the huge demand of electricity (Appendix 1 Source H).

- Tell the students that the majority of electricity consumed in Hong Kong is generated by power stations and some electricity is supplied by nuclear power plants located in Guangdong Province (Appendix 2).

Pair-work/ group work (around 15 minutes)

- Ask students to identify the characteristics of current fuel mix (e.g. 75% fossil fuel, 25% alternative/ clean energy, heavily relied on fossil fuel, not eco-friendly, not diversify etc.) (Appendix 1 Source A)

- Ask students to discuss the strengths and weaknesses of current fuel mix with reference to the data given (Appendix 1 Sources B to D) (Appendix 3). Teachers please pay attention to **<u>conceptualization</u>** and the **<u>evaluation of each strength and weakness</u>** in the context of Hong Kong.

Strengths: (Sources D, E, F, G and H)

- Affordable price (significant to ensure energy equity)
- Stable supply (significant to the development of Hong Kong and our daily lives)

Weaknesses: (Sources B, C and D)

- Greenhouse gas emission and its impact on global warming
- Air pollutant emission and its impact on health
- Not diversified, mainly relied on fossil fuel and non-renewable energy

- Teachers may mention other strengths of electricity supply in Hong Kong e.g. wide coverage (access to the entire population), well-developed energy infrastructure.

Round up: Objective and necessity of revamping the fuel mix (around 10 minutes)

- Teachers may arouse students' awareness about the objectives and the **necessity of revamping the fuel mix** with reference to the weaknesses of the existing fuel mix identified in the previous discussion and some official documents (Appendix 1 Source I)

  - ➢ To improve air quality in Hong Kong
  - ➢ To promote sustainable development of Hong Kong
  - ➢ To fulfill the target of carbon emission (a responsibility to fulfill the local target, national target, target set in the international treaties)

2 *Group Discussion (around 25 minutes)*

- Ask students to discuss and identify the **criteria/ factors affecting the decisions made on the fuel mix** with reference to the previous discussion about the strengths and weaknesses of existing fuel mix (Appendix 4). The discussion should contextualize to the current situation in Hong Kong. Some possible factors includes:

  - ★ Eco-friendliness (environmental impact)
  - ★ Affordability (pricing)
  - ★ Reliability / Stability
  - ★ Safety
  - ★ Sustainability (permanent / abundant supply)
  - ★ Security
  - ★ Diversity
  - ★ Cost-effectiveness
  - ★ Availability
  - ★ Spatial requirement
  - ★ Geographical factors

  Students are expected to justify their answer, i.e. the significance of considering a specific factor.

Pair-work (15 minutes)

- Ask students to think of what would the fuel mix be like if only a particular criteria/factor is adopted in Hong Kong. For example, there will be more extensive use of nuclear energy and renewable energy (not feasible to have large percentage) if eco-friendliness is picked, but then feasibility and affordability will be a concern. Or if pricing will be prioritized, the use of fossil fuel may harm the environment and health of citizens. Such discussion would arouse the attention of the students towards the importance of balancing different considerations (Appendix 5). Teacher may skip the example and guide student to draft an eco-friendly fuel mix instead.

3

Group Discussion (around 25 minutes)

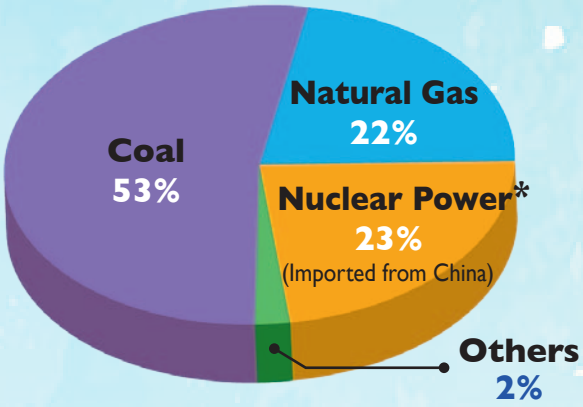
- Ask students to discuss how our fuel mix should be revamped and suggest an optimal future fuel mix for electricity generation in Hong Kong. Students are required to explain the justification of the optimal fuel mix with reference to the current situation of Hong Kong, pros and cons of different energy sources and the factors identified in previous lessons. The percentage share of each energy source should be justified as well (Appendix 6).

Teacher summary (15 minutes)

- Summarize student's presentations and point out that the government needs to consider different factors when revamping the fuel mix. Compare the government's suggestion with the students' suggestion.
- Explain how industrialization, urbanization and commercialization contributed to energy problems (e.g. huge demand of energy, shortage, environmental impacts). **Various solutions to energy problems** should be highlighted e.g. revamping fuel mix, save energy (living habit, electrical appliance with high efficiency, e.g. green policy, international collaboration).

Appendix 1: Data File

SOURCE A Existing fuel mix for electricity generation in Hong Kong



Source: Environment Bureau, HKSAR. (2014). *Future Fuel Mix for Electricity Generation Consultation Document.* Retrieved from http://www.enb.gov.hk/sites/default/files/en/node2605/Consultation%20Document.pdf

Questions:

1. What type of energy source are coal and natural gas? What are the pros and cons of using such type of energy source?

_____

_____

2. What type of energy source is nuclear power? What are the pros and cons of using it?

_____

_____

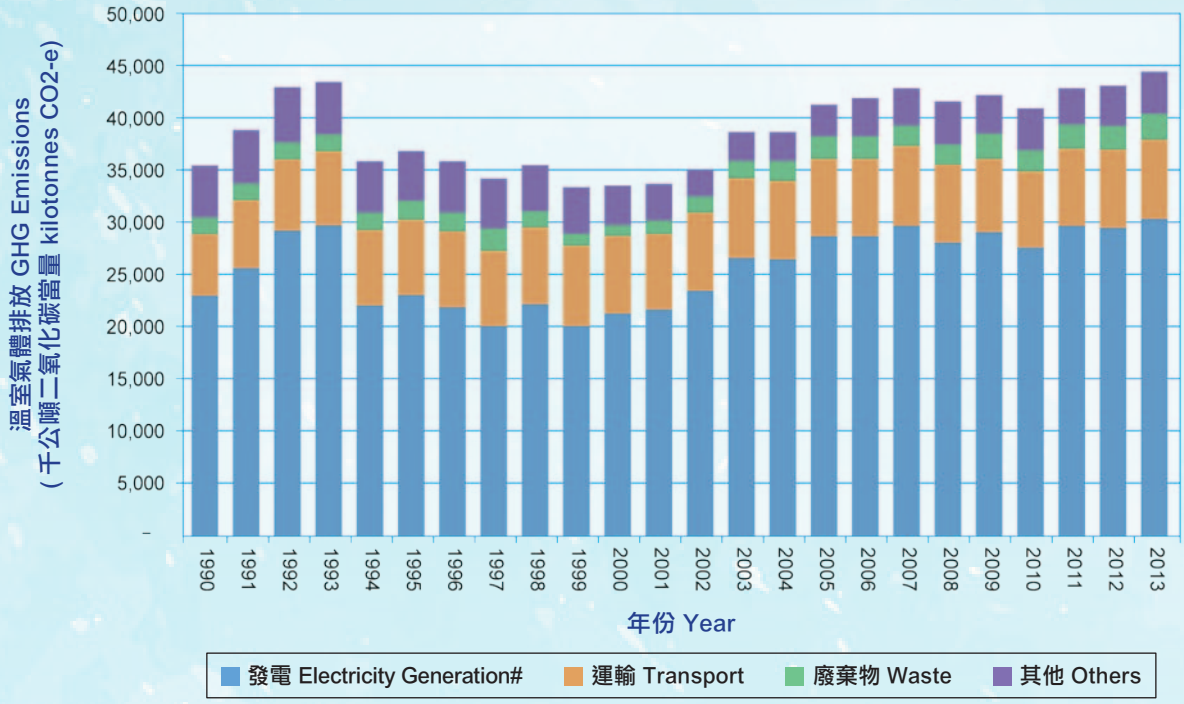
3. Identify the characteristics of the existing fuel mix for electricity generation (e.g. the majority/ the most, the least).

_____

_____

SOURCE B

1990 年至 2013 年香港温室氣體排放趨勢
Greenhouse Gas Emission Trends of Hong Kong from 1990-2013



Source: Environment Bureau. (2017). Greenhouse Gas Emission Trends of Hong Kong from 1990-2013. https://www.climateready.gov.hk/files/pdf/HKGHG_Trend_201612.pdf

Questions:

1. Among the four sources of greenhouse gas (GHG) emission shown in Source B, which contributed to the largest emission in all years.

_____

2. With reference to Source A, explain your findings in question 1.

_____

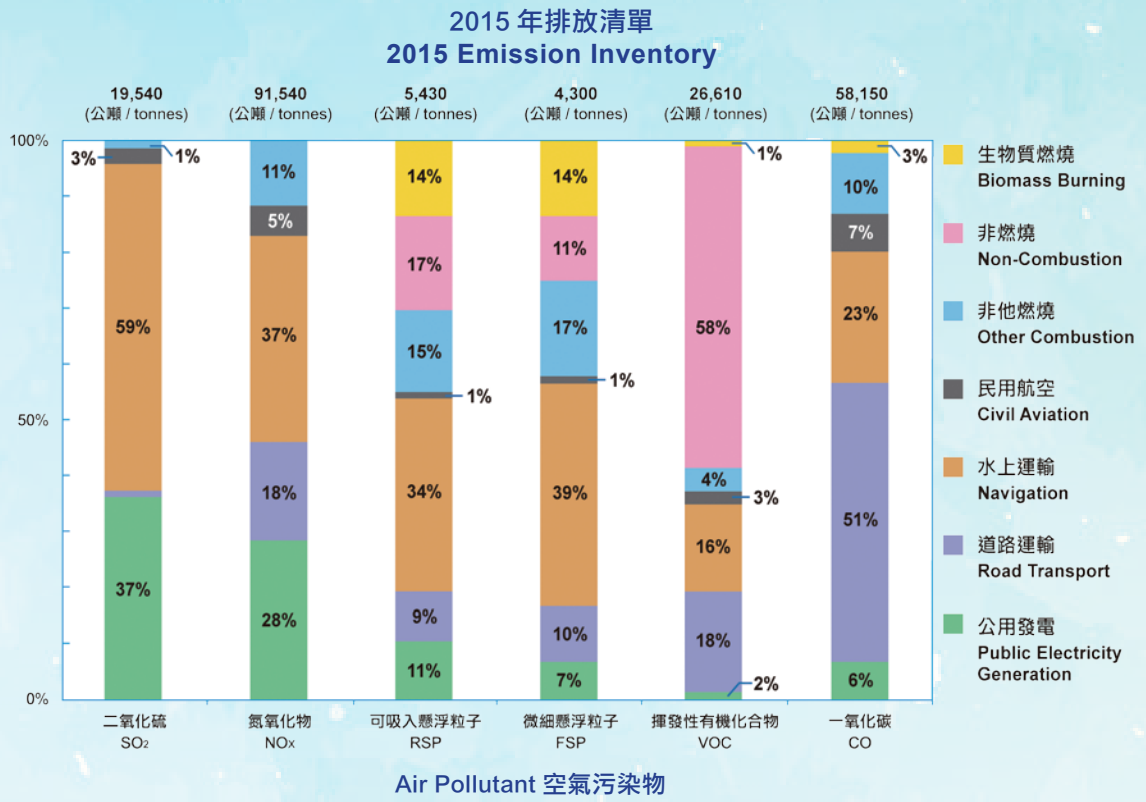
3. Identify and explain the impact of greenhouse gas emission to the world.

_____

_____

_____

SOURCE C Emission Inventory of Hong Kong in 2015



Source: Environmental Protection Department. (2015). 2015 Emission Inventory. Retrieved from http://www.epd.gov.hk/epd/english/environmentinhk/air/data/emission_inve.html

Questions:

1. Which air pollutant does public electricity generation contributes the most?

_____

_____

2. Identify and explain the impact of air pollutants on the quality of life of Hong Kong people.

_____

_____

_____

_____

SOURCE D The following table compares different energy sources.

	Coal	Natural Gas	Nuclear Power	Renewable Powers
Air pollutants emission level	High to extreme high	Moderate	Low	Low
CO_2 emission level	High to extreme high	Low	Low	Low
Availability	Becoming lesser	abundant	abundant	Unlimited (constrained locally)
Present energy cost per unit (HK$)	Around 30.5 to 50.4 cents	Around 1.2 dollars	Around 50 to 60 cents	Estimated minimum 2 dollars
Price trend	Consistently low	Consistently increasing	Consistently stable	Unstable
Safety	High	High	Low to moderate	High

Source: Adapted from the data sources on the Internet.

Questions:

1. Which energy source/ energy sources shown in Source D is/are:

   (a) the most eco-friendly _____

   (b) the cheapest _____

   (c) getting more expensive _____

   (d) relatively not safe _____

   (e) facing shortage _____

2. Describe the pros and cons of the following energy sources with reference to Source D and your answer to question 1.

   (a) Coal: _____ but _____

   (b) Natural gas: _____ but _____

   (c) Nuclear power: _____ but _____

   (d) Renewable power: _____ but _____

SOURCE E Information on electricity generation using different energy sources

Sources of electricity generation		Capacity factor (%) *	Cost of generating electricity (US$/megawatt-hour)	Carbon dioxide emission (tonne/gigawatt-hour)
Coal		85	100	888
Natural gas		87	67	499
Nuclear		90	108	29
Water (hydro)		52	90	26
Wind	Onshore	34	87	26
	Offshore	37	222	

* Capacity factor is the ration of the actual amount of electricity produced in a given period to the maximum amount possible.

Source: Adapted from the data sources on the Internet.

1. Which energy source / sources is/are:

   (a) the cheapest _____

   (b) the most expensive _____

   (c) the most cost-effective _____

   (d) the least cost-effective _____

   (e) the most eco-friendly _____

   (f) the least eco-friendly _____

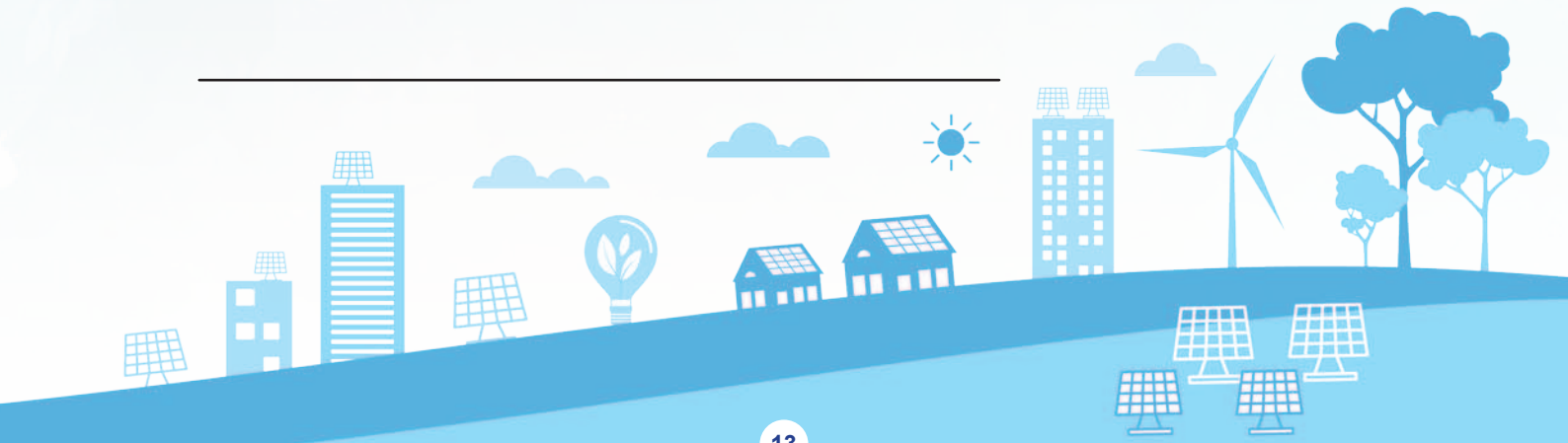
2. From your own knowledge, explain one more disadvantage of using wind power.

   _____

3. Among all the energy sources shown in Source E, which one is the least feasible to be developed in Hong Kong. Explain your answer with reference to your own knowledge.

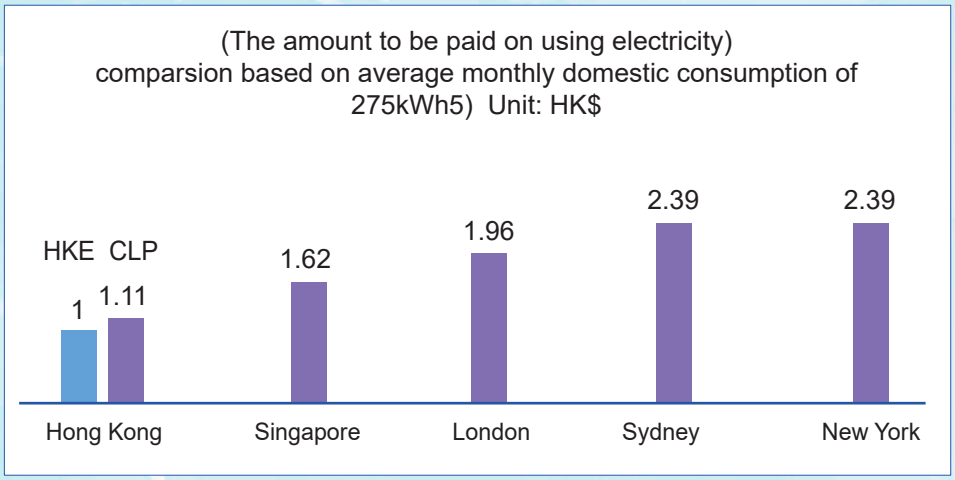
   _____

   _____



SOURCE F Electricity tariff of Hong Kong and other cities

Table 1

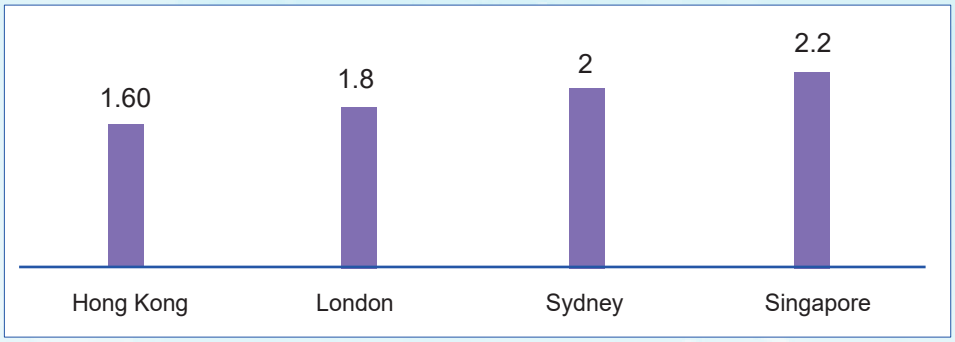


Remarks:
HKE: The Hong Kong Electric Company; CLP: the China Light and Power Co.
For Hong Kong, net tariff for 2015 is adopted. For other cities, tariff and exchange rate at November 2014 are adopted. The overall average net tariff of CLP and HKE for 2015 is $1.14 and $1.35 respectively.

Source: Environment Bureau. (2015). Public Consultation on the Future Development of the Electricity Market. http://www.enb.gov.hk/sites/default/files/en/node3428/EMR_condoc_e.pdf

% share of household expenditure on electricity supply

Table 2

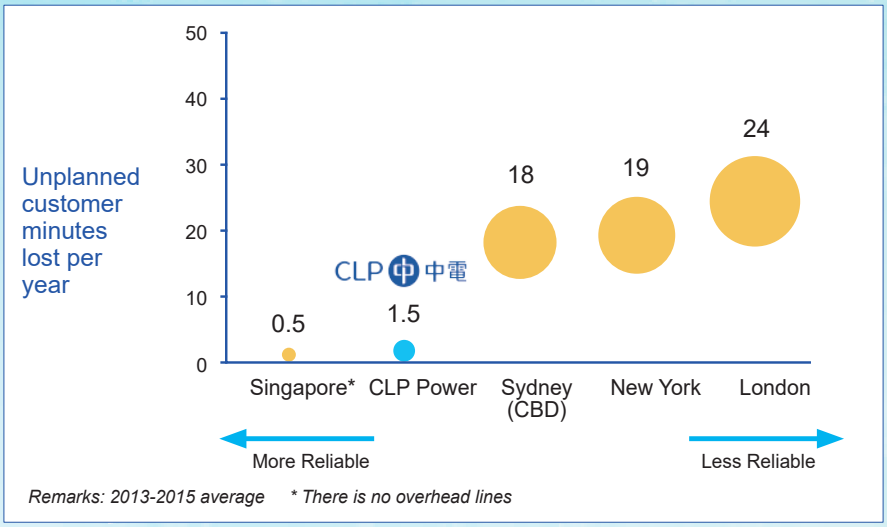


Source: Environment Bureau. (2015). Public Consultation on the Future Development of the Electricity Market. http://www.enb.gov.hk/sites/default/files/en/node3428/EMR_condoc_e.pdf

Questions:

1. How would you describe the electricity tariff (how much you pay for using electricity) of Hong Kong when comparing with other cities? Explain your answer with reference to Table 1 and Table 2 in Source F.

SOURCE G Information on electricity generation using different energy sources



Source: CLP Power Hong Kong Limited. (2017). 2017 Electricity Tariff. Retrieved from https://www.clp.com.hk/en/customer-service/frequency-asked-questions/2017-electricity-tariff#1

Hong Kong has been ranked number 3 among some 138 economies in respect of electricity supply quality in World Economic Forum's Global Competitiveness Report in 2016-2017.

Source: World Economic Forum. (2017).The Global Competitiveness Report 2016–2017. Retrieved from http://www3.weforum.org/docs/GCR2016-2017/05FullReport/TheGlobalCompetitivenessReport2016-2017_FINAL.pdf

Question:

1. How would you describe the electricity supply in Hong Kong when comparing with other cities shown in Source G?

SOURCE H Electricity Consumption by Sectors in Hong Kong

Year	Residential	Commercial	Industrial	Transport	Total
2010	39344 (26%)	97894 (65%)	11082 (7%)	2540 (2%)	150859
2011	39872 (26%)	99594 (66%)	9530 (6%)	2609 (2%)	151605
2012	41189 (27%)	101813 (66%)	9356 (6%)	2722 (2%)	155079
2013	39941 (26%)	101480 (66%)	9144 (6%)	2796 (2%)	153362
2014	43415 (27%)	102627 (65%)	9230 (6%)	2875 (2%)	158147

Unit: Terajoule

Source: Census and Statistics Department. (2016). Hong Kong Energy Statistics Annual Report. Retrieved from https://www.censtatd.gov.hk/hkstat/sub/sp90.jsp?productCode=B1100002

Question:

1. Describe the trends shown in Source H. (trend=increase / decrease; find out the difference between the year 2010 and 2017 in each sector)

   Residential sectors had a/an decrease/increase in electricity consumption from _____ terajoule in 2010 to _____ terajoule in 2014.

   How about the other sectors? _____

2. Identify the pattern shown in Source H. (pattern=phenomenon that repeats itself)

   _____

SOURCE I

The China national target announced in 2009 is to reduce carbon intensity by 40% to 45% by 2020 as compared with the level in 2005. Hong Kong's climate change target, first proposed in 2010, is to reduce carbon intensity by 50% to 60% by 2020 as compared with the level in 2005.

Source: Environment Bureau. (2015). Hong Kong Climate Change Report 2015. Retrieved from http://www.enb.gov.hk/sites/default/files/pdf/ClimateChangeEng.pdf

The Paris Agreement came into force on 4 November 2016, succeeding the Kyoto Protocol. As decided by the Central People's Government, the Paris Agreement applies to the Hong Kog Special Administrative Region.

Source: Environment Bureau. (2017). Hong Kong Climate Action Plan 2030+. Retrieved from http://www.enb.gov.hk/sites/default/files/pdf/ClimateActionPlanEng.pdf

Question:

1. Explain the following terms by searching relevant information from your textbook or from the internet:

   a) Carbon intensity

   _____

   b) The Paris Agreement (the Paris Climatic Conference)

   _____

2. What should Hong Kong do in response to the target set by the two documents mentioned in Source I?

   _____

SOURCE J Major nuclear disasters

Date	Location of accident	Description of accident or incident	Dead	INES level*
April 26, 1986	Chernobyl disaster, Ukraine	Overheating, steam explosion, fire, and meltdown, necessitating the evacuation of 300,000 people from Chernobyl and dispersing radioactive material across Europe	30 direct, 19 not entirely related and 15 minors due to thyroid cancer, as of 2008.	7
March 12, 2011	Fukushima, Japan	A tsunami flooded and damaged the 5 active reactor plants drowning two workers. Loss of backup electrical power led to overheating, meltdowns, and evacuations. One man died suddenly while carrying equipment during the clean-up.	2+	7

* International nuclear event scale (7= major accident)
Source: Adapted from online data sources.

Following the March 2011 Fukushima nuclear disaster, Germany has permanently shut down eight of its 17 reactors and pledged to close the rest by the end of 2022. Italy voted overwhelmingly to keep their country non-nuclear. Switzerland and Spain have banned the construction of new reactors. Japan's prime minister has called for a dramatic reduction in Japan's reliance on nuclear power.

Audio-visual references:

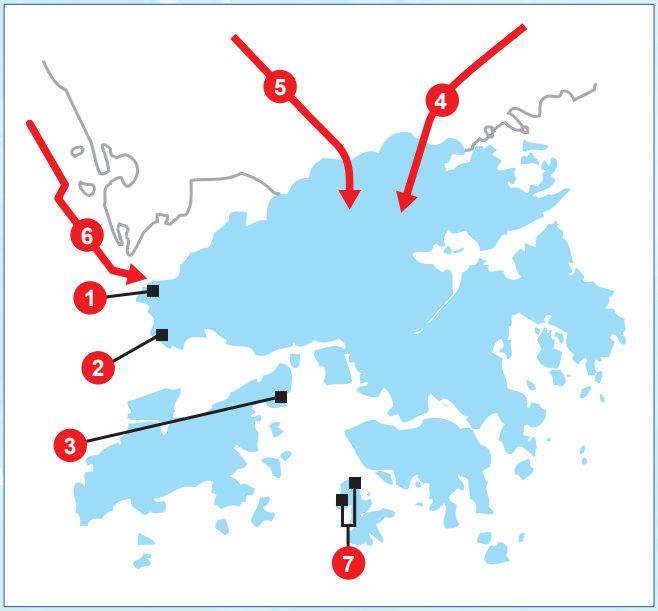
1. Chernobyl: What happened 30 years ago? (BBC News)
   http://www.bbc.com/news/world-europe-36132698
2. Japan 311 Great Earthquake and Tsunami
   https://www.youtube.com/watch?v=GWbiOEoc3PM
3. Fukushima Daiichi Nuclear Disaster
   https://www.youtube.com/watch?v=zwk_53DEp44

SOURCE K Audio visual references:

1. 20150308 ATV 時事追擊 扶貧與環保 (ATV News Magazine – poverty and environmental protection)
   https://www.youtube.com/watch?v=sDwOFNskXUg

2. 20140615 RTHK 鏗鏘集 用電思源 (RTHK Hong Kong Connection – consider its source when using energy)
   https://www.youtube.com/watch?v=4I7b0WDHY8Y

Appendix 2: Where does OUR electricity come from?



The China Light and Power Company: mainly supply electricity to Kowloon and the New Territories, including the Lantau Island, Cheung Chau and other outlying islands.

1. Black Point Power Station (Gross capacity: 2,500MW): One of the world's largest gas-fired (natural gas) power stations
2. Castle Peak Power Station: a coal-fired power station
3. Penny's Bay Power Station: run on ultra low-sulphur diesel
4. Guangdong Daya Bay Nuclear Power Station: generated by nuclear energy, capacity purchase by CLP up to 70%
5. Guangzhou Pumped Storage Power Station: Uses hydro technology to recover stored energy for backup purposes or to accommodate peak demand
6. Importing natural gas from Central Asia (Turkmenistan)via the 9,000 km second West-to-East Pipeline in 2013

Hong Kong Electric Company: mainly supply electricity to Hong Kong Island, Ap Lei Chau and Lamma Island

7. Lamma Island Power Station: run on coal, natural gas, wind and solar

Remark: some buildings of the governmental or public funded institutions or non-profit making organizations install facilities for non-renewable energy.

Source: Adapted from online data sources.

Appendix 3: Strengths and weaknesses of existing fuel mix

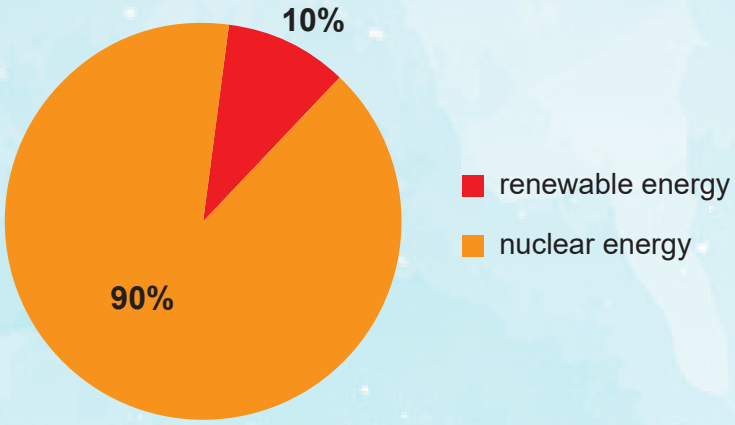
Strengths	Weaknesses

Appendix 4: Criteria / factors affecting the decisions made on fuel mix

Factors / criteria (give brief explanation of the meaning)	Justification / significance (Why is the factor important in Hong Kong?)
1.	
2.	
3.	
4.	
5.	
6.	
7.	

Appendix 5: What would be the fuel mix if a particular criterion/ factor is adopted in Hong Kong?

Example:



e.g. eco-friendliness

(Explanation: with reference to Sources D and E, CO_2 emission and air pollutant emission level of renewable energy and nuclear energy are low. Air pollution and global warming problems will be eased. Using nuclear energy is more feasible than renewable energy due to physical/environmental constraints. So,only 10% share of fuel mix allocated to renewable energy is recommended.)

Appendix 6: Revamping the fuel mix

Suggest an optimal Hong Kong's future fuel mix for electricity generation. Justify your view with reference to the sources and your own knowledge.

You can make use of the following table to be your draft:

Energy		Percentage (%)	Reasons for using / not using (consider the pros and cons of each energy)
Non-renewable	Coal		
	Oil		
	Natural gas		
	Nuclear		
Renewable	Wind		
	Solar		
	Others: _____		
		Total: 100%	

Optimal Hong Kong's future fuel mix for electricity generation

(use different colour to shade different sectors and indicate the percentage)

Justification:

(You should explain your choice and the percentage share with evidence. You can first explain the reasons for having specific energy with the highest /lowest percentage share. You may also pay attention to the overall design of the fuel mix e.g. is it diversify enough).

Suggested structure for the essay :

_____ % of _(energy source)_ would be used because of (a concept indicating its advantage) . According to Source _____ , (cite relevant clue to support your answer). It shows that _(energy source)_ is (summarize the implication of the clue) . It is important to Hong Kong because (explain in the context of Hong Kong/ how Hong Kong could be benefitted) . Only _____% / more than _____% is used because (explain why atparticular percentage share is suggested).

Sample: 10% of hydro energy would be used because it is eco-friendly. According to Source E, the carbon emission of hydro energy is 26 tons/gigawatt-hour which is very low. It shows that hydro energy is eco-friendly. In Hong Kong, air pollution problem is serious. Using more eco-friendly energy will alleviate the air pollution problem in Hong Kong. Only 10% is used because it is not very feasible to develop large scale HEP project in Hong Kong. …

-- End of Appendix --

Guidelines for Teachers

(P.9) Questions:

1. What type of energy source are coal and natural gas? What are the pros and cons of using such type of energy source?

ans.: fossil fuel – advantage: cheaper price, disadvantage: air pollution etc.)

2. What type of energy source is nuclear power? What are the pros and cons of using it?

ans.: non-renewable energy – advantage: abundant supply though non-renewable, disadvantage: safety concern, etc

3. Identify the characteristics of the existing fuel mix for electricity generation (e.g. the majority/ the most, the least).

ans.: majority – fossil fuel, mostly coal, very little proportion of renewable energy etc.

(P.10) Questions:

1. Among the four sources of greenhouse gas (GHG) emission shown in Source B, which contributed to the largest emission in all years.

ans.: electricity generation

2. With reference to Source A, explain your findings in question 1.

ans.: mainly burning of fossil fuel

3. Identify and explain the impact of greenhouse gas emission to the world.

ans.: Gases that trap heat in the atmosphere are called greenhouse gases. Examples of greenhouse gases e.g. carbon dioxide, methane, nitrous oxide, and ozone. They will intensify global warming problem in the world. Impacts such as increase in temperature of the Earth's surface, extreme weather will occur.

(P.11) Questions:

1. Which air pollutant does public electricity generation contribute the most?

ans.: SO2

2. Identify and explain the impact of air pollutants on the quality of life of Hong Kong people.

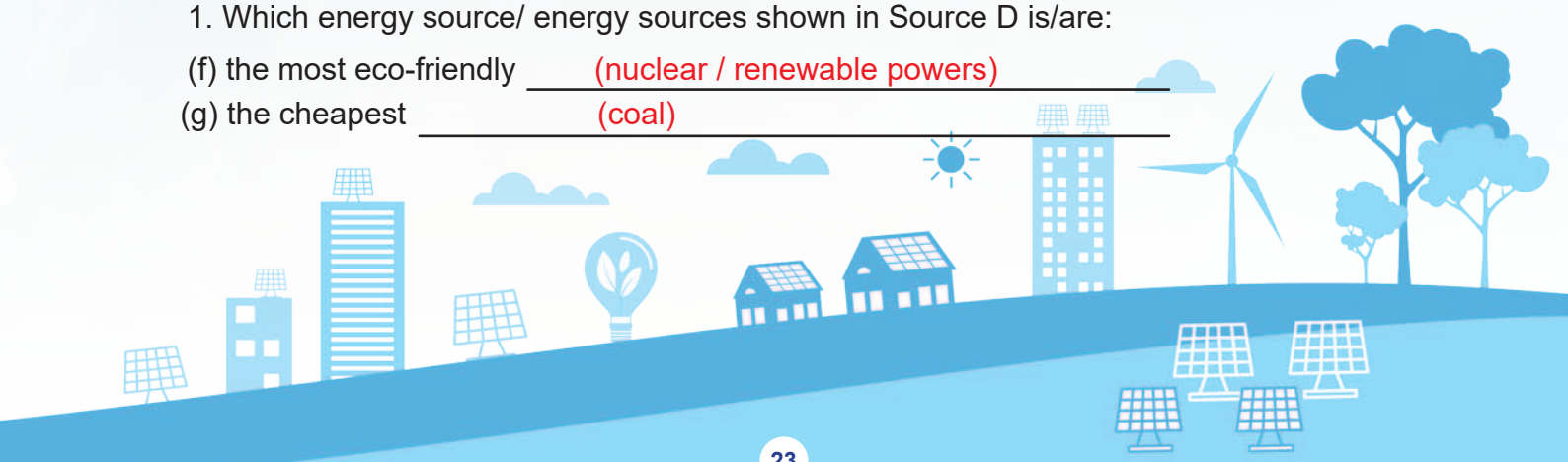
ans.: health problem such as respiratory disease

(P.12) Questions:

1. Which energy source/ energy sources shown in Source D is/are:

(f) the most eco-friendly (nuclear / renewable powers)

(g) the cheapest (coal)



(h) getting more expensive (natural gas)

(i) relatively not safe (nuclear energy)

(j) facing shortage (coal)

2. Describe the pros and cons of the following energy sources with reference to Source D and your answer to question 1.

(e) Coal: cheap but not eco-friendly

(f) Natural gas: eco-friendly but getting more expensive

(g) Nuclear power: abundant but not safe

(h) Renewable power: eco-friendly but costly

(P.13) Questions:

1. Which energy source / sources is/are:

(g) the cheapest (natural gas)

(h) the most expensive (offshore wind)

(i) the most cost-effective (natural gas)

(j) the least cost-effective (offshore wind)

(k) the most eco-friendly (water / wind)

(i) the least eco-friendly (coal)

2. From your own knowledge, explain one more disadvantage of using wind power.

(e.g. unstable, spatial requirement)

3. Among all the energy sources shown in Source E, which one is the least feasible to be developed in Hong Kong. Explain your answer with reference to your own knowledge.

ans.: e.g. water, due to the lack of large-scale falling water

(P.14) Question:

1. How would you describe the electricity tariff (how much you pay for using electricity) of Hong Kong when comparing with other cities? Explain your answer with reference to Table 1 and Table 2 in Source F.

ans.: low – Table 1 shows that the electricity tariff of Hong Kong only cost 1-1.1 which is much lower than other developed cities such as London and New York. Table 2 shows that the percentage share Hong Kong household expenditure on electricity supply is lower than other cities such as London and Sydney.

(P.15) Question:

1. How would you describe the electricity supply in Hong Kong when comparing with other cities shown in Source G?

ans.: stable/ reliable

(P.16) Questions:

1. Describe the trends shown in Source H. (trend=increase / decrease; find out the difference between the year 2010 and 2017 in each sector)

   Residential sectors had a/an decrease/increase in electricity consumption from 39344 terajoule in 2010 to 43415 terajoule in 2014.
   How about the other sectors? Commercial: increase; industrial: increase etc.

2. Identify the pattern shown in Source H. (pattern=phenomenon that repeats itself)

ans.: commercial sector consumes the most

Question:

1. Explain the following terms by searching relevant information from your textbook or from the internet:

   (c) Carbon intensity

   ans.: An emission intensity is the average emission rate of a given pollutant from a given source relative to the intensity of a specific activity; for example grams of carbon dioxide released per megajoule of energy produced/the amount of carbon (in terms of weight) emitted per unit of energy consumed

   (d) The Paris Agreement (the Paris Climatic Conference)

   ans.: An agreement about carbon emission reduction resulted in an international conference

2. What should Hong Kong do in response to the target set by the two documents mentioned in Source I?

   ans.: carbon emission reduction

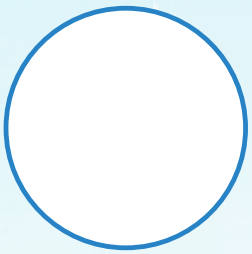
(P.19) Appendix 3: Strength and weakness of existing fuel mix

Strength	Weakness
e.g. Affordability	e.g. Not eco-friendly / environmentally unfriendly
e.g. stable supply of electricity	e.g. lack diversity

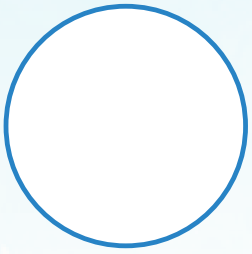
(P.19) Appendix 4 : Criteria / factors affecting the decisions made on fuel mix

Factors / criteria (give brief explanation of the meaning)	Justification / significance (Why is the factor important in Hong Kong?)
1. e.g. eco-friendliness - good/harmful to the environment? - emission of CO2 / air pollutant?	e.g. air pollution is quite serious in Hong Kong e.g. Hong Kong has to meet the target of reducing carbon intensity / emission set in the Paris Agreement and Hong Kong's Climate Action Plan
2. e.g. safety - possibility of disaster that would cause human, material, economic or environmental loss	
3. e.g. availability - can we get access to? (e.g. physical, economic, technological consideration)	
4. e.g. diversity - more than one choice? - would it be too heavily depended on a particular energy?	
5. e.g. cost-effectiveness - is it worth by comparing the financial cost / environment cost with outcome?	
6. e.g. sustainability - is there a long term supply?	

(P.20) Appendix 5: What would be the fuel mix if a particular criterion/ factor is adopted in Hong Kong?



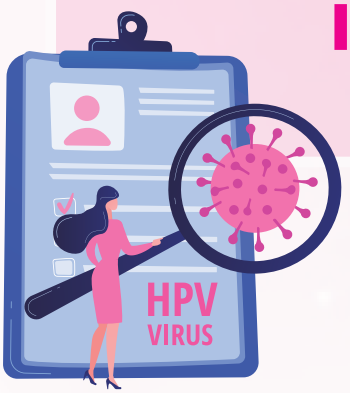
e.g. cost



e.g. safety

Senior Secondary Liberal Studies
Learning and Teaching Exemplar
for NCS students (2)

HPV Vaccination Programme in Hong Kong



HPV Vaccination Programme in Hong Kong

A. Basic information of the lessons

Topic HPV vaccination programme in Hong Kong

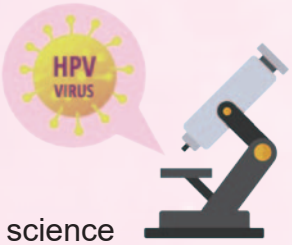
Relevant modules, themes and issues for enquiry

Module 5: Public Health

Theme 1: Understanding Public Health

- How is people's understanding of public health affected by the development of science and technology?
- In what ways is people's understanding of public health affected by health information, social expectations, personal values and beliefs in different cultures?

Theme 2: Science, technology and public health



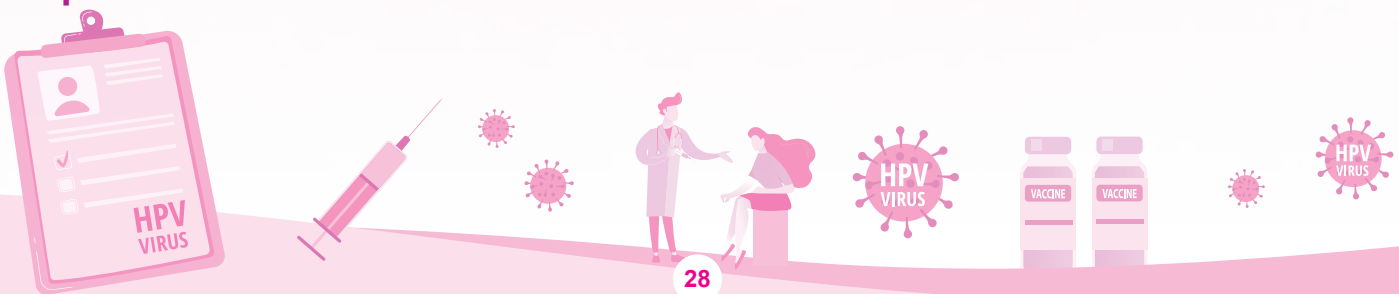
- Can science and technology provide effective solutions in the prevention and control of diseases?
- In the area of public health, how is the development of science and technology affected by various factors, and what issues are triggered by this development?
- What challenges do different sectors of society, the government and international organizations have in maintaining and promoting public health?

Overall design rationale

This exemplar is designed to guide students to learn about different vaccination programmes in Hong Kong and how vaccination programme implemented by the government help to maintain and promote public health development in controlling disease infection. By using the HPV vaccination programme as an introduction, this exemplar aims at enabling students to understand the benefits and challenges brought by the development of medical technologies. This exemplar also guides students to comment on the factors that the government should take into considerations when allocating related public health resources, as well as the challenges it may potentially face, thereby strengthening students' insight into Hong Kong's medical policies.

Time required

2- 3 lessons (40 minutes per lesson), approximately 80 – 100 minutes in total



Learning objectives

Knowledge:

- To learn the importance of vaccination as a means to maintain and promote public health.
- To learn about the factors and the challenges when allocating public health resources.
- To learn about the roles and points of interest for various stakeholders.

Skills:

- To develop interpretation and data processing skills
- To make conceptual observations based on the available data in exploring the issues
- To apply relevant knowledge and concepts in discussing contemporary issues
- To analyze issue from critical multiple perspectives and the skills of conceptualization and contextualization
- To respond immediately to queries
- To express ideas in speaking and writing

Values and attitudes:

- To identify the value orientations behind different opinions on individuals and social issues, to make judgements after considering them from multiple perspectives.
- To adopt an open mind and develop respect for evidence when handling with the opinions and values of others

Basic Concepts for application

Basic concepts:

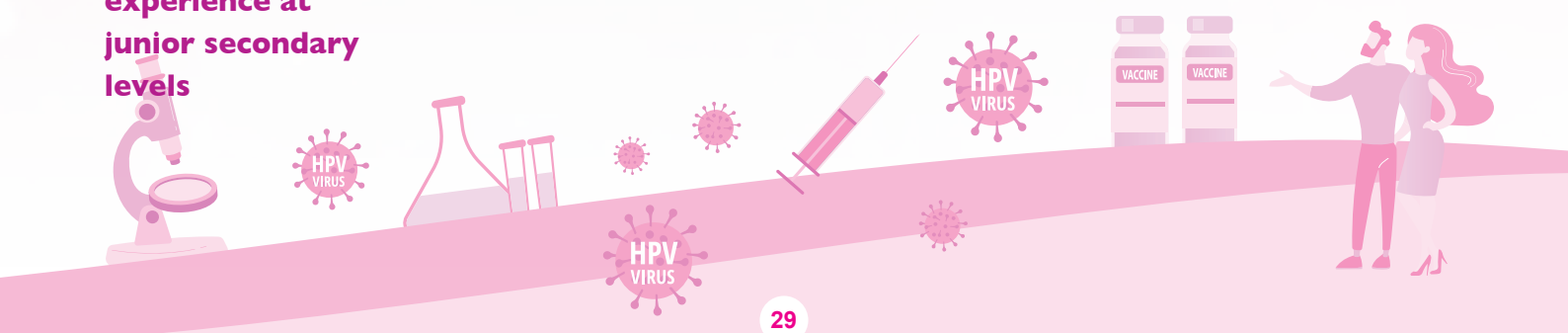
Health, public health, health promotion, disease prevention, disease diagnosis and treatment, medical technology, health expenditure, infectious diseases

Other related concepts:

Collective responsibility, resource allocation, health education, medical burden, risk assessment, immunity, feasibility, affordability, equity, efficacy, safety, cost-effectiveness, necessity, voluntary, compulsory

Relevant learning experience at junior secondary levels

- Common diseases in Hong Kong, their causes and preventive measures
- Limited resources in meeting the needs of the whole community



Catering the learning needs of NCS students

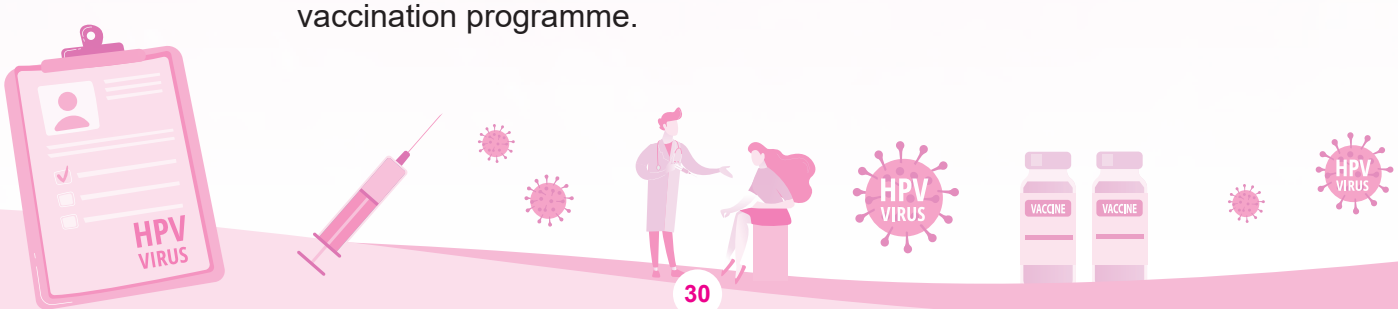
- Guiding questions were set after each Source in the data file (Appendix 2). They are simple and basic questions which can be used for lesson preparation or in-class discussion. Students can be equipped with a basic understanding of the issue with reference to the guiding questions. It is expected that the less-abled learners can have a rough idea about the perspectives for the discussion follows.

- Audio-visual learning materials may enhance the motivation of students in learning. For those who cannot understand Cantonese, the video can be skipped since the sources in the data file may also provide relevant information for discussion.

- Discussion about cervical cancer and HPV vaccination unavoidably involves sex-related issue. This may create embarrassment among some NCS students due to their cultural background or religious concern.

- The following are some suggestions that teacher may consider when handling such cases: teachers can trim down the reference materials a bit so that the sex-related issue can be minimized or teacher can mention the issue casually and briefly. Teachers may consider pulling out the girls with conservative cultural background before the lesson and brief them about the sex-related elements in the coming lessons. If the girls do not feel comfortable about the lesson arrangement, teachers may seek permission from the school and let the girls stay in the library for self-study. Reference materials about the issue should be distributed to the students so that they can still learn the issue but in a different setting. Teachers may also inform the parents about the lessons beforehand and if the parents showed concern about having their children to attend the lessons, teachers may pull out the student from the class for a while.

- An extended reading passage is attached (Appendix 3). It is an article about the responses of the ethnic minorities in England towards HPV vaccination. It is expected the NCS students would develop an understanding about the relationship between ethnicity and public health issue. And it is hoped that they would feel less remote about the issue. Teachers can discuss the extended reading passage with students in the end of the lessons for consolidation of relevant concepts. Or teachers can discuss it with students before the writing task. Students may consider the experience of other countries when developing their stance and arguments about HPV vaccination programme.



B. Design of classroom learning and teaching

Lesson Learning and teaching strategies and flow

Before class

Lesson preparation

Ask students to study the information about the government vaccination programmes posted on the website of the Centre for Health Protection and complete Appendix 1.

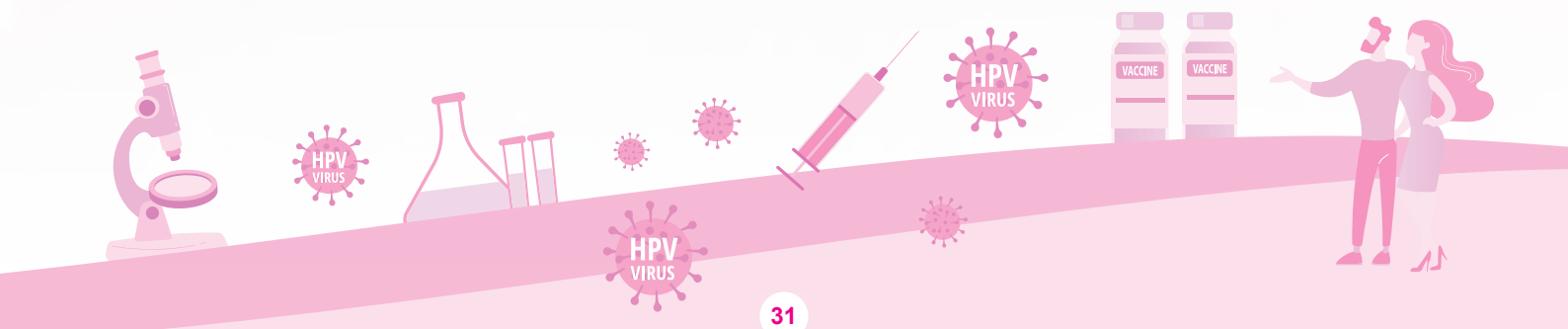
Website: http://www.chp.gov.hk/en/view_content/18870.html

1 *Lead-in activity (around 15 minutes)*

- Brainstorm on how to stay healthy and prevent disease infection such as flu e.g. more physical exercise, healthy diet, good quality sleep, body check, vaccination.
- Teachers may highlight the effectiveness of vaccination as a means to prevent disease infection.
- Teachers go over Appendix 1 with students and highlight the aim of the vaccination programmes and whether the vaccination programmes identified are free and/or compulsory. This relates to the issue of allocation of resources.

Group discussion activity (around 25 minutes)

- Teachers introduce the topic for discussion “Should the Hong Kong government introduce a free and compulsory HPV vaccination programme to Hong Kong teenage girls in Hong Kong?”
- Guide students to read the sources shown in Appendix 2 and watch the video about the reasons for having HPV vaccination. Students are expected to identify the factors for and against the motion e.g. safety (Sources E and F), efficacy (Sources B, D, E and H), affordability/cost-effectiveness (Sources A and D), necessity/urgency (Sources C and E). Teachers and students can make use of Appendix 4 to organize their idea.



2 Report back session (around 30 minutes)

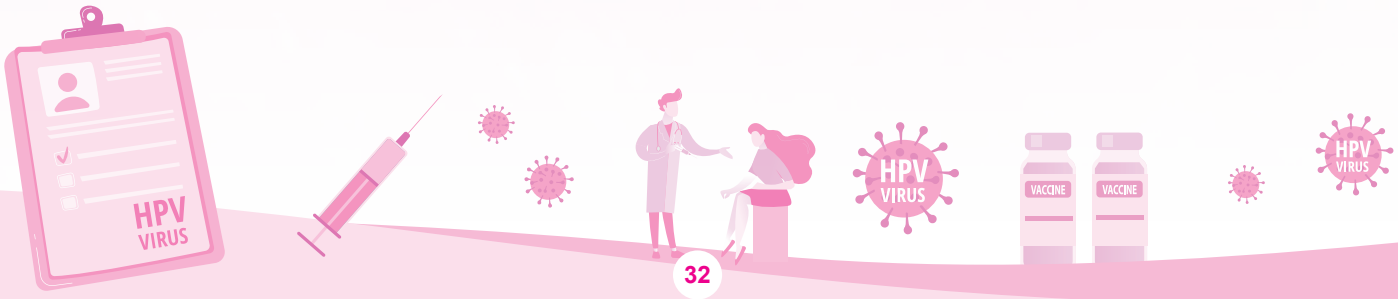
Students report back their findings. Teachers may help students to clarify and elaborate their answers with reference to the sources given. Emphasis should be put on supporting students to conceptualize the factors considered e.g. the factor of safety should be identified when discussing about the licensed HPV vaccine is proved safe after clinical tests.

Summary / Conclusion (10 minutes)

- Teachers conclude the factors considered by the government when formulating public health policy. For example, resource limitation, equity, necessity etc.
- In order to guide students to give specific answer addressing to the question words, teachers may guide students to complete Appendix 5. Students can reorganize their arguments with reference to the three focuses of the question i.e. free, compulsory and teenage girls.

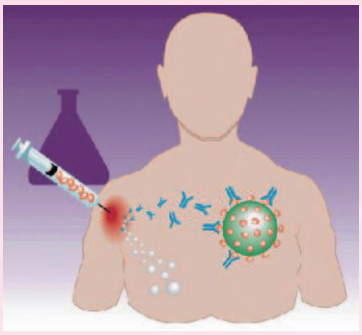
3 Post-lesson task (around 40 minutes)

- Teachers brief students about the writing task (Appendix 6). Students would write an essay on “Should the Hong Kong government introduce a free and compulsory HPV vaccination programme to Hong Kong teenage girls in Hong Kong?” with a view to consolidating their learning. Guidelines of essay writing are attached for less-abled students. Guided writing can also be arranged if necessary.



Appendix 1: Pre-lesson Preparation Worksheet

Vaccination programmes in Hong Kong



Please study the website of the Centre for Health Protection (http://www.chp.gov.hk/en/view_content/18870.html) about vaccination programmes in Hong Kong and fill in the following information.

Vaccination programmes in Hong Kong

			Residential Care Home Vaccination Programme

Free / subsidized *	Free / subsidized*	Free / subsidized*	—
Aim:	Aim:	Aim:	—
Target:	Target:	Target:	—

* delete as appropriate

Appendix 2: Data File

SOURCE A

The following is a poster about Human papillomaviruses (HPV) vaccination. The vaccination is targeting cervical cancer (cancer of the neck of uterus).

Source: University Health Service, HKU. (2015). *Cancer Prevention, Smoking Awareness and Cervial Cancer & HPV Vaccination Campaign.* Retrieved from www.uhs.hku.hk/he/leaflet2015-02.jpg

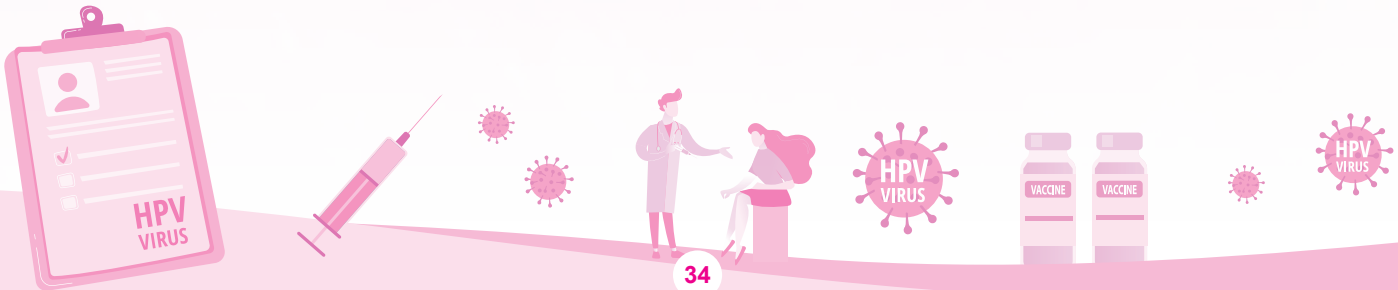
Question:

1. How many doses are needed for HPV vaccination?

   _____

2. What is the total amount of money needed to pay for the vaccination?

   _____ doses X $ _____ = $ _____



SOURCE B

Vaccine scheme to start *September 23, 2016*

The Community Care Fund* will launch the free cervical cancer vaccination pilot scheme on October 3 for girls from low-income families.

Community Care Fund Task Force Chairperson Law Chi-kwong said girls aged 9 to 18 who are recipients of Comprehensive Social Security Assistance or full School Textbook Assistance are eligible for the scheme.

The budget for the three-year pilot scheme is $98.75 million, he said, adding it will benefit 31,000 people.

The Family Planning Association is responsible for implementing the scheme by providing the injection at its three Youth Health Care Centres in Wan Chai, Mong Kok and Kwai Fong.

* The Community Care Fund: provide assistance to people facing economic difficulties, in particular those who fall outside the social safety net or those within the safety net but have special circumstances that are not covered. https://www.communitycarefund.hk/en/

Source: Information Services Department, HKSAR. (2016). *Vaccine scheme to start.* Retrieved from http://www.news.gov.hk/tc/categories/health/html/2016/09/20160923_153148.shtml?pickList=ticker

Question:

1. What are the characteristics of the existing cervical cancer vaccination programme? Circle the appropriate answer.

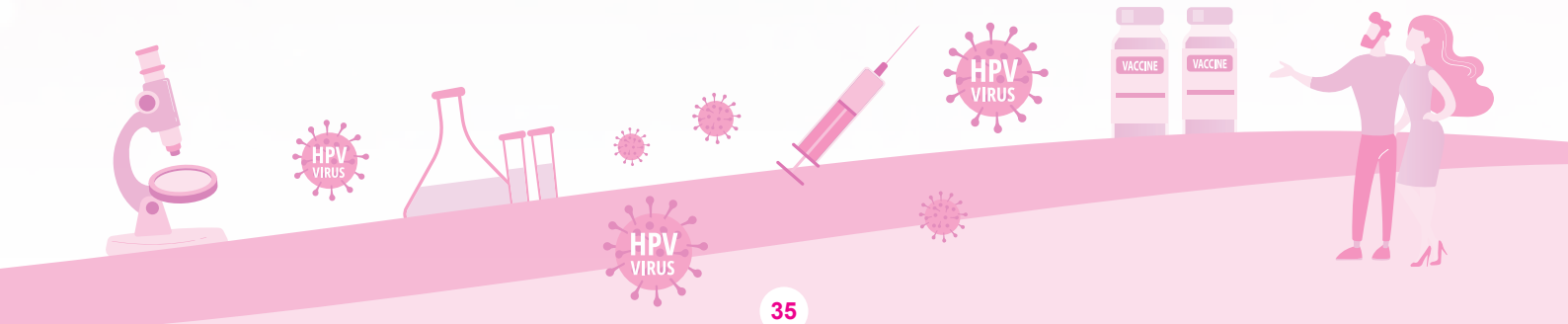
   Free / subsidized

   For all girls / for selected girls (please specify)

SOURCE C

In Hong Kong, cervical cancer (cancer of the neck of uterus) is one of the leading female caners, with 400-500 new cases every year. Cervical cancer has been the 8th commonest cancer among females in Hong Kong and accounted for 3.3% of all new cancer cases in females in 2014. Cervical cancer is the 8th leading cause of female cancer deaths in Hong Kong. In 2015, a total of 169 women died from this cancer, accounting for 2.8% of female cancer deaths.

Some of the risk factors of cervical cancer include sexual intercourse at an early age, smoking and weakened immunity. However, the most commonly neglected risk factor is failure to get a regular cervical cancer screening.



Cervical cancer can be prevented by reducing the HPV infection and the progression from persistent HPV infection to cervical cancer. Get HPV vaccination (cervical cancer vaccination) before having sexual experience could be a way.

Apart from the measures highlighted above, cervical cancer screening offers you additional protection.

Source: Centre for Health Protection. (2017). Cervical Cancer. Retrieved from http://www.chp.gov.hk/en/content/9/25/56.html

Question:

1. How prevalent (common) is cervical cancer in Hong Kong?

_____

_____

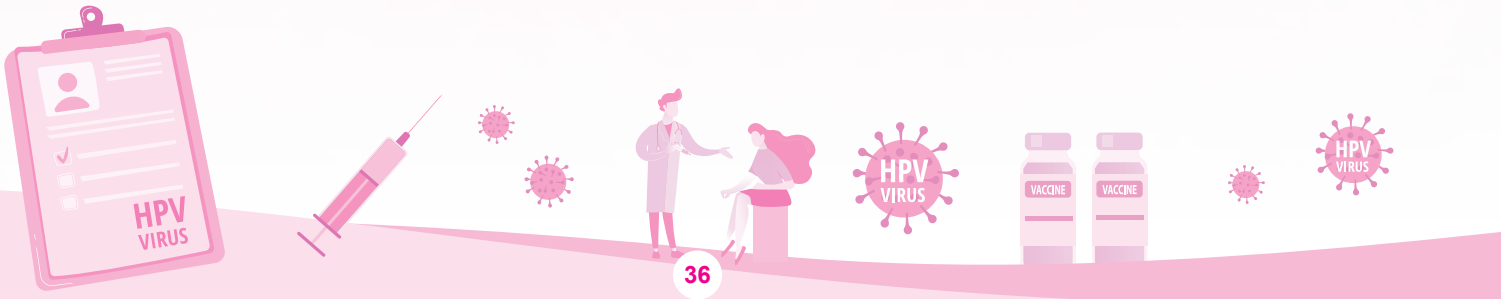
2. According to Source C, identify/ suggest 3 ways that could prevent cervical cancer.

_____

_____

SOURCE D

- More than 100 HPV genotypes are known today. Currently, 3 HPV vaccines (2-valent, 4-valent and 9-valent vaccines) have been registered in Hong Kong for the prevention of cervical cancer. All three vaccines could prevent infections from HPV-16 and 18, which account for about 70% of all cervical cancer worldwide. The 9-valent vaccine, in view of its efficacy against HPV-52 and 58, could potentially increase the protection of cervical cancer to around 90% in Hong Kong. However, the vaccines have no therapeutic effect on any existing HPV infections or diseases.
- Transmission of genital HPV infection is primarily through sexual contact with an infected person. The ideal age of vaccination, if administered, should be timed before the commencement of sexual debut.
- Current studies suggested that the vaccine offers at least 6 – 9 years of protection.



- HPV vaccines cannot offer a 100% full protection from cervical cancer. In this connection, regular cervical cancer screening remains an important public health strategy which should continue to be recommended to achieve a high population coverage. HPV vaccination does not replace the cervical cancer screening.

Source: Centre for Health Protection. (2016). Consensus Statement on the use of Human Papillomavirus (HPV) Vaccine in prevention of cervical cancer. Retrieved from http://www.chp.gov.hk/files/pdf/consensus_statement_on_the_use_of_hpv_vaccine_in_prevention_of_cervical_cancer.pdf

Question:

1. What is the optimal age/ time for the vaccination?

_____

2. What is the percentage of cervical cancer that could likely be prevented by the vaccine?

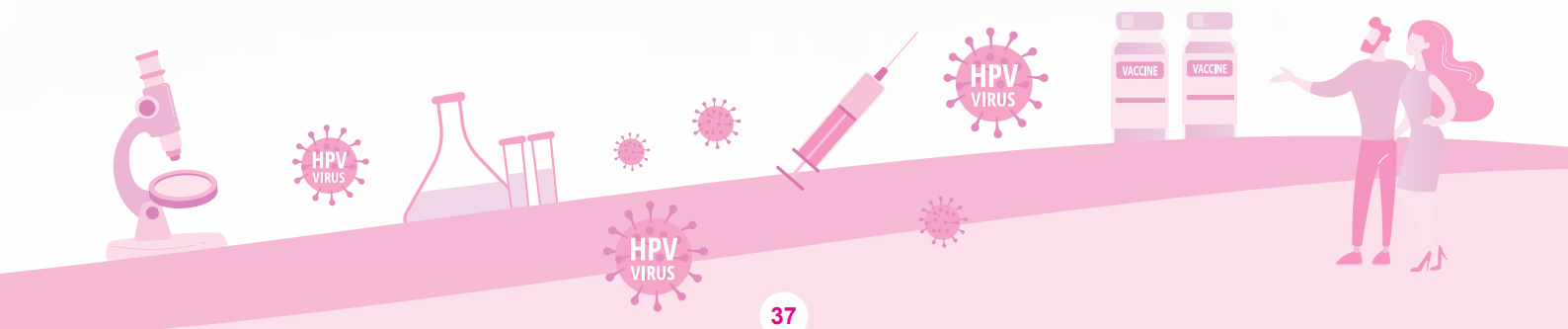
_____

3. Does the vaccine offer long-lasting protection? / How long would the protection offer by the vaccine last?

_____

SOURCE E

- G.E.M. @「預防子宮頸癌」宣傳片 (in Chinese)
  https://www.youtube.com/watch?v=7Lz8LG7lyAE
- 2013 預防 HPV 病毒 廣告 - 蔡卓妍、鄭伊健 (in Chinese)
  https://www.youtube.com/watch?v=ULmHH4qb-VA
- HPV vaccine commercial 2016 (in English)
  https://www.youtube.com/watch?v=tTf2kecTj2s



SOURCE F An extract from the news in Japan about HPV vaccination

Dispute over HPV vaccinations *29 July 2016*

In Japan, the dispute over reported side effects from cervical cancer vaccines has been taken to the courts as dozens of women and girls sued the government and pharmaceutical makers this week for damages over health problems they suffered after they were vaccinated.

While the human papillomavirus (HPV) vaccines continue to be widely used overseas as an effective defense against cervical cancer, the government stopped recommending the vaccination for schoolgirls in 2013 as allegations of side effects surfaced — and has since not reinstated the recommendation despite calls from medical organizations to do so.

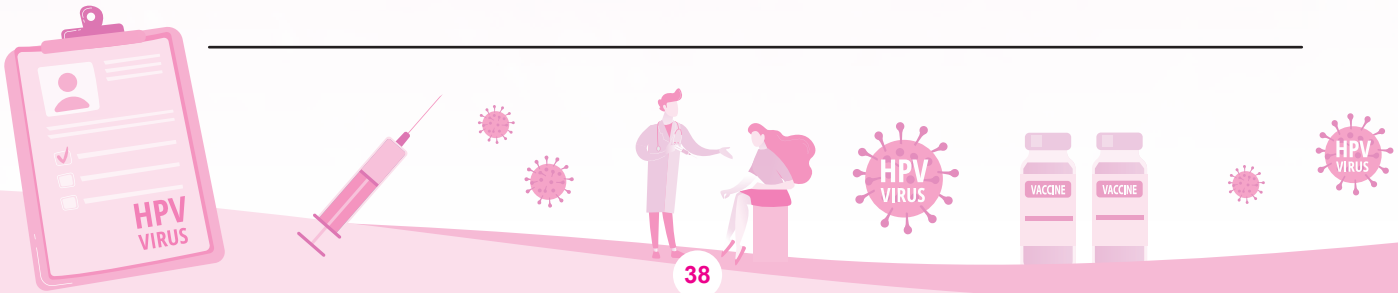
According to the Health, Labor and Welfare Ministry, 2,945 of some 3.39 million women and girls who received the vaccine shots by the end of this April — or 0.09% — complained of health problems ranging from headache, nausea and fatigue to loss of memory and numbness in their hands and legs. A September 2015 survey showed that at least 186 girls had not recovered from the symptoms — with the conditions of 135 of them so severe as to interfere in their daily lives, such as going to school or work.

The health ministry says the causal link between the vaccines and the reported health problems is unclear. Health authorities in other advanced nations say the safety of the HPV vaccines is not in doubt despite reports of side effects. The makers of the vaccines say their benefits in preventing cervical cancer have been proven and outweigh any risks. The World Health Organization, in a statement made by its advisory committee on vaccine safety in December, noted that as a result of the continuing suspension of the health ministry's recommendations for HPV vaccinations, young women in Japan "are being left vulnerable to HPV-related cancers that otherwise could be prevented" and warned that "policy decisions based on weak evidence, leading to lack of use of safe and effective vaccines, can result in real harm."

Source: The Japan Times Online. (2016). *Dispute over HPV vaccinations.* Retrieved from http://www.japantimes.co.jp/opinion/2016/07/29/editorials/dispute-over-hpv-vaccinations/#.WQr0EdKGPcs

Question:

1. Identify and explain the public health risk shown in Source E.



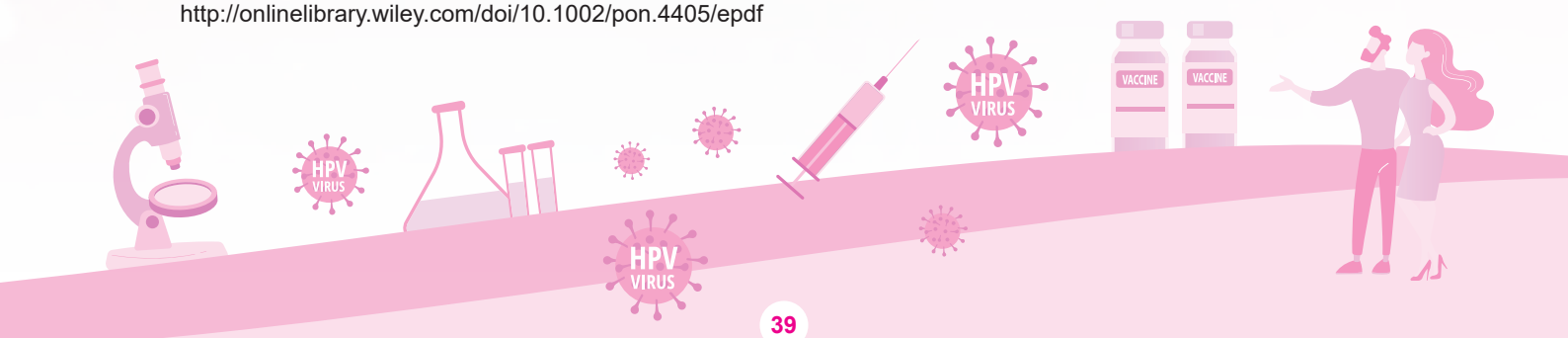
Appendix 3: Extended Reading

Vaccination against HPV is offered in England for girls in school year 8 (aged 12-13). In England, the uptake of human papillomavirus (HPV) vaccination to prevent HPV-related cancer is lower among girls from ethnic minority backgrounds.

The reasons that ethnic minority parents gave to explain why they had not vaccinated their daughters were summarized in the following table. They are related to the public health knowledge, acceptability and parenting style of the ethnic minority.

Factors	Extract of the interview scripts
Concerns about vaccine	The vaccination was perceived to be unsafe, painful and able to cause side-effects: *... the only thing that worries me is ... that we don't know the long-term effects ... that's the only worry I have (Bangladeshi)*
	Low perceived risk: the parents believed that their daughters were not at risk of contracting HPV: *I know what my daughter is like ... she goes to a girls' school, she doesn't hang out with boys ... She's not of a nature that I think she would naturally be very promiscuous at a young age ... (Asian)*
	Promotion of promiscuity: the parents concerned that HPV vaccination would encourage unsafe sexual practices: *... I really object to the adverts ... that say you can't stop your daughter from growing up, but you can ... reduce the risks of her getting cancer ... It's sending the wrong messages. It's claiming that, um, having sex is part of growing up. I don't believe it. (Indian)*
External and internal influence & information needs of parents	Some parents have limited knowledge about the vaccine: *I asked my friend ... she says, 'these are the side-effects. (Somali)* *I didn't know anything much ... Err, and still don't know anything about it.* *We couldn't possibly make an informed decision (Indian)*
Preventing HPVrelated cancer using other ways other than vaccination	Some parents use methods to prevent illness that are based on idiosyncratic beliefs, including building immunity 'naturally' Some parents would prefer to use other ways other than vaccination to prevent cervical cancer e.g. safe sex, education and discussion *... as long as we lead a healthy lifestyle without any bad habits ... I should be able to protect myself from any kind of illness (Bangladeshi)*

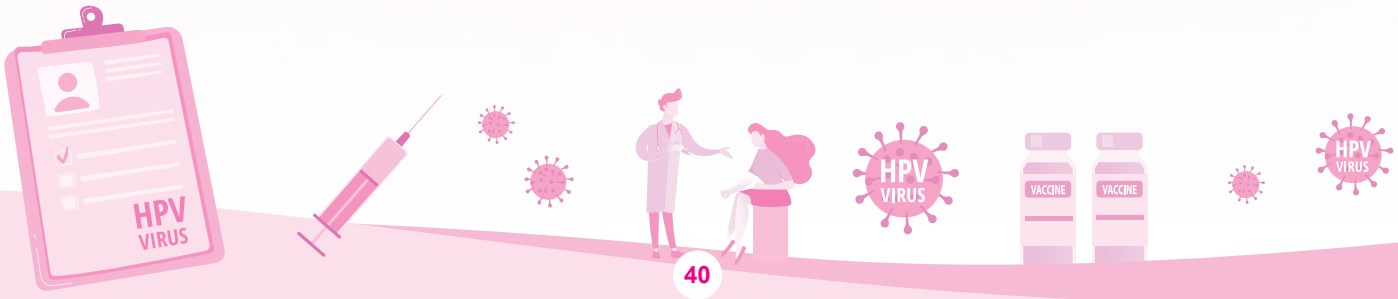
Source: Alice S. Forster. (2017). *Exploring human papillomavirus vaccination refusal among ethnic minorities in England: A comparative qualitative study.* Retrieved from http://onlinelibrary.wiley.com/doi/10.1002/pon.4405/epdf



Appendix 4:

Should the government introduce free and compulsory HPV vaccination for adolescent girls in Hong Kong?

Factors considered / concerns	Source(s)	Explanation / elaboration



Appendix 5:

Should the government introduce free and compulsory HPV vaccination for adolescent girls in Hong Kong?

Keywords in the question	Relevant argument
Free	
Compulsory	
Adolescent girl	

Appendix 6:

Essay writing

Should the Hong Kong government introduce a free and compulsory HPV vaccination programme to Hong Kong teenage girls in Hong Kong? (8 marks)

Guidelines:

i. Refer to Appendix 4 for arguments.
ii. You are expected to write 3 supportive arguments and 1 counter-argument with rebuttal.
iii. Structure of the essay:

1. 1st paragraph: show your stance

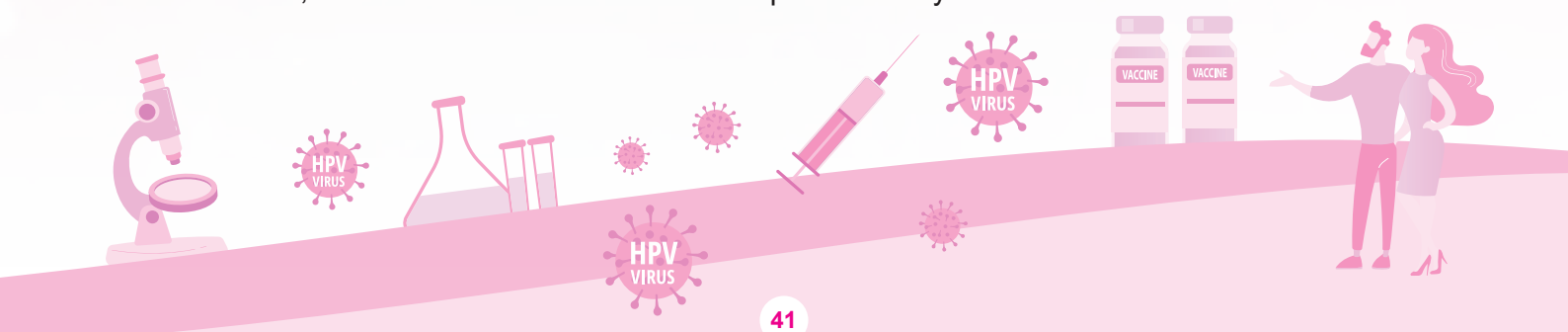
The government should / should not introduce a free and compulsory HPV vaccination programme to Hong Kong teenage girl in Hong Kong.

2. 2nd paragraph: explain your 1st supportive argument

Clear topic sentence + clue + explanation

Firstly, the government should introduce the vaccination programme because it is _____. According to Source _____, _____. It shows that _____. (you may repeat the above sentences with more supportive evidence)

e.g. Firstly, cost effective → Source A, the total amount is $2400 for each girl → Source D, 70% of cervical cancer could be prevented by the vaccine → If a free vaccination



programme to be introduced → the government has to pay a large sum of money → but able to reduce cervical cancer cases → reduce medical expenses.

OR

The government should not introduce the vaccination programme because the vaccination is _____. According to Source _____, _____. It shows that _____. (you may repeat the above sentences with more supportive evidence)

e.g. Firstly, not cost-effective → Source A, the total amount is $2400 for each girl → Source D, more than 200 cervical-cancer-related viruses and the vaccines cannot protect against infection by other high risk types of HPV → Source C, other ways to prevent cervical cancer is also effective → If a free vaccination programme to be introduced → the government has to pay a large sum of money annually → but able to tackle all cervical cancer cases → other ways can prevent it → not worth

3. 3rd paragraph: explain your 2nd supportive argument

Clear topic sentence + clue + explanation

Secondly, the government should introduce the vaccination programme because it is _____. According to Source _____, _____. It shows that _____. (you may repeat the above sentences with more supportive evidence)

4. 4th paragraph: explain your 3rd supportive argument

Clear topic sentence + clue + explanation

Thirdly, the government should introduce the vaccination programme because it is _____. According to Source _____, _____. It shows that _____. (you may repeat the above sentence with more supportive evidence)

OR

Thirdly, the government should not introduce the vaccination programme because the vaccination is _____. According to Source _____, _____. It shows that _____. (you may repeat the above sentence with more supportive evidence)

5. 5th paragraph: explain counter-argument with rebuttal

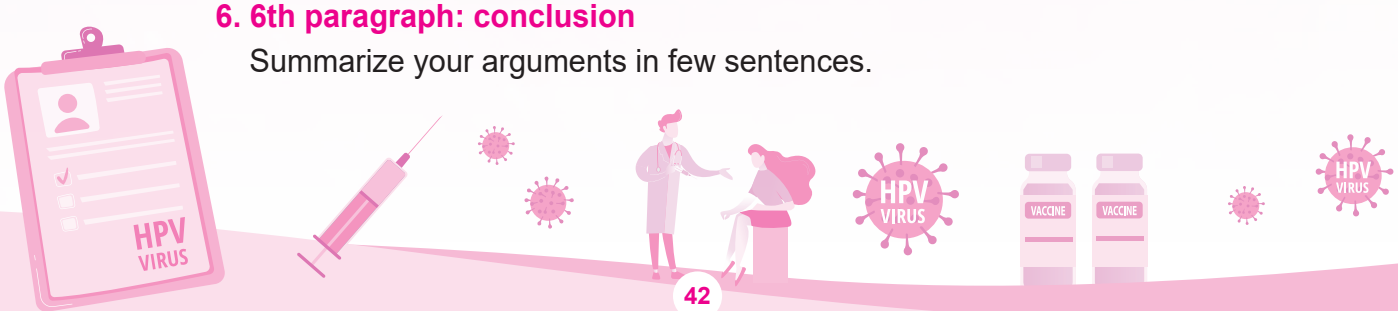
Clear topic sentence + clue + explanation

It is argued that…… According to Source _____, _____. However, the said statement is not valid due to the followings.

e.g. Safety → Source E, safe and many countries have such vaccination programme → Source F, not safe as women and girls who received the vaccine had health problems (give examples) → exceptional cases

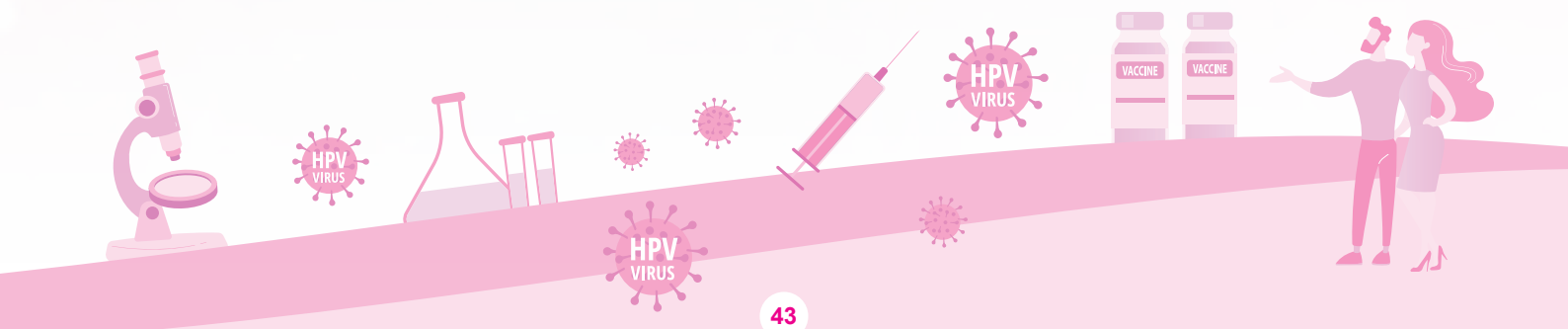
6. 6th paragraph: conclusion

Summarize your arguments in few sentences.



Should the Hong Kong government introduce a free and compulsory HPV vaccination programme to Hong Kong teenage girls in Hong Kong? (8 marks)

-- End of Appendix --



Guidelines for Teachers

(P.34) Questions:

1. How many doses are needed for HPV vaccination?

ans.: 3

2. What is the total amount of money needed to pay for the vaccination?

ans.: 3 doses X $750 = $2250

(P.35) Questions:

1. What are the characteristics of the existing cervical cancer vaccination programme? Circle the appropriate answer.

ans.: Free / subsidized

For all girls / for selected girls (please specify)

(P.36) Questions:

1. How prevalent (common) is cervical cancer in Hong Kong?

ans.: 400-500 new cases every year / the 8th commonest cancer among females/ 3.3% of all new cancer cases/ the 8th leading cause of female cancer deaths in Hong Kong

2. According to Source C, identify/ suggest 3 ways that could prevent cervical cancer.

ans.: HPV vaccination before sexual experience/ cervical cancer screenign / quit smoking / strengthen immunity

(P.37) Questions:

1. What is the optimal age/ time for the vaccination?

ans.: Teenager (women who have not started sexual activities)

2. What is the percentage of cervical cancer that could likely be prevented by the vaccine?

ans.: 70%

3. Does the vaccine offer long-lasting protection? / How long would the protection offer by the vaccine last?

ans.: No. The vaccine offers 4.5 – 5 years of protection

(P.38) Questions:

1. Identify and explain the public health risk shown in Source E.

ans.: Women and girls who received the vaccine had health problems such as headache, nausea and fatigue to loss of memory and numbness in the hands and legs. This may create medical burden as they have to seek medical services.

(P.40) Appendix 4:

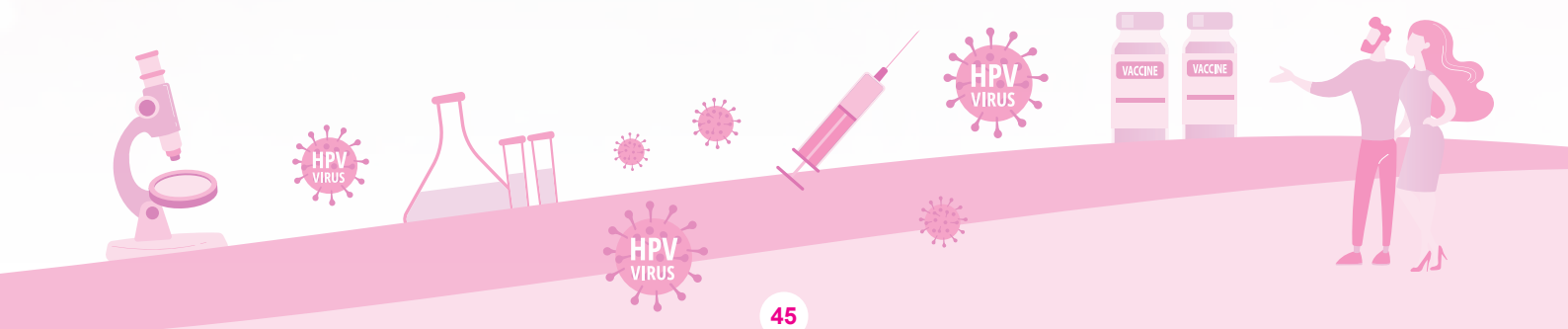
Should the government introduce free and compulsory HPV vaccination for adolescent girls in Hong Kong?

Factors considered /concerns	Source(s)	Explanation / elaboration
Safety **(Hint: Is it safe to have the vaccination?)**	E, F	- Health risk / health problem after vaccination
Efficacy **(Hint: Can cervical cancer be 100% prevented?)**	B, D, E, H	- Cervical cancer can be / cannot be prevented
Affordability / costeffectiveness **(Hint: Is it worth for the government to introduce such programme? / Would the vaccination programme impose economic burden to the government?)**	A, D	- Medical expenditure / medical burden
Necessity / urgency **(Hint: How serious is cervical cancer in Hong Kong?)**	C, E	- it is necessary to make it free and compulsory as there is an increasing number of people having cervical cancer - it is not necessary to introduce the programme as the cervical cancer is only the 8th commonest cancer in Hong Kong

(P.41) Appendix 5:

Should the government introduce free and compulsory HPV vaccination for adolescent girls in Hong Kong?

Keywords in the question	Relevant argument
Free	e.g. cost-effectiveness e.g. affordability
Compulsory	e.g. safety e.g. necessity e.g. feasibility e.g. personal rights of making choice over their health issue
Adolescent girl	e.g. efficacy e.g. equity



Senior Secondary Liberal Studies
Learning and Teaching Exemplar
for NCS students (3)

Housing Problem in Hong Kong

Housing Problem in Hong Kong

A. Basic information of the lessons

Topic Housing problem in Hong Kong

Relevant modules, themes and issues for enquiry

Leading Module 2: Hong Kong Today

Theme 1: Quality of Life

- Which aspects of the quality of life are seen to be more important? Which are seen to be immediate needs? Who might make the decisions? Why?
- What are the different opinions of Hong Kong residents on the priorities which constitute the quality of life?

Related Module 6: Energy Technology and the Environment

Theme 2: The Environment and Sustainable Development

- How do the living styles of people and social development affect the environment and the use of energy?
- What responses could be made by different sectors of society, governments and international organizations regarding the future of sustainable developments?

Overall design rationale

The lessons start from introducing the living condition in India slums through a video and articles. Both the NCS and local Chinese students may learn the housing issue in the context of Hong Kong as well as in other regions (India is the hometown of quite a number of NCS students in Hong Kong). For local Chinese students, the video can be played after the lessons so as to foster their mindset of 'Think globally'.

Students first identify the housing problem in Hong Kong such as soaring property price, poor living conditions in sub-divided flat/cage home etc. Teachers briefly explain the reasons for the emergence of housing problems in Hong Kong, such as limited land supply and high land price policy. Some

technical reasons such as flooding of hot money due to quantitative easing (QE) policy of the US government may not be necessary. Students will discuss how the housing problems may affect the quality of life of Hong Kong people.

Teachers may introduce and discuss with the students about the measures/policies that may alleviate the housing problems. In this teaching package, whether the government should use the lands of country parks for residential flats will be discussed (conflict among stakeholders, value conflict, prioritization of different perspective of quality of life etc.). Teachers may focus on other measures/policies (for example, reclamation, urban renewal, development of new towns in the New Territories) with reference to the framework of country park discussion. Sources A to G (Appendix 3) provide background information for the discussion of any measures/policies that may alleviate the housing problems in Hong Kong.

Time required

4 lessons (40 minutes per lesson), approximately 160 minutes in total

Learning objectives

Knowledge:

- To understand the housing in Hong Kong.
- To explain how the housing problems in Hong Kong affect the quality of life of people living in Hong Kong.
- To understand the conflict among stakeholders when discussing the ways to solve the housing problems in Hong Kong.
- To analyse the consideration affecting decisions on the best way(s) to solve the housing problems in Hong Kong.

Skills:

- To develop interpretation and data processing skills.
- To apply relevant knowledge and concepts in discussing contemporary issues.
- To analyse issue from critical multiple perspectives and the skills of conceptualization and contextualization.
- To respond immediately to queries.
- To express ideas in speaking and writing.

Values and attitudes:

- To consider personal and social issues from multiple perspectives and make sound judgments with reasoning and creativity.
- To foster the positive attitude towards balancing different views and comprehensive consideration.

Basic Concepts for application

Basic concepts:

Quality of life, sustainable development

Other related concepts:

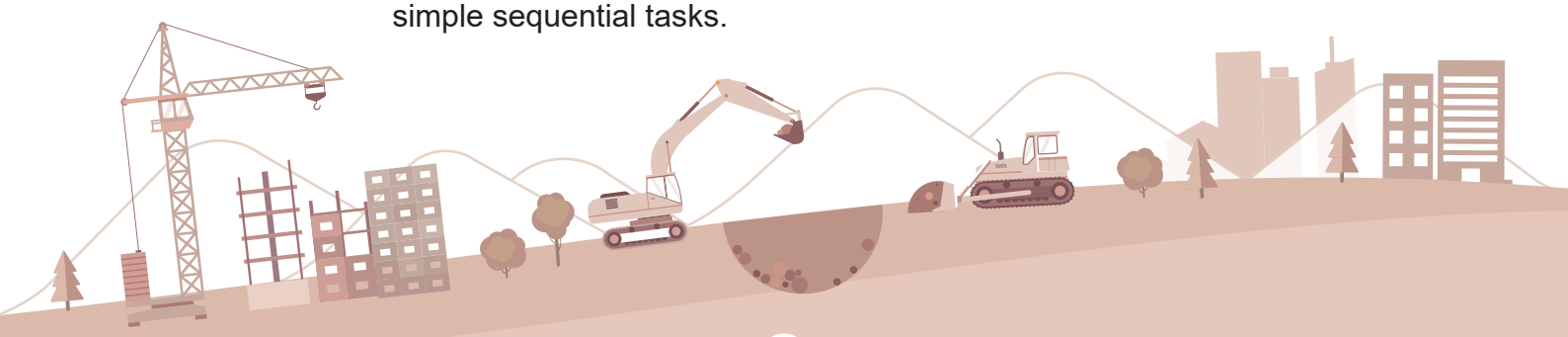
Conservation and development, value conflict, population density, supply and demand, governance, necessity, feasibility, effectiveness, ecological conservation, land use, housing policy, land policy, public housing

Relevant learning experience at junior secondary levels

- To have a general idea about the social needs and problems of Hong Kong society.
- To have fostered the perception of respecting others with different values and lifestyles.
- To have acquired a basic understanding of the housing issue in Hong Kong (e.g. public housing).

Catering the learning needs of NCS students

- The lesson will start from the living condition in India slums. The use of audio-visual learning materials may arouse the interest of the NCS students in exploring the housing issue.
- Guiding questions are set after each source in the data file. The questions guide the students to process the data and generalize the implication step by step. The questions can be used for lesson preparation or in-class discussion. Students will be able to build up knowledge with the support of simple sequential tasks.



B. Design of classroom learning and teaching

Lesson Learning and teaching strategies and flow

Before class

Lesson preparation

Ask students to study the photos and watch the videos about India (Appendix 1) and share their impression about India. Ask students to read articles for more detailed information about the housing problem in India, if necessary (Appendix 2).

1

Lead in (around 10 minutes)

- Go over the pre-lesson preparation worksheet with students. The focus will be on the wealth gap and housing problems in India.
- Remind students that wealth gap and housing problems are common in many countries/cities including Hong Kong.

Pair-work/ group work (around 30 minutes)

- Ask students to identify the housing problems in Hong Kong nowadays and the impacts of housing problems on the quality of life of Hong Kong people (e.g. health concern, psychological stress). Reasons for the high property price could be discussed with reference to sources A – F (Appendix 3)
- Students report their findings. Teachers may help students to clarify and elaborate their answers with reference to the sources given.

2

Group discussion activity (around 35 minutes)

- In groups, students discuss possible ways to solve the housing problems in Hong Kong. Teachers introduce the topic for discussion “Should country parks be developed into residential use in Hong Kong?” Students evaluate the needs, effectiveness and feasibility of developing country parks in alleviating the housing problems in Hong Kong.
- Students are divided into groups and discuss the arguments for or against the suggestion of developing country parks.
- Guide students to read the sources shown in Appendix 3. For Source I, teachers may select relevant video clips with reference to the abilities of students. Teachers and students could make use of Appendix 4 to organise their ideas.

* Teachers could choose other measures/policies that may alleviate the housing problems in Hong Kong for discussion e.g. reclamation, urban renewal, development of new towns in the New Territories. Students could refer to Sources A to G (Appendix 3) for background information and make use of Appendix 4 to organize their ideas.

3 ***Report session (30 minutes)***

- Students report their discussion summary. Teachers may help students to clarify and elaborate their ideas with reference to the sources given. Emphasis should be put on supporting students to categorize the factors considered.

Summary / Conclusion (10 minutes)

- Teachers conclude the factors considered by the government when deciding whether the country park should be developed for residential use in Hong Kong.

4 ***Post-discussion assignment (around 10 minutes)***

Brief students about the post-discussion assignment for the consolidation of learning in the previous lessons. Assign either the essay-writing task (Appendix 5) or data-response question (Appendix 6) with reference to the learning objective and student ability. For the essay-writing task, a framework of the essay can be provided for less abled students. Guided writing can be arranged if necessary. Factors for the poor living condition (e.g. shortage of public housing, property prices and rents are rising beyond the affordability of the general public), impacts of housing problems on the quality of life of Hong Kong people (e.g. health problems, financial burden leads to less material enjoyment, worry and stress) and the pros and cons of the development of country park for housing will be discussed.

Pair-work / group work (30 minutes)

- Students identify the conflict of interest and/or conflict of value among stakeholders and complete Appendix 7.
- Students report their findings. Teachers may help students to clarify and elaborate their answers with reference to the sources given.

Appendix 1: Pre-lesson worksheet

What's your impression about India? How would you describe India with reference to the following photographs?

Photo 1

Source: iamwire. (2015). *Smart Cities in India: What, Why and How.* Retrieved from http://www.iamwire.com/2015/02/smart-cities-india-what/110303

Photo 2

Source: Top10wala.in. (2017). *Top 10 Most Developed City in India 2017 Based On GDP – Richest Cities In India.* Retrieved from http://top10wala.in/top-10-most-developed-city-in-india-by-gdp/

Photo 3

Photo 4

You may watch the following videos for more understanding about India.

Video 1: Top 10 Most Developed City in India by GDP

https://www.youtube.com/watch?v=WJh-WowtuD4

Video 2: India's Rich Vs Poor

https://www.youtube.com/watch?v=1k7ypBocrKQ

What's your impression?

Appendix 2: Reference materials about housing problems in India

SOURCE A A personal experience in the slums of India

People tried to warn me that the poverty that I would see in India would be unimaginable and they were right. I grew up in extreme poverty and even spent several months on the streets of California as a nine-year-old with my mother and younger brother. I have lived through some very difficult things so I felt more than prepared to handle the slums of India. Well, I was wrong because nothing could prepare me for the things that I saw. To give you some context, about 54 percent of the population of Mumbai (formerly Bombay) lives in slums. The total population of Mumbai is about 12 million people. That means that the majority of people in this bustling and cosmopolitan city live in unimaginable poverty.

The thing that struck me was that when you looked in the homes they were clean and neat. People obviously took pride in their personal space, the children going to school were neat and clean, and they walked with their heads held high and with purpose. Most of the people in these slums have jobs and work hard, sometimes 12 hours a day or more and seven days a week. The problem is that they do not make a living wage. A domestic that works in a home may only make 2,500 rupees a month, which is about 50 U.S. dollars. My driver in Delhi made only 3,500 rupees a month or the equivalent of $70. Yes, the cost of living is less but not that different. A meal at one of the fabulous restaurants in Mumbai can cost what an Indian makes in a month. There is a huge gap between the rich and the poor.

I was overwhelmed by the circumstances that these children were living in but have great hopes for their future as I realized how smart and focused they were. I was impressed that even in the poorest slums that people understood that education was the way for them to better their circumstances and be able to achieve their full potential.

Source: Adapted from a blog published in Huffington Post. "The Slums in India" (10/09/2012)
http://www.huffingtonpost.com/nikki-johnsonhuston-esq/india-population-poverty_b_1946278.html

SOURCE B Causes of migration to Delhi's slums

Causes	No. of people
Unemployment	178,196
Low wages	32076
Loan	823
Drought	1,680
Conflict	789
Education	1,184
Marriage	1,622
Others	9,051
TOTAL	225,421

Source: Vikasrohillaphotography. (2016). Delhi: Slum shame
https://vikasrohillaphotography.wordpress.com/2016/12/17/delhi-slum-shame/

SOURCE C Life in Slums

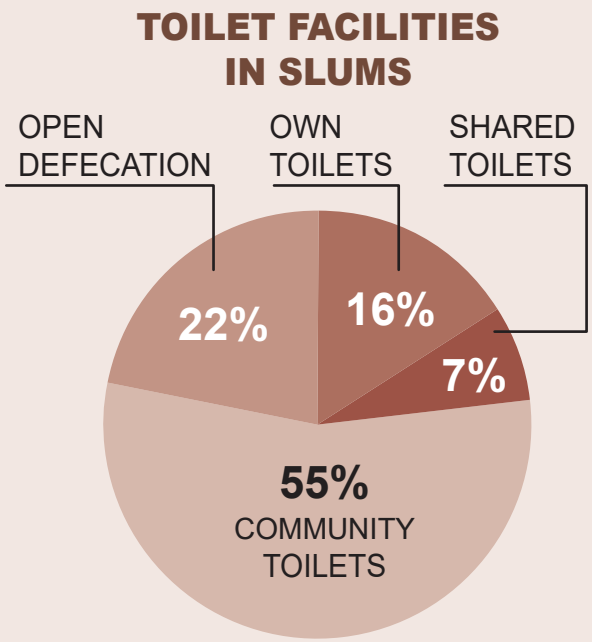
In One Slum, Misery, Work, Politics and Hope

Inside a slum in Dharavi in India, the streets smell of sewage and sweets. There are not enough toilets. There is not enough water. There is not enough space. Laborers sleep in sheds. Six men, maybe eight, packed into a single, tiny room — multiplied by many tiny rooms. Hygiene is terrible. Diarrhea and malaria are common. Tuberculosis floats in the air, spread by coughing or spitting. A walk through Dharavi is a journey through an unpleasant maze of ever-narrowing passages. Daylight barely reaches the footpaths below.

Traffic always busy. Flies and mosquitoes settle on roadside carts of fruit. Ten families share a single water tap, with water flowing through the pipes for less than three hours every day, enough time for everyone to fill a tank or two. Toilets are communal, with a charge of 3 cents to defecate. Sewage flows through narrow, open channels, slow-moving streams of green water and garbage.

At the slum's periphery, Sion Hospital treats 3,000 patients every day, many from Dharavi, often children who are suffering from malnutrition or have asthma or diarrhea. Premature tooth decay is widespread in children.

"People who come to Dharavi or other slum areas — their priority is not health," said Dr. PallaviShelke, who works in Dharavi. "Their priority is earning."



Source: Adapted from an article published in New York Times. Newyork Times by Jims Yardley, 2011
Retrieved from http://www.nytimes.com/2011/12/29/world/asia/in-indian-slum-misery-work-politics-and-hope.html

Appendix 3:

SOURCE A **Photos showing the living condition of some Hong Kong people**

Photo 1

Photo 2

Source: Society for Community Organization (2016). *Trapped - Grassroots Housing in Hong Kong 2016.* Retrieved from http://www.soco.org.hk/trapped/index.htm

Questions:

1. How would you describe the living condition reflected in the above two photos?

   Good / poor* living condition (* circle the appropriate answer)

   _____

   _____

2. What are the similarities between the living condition shown in Source A and those in India slums?

   _____

3. Do you know how Hong Kong people call this kind of flats as shown in the above two photos?

   _____

4. What are the impacts of such living condition on the residents? Please elaborate.

   _____

   _____

SOURCE B Hong Kong Property Prices and Affordability

Year	2012	2013	2014	2015	2016
Median Multiple*/ affordability in years	12.6	13.5	14.9	17.0	19.0

* Median multiple: median house price divided by median household income. It shows how many years it takes for a Hong Kong citizen to buy a matchbox-sized apartment (assuming they don't eat or pay their taxes in the meantime)

Source: Hong Kong Free Press. (10 Feb 2016). *Hong Kong property prices are outrageous: why no competitiveness complaints?*
https://www.hongkongfp.com/2016/02/10/hong-kong-property-prices-are-outrageous-why-no-competitiveness-complaints/

SOURCE C The least affordable property markets

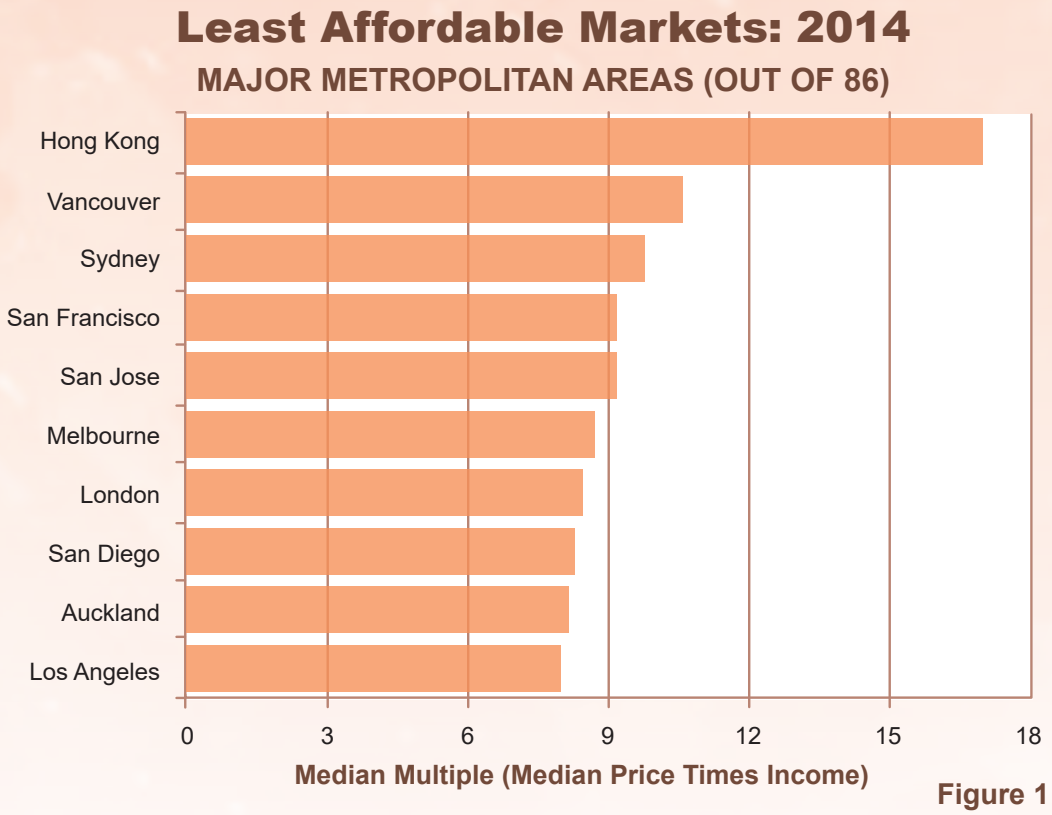


Figure 1

Source: New Geography. (18 Jan 2015). *International Housing Affordability in 2014.*
http://www.newgeography.com/content/004829-international-housing-affordability-2014

Question:

1. What is the housing problem in Hong Kong as reflected in Sources B and C?

_____

2. Explain the possible impacts of the housing problem identified in Question 1.

_____

SOURCE D Information about applications for public housing and rental indices

Year	2012	2013	2014	2015
General application (number of cases)	199,600	234,300	255,800	282,200
Annual production of public housing units	13,114	14,057	9,938	14,264
Private domestic rental indices by class*	143	155	160	173

* base for comparison: 100 in the year 1999

Sources: Extracted from various online sources.

Question:

1. Identify the trend shown in Source D.

_____

_____

2. What is the housing problem reflected from Source D?

_____

SOURCE E Population density of different countries/cities

Country / region	Population density (people per km²)
Australia	3
USA	35
France	122
Japan	348
Hong Kong	6,958
Singapore	7,829

Source: Population density across the world in 2015 - World Bank (http://data.worldbank.org/indicator/EN.POP.DNST)

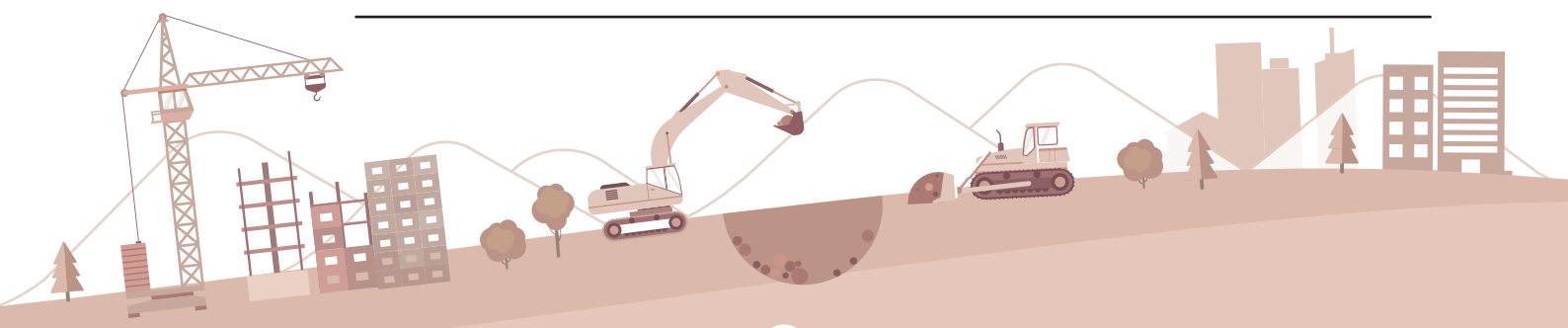
Question:

1. What is Hong Kong's population density? How do you describe it in comparison to other countries shown in Source E? Cite data from Source E to support your answer.

_____ km² in 2015.

_____

_____



SOURCE F A video about the reasons for high property price in Hong Kong

Why the property in Hong Kong so expensive? | CNBC Explains (English voice-over accompanied by English subtitles)(Video length: 3 min 39s)
https://www.youtube.com/watch?v=QYhU54I4KS8

Question:

1. Identify the reasons for the high property price in Hong Kong with reference to Source F.

_____

_____

SOURCE G Land use comparisons between Hong Kong and Singapore

Land use	Hong Kong (in 2011)	Singapore (in 2010)	Singapore (projection in 2030)
Total Land	1,108 sq km	710 sq km	766 sq km
Residential	76 sq km (6.9%)	100 sq km (14%)	130 sq km (17%)
Commercial and industrial	30 sq km (2.7%)	97 sq km (13.7%)	128 sq km (17%)
Community, institution and recreation facilities	25 sq km (2.3%)	54 sq km (7.6%)	55 sq km (7%)
Roads and rail	43 sq km (3.9%)	83 sq km (11.7%)	97 sq km (13%)
Airport and ports	13 sq km (1.2%)	22 sq km (3.1%)	44 sq km (6%)
Utilities (e.g. power, water treatment plants)	7 sq km (0.6%)	18.5 sq km (3%)	26 sq km (3%)
Reservoirs	30 sq km (2.7%)	37 sq km (5%)	37 sq km (5%)
Greenfield land such as country parks and nature reserves	738 sq km (66.6%)	57 sq km (8%)	72.5 sq km (9%)

Sources: Extracted and adapted from various online sources.

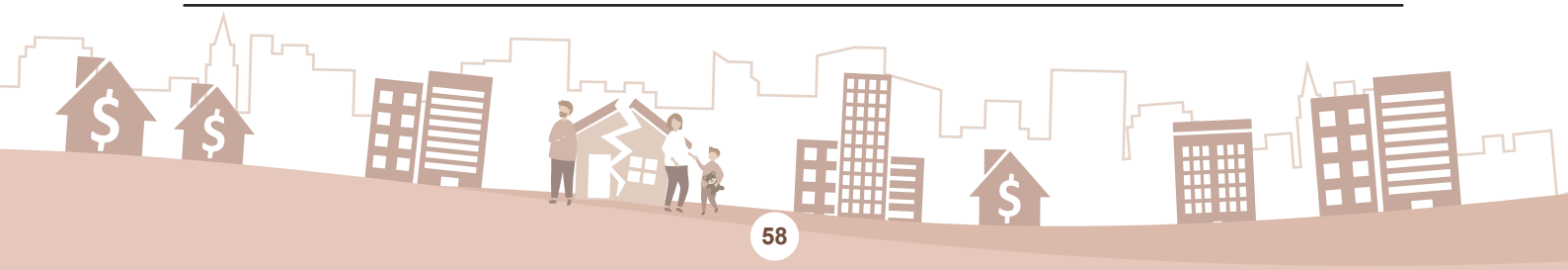
Questions:

1. Identify the percentage of the following land use in Hong Kong in 2011.
   (a) Residential: _____%
   (b) Commercial and industrial: _____ %
   (c) Greenfield land such as country parks and nature reserves: _____ %

2. How may the distribution of land use identified in Question 1 affect the quality of life of Hong Kong people?

_____

_____



3. What are the differences between Hong Kong in 2011 and Singapore in 2010 in the following items:

   (a) Hong Kong has more / less* residential land than Singapore.
   (b) Hong Kong has more / less* commercial and industrial land than Singapore.
   (c) Hong Kong has more/ less* greenfield (such as country parks and nature reserve) than Singapore.

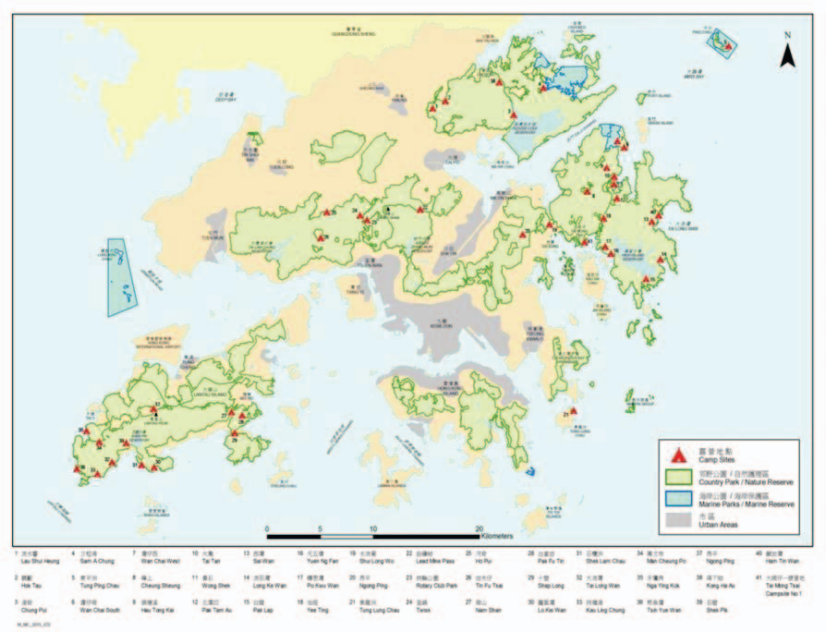
   * circle the appropriate answer

4. In 2030, how would the land use distribution in Singapore different from 2010?

   (a) More / Less* greenfield land such as country park and nature reserve.
   (b) More/ Less* residential, commercial and industrial land use.

   * circle the appropriate answer

SOURCE H Country Parks Distribution Map in Hong Kong



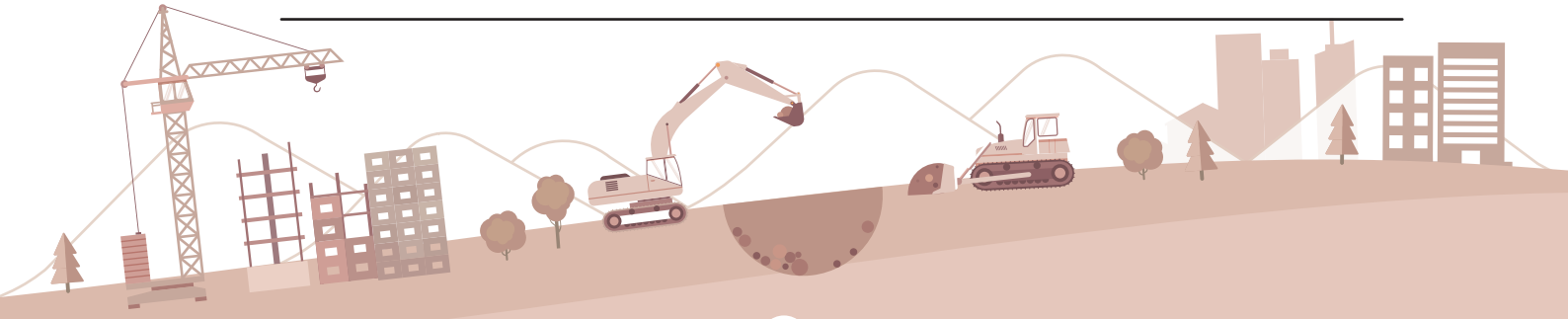
Source: Agriculture, Fisheries and Conservation Department. (23 December 2016). *Campsite distribution map.* http://www.afcd.gov.hk/english/country/cou_vis/cou_vis_cam/cou_vis_cam_cam/cou_vis_cam_cam.html

Questions:

1. Please circle the correct answer with reference to Source H.

   (a) Country parks in Hong Kong occupy quite a large area / small area of Hong Kong.
   (b) Country parks in Hong Kong is close to / remote from urban area.

2. Have you ever been to any of the country parks in Hong Kong? If yes, describe your experience. If no, explain the reason.



SOURCE I A video about the reasons for high property price in Hong Kong

Pearl Report: Save Our Country Parks (Video length: 23 minutes) (English voice-over, Chinese subtitles)

https://www.youtube.com/watch?v=dyNeHMxV_Jk

The Pulse: Developing country parks and selling of public housing, discussion with Richard Wong (Video length: 21 minutes) (English voice-over, with English subtitles)

https://www.youtube.com/watch?v=GLCogGcUO0I

Question:

1. With reference to the videos shown in Source I and your own knowledge, identify the concern(s) of the following stakeholders with respect to the development of country park land. You could make use of the following words in your answer. Identify 1 to 2 more stakeholders and their concerns.

(a) Villagers _____

(b) Green group: _____

(c) Government: _____

(d) _____ : _____

(e) _____ : _____

SOURCE J Viewpoints of Green Groups towards the development of country park for residential purpose in Hong Kong

Green Groups are strongly opposed to the development of country parks. In fact, there is still a lot of lands available for development in Hong Kong e.g. unused military campsites, brownfield sites*, land reserved for small houses. The housing shortage problem has originated from "Uneven Distribution". Moreover, the government has failed to address the problem of vacant housing units and private flats used for investment and speculation purposes, falsely presenting the situation as a "lack of land".

Country Parks are important features and treasures in Hong Kong. Apart from the environmental value of preserving our precious ecology, they are also well-known for eco-tourism, community enjoyment (for public recreation) and even have a role to play in urban planning (for preventing over-expansion of the urban areas). Country parks are also important water catchment areas, which allow rainwater to flow into surrounding reservoirs. Furthermore, trees in country parks can absorb carbon dioxide and offset some of the greenhouse gas emissions from burning fossil fuels, which relieve global warming.

The government pointed out that low ecological parts of country parks can be developed. We totally disagree with his claims. All the plants, flowers and birds in the country parks have their own meaning and value to the natural environment. Moreover, many country parks are hilly. Development of such area is costly and may encounter many technical problems.

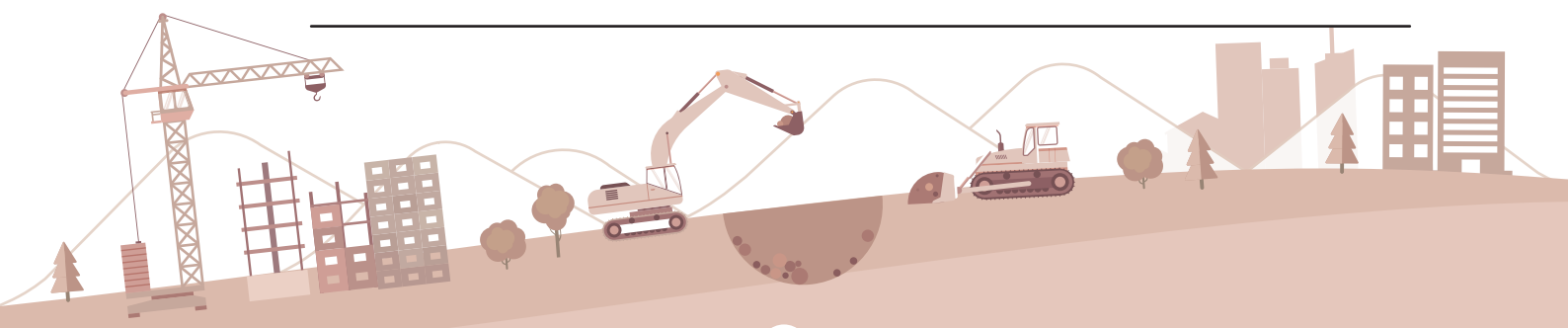
Hong Kong's housing problem could also be solved not just by finding land but also by controlling housing demand through a population policy such as limiting the number of immigrants from the Mainland under One-way Permit Scheme. Once the natural environment is destroyed, it cannot be restored to what it was before. Therefore, the government should not develop our country parks, which are the pride of Hong Kong people.

* Brownfield sites generally refers to agricultural or rural land in the New Territories which is deserted and has been changed for open storage, container yards, depots, rural industries and recycling yards, etc.

Source: Adapted from Joint Statement from Green Groups on 26th January
http://greensense.org.hk/en/2017/01/1%E6%9C%8826%E6%97%A5%E7%92%B0%E4%BF%9D%E5%9C%98%E9%AB%94%E8%81%AF%E5%90%88%E8%81%B2%E6%98%8E/.

Questions:

1. Identify the reasons why the green groups opposed to the development of country parks for residential purpose.



SOURCE K Viewpoints about the development of country park for residential purpose in Hong Kong

Strictly speaking, land supply should never be a problem in Hong Kong as no more than 20 percent of the territory is developed.

Apart from developed areas clustered around both sides of the harbour and a number of new towns, the majority of undeveloped land is either brownfield sites or country parks. The housing shortage will end if brownfield sites and country parks can be fully used to fuel housing supply.

Country park lovers naturally prefer that brownfield site is developed. However, this is not as easy as many people think. Most brownfield sites are currently used for various purposes essential to Hong Kong's economy, such as container storage, parking for trucks and construction equipment and industrial uses which require large open space. Brownfield sites cannot be developed without these uses being moved to other locations so as not to cause interruption to their activities and adversely affect their workers.

Ownership is another headache for the government. Brownfield sites owners cover the spectrum from indigenous villagers to major developers. The Government may develop brownfield sites on its own through land resumption but this option is costly and attracts litigation which drags down the whole process. Even though the government can facilitate the development of brownfield sites through town planning, it cannot compel landowners to develop their land.

On the other hand, development of country parks does not involve ownership problems or the moving of existing users. More than 40 percent of Hong Kong's territory is occupied by country parks. Within these are water catchment areas of reservoirs which are inaccessible. However, some of these reservoirs could be abandoned in the light of abundant water supply from the north. Development of such areas would have no material effect on the enjoyment of country park lovers. Use of just a few percent of our country parks is enough for 10 years of housing supply.

Source: Adapted from an article dated 26 October 2016.
SCMP "Using Hong Kong's country parks may be one way to solve its housing supply problem" (26 October, 2016) http://www.scmp.com/property/hong-kong-china/article/2039681/using-hong-kongs-country-parks-may-be-one-way-solve-its

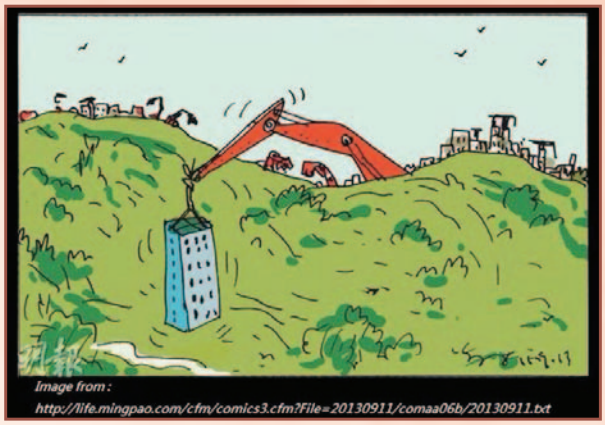
Questions:

1. According to Source J, what is the view of the author towards the development of brownfield sites and country parks for residential purpose? Explain your answer.

The author prefers the development of brownfield sites / country park*

(* circle the appropriate answer)

Appendix 4: Should country parks be developed into residential use in Hong Kong?



Source: Mingpao 開發郊野公園增土地供應？ (11 Sept 2013). http://life.mingpao.com/cfm/comics3.cfm?File=20130911/comaa06b/20130911.txt

Source: ICEs 09/17/2013 "Political Cartoon - Should we use the lands of country parks for housing development?" http://www.scmp.com/sites/default/files/styles/652x403/public/galleries/2013/09/11/cartoon0911.jpg?itok=97ivRTO9

	Should	Should not
Necessity / urgency		
Effectiveness		
Feasibility		
Benefit and impacts		
Value / belief		

Appendix 5: Follow-up assignment I

Essay writing

Should country parks be developed into residential use in Hong Kong? (8 marks)

Guidelines:

i. Refer to Appendix 4 for arguments.
ii. You are expected to write 3 supportive arguments and 1 counter-argument with a rebuttal.
iii. Suggested structure of the essay:

1. 1st paragraph: show your stance

The government should / should not develop country parks into residential use in Hong Kong.

2. 2nd paragraph: explain your 1st supportive argument

Clear topic sentence + clue + explanation

Firstly, the government should develop country parks for residential use because it is _____. According to Source _____, _____. It shows that _____. (you may repeat the above sentences with more supportive evidence)

e.g. Firstly, necessary → Sources A, B and C, housing problem in Hong Kong is quite serious (soaring property price, poor living condition etc.) → If country parks are developed → more supply of land for building of houses → lower price as more supply → affordable to Hong Kong people)

3. 3rd paragraph: explain your 2nd supportive argument

Clear topic sentence + clue + explanation

Secondly, the government should develop country parks for residential use because it is _____. According to Source _____, _____. It shows that _____. (you may repeat the above sentences with more supportive evidence)

OR

Secondly, the government should not develop country parks for residential use because it is _____. According to Source _____, _____. It shows that _____. (you may repeat the above sentences with more supportive evidence)

4. 4th paragraph: explain your 3rd supportive argument

Clear topic sentence + clue + explanation

Thirdly, the government should develop country parks for residential use because it is_____. According to Source _____, _____. It shows that _____. (you may repeat the above sentence with more supportive evidence)

OR

Thirdly, the government should not develop country parks for residential use because it is _____. According to Source _____, _____. It shows that _____. (you may repeat the above sentence with more supportive evidence)

5. 5th paragraph: explain counter-argument with rebuttal

Clear topic sentence + clue + explanation

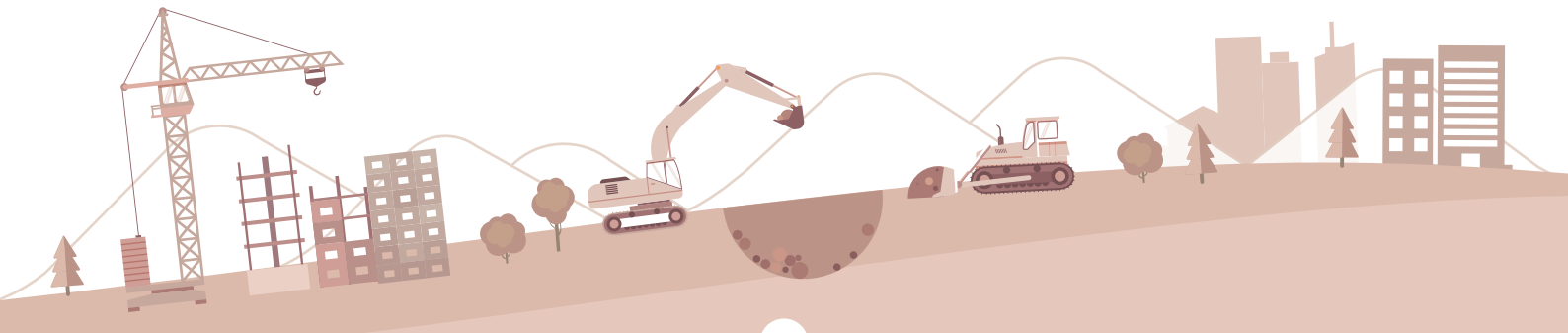
It is argued that …… According to Source _____, _____. However, the said statement is not valid due to the followings.

e.g. feasibility → Source J, it is not cost-effective to develop country park for residential use
→ may develop peripheral zone of country park which is more accessible

6. 6th paragraph: conclusion

Summarize your arguments in few sentences.

Should country parks be developed into residential use in Hong Kong? (8 marks)



Appendix 6: Follow-up assignment 2

Data-response Question: Housing problems in Hong Kong

Consider the following sources:

SOURCE A A cartoon about the living condition of some Hong Kong people

Source: 香港電台通識網“樓價高企”(2017). http://www.liberalstudies.hk/hongkong/ls_hongkong_80.php

SOURCE B Information about applications for public housing in Hong Kong

Year	2013	2016
General application (number of cases)	234,300	283,300
Average Waiting Time for Public Housing (year)	2.7	4.1

Sources:

1. Hong Kong Housing Authority. (7 June 2017). Actual Public Housing Production. http://www.housingauthority.gov.hk/tc/about-us/publications-and-statistics/actual-public-rental-housingproduction/
2. https://www.hk01.com/%E6%B8%AF%E8%81%9E/36773/%E6%84%88%E7%AD%89%E6%84%88%E8%80%90-%E5%85%AC%E5%B1%8B%E8%BC%AA%E5%80%99%E8%B6%854%E5%B9%B4%E5%86%8D%E5%89%B5%E6%96%B0%E9%AB%98 香港 01 “愈等愈耐！公屋輪候超 4 年再創新高” (2016-08-11)

SOURCE C Comparison of income, rent and property prices in the year 2006, 2011 and 2016

Year	2006	2011	2016
Median monthly domestic household income	$17,250	$20,500	$25,000
Private housing – rental indices by class*	92	134	168
Private housing – price indices by class*	93	182	286

* Base for comparison: 100 in the year 1999

Sources:

1. Rating and Valuation Department "Property Market Statistics" (6 July 2017)
   http://www.rvd.gov.hk/mobile/tc/property_market_statistics/
2. Census and Statistics Department "2016 Population By-census – Summary Results" (2017)
   http://www.statistics.gov.hk/pub/B11200942016XXXXB0100.pdf

SOURCE D Viewpoints about the development of country parks for residential purpose in Hong Kong

Recently, to resolve the problem of housing shortage, the Government has put extra efforts to identifying the land required. Much controversy has aroused by the suggestion that the government could look into developing some country park areas for residential purposes.

Vice-president of the Real Estate Developers Association Gordon Wu said Hong Kong is a crowded city. With quite a lot of people living in the bedspace apartments and cubicle apartments, maintaining the current ratio of country park land was "impractical and stupid".

However, the opposition pointed out that country parks locating close to the urban areas is one of the reasons why Hong Kong ranked first in the "Best Cities to Live in the World 2012". Environmental groups pointed out that to blame the country parks for causing the housing problem is misleading. The problem is far more complicated, involving issues like land bank of the real estate developers, the usage of the brownfield sites and poor land planning of the government.

14 environmental groups issued a joint declaration suggesting that, in order to fulfill the goal to build 48 000 housing units, the government should first develop the brownfield sites and other lands, such as the golf course. Different professionals also recommended other ways t boost land supply, such as reclamation.

* Brownfield sites generally refers to agricultural or rural land in the New Territories which is deserted and has been changed for open storage, container yards, depots, rural industries and recycling yards, etc.

Source: Adapted from a local newspaper

(a) With reference to sources B and C, what are the factors behind the living condition shown in Source A? (6 marks)

(b) With reference to sources A, B and C, identify and explain two impacts of the housing problems on the quality of life of the Hong Kong people. (6 marks)

(c) To what extent do you agree the government should develop the country parks into residential use? With reference to the sources and your own knowledge, explain your answer. (8 marks)

Appendix 7:

Identify and explain the conflict among stakeholders in the issue about the development of country parks for residential use.

I. Identify stakeholders

Study the Sources in Appendix 3 and identify the stakeholders in the issue about the development of country parks for residential use.

1. _____
2. _____
3. _____
4. _____

II. Complete the following table.

1. Identify 2 pairs of stakeholders that may be in conflict in the issue about the development of country parks for residential use.
2. Identify whether the two pairs of stakeholders are having value conflict or interest conflict.
3. Explain how the two pairs of stakeholders are in conflicts (arguments / viewpoints)

Stakeholders in conflict	Value conflict OR interest conflict OR having different concerns	Explanation
_____ Vs _____		
_____ Vs _____		

III. Short writing task

What is/are the conflict(s) among stakeholders in the issue about the development of country parks for residential use? (6 marks)

Guidelines:

i. Refer to Appendix 6 for arguments.

ii. Suggested structure of the answer:

1. Identify 2 stakeholders that are in conflict
2. Identify the nature of the conflict
3. Identify the conflict point between the 2 stakeholders
4. Explain the arguments of one of the stakeholders
5. Explain the arguments of the other stakeholders
6. Explain how their arguments in conflict

(stakeholder 1) and (stakeholder 2) have value conflict / interest conflict / different concerns over whether (the issue) . (stakeholder 1) emphasize(s) (the value) . He / she / they support(s) / do(es) not support (the issue) because (arguments or explanation) . However, (stakeholder 2) emphasize(s) (the value) . He / she/ they support(s) / do(es) not support (the issue) because (arguments or explanation) . If (stance of stakeholder 1) , it may harm / hinder / impose a barrier to (argument of stakeholder 2) while if (stance of stakeholder 2) , it may harm / hinder / impose a barrier to (argument of stakeholder 1) .

What is the conflict among stakeholders in the issue about the development of country parks for residential use? (6 marks)

-- End of Appendix --

Guidelines for Teachers

(P.55) Appendix 3

Questions:

1. How would you describe the living condition reflected in the above two photos?

   Good / poor* living condition (* circle the appropriate answer)

ans.: Describe how poor the living condition is

2. What are the similarities between the living condition shown in Source A and those in India slums?

ans.: Crowded, poor living condition, poor hygienic condition

3. Do you know how Hong Kong peoplecall this kind of flats as shown in the above two photos?

ans.: Coffin flat / sub-divided flat / cage home etc.

4. What are the impacts of such living condition on the residents? Please elaborate.

ans.: e.g. health problem (Poor ventilation, poor hygiene → affect physical health); safety concern (building structure may not comply with the Fire Services Ordinance); family problem (more family conflicts → affect mental health); governance (blame on the government for her incapability to solve the housing problem → conflicts between the Government and the people)

(P.56) Questions:

1. What is the housing problem in Hong Kong as reflected in Sources B and C?

ans.: Property price keep on increasing, not affordable to the Hong Kong residents

2. Explain the possible impacts of the housing problem identified in Question 1.

ans.: e.g. live in flats with poor living condition due to cheaper rent, reduce daily expenses in order to save money for the flat etc. → decline in the quality of life of the residents

(P.57) Questions:

1. Identify the trend shown in Source D.

ans.: The number of general application for public housing increase, rent increase, annual production of public housing units increase but there is still a large gap between number of cases and annual production of public housing units

2. What is the housing problem reflected from Source D?

ans.: Shortage of public housing units/ inadequate supply of public housing, unaffordable price

(P.57) Questions:

1. What is Hong Kong's population density? How do you describe it in comparison to other countries shown in Source E? Cite data from Source E to support your answer.

ans.: The Hong Kong population density is 6958 people per km² in 2015. Higher population density (e.g. about 20 times of Japan, only slightly lower than Singapore (11%)

(P.58) Question:

1. Identify the reasons for the high property price in Hong Kong with reference to Source F.

ans.: Low supply and high demand (densely populated, little developable land); land controlled by the government and land are offered to developer by tender, best-priced bidder wins; high land price policy

Questions:

1. Identify the percentage of the following land use in Hong Kong in 2011.
   (d) Residential: 6.9 %
   (e) Commercial and industrial: 2.7 %
   (f) Greenfield land such as country parks and nature reserves: 66.6 %

2. How may the distribution of land use identified in Question 1 affect the quality of life of Hong Kong people?

ans.: e.g. around 6.9% of residential land use: limited supply of land for housing → housing problem
e.g. around 66% of country parks and Wetland: recreation and relaxation, parent-child activity → foster parent-child relationship, enjoyment of bio-diversity
e.g. little commercial land use: hinder economic development → affect job opportunity and income

(P.59) Questions:

3. What are the differences between Hong Kong in 2011 and Singapore in 2010 in the following items:
   (d) Hong Kong has more / less* residential land than Singapore.
   (e) Hong Kong has more / less* commercial and industrial land than Singapore.
   (f) Hong Kong has more / less* greenfield (such as country parks and nature reserve) than Singapore.

   * circle the appropriate answer

4. In 2030, how would the land use distribution in Singapore different from 2010?
   (a) More / Less* greenfield land such as country park and nature reserve.
   (b) More / Less* residential, commercial and industrial land use.

   * circle the appropriate answer

Questions:

1. Please circle the correct answer with reference to Source H.

   (c) Country parks in Hong Kong occupy quite a large area / small area of Hong Kong.

   (d) Country parks in Hong Kong is close to / remote from urban area.

Questions:

2. With reference to the videos shown in Source I and your own knowledge, identify the concern(s) of the following stakeholders with respect to the development of country park land. You could make use of the following words in your answer. Identify 1 to 2 more stakeholders and their concerns.

(a) Villagers: e.g development opportunity, land ownership

(b) Green group: e.g. biodiversity

(c) Government: e.g. supply of land for housing, opposition voice

(d) Landlord : e.g. profit from the sale of land on enclaves

(e) Developer : e.g. profit from the construction of houses

(P.61) Questions:

1. Identify the reasons why the green groups opposed to the development of country parks for residential purpose.

ans.: e.g. Other land resource option e.g. brownfield sites, unused military campsites

e.g. Environmental value of preserving our ecology, for eco-tourism, community enjoyment (for public recreation)

e.g. Preventing over-expansion of the urban areas

e.g. Country parks are also important water catchment areas, which allow rainwater to flow into surrounding reservoirs

(P.62) Questions:

1. According to Source J, what is the view of the author towards the development of brownfield sites and country parks for residential purpose? Explain your answer.

ans.: The author prefers the development of brownfield sites / country park*

(* circle the appropriate answer)

Because more cost-effective, more feasible, less harm to the quality of life of Hong Kong people (economic and enjoyment)

(P.63) Questions:

Appendix 4: Should country parks be developed into residential use in Hong Kong?

	Should	Should not
Necessity / urgency	- Serious housing problems in Hong Kong	- Other land sources e.g. brownfields
Effectiveness	- Use of just a few percent of our country parks is enough for 10 years of housing supply	- Not address the root of the problem e.g. population increase, high land price policy
Feasibility	- Development of country parks does not involve ownership problems or the moving of existing users	- Opposition from green groups - Difficulty in reaching consensus
Benefit and impacts	- More than 40 percent of Hong Kong is occupied by country parks. Within these are water catchment areas of reservoirs which are inaccessible. However, some of these reservoirs could be abandoned in the light of abundant water supply from the north. Development of such areas would have no material effect on the enjoyment of country park lovers. Use of just a few percent of our country parks is enough for 10 years of housing supply.	- Ecological damage - Less opportunity for recreation
Value / belief	- Support the basic necessity of Hong Kong citizens (obtain a shelter) - Prioritize socio-economic development	- prioritize environmental protection

(P.68) Appendix 7:

Identify and explain the conflict among stakeholders in the issue about the development of country parks for residential use.

I. Identify stakeholders

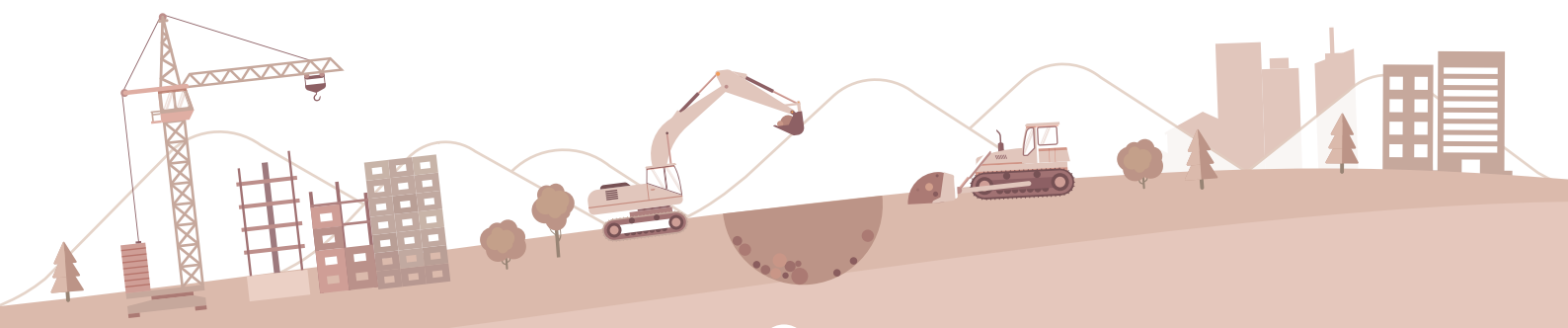
Study the Sources in Appendix 3 and identify the stakeholders in the issue about the development of country parks for residential use.

1. The government
2. Property developer
3. Green group / nature lover
4. Grassroot citizens / middle class

II. Complete the following table.

1. Identify 2 pairs of stakeholders that may be in conflict in the issue about the development of country parks for residential use.
2. Identify whether the two pairs of stakeholders are having value conflict or interest conflict.
3. Explain how the two pairs of stakeholders are in conflicts (arguments / viewpoints)

Stakeholders in conflict	Value conflict OR interest conflict OR having different concerns	Explanation
Green group **Vs** The government	Value conflict	Green group: environmental protection The government: socio-economic development
Green group **Vs** Grassroot citizens	Interest conflict	Green group: public interest (all citizens could enjoy the country parks) Grassroot citizens: public interest (housing shortage)



(P.69) **III. Short writing task**

What is/are the conflict(s) among stakeholders in the issue about the development of country parks for residential use? (6 marks)

Guidelines:

i. Refer to Appendix 6 for arguments.

ii. Suggested structure of the answer:

1. Identify 2 stakeholders that are in conflict
2. Identify the nature of the conflict
3. Identify the conflict point between the 2 stakeholders
4. Explain the arguments of one of the stakeholders
5. Explain the arguments of the other stakeholders
6. Explain how their arguments in conflict

(stakeholder 1) and (stakeholder 2) have value conflict / interest conflict / different concerns over whether (the issue) . (stakeholder 1) emphasize(s) (the value) . He / she / they support(s) / do(es) not support (the issue) because (arguments or explanation) . However, (stakeholder 2) emphasize(s) (the value) . He / she/ they support(s) / do(es) not support (the issue) because (arguments or explanation) . If (stance of stakeholder 1) , it may harm / hinder / impose a barrier to (argument of stakeholder 2) while if (stance of stakeholder 2) , it may harm / hinder / impose a barrier to (argument of stakeholder 1) .

(The following is part of the suggested answer adopting the structure mentioned above for teacher's reference.)

Green groups and the government have value conflict over whether the country parks should be developed for residential use. Green groups value environmental protection. They do not support the development of country parks because country parks have environmental value. Once the natural environment is destroyed it cannot be restored to what is was before. However, The government values socio-economic development of Hong Kong. She supports the development because housing problem is serious in Hong Kong nowadays. Developing country parks may release land for building houses. Housing problem could be alleviated. If country parks should not be developed, it may hinder the socio-economic development of Hong Kong while if country parks are going to be developed, it may harm the ecological system.

Senior Secondary Liberal Studies
Learning and Teaching Exemplar
for NCS students (4)

Understanding the quality of life from the cultural perspective

Understanding the quality of life from the cultural perspective

A. Basic information of the lessons

Topic Understanding the quality of life from the cultural perspective

Relevant modules, themes and issues for enquiry

Leading Module 2: Hong Kong Today

Theme 1: Quality of Life

- Which aspects of the quality of life are seen to be more important? Which are seen to be immediate needs? Who might make the decisions? Why?
- What are the different opinions of Hong Kong residents on the priorities which constitute the quality of life?
- How can individuals or organisations contribute to the maintenance and improvement of the quality of life? What are the obstacles to their efforts? Which groups of people are most affected if these obstacles are not removed?

Related Module 2: Hong Kong Today

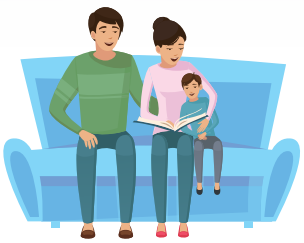
Theme 3: Identity

- To what extent do Hong Kong residents regard themselves as local, national and global citizens? How are their identities shaped? In what ways have their different identities affected their daily lives?
- What is the significance of multiple identities to Hong Kong residents? Why?

Overall design rationale

The lessons start from introducing the cultures in two different places (India and Hong Kong). Both NCS and local Chinese students may learn the cultures in the context of Hong Kong as well as in other cities and understand that unique cultures could be found in different countries.

Teachers first introduce that both cultural heritage and cultural diversity are the indicators for measuring the cultural quality of life. Students will then discuss how cultural heritage and cultural diversity affect people's quality of life in Hong Kong. During the discussion, emphasis will be given to the contextualization and causal relationship among concepts.



A case study on the innovation projects carried out by The Link REIT will be discussed. Students will evaluate the impacts brought from the projects and understand the conflicts arisen among different stakeholders. During the discussion, teachers may focus on contextualization and conceptualization of the conflicts with reference to the framework suggested.

Time required

4 lessons (40 minutes per lesson), approximately 160 minutes in total

Learning objectives

Knowledge:

- To introduce what constitutes the cultural aspect of the quality of life, and how they influence people's quality of life in Hong Kong.
- To understand the current situation of cultural development in Hong Kong.
- To discuss the conflicts (and concerns/ value orientation) among different stakeholders in the pursuit of cultural quality of life.

Skills:

- To develop skills in analysing value orientation and conflicts among stakeholders.
- To apply relevant knowledge and concepts in discussing contemporary issues.
- To analyze issue from critical multiple perspectives and the skills of conceptualization and contextualization.
- To respond immediately to queries.
- To express ideas in speaking and writing.

Values and attitudes:

- To consider personal and social issues from multiple perspectives and make sound judgments with reasoning and creativity.
- To foster positive attitude towards balancing different views and comprehensive consideration.
- To understand the importance of cultural heritage and diversity in Hong Kong, to respect and preserve both local and other cultures in our society.

Basic Concepts for application

Basic concepts:

quality of life, cultural heritage, cultural preservation/conservation, cultural diversity, identity, collective memory, traditions and customs

Other related concepts:

conflicts and concerns, incompatible interest, conflicting values, tangible and intangible cultural heritage, demolition, gentrification, shared experience, urban development, social cohesion

Relevant learning experience at junior secondary levels

- To have a general idea about the meaning of culture.
- To have acquired a basic understanding of different aspects of quality of life (material, non-material, political, social, economic, cultural and environment).
- To have fostered the perception of respecting others with different values, cultures and lifestyles.

Catering the learning needs of NCS students

- The lesson will start from the cultures in India which may arouse the interest of the NCS students in exploring the cultures in different places.
- The use of audio-visual learning materials may enhance the motivation of students in learning Liberal Studies.
- Guiding questions are set after each Source in the data file. The questions guide the students to process the data and generalise the implication step by step. The questions could be used for lesson preparation or in-class discussion. Students are able to build up knowledge with the support of simple sequential tasks.

B. Design of classroom learning and teaching

Lesson Learning and teaching strategies and flow

Before class

Lesson preparation

Ask students to study the photos about the cultures in India (Appendix 1). (Teachers and students can bring the Indian food or instrument, etc. to share with each other) This would facilitate the discussion and learning activities in the coming lessons.

1

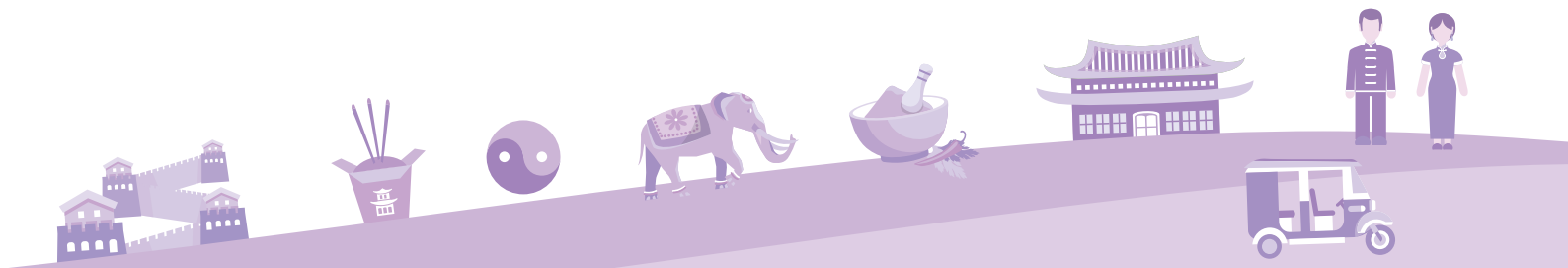
Lead in (around 10 minutes)

- Go over the pre-lesson preparation worksheet with students. The focus will be on the unique values and cultures in India.
- Remind students that unique cultures can be found in different countries/cities. For example, Paratha is a unique cuisine in India and Hong Kong has its own cultures as well.

Pair-work/ group work (around 25 minutes)

- Ask students to identify the cultures in Hong Kong (through writing, drawing, etc.) (Appendix 2).
- Teachers can bring the Indian food, instrument, etc. to share with students or ask students to read articles for more detailed information about the cultures in Hong Kong, if necessary (Appendix 3-Source A and Source C).

- Ask students to discuss what culture is. Teachers may help students clarify and conceptualize their answers.
  - ★ **Types of cultures:** beliefs, value systems, traditions and customs, manners and behaviours, language and artifacts, etc.
  - ★ **Aspects:** material and non-material cultures, tangible and intangible cultures
- Ask students to identify the characteristics of culture in Hong Kong. Teachers may help students clarify and conceptualize their answers.
  - ★ Features of culture in Hong Kong: co-existence of traditional Chinese culture and foreign cultures, mixture of traditional Chinese culture and foreign cultures



Round up (around 5 minutes)

- To revise the definition of culture.
- To revise the characteristics of culture in Hong Kong.

2

Group Discussion (around 30 minutes)

Part A

- Ask students to identify the changes in the development of cultural quality of life in Hong Kong with reference to the data provided. (Appendix 4-Part A).

Part B

- Introduce the indicators for measuring quality of life in cultural perspective (cultural heritage and cultural diversity).
- Ask students to discuss the relationship between the indicators and people's quality of life with reference to the situation in Hong Kong. (Appendix 4 Part B).
- Highlight the relevant concepts (e.g. social bonding, cohesion, shared experiences, etc.) and ask students to apply the concepts in the discussion.
- The discussion should elaborate the causal relationship between (i) cultural heritage and quality of life, (ii) cultural diversity and quality of life. Students are expected to justify their answers in view of the situation in Hong Kong.

Round up (around 10 minutes)

- To revise the indicators for measuring cultural quality of life.
- To revise the inter-relationship between the indicators and quality of life.
- To revise the important examples of cultural heritage and diversity in Hong Kong.

3&4

Group discussion (around 20 minutes)

- Ask students to read the sources and watch the video about the Innovation projects carried out by The Link REIT (Appendix 5-Source A to Source D) and identify the controversies raised in the issue.
- Ask students to discuss how the Innovation projects affect people's quality of life in Hong Kong. Students are encouraged to share their own experiences as well. Remind students to apply the concepts discussed in the previous lessons and generate the controversy that the innovation projects may enhance or undermine people's quality of life in Hong Kong / not every stakeholder supports the innovation projects.

- Conclude that the innovation projects may bring positive and negative impacts on people's quality of life in Hong Kong. Thus, not every stakeholder involved would support the implementation of the innovation projects. In reality, conflicts occurred among stakeholders.

Pair work / Group discussion (around 30 minutes)

- Ask students to discuss the views and concerns about the Innovation projects carried out by The Link REIT among different stakeholders, identify the conflict of interest and/or conflict of value among stakeholders.
- Help students clarify and elaborate their answers with reference to the sources given. Teachers and students could make use of Appendix 6 to organise their ideas. Samples can be shown as examples with reference to the ability of students.
- Teachers could pick other issues that may affect the development of cultural quality of life in Hong Kong for discussion. e.g. redevelopment plan in Sheung Wan, redevelopment plan in Kwun Tong, demolition of Star Ferry.

Summary / Conclusion (10 minutes)

Teachers conclude the values and concerns considered by different stakeholders in the development projects and revise the skills acquired in identifying the conflict of interest and/or conflict of value among stakeholders.

Post-discussion assignment (around 20 minutes)

- Brief students about the post-discussion assignment for the consolidation of learning in previous lessons. Assign a data-response question (Appendix 7) with reference to the learning objective and ability of students. A framework could be provided for weaker ability students. Guided writing could be arranged if necessary.
- Share students' works (both good and weak samples) and give constructive feedback to students.

Appendix 1: Pre-lesson task

How much do you know about the Indian cultures?

Photo 1

Source: Photo taken by resource developer.

Photo 2

Source: Hindu Human Right (2017) Vedic Wisdom behind eating with your hands. Retrieved from http://www.hinduhumanrights.info/vedic-wisdom-behind-eating-with-your-hands/

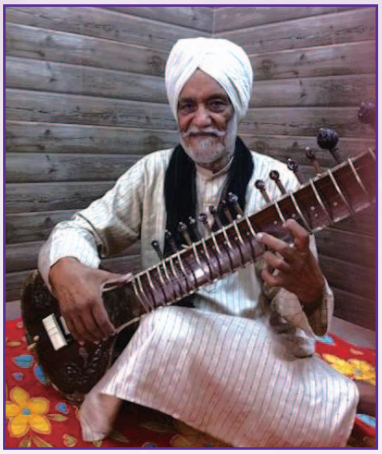


Photo 3

Source: https://en.wikipedia.org/wiki/File:Ustad_Prof._Kirpal_Singh_Jandu_plying_sitar.jpg

Photo 4

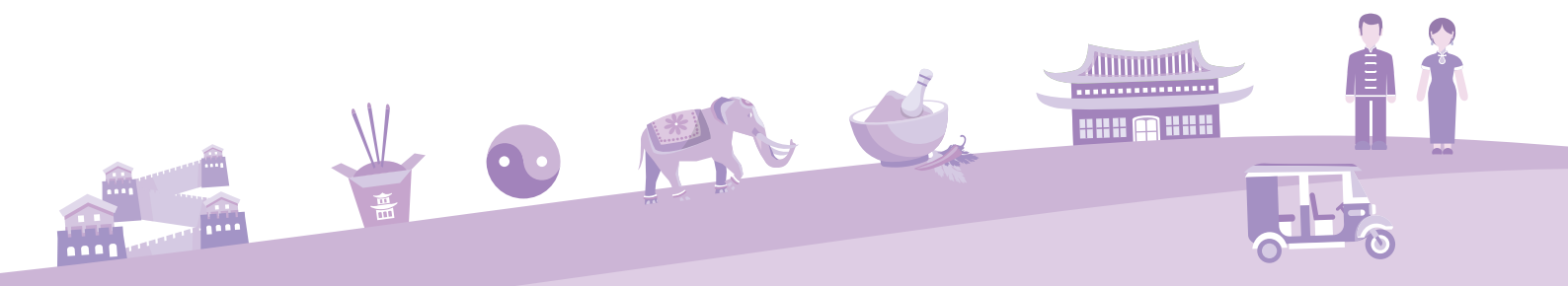
Source: https://commons.wikimedia.org/wiki/File:Pyaar-ke-Side-Effects_Official-Poster.jpg

What are aspects of the Indian culture with reference to the above photographs?

	What is the photograph about?	Which aspect of Indian culture is it?
Photo 1		
Photo 2		
Photo 3		
Photo 4		

Appendix 2: In class activity - Cultures in Hong Kong

What's **Hong Kong culture** in your mind? Try to write or draw it in the box below.



Appendix 3: Reference materials about cultures in Hong Kong

SOURCE A Hong Kong, a Fusion of East and West

Thanks to its unique location and history, Hong Kong is a melting pot of eastern and western cultures. Traditional and modern, old and new merge to create Hong Kong's distinctive culture. Following the return of Hong Kong to Chinese sovereignty, close cultural exchange and cooperation with the Mainland has resulted in the rapid evolution of Hong Kong's cultural sector.

Hong Kong's brilliance is due both to its cultural diversity and to the unique local culture that diversity gave rise to. In Hong Kong, the diverse culture has reached its ultimate expression. All of these are the Hong Kong culture.

Source: China Daily (2007). *Hong Kong, a Fusion of East and West.*
Retrieved from http://www.chinadaily.com.cn/ezine/2007-08/24/content_6039878.htm

SOURCE B Local Culture in Hong Kong

Pineapple bun with a chunk of butter（菠蘿油）

Egg tart（蛋撻）

Hong Kong-style French toast（西多士）

Fish balls in curry sauce（咖哩魚蛋）

Source: Photos taken by resource developer.

SOURCE C Intangible cultural heritage in Hong Kong

Intangible heritage items broached

https://www.youtube.com/watch?v=HVwY9ecso8I

Guiding Question: *What is the intangible cultural heritage in Hong Kong? Can you name some of them?*

Examples: Cantonese Opera (Performing arts), Yu Lan Ghost Festival (festive events), Hong Kong-style Milk Tea Making Technique **(Traditional craftsmanship)**, Herbal Tea **(Knowledge and practices)**

Source: Intangible Cultural Heritage Office http://www.lcsd.gov.hk

Appendix 4: Cultural quality of life in Hong Kong

A. Performance of cultural quality of life

SOURCE A Hong Kong Quality of Life Index- Culture & Leisure Sub-index

Composition of and Data for compiling the Quality of Life Index (Culture & Leisure Sub-index)

1. Cultural programmes attendance index (per 1,000 population) refers to the number of attendances of indoor cultural programmes organized at the venues of the Leisure and Cultural Services Department per 1,000 population.
2. Recreation and sport activities participation index (per 1,000 population) refers to the number of participants of recreation and sport activities organized or subvented by the Leisure and Cultural Services Department per 1,000 population.
3. Overseas travel index (per person) refers to the number of departures by the airport per person.

Source: The Chinese University of Hong Kong (2016). *CUHK Hong Kong Quality of Life Index*. Retrieve from https://www.cuhk.edu.hk/hkiaps/qol/en/qol.html.

Question:

1. Describe the performance of cultural quality of life in Hong Kong as shown in Source A.

   Better / Worsening* performance (* circle the appropriate answer)

_____

_____

_____

_____

_____

Describing performance:

Apart from simply describing the data (e.g. increase / decrease, with the help of evidence), you have to include some adjectives to describe the performance, for instance, "better / worsening performance was found throughout the years".

B. Measurement of cultural quality of life

In general, _____ and _____ are important indicators of cultural quality of life.

(a) Cultural Heritage

Cultural heritage is *an expression of the ways of living developed by a community and passed on from generation to generation*, including customs, practices, places, objects, artistic expressions and values. It is often expressed as either intangible or tangible cultural heritage.

- **Tangible** cultural heritage:
  - ★ movable cultural heritage (paintings, sculptures, coins, manuscripts)
  - ★ immovable cultural heritage (monuments, archaeological sites, and so on)
  - ★ underwater cultural heritage (shipwrecks, underwater ruins and cities)
- **Intangible** cultural heritage: oral traditions, performing arts, rituals

Source: What is Cultural Heritage? Retrieve from http://www.cultureindevelopment.nl

Some examples of cultural heritage in Hong Kong

A. Tangible cultural heritage

Ex-Ma Tau Kok Animal Quarantine Depot
前馬頭角牲畜檢疫站（牛棚）

- The site was originally used as a slaughterhouse from 1908 to 1999. It was renovated and developed into a village for artists in 2001. It is now home to around 20 art groups.

Source: http://www.guideguide.hk

B. Intangible cultural heritage

Cheung Chau Jiao Festival
長洲太平清醮

- It started with a plague that devastated Cheung Chau in the late Qing dynasty (1644–1911). The islanders built an altar in front of the Pak Tai Temple and petitioned the god Pak Tai to drive off the evil spirits besieging the island, while parading statues of deities through the narrow lanes of their village.

Source: http://metroradio.com.hk

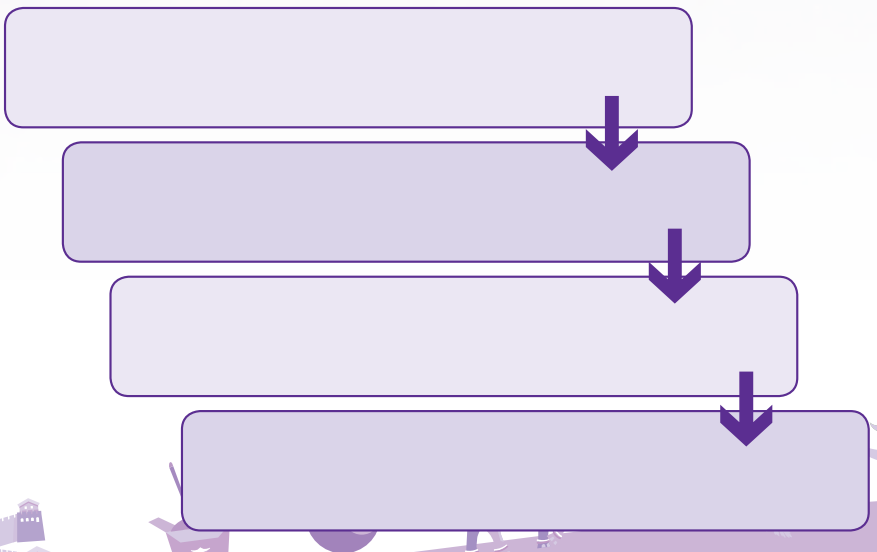
C. Some controversial cases related to the preservation of cultural heritage in Hong Kong

- Queen's Pier
- Star Ferry Pier
- Wing Lee Street (Sheung Wan)
- Lee Tung Street (Wanchai)
- Ho Tung Gardens
- Blue House (Wanchai), etc.

1. Explain why there is a **causal relationship** between cultural heritage and quality of life.

Major concepts concerning 'cultural heritage'	Related concepts for elaboration
People / relationships	
History	
Social meaning	

Using **Cheung Chau Jiao Festival** as an example, explain how it affects people's (Cheung Chau's residents') quality of life.



Hints:
1. What is the significance of the festival?
2. What do people do in the festival?

(b) Cultural diversity

What is cultural diversity?

- It is defined as the cultural variety and cultural differences that exist in the world, a society or an institution.
- Cross-border population flows, such as migration, lead to increased diversity within societies. This diversity often refers to the *co-existence of a difference in behaviour, traditions and customs* -in short, a diversity of cultures.
- The UNESCO Universal Declaration on Cultural Diversity states that…

1) "Culture takes diverse forms across time and space. *This diversity is embodied in the uniqueness and plurality of the identities of the groups and societies* making up humankind.
2) it is essential *to ensure harmonious interaction* among people and groups with plural, varied and dynamic cultural identities as well as their willingness to live together.
3) "Cultural diversity *widens the range of options open to everyone*; it is one of the roots of development, understood not simply in terms of economic growth, but also as a means to achieve a more satisfactory intellectual, emotional, moral and spiritual existence."

Source: http://unesco.org/

Using **eating culture** as an example, explain why there is a **causal relationship** between **cultural diversity** and **quality of life**.

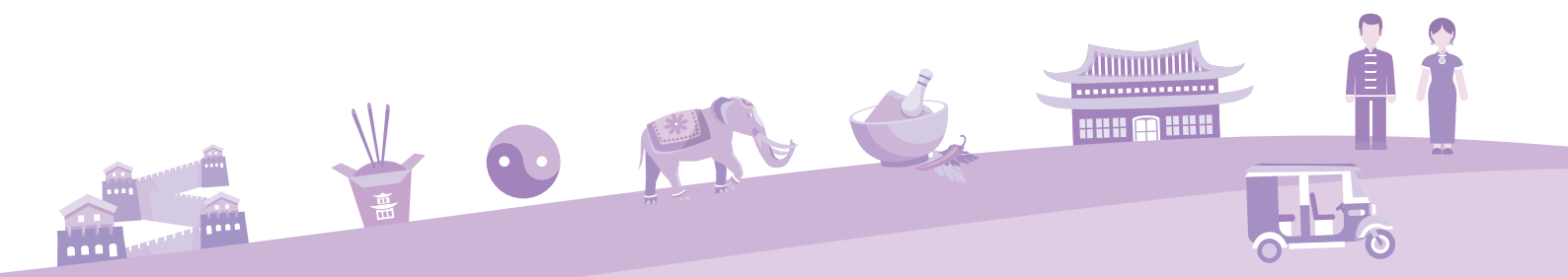
cultural diversity

↓

↓

↓

enhance / undermine cultural Quality of Life.



Appendix 5: A case study on the Innovation projects carried out by The Link REIT

SOURCE A Audio Visual source

1. 領展 (領匯) 唔識煮飯老婆 廣告 [HD] (Chinese ONLY)
   (TV Commercial - Fresh Market)
   https://www.youtube.com/watch?v=IqXf6l4fbbE

   Guiding Question: *What are the (positive) impacts brought to the community after the innovation?*

2. **Is Link REIT leading us a better life?**

   https://www.youtube.com/watch?v=B3WYpzi3ne4

   Guiding Question: *What are the (positive and negative) impacts brought to the community after the innovation?*

SOURCE B A brief introduction of the Link Real Estate Investment Trust (Link REIT)

(Extracted from a local newspaper)

- It is Hong Kong's first real estate investment trust set up in 2005, and was listed in the stock market
  - It took over the running of retail and parking facilities at local public housing estates with the *privatisation of assets* operated by the Housing Authority.
- Link's business strategy has drawn criticism from some.
  - In July 2015, activist group Link Watch released a study report which *said big chains* made up 76 per cent of the 2,075 shops in 22 malls run by the firm.* Several concern groups protested against its recent decision to *close a wet market in Tin Shui Wai for an upgrade, which they fear will bring about higher rents.*
- But the management in Link REIT disputes these claims. "We actually have more small shops … We continue to maintain roughly 60 per cent of our shops leased to smaller operators." He argued that by renovating its malls and markets, Link offered more choices to shoppers, and that the introduction of high-end goods co-existed with cheaper options.

* Big Chains - retail outlets that share a brand and central management, and usually have standardized business methods and practices. Examples of big chains in Hong Kong: Maxim's Caterers Limited, Tsui Wah Restaurant.

Source: Adapted from news articles in 2015.

SOURCE C Survey on prices of fresh food items in different markets

Product	Ma On Shan Yiu On Estate Market Managed by the Link REIT (after innovation)	Tai Wai Market Managed by the Food and Environmental Hygiene Department	Difference
Orange	$5.0 / each	$2.0 / each	150.0%
Cabbage	$30.0 / catty	$14.0 / catty	114.3%
Pork belly	$46.0 / catty	$25.0 / catty	84.0%
Live chickens	$88.0 / catty	$67.2 / catty	31.0%
Egg	$1.4 / each	$1.2 / each	16.7%
Overall	$170.4	$109.4	55.8%

Source: Alliance on the Development of Public Markets（監察公營街市發展聯盟）

SOURCE D

"There were up to 50% more shoppers in some wet markets after renovation, on average we had 30% more. Amounts of goods sold have also increased," The assistant general manager of the Link said.

14 of the Link's wet markets have already been renovated, including the Siu Sai Wan Market, which introduced the "i-Chicken stall" to allow customers to select live chickens via video link, Ng hopes to renovate the remaining wet markets gradually. "After renovation, we are concerned whether the wet markets can sustainably develop and tenants continue their business," He said, adding that while the Link has been criticised for selling overpriced fresh food, the needs of different types of customers have to be considered. "There should be a wide range of goods. While we have to take care of affordability of the grassroots, we also have to sell products with higher quality," He said.

The chairwoman of concern group Link Watch, was skeptical that the upgraded markets were serving the needs of local residents. "Indeed the wet markets are looking prettier, but now they are also selling high-end food such as Parma ham – is that what public estate residents are looking for?" She said many wet markets were located in public estates and supposed to serve those on low income living there. Despite Link claims that the number of customers had risen, she questioned whether market shops had benefitted.

Source: Adapted from news article in 2016.

1. What are the features of the traditional wet market?

Hints: what kinds of products can be found in the wet market?

How is the relationship between the stall owners and customers?

2. With reference to the above sources, what are the impacts brought from the innovation projects carried out by The Link REIT?

Source	Impacts brought from the innovation projects
A(1) TV Commercial - Fresh Market	
A(2) Is Link REIT leading us a better life?	
B	
C	
D	

3. With reference to the above sources, discuss how the Innovation projects carried out by the Link REIT affect people's quality of life in Hong Kong.

Innovation projects carried out by The Link REIT

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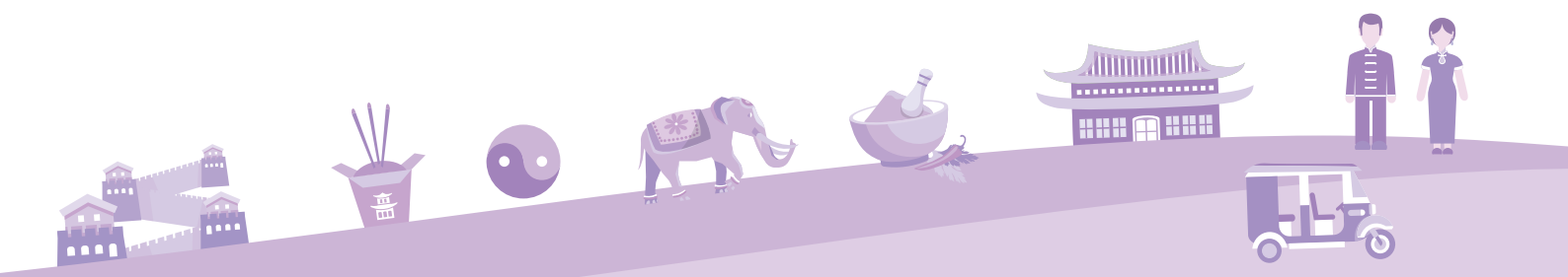
↓

↓

Enhance / undermine _____ (aspect) QoL.

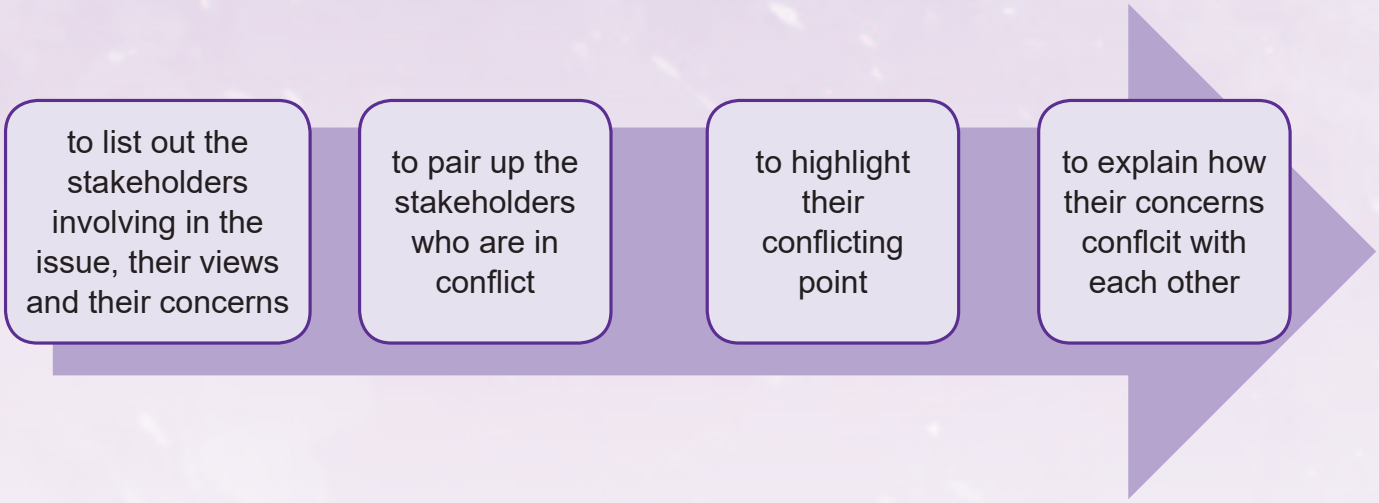


Appendix 6: Suggested framework for organising ideas

1. What conflicts might arise **among different stakeholders** in the **innovation of shopping malls by Link REIT**? Explain your answer.

What is a "conflict" ?

- controversy; quarrel
- discord of action, feeling, or effect; antagonism or opposition, as of interests or principles
- incompatibility or inerference, as of one idea, desire, event, or activity with another



Stakeholder	view	Value orientation

A commonly used structure to present conflicts:

Step 1: Highlight the conflict between stakeholders in the topic sentence

There are	Description of nature of conflict ● conflicting interests ● incompatible values ● different understandings ● diverse expectations ●	between	Stakeholders A & B	on	Conflicting points ● whether _____ should be implemented. ● how _____ should be carried out. ● what to be included in _____ . ● who should be taken care of in _____ . ● .....

Step 2: Present the concerns of each stakeholders and how they affect their choices / decisions

Stakeholder A values _____ most. They think that ....., so they prefer..... However, stakeholder B concerns _____ most. They believe that ..... , therefore, they would like .....

Step 3: summarize how their conflict would affect the decision in the mini-conclusion

As there is divergence on _____ (the conflicting point) between stakeholders A & B, it is hard for them to reach consensus / compromise.

Try writing one of them!

There are _____ between _____ and _____

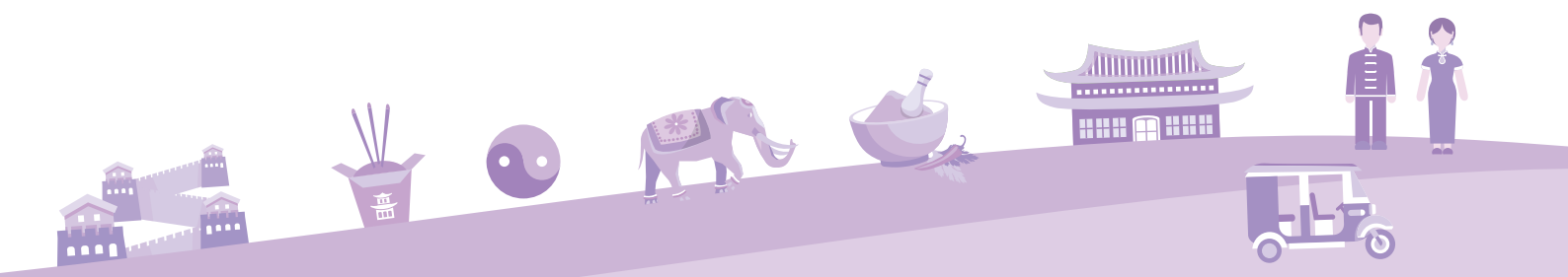
_____ on _____.

_____

_____

_____

_____



Appendix 7: Post-discussion assignments (Data-response question)

Consider the following information.

SOURCE A Some controversies over the conservation of historical sites in Hong Kong

Location	Description
The *Tong Lau* remains near the Mid-Levels escalator in Central	• The Urban Renewal Authority (URA) proposes to dismantle the remains of some tenement houses, or tong lau, which were built in 1879, and reassembles on the original site but in a smaller area. • The site is being redeveloped into an area with 450 private flats and two commercial buildings. • Central and Western Concern Group said that they cannot accept the so-called method of conservation. They insisted that this significant relic site has to be kept intact as it is. • The assessment made by the URA reported that the remains, which also serve as a retaining wall to prevent landslides, do not meet minimum safety requirements. • Dr Lee Ho-yin, an expert in architectural conservation at the HKU, said that other common methods of reinforcing the current wall without dismantling it would require covering it with concrete, which would defeat the purpose of retaining its heritage value.
Ho Tung Gardens on the Peak	• The HKSAR government admitted a policy failure as it decided to give up on a plan to save the historic Ho Tung Gardens by declaring the mansion and private park a monument. • The mansion's owner, Ho Min-kwan, rejected all proposals from the government. Ho wants to demolish the main building to build ten houses. • Secretary for Development, Chan Mau Po said Ho had asked for compensation of HK$7 billion, while the government estimated the site's worth at HK$3 billion. "We understand that not everyone would agree with spending billions dollar of public money on private heritage sites."

(a) With reference to Source A, what are the possible *conflicts among different stakeholders* on the conservation of historical buildings in Hong Kong? (6 marks)

Suggested guides

I. Identify stakeholders involving in the issue, their views and concerns

The ***Tong Lau remains*** near the Mid-Levels escalator in Central

Stakeholder	Value orientation	What do they do?

Ho Tung Gardens on the Peak

Stakeholder	Value orientation	What do they do?

II. Complete the following table.

1. Pair up the stakeholders who are in conflict in the issue
2. Identify their conflicting point
3. Explain how their concerns are in conflicts (arguments / viewpoints)

Stakeholder		Concerns/ interests	Conflicting point
Pair 1			
Pair 2			

III. Writing task

With reference to Source A, what are the possible *conflicts among different stakeholders* on the conservation of historical buildings in Hong Kong? (6 marks)

Guidelines:

i. suggested structure of the answer:

1. ***Topic sentence:*** Highlight the conflict between stakeholders
2. ***Elaboration:*** Present the concerns of each stakeholders and how they affect their choice/ decisions (Identify the conflicting point between the 2 stakeholders, explain the arguments of the stakeholders and how their arguments are in conflict)
3. ***Mini-conclusion:*** summarize how their conflict would affect the decision

Step 1: Highlight the conflict between stakeholders in the topic sentence

There are	Description of nature of conflict ● conflicting interests ● incompatible values ● different understandings ● diverse expectations ●	between	Stakeholders A & B	on	Conflicting points ● whether _____ should be implemented. ● how _____ should be carried out. ● what to be included in _____ . ● who should be taken care of in _____ . ● .....

Step 2: Present the concerns of each stakeholders and how they affect their choices / decisions

Stakeholder A values _____ most. They think that ....., so they prefer..... However, stakeholder B concerns _____ most. They believe that ..... , therefore, they would like .....

Step 3: summarize how their conflict would affect the decision in the mini-conclusion

As there is divergence on _____ (the conflicting point) between stakeholders A & B, it is hard for them to reach consensus / compromise.

Example:

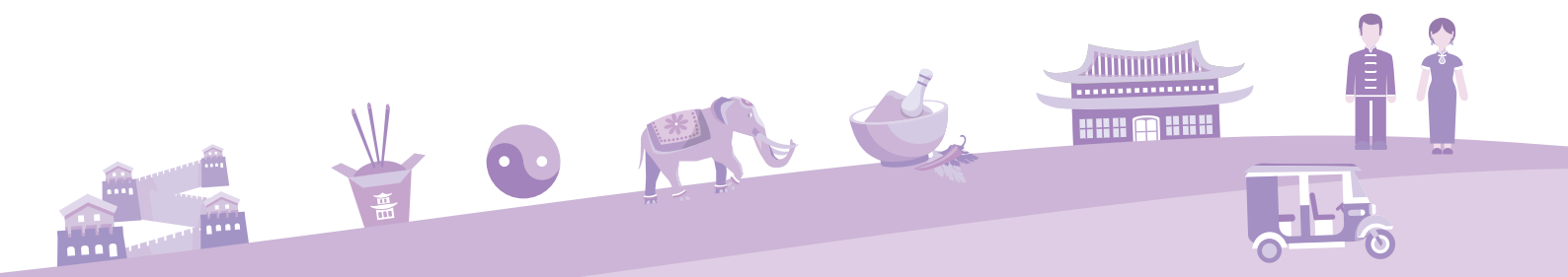
There are (conflict) between (stakeholder A) and (stakeholder B) on whether / how (the issue) .

(stakeholder A) values (the value) most. He / she / they support(s) / do(es) not support (the issue) because (arguments or explanation). However, (stakeholder B) values (the value) most. He / she / they support(s) / do(es) not support (the issue) because (arguments or explanation).

As there is divergence on _____ (the conflicting point) between stakeholders A & B, it is hard for them to reach consensus / compromise.

Suggested conflicts among stakeholders:

1. *There are **diverse expectations** between **the government (URA)** and the **conservationists** on **how the historical buildings should be preserved**. In Source A, in the project of The Tong Lau remains near the Mid-Levels escalator in Central, the conservationists insisted that the significant relic site has to be kept intact as it is. They think that the best way to preserve these cultural heritages would be keeping the intact structure and the original forms of uses in these buildings. However, the URA suggests dismantling the remains of some tenement houses, or tonging lau, and reassembles on the original site but in a smaller area. The conservationists are dissatisfied with the plan suggested by the URA as their expectation cannot be met. The conservationists and the URA could hardly compromise how the preservation should be conducted.*



With reference to Source A, what are the possible *conflicts among different stakeholders* on the conservation of historical buildings in Hong Kong? (6 marks)

-- End of Appendix --

Guidelines for Teachers

(P.84) What are aspects of the Indian culture with reference to the above photographs?

	What is the photograph about?	Which aspect of Indian culture is it?
Photo 1	Samosa	Eating/Food culture
Photo 2	Indians usually eat with hands	Eating culture
Photo 3	Sitar (An Indian musical instrument)	Music
Photo 4	Movie (Bollywood Movies)	Movie (Bollywood Movies)

Question:

1. Describe the performance of cultural quality of life in Hong Kong as shown in Source A.

Better / Worsening* performance (* circle the appropriate answer)

Evidence: increasing trend was found from 2002 to 2016

Describing performance:

Apart from simply describing the data (e.g. increase / decrease, with the help of evidence), you have to include some adjectives to describe the performance, for instance, "better / worsening performance was found throughout the years".

(P.88)

In general, cultural heritage and cultural diversity are important indicators of cultural quality of life.

(P.89)

1. Explain why there is a **causal relationship** between cultural heritage and quality of life.

Major concepts concerning 'cultural heritage'	Related concepts for elaboration
People / relationships	Social bonding, cohesion, shared experiences
History	Continuation and further development, unique history
Social meaning	Represent the uniqueness of the community, collective memory, shared experience, sense of belonging, identity

Using **Cheung Chau Jiao Festival** as an example, explain how it affects people's (Cheung Chau's residents') quality of life.

Hints:

1. What is the significance of the festival?
2. What do people do in the festival?

cultural heritage, which represents the unique history of Hong Kong (Cheung Chau Jiao Festival: Traditional Chinese festival)

↓

people of Cheung Chau preparre costumes, bake buns and build a bamboo tower. Those who have left to work elsewhere will return for this celebration.

↓

maintain the bond of social network - build up sense of local identity and enhance social cohesion

↓

enhance / undermine cultural Quality of life

Pass on from generation to generation (Continuation) →

promote the next generation's knowledge about the history and traditions →

ponder the meaning of traditional culture and its impact on today's society →

further enhance the development of the culture and the society (Further development) →

enhance the quality of life

(P.91)

Using **eating culture** as an example, explain why there is a **causal relationship** between **cultural diversity** and **quality of life**.

cultural diversity

↓

people will have more choices in their life

↓

eg. eating culture - HKstyle, western, Korean, Japanese, etc.

↓

enhance / undermine cultural Quality of Life.

Different cultures may also be integrated and developed into a unique local culture (in HK)

unique culture of a particular place (HK) helps build a sense of local identity

people become more united → enhance the quality of life

(P.94)

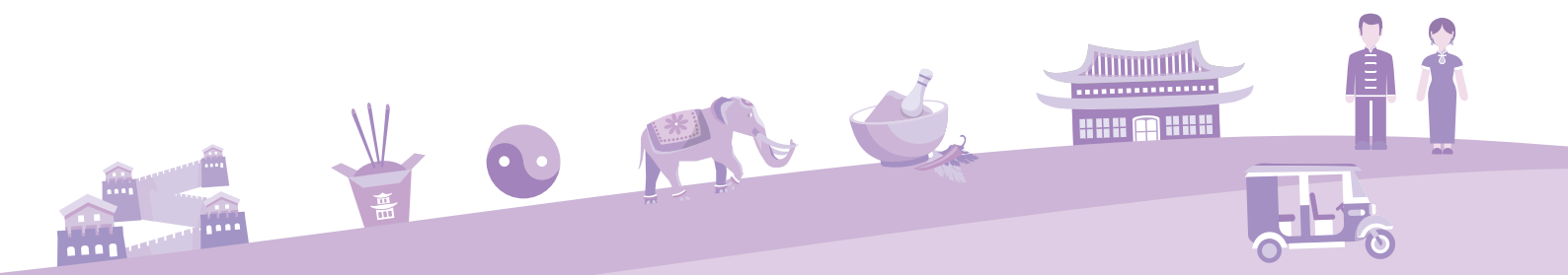
1. What are the features of the traditional wet market?

   Hints: what kinds of products can be found in the wet market?

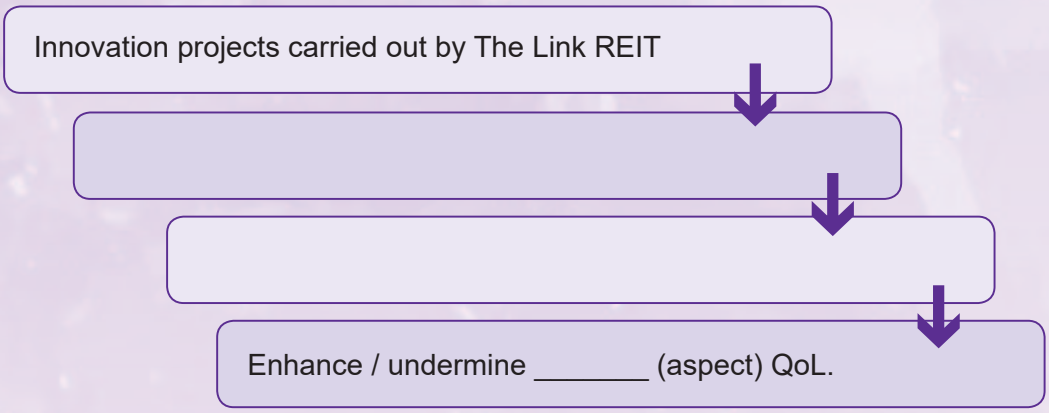
   How is the relationship between the stall owners and customers?

2. With reference to the above sources, what are the impacts brought from the innovation projects carried out by The Link REIT?

Source	Impacts brought from the innovation projects
A(1) TV Commercial - Fresh Market	Better environment – clean & comfortable, better hygiene, air-conditioning, etc.
A(2) Is Link REIT leading us a better life?	- Modernized facilities are provided (e.g. I-Chicken system), clean and comfortable environment, - Original / small stall owners would face increase in rent (production cost); however, rental of some new stall is low → may drive small stall out of business / higher prices of goods → affect the livelihood of residents - Stall owners are required to pay extra $1,000/month for promoting the market.
B	Big chains made up 76 per cent of the 2,075 shops in 22 malls run by the firm. The innovation would bring about higher rents → increase production cost of stall owners
C	Prices of fresh food became higher
D	More profits were brought to stall owners (↑consumers) More expensive food can be found (but may not be unaffordable to residents nearby



3. With reference to the above sources, discuss how the Innovation projects carried out by the Link REIT affect people's quality of life in Hong Kong.



Examples:

The Link REIT renovates the markets & malls of public housing estates → increases the rent → some traditional small shops that have been serving the local community for many years may not be able to afford the rent → forced to move/close down → loss of traditional, unique culture, collective memories and social ties (original way of life) → deteriorate cultural and social QoL

The Link REIT renovates the markets & malls of public housing estates → a few chained, larger scale businesses or multinational corporations may be invited to open their shops in these malls → the malls become very similar to each other → loss of cultural diversity → people have less choices → deteriorate cultural QoL

The Link REIT renovates the markets & malls of public housing estates → better living environment and infrastructure (e.g. clean, air-conditioning market) → More comfortable environment and user-friendly infrastruces are provided → People enjoy shopping/satisfy their needs in the markets and malls → enhance social/spiritual QoL

Appendix 6: Suggested framework for organising ideas

1. What conflicts might arise **among different stakeholders** in the **innovation of shopping malls by Link REIT**? Explain your answer.

What is a "conflict" ?

- controversy; quarrel
- discord of action, feeling, or effect; antagonism or opposition, as of interests or principles
- incompatibility or inerference, as of one idea, desire, event, or activity with another

to list out the stakeholders involving in the issue, their views and their concerns → to pair up the stakeholders who are in conflict → to highlight their conflicting point → to explain how their concerns conflcit with each other

Stakeholder	view	Value orientation
The Link REIT	support	Better standard of living (public interest) Profit-maximization
Affected residents	Support oppose	Livelihood, standard of living Social bonding, collective memory, neighborhood (residents with different age, years of residence, income levels, owners of business in the same area …would affect their views)
Original shop owners	Support oppose	Profit-maximization (private interest) More business opportunity → earn more Higher rent → increase production cost → earn less
preservationists	oppose	Justice, fairness, rights, Social bonding, cultural heritage, cultural diversity, etc.

A commonly used structure to present conflicts:

Step 1: Highlight the conflict between stakeholders in the topic sentence

There are	Description of nature of conflict ● conflicting interests ● incompatible values ● different understandings ● diverse expectations ●	between	Stakeholders A & B	on	Conflicting points ● whether _____ should be implemented. ● how _____ should be carried out. ● what to be included in _____ . ● who should be taken care of in _____ . ● .....

Step 2: Present the concerns of each stakeholders and how they affect their choices / decisions

Stakeholder A values _____ most. They think that ....., so they prefer..... However, stakeholder B concerns _____ most. They believe that ..... , therefore, they would like .....

Step 3: summarize how their conflict would affect the decision in the mini-conclusion

As there is divergence on _____ (the conflicting point) between stakeholders A & B, it is hard for them to reach consensus / compromise.

Try writing one of them!

There are _____between _____ and _____

_____ on _____.

Topic Sentence: There are conflicting interests between the Link and some original shop owners on the development of the market/mall.

Elaboration:

Link REIT:

The innovation brings the community a better living environment and infrastructure; attract more business opportunities → the Link REIT will be benefited by the innovation

Shop owners: possibly higher rent after the innovation → increase the production cost → earn less

relocating business to the new area may cause (1) increase in cost e.g. higher rent → economic loss + (2) loss of social ties

Mini-conclusion

As there conflicting interests between the Link and some original shop owners, it is hard for them to reach a consensus.

(P.99) Appendix 7: Post-discussion assignments (Data-response question)

(a) With reference to Source A, what are the possible *conflicts among different stakeholders* on the conservation of historical buildings in Hong Kong? (6 marks)

Suggested guides

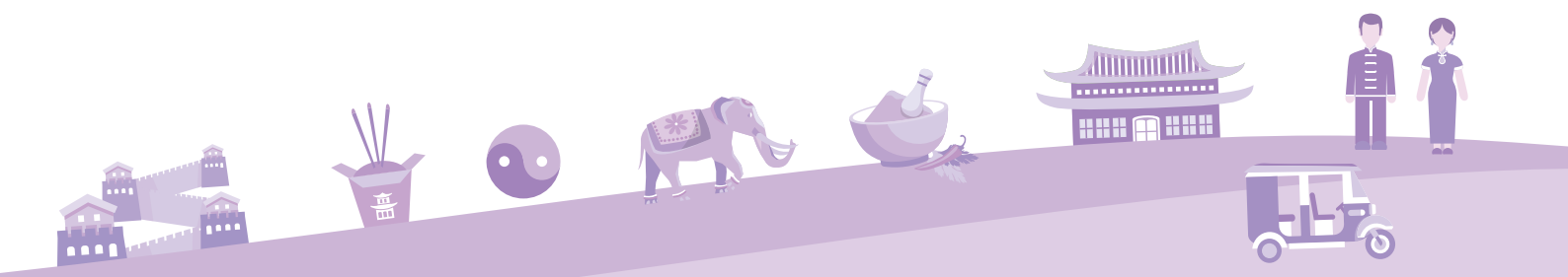
I. Identify stakeholders involving in the issue, their views and concerns

The ***Tong Lau remains*** near the Mid-Levels escalator in Central

Stakeholder	Value orientation	What do they do?
The government / URA	Better use of land resource, at the same time preserve the historical relics	(1) to dismantle the remains of some tenement houses, or tong lau, and reassembles on the original site but in a smaller area. (2) To redevelop the area with 450 private flats and 2 commercial buildings
Central and Western Concern Group / conservationist	Conservation of historic relics	(1) cannot accept the so-called method of conservation (2) They insisted that this significant relic site has to be kept intact as it is.

Ho Tung Gardens on the Peak

Stakeholder	Value orientation	What do they do?
The government (represented by Chan Mo Po)	Conservation of historical buildings	(1) Propose to declare the mansion and private park a monument (2) To offer a 3-billion compensation to the owner
Property owner (represented by Ho Min-kwan)	Economic interest	(1) Want to demolish the main building to build ten houses (2) But if the government want to do conservation, a compensation of HK$7 billion should be compensated (3) Declined all proposals



II. Complete the following table.

1. Pair up the stakeholders who are in conflict in the issue
2. Identify their conflicting point
3. Explain how their concerns are in conflicts (arguments / viewpoints)

Stakeholder		Concerns/ interests	Conflicting point
Pair 1	residents	Conservation of historic relics	Understanding of conservation
	URA/ government	Better use of land resource	
Pair 2	property owner	economic interest (private interest)	the amount of compensation
	URA/ government	Public interest	

III. Writing task

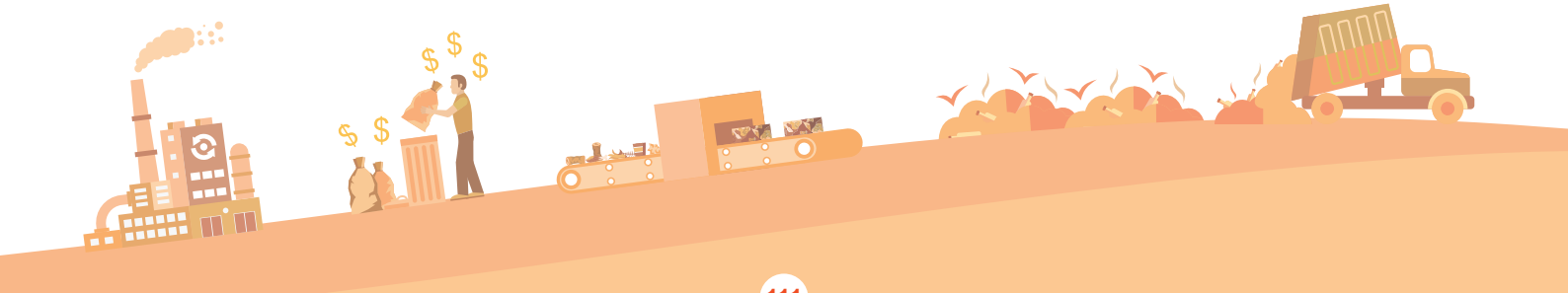
With reference to Source A, what are the possible *conflicts among different stakeholders* on the conservation of historical buildings in Hong Kong? (6 marks)

Suggested conflicts among stakeholders:

2. There are ***diverse expectations*** between ***the government (URA)*** and the ***conservationists*** on ***how the historical buildings should be preserved.*** In Source A, in the project of The Tong Lau remains near the Mid-Levels escalator in Central, the conservationists insisted that the significant relic site has to be kept intact as it is. They think that the best way to preserve these cultural heritages would be keeping the intact structure and the original forms of uses in these buildings. However, the URA suggests dismantling the remains of some tenement houses, or tonging lau, and reassembles on the original site but in a smaller area. The conservationists are dissatisfied with the plan suggested by the URA as their expectation cannot be met. The conservationists and the URA could hardly compromise how the preservation should be conducted.

Senior Secondary Liberal Studies
Learning and Teaching Exemplar
for NCS students (5)

Understanding Municipal Solid Waste Management in Hong Kong



Understanding Municipal Solid Waste Management in Hong Kong

A. Basic information of the lessons

Topic Understanding the municipal solid waste management in Hong Kong

Relevant modules, themes and issues for enquiry

Leading Module 6: Energy Technology and the Environment;

Theme 2: Environment and Sustainable Development

- How do science and technology match with sustainable development? What are the constraints?
- How do the living styles of people and social development affect the environment and the use of energy?
- What responses could be made by different sectors of society, governments and international organisations regarding the future of sustainable development?

Related Module 2: Hong Kong Today;

Theme 1: Quality of Life

- Which aspects of the quality of life are seen to be more important? Which are seen to be immediate needs? Who might make the decisions? Why?
- What are the different opinions of Hong Kong residents on the priorities which constitute the quality of life?
- How can individuals or organisations contribute to the maintenance and improvement of the quality of life? What are the obstacles to their efforts? Which groups of people are most affected if these obstacles are not removed?

Overall design rationale

The lessons start from introducing the solid waste disposal in different places (India, Pakistan, Bangladesh and Hong Kong). Both NCS and local Chinese students may learn about the solid waste issue in the context of Hong Kong as well as in other cities and understand that different countries face similar problems and challenges.

Students first identify the solid waste problems in Hong Kong. Teachers briefly explain the reasons for the emergence of solid waste problems in Hong Kong, namely over-consumption, low environmental awareness of citizens, ineffective measures of solid waste

management, etc. Teachers would introduce the multi-tiered waste management hierarchy and discuss with students about the measures/ policies that may help alleviate the solid waste problems. Students will discuss the effectiveness of the solid waste management measures adopted in Hong Kong.

In this teaching package, the implementation of solid waste management measures to alleviate the solid waste problems will be evaluated. Teachers may focus on one or more specific methods (for example, landfilling, incineration, recycling and solid waste charging) with reference to the framework of discussion. During the discussion, teachers may focus on contextualization and evaluation of the effectiveness of the measures with reference to the framework suggested.

Time required

4 lessons (40 minutes per lesson), approximately 160 minutes in total

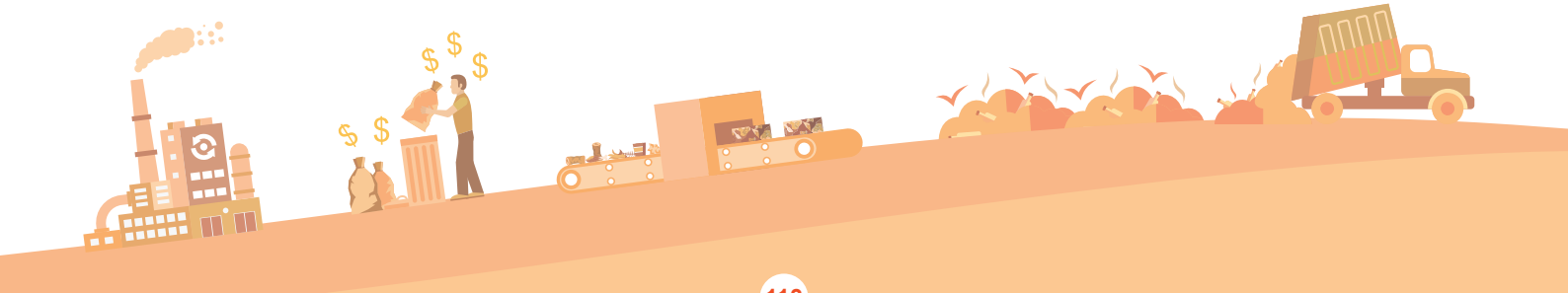
Learning objectives

Knowledge:

- To understand the current situation of municipal solid waste in Hong Kong.
- To understand the concepts related to sustainable development and the interrelationship between human activities and the natural environment.
- To understand how the Hong Kong Government responds to the issue of municipal solid waste.
- To evaluate the effectiveness of different solid waste management measures adopted in Hong Kong.

Skills:

- To develop skills in identifying features of solid waste, decoding cartoons and evaluating the effectiveness of different solid waste management measures.
- To apply relevant knowledge and concepts in discussing contemporary issues.
- To analyse issue from critical multiple perspectives and develop skills of conceptualization and contextualization.
- To express ideas in speaking and writing.



Values and attitudes:

- To increase the awareness on environmental protection.
- To be aware of civil rights and obligations, and to participate and collaborate in community affairs.
- To care about and protect living things, natural environment and the wellbeing of humankind.

Basic Concepts for application

Basic concepts:

sustainable development, polluter pays principle, solid waste management, green lifestyle, quality of life

Related concepts:

intergeneration equity, harmony and balance, waste recovery, source reduction, over-consumption, environmental awareness, waste hierarchy, economic (dis)incentive, deterrent effect

Relevant learning experience at junior secondary levels

- To have a general idea about the significance of sustainable development.
- To have acquired a basic understanding of different aspects of quality of life (material, non-material, political, social, economic, cultural and environment).
- To have acquired a basic understanding of the role of individuals in environmental protection.

Catering the learning needs of NCS students

- The lesson will start from the solid waste problems in different countries which may arouse the interest of NCS students in exploring the situation in different places in the world.
- The use of audio-visual learning materials may enhance the motivation of students in learning Liberal Studies.
- Guiding questions are set after each source in the data file. The questions guide the students to process the data and generalise the implication step by step. The questions could be used for lesson preparation or in-class discussion. Students are able to build up knowledge with the support of simple sequential tasks.

B. Design of classroom learning and teaching

Lesson Learning and teaching strategies and flow

Before class

Lesson preparation

Ask students to study the photos and watch the video about the solid waste problems in India, Pakistan and Bangladesh **(Appendix 1)**. This would facilitate the discussion and learning activities in the coming lessons.

1 Focus: Understanding the solid waste problems in Hong Kong

Lead in (around 15 minutes)

- Go over the pre-lesson preparation worksheet with students. The focus will be on the solid waste problems in Pakistan, Bangladesh and India.
- Remind students that solid waste problems are found in different places.

Pair-work/ group work (around 20 minutes)

- Ask students to read **Appendix 2** and identify the features of solid waste in Hong Kong.
- While studying the statistics about solid waste in Hong Kong, teachers can ask the following questions to guide students: **(Sources A to B)**.
  a. What solid waste management measure is adopted in Hong Kong?
  b. What are the types of solid wastes disposed in landfill?
  c. What was the overall difference in the quantities of solid waste disposed at landfills in 1991 and 2016?
- Ask students to discuss the solid waste problems in Hong Kong. Teachers may help students clarify and conceptualize their answers.

  - ★ Types of solid wastes disposed in landfill: Domestic waste, commercial waste, industrial waste, construction waste, special waste.
  - ★ Changes of solid wastes disposed: The quantities of solid waste disposed at landfills decreased from 1991 to 2016.

Round up (around 5 minutes)

- To revise the types of solid waste in Hong Kong.
- To revise the features of solid waste problems in Hong Kong.

2 Focus: Analysis of the causes of municipal solid waste (MSW)

Lead in (around 10 minutes)

- Ask students to recall the waste they disposed of on the day before the lesson.
- Teachers can bring a bag of waste and ask students to reflect whether it was necessary to dispose of it.
- Ask students to reflect why there is a huge amount of waste in the society.

Group Discussion (around 25 minutes)

- Ask students to identify the *causes* of solid waste problem with reference to the cartoons provided **(Appendix 3)**.
- Before working in groups, teachers can briefly introduce the cartoon decoding skills
- Ask students to interpret the message of the cartoons **(Appendix 3 - Cartoons A to C)**
- Teachers can highlight the relevant concepts (e.g. environmental awareness, social responsibilities, over-consumption, and effectiveness of solid waste management measures) and ask students to apply the concepts in the discussion.
- The discussion should elaborate the causal relationship between the relevant concepts and solid waste problems. Students are expected to justify their answers in view of the situation in Hong Kong.

Round up (around 5 minutes)

- To revise the causes of solid waste problems.
- To revise the relationship between the relevant concepts and solid waste problems.

3&4 Focus: Analysis of the effectiveness of solid waste management measures

Part A: Analysis of the effectiveness of solid waste management measures at school Group Discussion (around 20 minutes) (Appendix 4)

- Ask students to identify the solid waste management measures adopted at school. (If possible, teachers can ask students to walk and observe around the school campus for analyzing the related measures.)

- Ask students to discuss the effectiveness of the measures.
- During the discussion, teachers can remind students to apply the concepts discussed in the previous lessons and introduce some useful criteria (e.g. feasibility, accessibility, coverage, short/long term impact, reliability, etc.) for evaluating the effectiveness of the measures.
- Conclude that each solid waste management measure may have its advantages and challenges in alleviating the solid waste problems at school.
- Ask students to walk and observe in the community for analyzing solid waste management measures.

Part B: Analysis of the effectiveness of solid waste management measures in Hong Kong Pair work / Group discussion (around 30 minutes)

- Ask students to read the sources and watch the video about the solid waste management measures adopted in Hong Kong. **(Appendix 5 - Source A to D)**
- Ask students to discuss the effectiveness of the measures.
- Teachers can help students clarify and elaborate their answers with reference to the sources given. Teachers and students could make use of **Appendix 5** to organise their ideas. Samples can be shown as examples with reference to the ability of students.
- Teachers could pick other solid waste management measures adopt in Hong Kong for discussion. (e.g. Plastic Bag Levy, Waste charging, etc.) (Appendix 6)

Summary / Conclusion (10 minutes)

Teachers conclude the effectiveness of solid waste management measures and revise the skills acquired in evaluating the effectiveness of different policies.

Post-discussion assignment (around 20 minutes)

- Brief students about the post-discussion assignment for the consolidation of learning in previous lessons. Assign a data-response question **(Appendix 7)** with reference to the learning objective and ability of students. A framework could be provided for students of weaker ability. Guided writing could be arranged if necessary.
- Share students' work (both good and weak samples) and give constructive feedback to students.

Appendix 1: Pre-lesson task

What is the situation of solid waste management in India?

SOURCE A Photographs taken in India, Pakistan and Bangladesh

Due to copyright issues,
please search
the cartoon from the website below.

Photo 1

Source: Financial Express (2017) Managing India's municipal solid waste). Retrieved from http://www.financialexpress.com/opinion/managing-indias-municipal-solid-waste-using-incentives-and-penalty/693749/

Photo 2

Source: Green India Drive (2017) Waste Management. Retrieved from https://greenindiadrive.wordpress.com/waste-management/

Photo 3

Source: Bioenergy Consult (2016) Retrieved from https://www.bioenergyconsult.com/solid-waste-management-in-pakistan

Due to copyright issues,
please search
the cartoon from the website below.

Photo 4

(A woman dries plastic bags for recycling on the banks of the Buriganga River in Dhaka, Bangladesh.)
Source: green page. Retrieved from http://greenpagebd.net/waste-in-bangladesh/#.Wo-ajyVubct

SOURCE B Solid Waste in India

Waste management: India's need of the hour
https://www.youtube.com/watch?v=7KyLHrxYtc4

Guiding Question: *What is the solid waste problem in India?*

Answer the following questions after watching the video.

1. Decide whether the following statements are true. If not, correct the italic term in the space provided.

statement	T/F?	Correction
a. Nearly ***3.65 million tonnes*** of municipal solid waste is generated in India annually.		
b. Out of the total municipal waste collected, ***94% is dumped*** on land and 5% is composed.		
c. Urban India is the ***1st largest*** garbage generator.		
d. People used to dump garbage ***at the end of the lane***.		

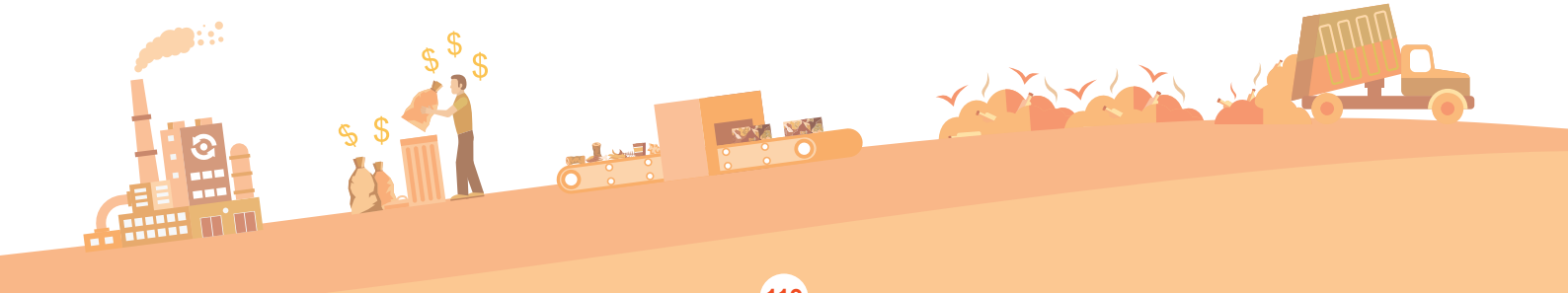
2. Fill in the blanks.

a. Garbage will be transported to _____ in the city.

b. People who work in the landfills have a higher risk to suffer from _____ due to the poisonous gases released in the landfill sites.

c. Domestic wastes, _____ wastes, _____ wastes, plastic wastes are dumped together into the landfills.

d. Air, _____ and _____ pollutions are brought about from the solid waste management in India.



Appendix 2: Class activity

Situation of solid waste management in Hong Kong

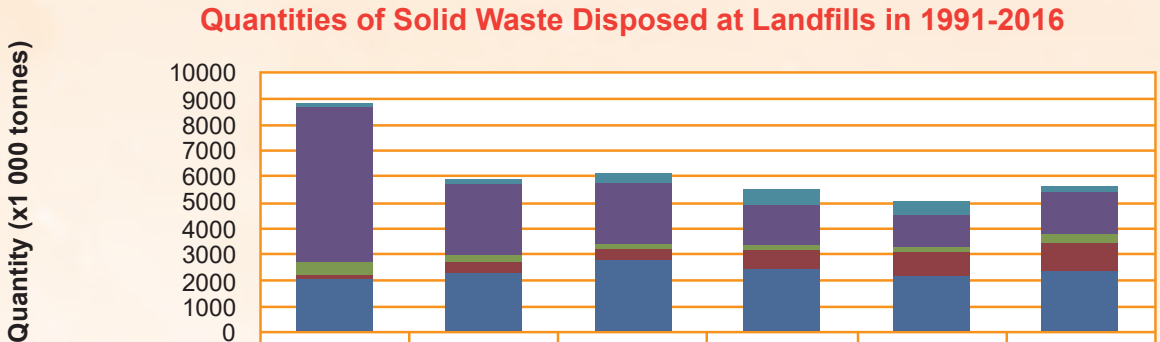
Focus: Identify the ***features*** of solid waste management in Hong Kong.

Language corner - 'features'

Some hints for analysis:

- start with vertical analysis (compare the highest and lowest figures in a particular year) and horizontal analysis (point out the trend or characteristics across all years);
- highlight all possible features (trend, (significant) changes, pattern, highest & lowest points / items, differences among groups, etc.);
- support the descriptions with data evidence.

SOURCE A **Quantities of Solid Waste Disposed at Landfills in 1991-2016**



Year	1991	1996	2001	2006	2011	2016
Total	8800	7900	6140	5490	4912	5612
Special waste	120	180	400	600	413	207
Construction waste	5980	2750	2340	1510	1216	1619
Industrial waste	520	290	210	210	242	339
Commercial waste	150	400	430	750	861	1108
Domestic waste	2030	2280	2760	2420	2180	2339

Source: Environmental Protection Department

1. According to Source A,
   a. what solid waste management measure is adopted in Hong Kong?

   _____

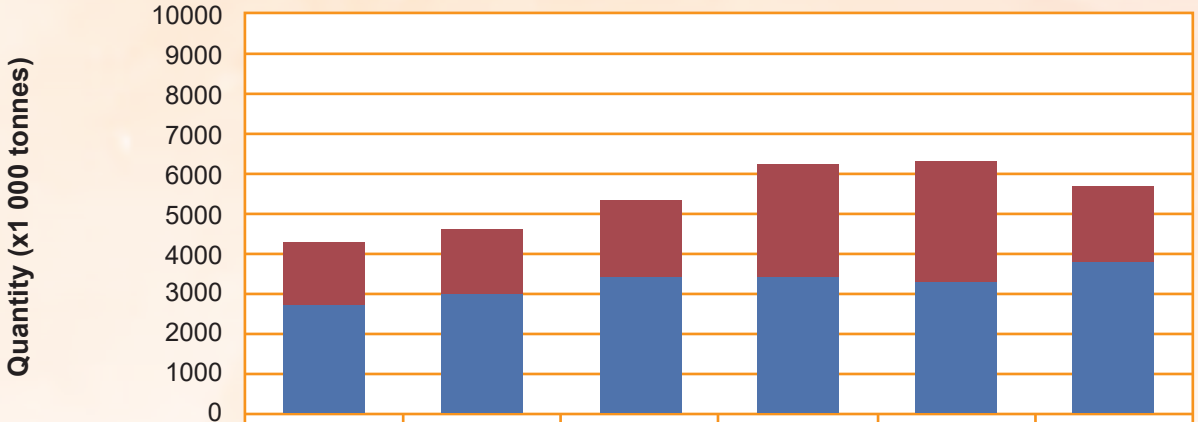
   b. what are the types of solid wastes disposed in landfill?

   _____

c. what was the overall difference in the quantities of solid waste disposed at landfills in 1991 and 2016?

SOURCE B Quantity of Municipal Solid Waste Disposed of and Recovered in 1991-2016

Quantities of Solid Waste Disposed of and Recovered in 1991-2016



Year	1991	1996	2001	2006	2011	2016
Total	4260	4610	5333	6228	6302	5698
MSW Recovered	1560	1640	1938	2841	3019	1912
MSW Disposed of	2700	2970	3395	3387	3283	3786

Source: Environmental Protection Department. Retrieved from http://www.epd.gov.hk/epd/english/environmentinhk/waste/data/stat_treat.html

2. According to Source B, what was the feature of the Solid Waste Management? (hints: highlight the solid waste management, changes, compare the differences between groups)

Appendix 3: Class activity

Focus: Identify the ***causes*** of the solid waste problems.

Language corner - Cartoon Decoding

Steps:

1. **Identify and describe the clues**
   - Objects / characters
   - Actions / facial expression/ clothing
   - Dialogue/ wordings
   - Background (if necessary)
2. **Interpret those clues**
   - It represents/shows/reflects/implies…
   - e.g. the character represents… which group of people
3. **Interpret the overall message**

Questions: What are the messages conveyed in the cartoon A and B?

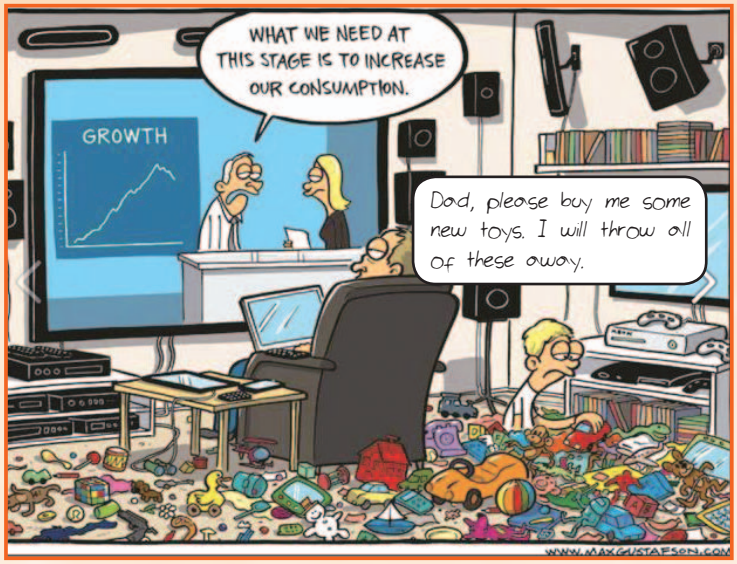
Cartoon A

Due to copyright issues, please search the cartoon from the website below.

Source: Expand the Winnebago County Landfill? Why Bother? Retrieved from http://storycartoons.com/blog6/tag/landfill/

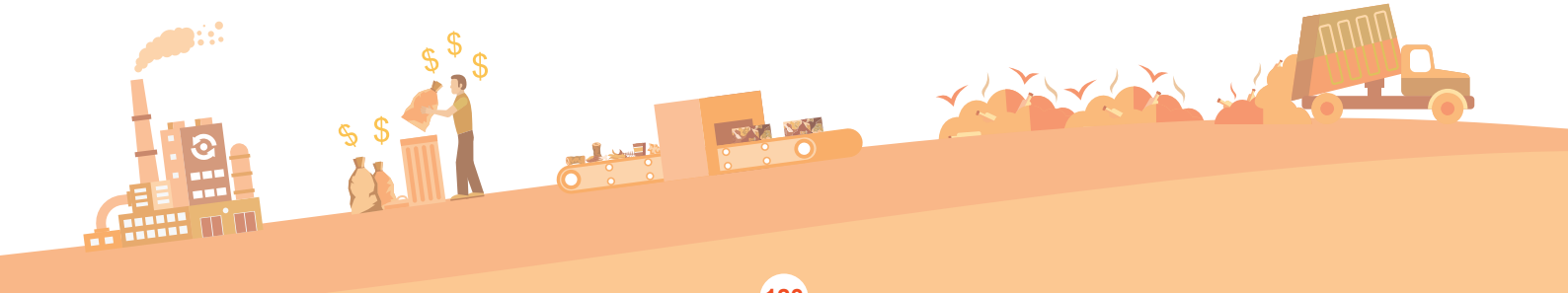
Clues in the cartoon	Implication
Message of the cartoon	

Cartoon B



Source: Kipper Williams (2013). Retrieved from
https://zerowasteeurope.eu/2013/12/zero-waste-christmas-rethinking-consumption/

Clues in the cartoon	Implication
Message of the cartoon	



Cartoon C

Due to copyright issues, please search the cartoon from the website below.

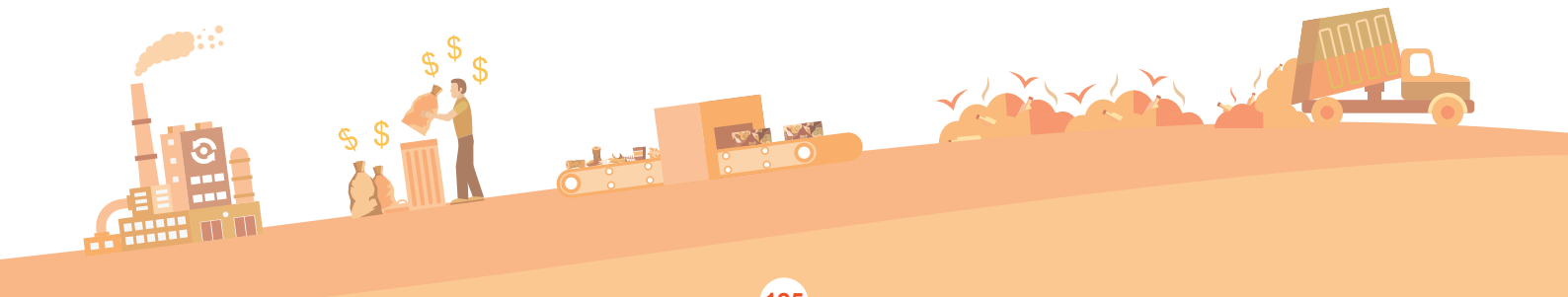
Source: http://wkuherald.com/opinion/editorial-few-students-recycle-even-with-opportunities/article_3fa0937c-6bb8-11e5-920e-4b94f3dd83c5.html

Clues in the cartoon	Implication
Message of the cartoon	

Appendix 4: Class Discussion - Solid Waste management at school

1. What measures does the school adopt to tackle solid waste problems? Are the measures effective in alleviating the solid waste problems at school?

	Measure (What is the measure about?)	**Description** (How is the measure adopted at school?)	**Evaluation** (Can the measure help reduce the solid waste at school? Criteria for evaluation: effectiveness, feasibility, accessibility, coverage, short/long term impact, reliability, etc.)
1.	(Example) Recycling	(Example) Paper recycling bin are placed on each floor.	(Example) Can teachers, students and janitors access / see the bins easily? Do students put papers into the bin? Do students make good use of the recycle bin?
2.			
3.			
4.			



2. Writing task

Does the school adopt effective solid waste management measures to tackle solid waste problem?

Suggested framework for writing task

Topic Sentence

In terms of _____ (Criteria) _____ , _____ (measure) _____ is / is not an effective solid waste management measure at school.

Elaboration

1. What is the measure about? 2. How is it adopted?

Evaluation

Refer to the criteria highlighted in the topic sentencce and evaluate the effectiveness of the measure

Conclusion

Concluding statement

(Example)

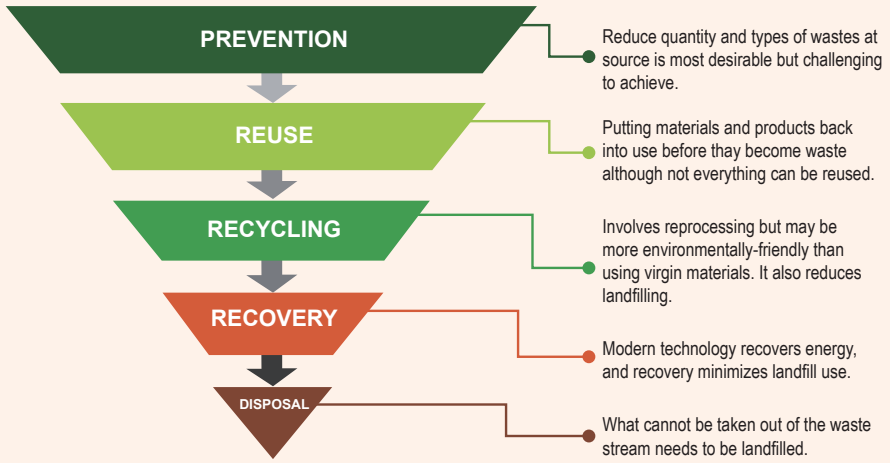
In terms of ***accessibility, placing recycling bins on each floor*** is not an effective solid waste management measure at school.

At school, one paper-recycling and one can-recycling bin are placed at the end of the corridor on each floor. Though recycling bins are placed, the accessibility of these bins are low. Teachers, students and janitors seldom go to the end of the corridor. Besides, limited amount of papers and cans are found in the recycling bins.

Therefore, ***placing recycling bins on each floor*** is not an effective solid waste management measure at school.

Appendix 5: Solid Waste management in Hong Kong

The Hong Kong Government established the "Policy Framework for the Management of Municipal Solid Waste (2005-2014)" in 2005 and issued the "Hong Kong: Blueprint for Sustainable Use of Resources (2013-2022)" in 2013, systematically coping with solid waste problem.



The EU also introduces a five-step waste hierarchy where ***prevention is the best option***, followed by re-use, recycling and other forms of recovery, with disposal such as landfill as the last resort. EU waste legislation aims to move waste management up the waste hierarchy.

Source:"HONG KONG BLUEPRINT FOR SUSTAINABLE USE OF RESOURCES 2013-2022". The web page of Environment Bureau (May 2013).

SOURCE B Main strategies of solid waste management in Hong Kong

Methods	Measures
Waste reduction at source	● Government regulation such as 'Waste Disposal Ordinance', 'Waste Reduction Framework Plan' and 'Product Eco-responsibility Ordinance'. ● Public education and the 'Wastewise Scheme' in collaboration with the commercial sector ● Provide economic incentives, such as Producer Responsibility Scheme (RPS) and waste levy
Waste recycling	● Cooperate with Mainland enterprises to promote recycling import and export products ● Promote recycle and reuse, such as constructing Ecopark ● Launch the 'Rechargeable Battery Recycling Programme' and the 'Waste Electrical Equipment Recycling Programme' ● Promote source separation of domestic, commercial and industrial waste ● Develop organic waste treatment facilities
Incineration	● Construct integrated waste management facilities with advanced incineration technology
Landfill	● Expand the South East New Territories Landfill

Source: Environmental Campaign Committee (2016) Hong Kong: A Sustainable Future Liberal Studies Teaching Kit. Retrieved from www.eccteachingkit.org.hk

SOURCE C

Building incinerators at landfills - a better solution for Hong Kong's waste

Waste is a problem that will not go away; indeed, the world will produce more and more as prosperity levels continue to rise. Hong Kong is no exception, and the present method of dealing with municipal solid waste, namely by dumping it in landfills, will no longer work in the near future.

Hong Kong's three landfills, in the New Territories, are nearing their maximum capacity and will be full in 2015, 2017 and 2019 respectively. The administration recognises this, and is on the right track in its multipronged approach to educate the community, change people's behaviour and invest in infrastructure.

The government is proposing to extend the capacity of the three landfills while also building an integrated waste management facility, which would reduce the volume of waste as well as produce electricity during the incineration process. Thanks to advances in technology, these facilities have state-of-the-art pollution and odour control equipment, preventing harmful emissions from being released. The government proposes that the single facility be built on an artificial island near Shek Kwu Chau.

Landfills do pose significant environmental risks, including the leaching of toxic chemicals into the groundwater and the release of methane emissions from decomposing trash. Therefore, these extensions need to be temporary bridging solutions.

In the Netherlands, landfilling is only used for 2% of the waste, with recycling (60%) and waste-to-energy (38%) used for the rest. Hong Kong must aim to reduce the landfills significantly through a combination of recycling and waste-to-energy facilities.

Source: South China Morning Post (2014) Building incinerators at landfills - a better solution for Hong Kong's waste Retrieved from http://www.scmp.com/comment/insight-opinion/article/1457563/building-incinerators-landfills-better-solution-hong-kongs

SOURCE D Straight to landfill? Why Hong Kong is recycling less of your rubbish

For years, Christina Jang has been conscientiously sorting the plastic bottles, aluminium cans and recyclable paper from her rubbish and placing them in the appropriate bins for recycling. But last summer, a cleaning lady in her building opened her eyes to what really happened to the materials that were supposed to be recycled.

"While she was collecting from the bin, I happened to take the recycling down and I asked her how I should sort my trash. She said you don't need to do any sorting because it all goes in the trash anyway," Jang says. "I was very angry because I had been sorting my trash, thinking that we were recycling everything and now you're telling me it's all a sham."

Despite the discouraging response, Jang, a career coach and environmental consultant in her 40s, continues to separate her rubbish. "I realised that it'll be worse if I don't sort my trash. I believe that consumers' voices do matter because if we don't do it, then no one will."

There have long been complaints about cleaners mixing trash and recyclable materials, all of which ends up in landfills: in 2013 the SCMP filmed government contract workers doing just that in Causeway Bay and Wan Chai, and residents have regularly reported similar incidents with rubbish disposal.

That is why, since last year, government contractors have been required to use clearly labelled plastic bags for recyclable materials so everyone can keep an eye on them, says Wong Hon-meng, an assistant director at the Environmental Protection Department.

But both the recycling sector and environment officials acknowledge the problem goes beyond cleaners not handling trash properly: it's hard to make money from recycling materials and the costs of sorting and transporting recyclables can far exceed what companies earn from selling the materials.

Source: South China Morning Post (2015) Straight to landfill? Why Hong Kong is recycling less of your rubbish Retrieved from http://www.scmp.com/lifestyle/article/1859106/why-hong-kong-recycling-less-its-rubbish-time-goes

SOURCE E Food Wise Scheme

400 eateries join Food Wise scheme
https://www.youtube.com/watch?v=LyIcJiG6tAY

Guiding Question: *What is the Food Wise scheme about?*
Can it help reduce food waste effectively?

With reference to the above sources, evaluate the effectiveness of the solid waste management measures adopted in Hong Kong.

	Measure (What is the measure about?)	**Description** (How is the measure adopted at school?)	**Evaluation** (Can the measure help reduce the solid waste at school? Criteria for evaluation: effectiveness, feasibility, accessibility, coverage, short/long term impact, reliability, etc.)
1.	Landfill		
2.	Incineration		
3.	Waste recycling		
4.	Waste reduction at source (e.g. Food Wise Campaign)		

Writing task

Does Hong Kong adopt effective solid waste management measures to tackle solid waste problems?

Suggested framework for writing task

Topic Sentence
In terms of _____ (Criteria) _____ ,
_____ (measure) _____ is / is not an effective solid waste management measure in Hong Kong.

Elaboration
1. What is the measure about? 2. How is it adopted?

Evaluation
Refer to the criteria highlighted in the topic sentencce and evaluate the effectiveness of the measure.

Conclusion
Conluding statement

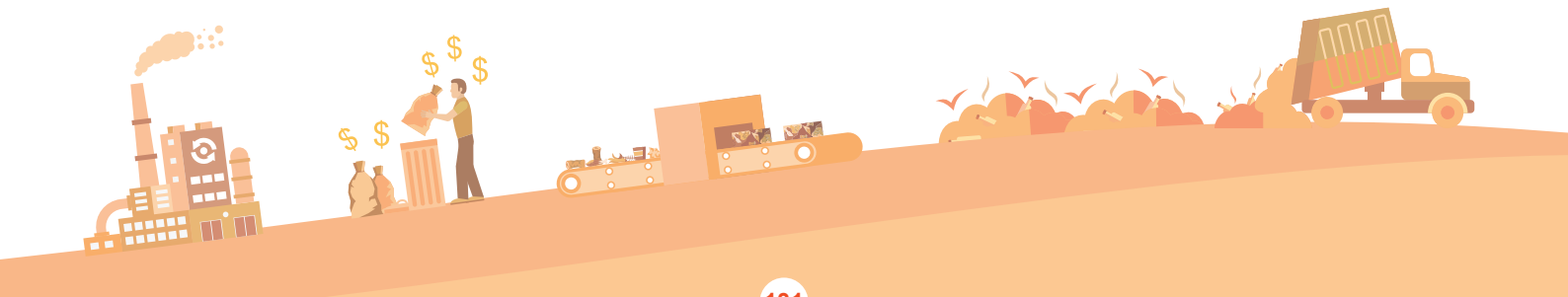
Try writing one of the argument!

(Example)

In terms of ***(criteria), (solid waste management measure)*** is /is not an effective solid waste management measure in Hong Kong.

- What is the measure about? How is it adopted?
- Refer to the criteria highlighted in the topic sentence and evaluate the effectiveness of the measure

Therefore, ***(solid waste management measure)*** is / is not an effective solid waste management measure in Hong Kong.



Appendix 6: Solid Waste management in Hong Kong

Some examples of policies/ facilities related waste management

Some examples of policies/ facilities related waste management		
policies	**Brief description**	
Plastic Bag Levy	• Ban on free Plastic shopping bags (PSB) distribution at all points of retail sales • Except with exemptions, retailers should charge at least 50 cents for each PSB provided to consumers • Retention of the PSB charges by sellers	*"pay-as-you-throw" / "polluter-pay principle"* ➔ *Provide financial disincentive for polluters*
Construction waste disposal charging scheme	• Construction waste producers, prior to using government waste disposal facilities, need to open a billing account with the Environmental Protection Department and pay for the construction waste disposal charge. • Through the Charging Scheme, construction waste producers are encouraged to reduce, sort and recycle construction waste so that their disposal costs can be minimised and our valuable landfill space can be preserved.	
Waste charging *(under discussion)*	• Opinion gained from a consultation showed that public tend to support the introduction of quantity-based MSW charging as a policy tool to promote waste reduction and recovery • But views were fairly mixed when it came to the implementation details, including concerns about fly-tipping and other compliance and environmental hygiene issues.	
Integrated Waste Management Facilities *(under construction)*	• The first one will be set up at Shek Ku Chau • It composes of 1) mechanical sorting and recycling facility, 2) waste heat recovery and power generation system, 3) environmental education centre and 4) advanced incineration facility • The IWMF aims to substantially reduce the bulk size of mixed MSW by 90% and to recover useful resources. It will minimize the landfilling of waste significantly, thereby extending the useable life of landfills and their extensions in Hong Kong.	
Organic waste treatment facilities (OWTFs) *(under construction)*	• The OWTF aims to recycle source-separated organic waste generated from the C&I sectors (mostly food waste) to useful products, thereby minimizing requirement for landfill disposal. • The OWTF would adopt biological technologies to stabilize the organic waste and turn it to useful compost products and biogas for energy recovery • There is a pilot composting plant in Kowloon Bay	
Sludge treatment facility	• The plant primarily collects sludge generated from the Stonecutters Island Sewage Treatment Works and ten other wastewater treatment facilities located in Hong Kong. It will incinerate the sludge, thus alleviating the continuing sewage sludge disposal problem • It is located at Tsang Tsui, Tuen Mun.	

Appendix 7: Post-discussion assignments (Data-response question)

Consider the following information.

SOURCE A Quantity of Food Waste in Hong Kong (2002-2014)

Year	Food Waste		
	Domestic Waste	Commercial and Industrial (C&I) Waste	Total
2002	2782	373	3155
2006	2473	727	3200
2010	2397	840	3237
2014	2608	1033	3641

Unit : tones per day (tpd) Source : Monitoring Solid Waste in Hong Kong (Waste statistics)

SOURCE B Reducing food waste is everyone's concern

Every day some 3,350 tons of food waste is dumped in the landfills of Hong Kong, according to figures provided by the Environmental Protection Department. The figures, which cover the year 2015, mean food waste makes up an incredible 33 percent of our municipal solid waste.

So what can we do to reduce the amount of food waste sent to landfill? Well, we could start by looking at what have done in Taiwan, where the government introduced an island-wide mandatory waste-separation program in 2006. The program, which requires the public to sort their garbage into recyclables, food waste and residual waste, includes a fine of NT$1,200 ($40, or just over HK$300) for anyone who fails to separate their waste correctly following an initial warning. Around three-fourths of the food waste collected is sold to pig farms, with nearly all the rest composted.

Now, obviously Hong Kong is not Taiwan, and what worked there may not work well here. For one thing Hong Kong has fewer than 100,000 pigs, compared with a swine population of 5.5 million in Taiwan. It also lacks a large-scale composting plant, although a 200-ton-a-day organic-waste treatment facility (OWTF) is due to be commissioned on Lantau Island later this year. Any long-term solution to the problem of food waste in Hong Kong, therefore, needs to focus on reducing waste at source.

The government clearly realizes this. In 2014 the Environment Bureau (ENB) issued "A Food Waste and Yard Waste Plan for Hong Kong 2014-2022", which set a target of reducing food-waste disposal to landfill by 40 percent by 2022, with reduction at source identified as the key strategy. However, even if the Environment Bureau (ENB) succeeds in meeting its target, it will still have some 1,500 tons a day of food waste on its hands, even after the commissioning of a second, 300-ton-a-day OWTF in Sha Ling in 2021.

Source: China Daily (2017) Reducing food waste is everyone's concern. Retrieved from http://www.chinadaily.com.cn/hkedition/2017-08/22/content_30940047.htm

a) According to Source A, identify and explain the features of food waste in Hong Kong. (4 marks)

b) With reference to the sources, to what extent do you agree that the food waste reduction programme could effectively solve the problem of food waste in Hong Kong? (8 marks)

Suggested Guidelines

a. According to Source A, identify and explain the features of food waste in Hong Kong. (4 marks)

Guidelines:

Read the source carefully and complete the table below.

	Guiding questions	Evidence in Source A
1.	Size of the food waste? (getting much/less)	
2.	Composition of the food waste? (proportion of domestic waste/C&I waste?)	

Remarks:

1. Identify the features (include all three features)

2. Give evidence (cite data from the source)

b. With reference to the sources, to what extent do you agree that the food waste reduction programme could effectively solve the problem of food waste in Hong Kong? (8 marks)

Guidelines:

Step 1: What is the problem of food waste in Hong Kong?

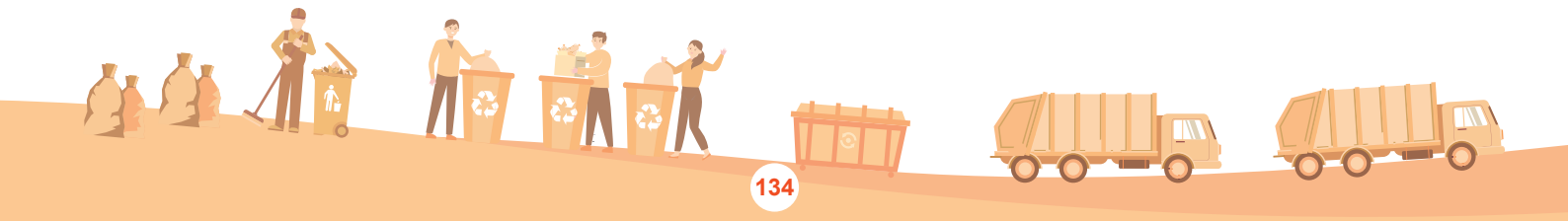
Step 2: What is the food waste reduction programme about?

Step 3: What factors affecting the effectiveness of the programme in Hong Kong?

Step 4: Determine whether the programme could effectively solve the problem of food waste.

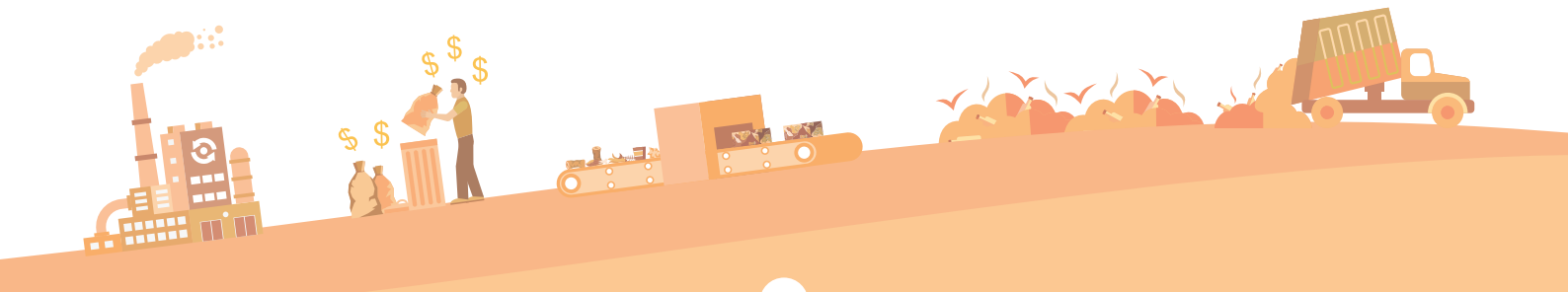
Suggested structure of each argument:

1. **Topic sentence:** In terms of ____(Criteria)____, the food waste reduction programme could (not) effectively solve the problem of food waste in Hong Kong.
2. **Elaboration:**
   a. What is the measure about?
   b. How is it adopted?
   c. Refer to the criteria highlighted in the topic sentence and evaluate the effectiveness of the measure.
3. **Mini-conclusion**



a. According to Source A, identify and explain the features of food waste in Hong Kong. (4 marks)

b. With reference to the sources, to what extent do you agree that the food waste reduction programme could effectively solve the problem of food waste in Hong Kong? (8 marks)



-- End of Appendix --

(P.119)

1. Decide whether the following statements are true. If not, correct the italic term in the space provided.

statement	T/F?	Correction
a. Nearly ***3.65 million tonnes*** of municipal solid waste is generated in India annually.	F	36.5 million tonnes
b. Out of the total municipal waste collected, ***94% is dumped*** on land and 5% is composed.	T	
c. Urban India is the ***1st largest*** garbage generator.	F	3rd largest
d. People used to dump garbage ***at the end of the lane***.	T	

2. Fill in the blanks.

a. Garbage will be transported to landfills in the city.
b. People who work in the landfills have a higher risk to suffer from tuberculosis due to the poisonous gases released in the landfill sites.
c. Domestic wastes, medical wastes, construction wastes, plastic wastes are dumped together into the landfills.
d. Air, water and land pollutions are brought about from the solid waste management in India.

(P.120&121)

1. According to Source A,

d. what solid waste management measure is adopted in Hong Kong?

Landfilling

e. what are the types of solid wastes disposed in landfill?

Domestic waste, commercial waste, industrial waste, construction waste, special waste

f. what was the overall difference in the quantities of solid waste disposed at landfills in 1991 and 2016?

The quantities of Solid Waste Disposed at Landfills decreased from 8 800 000 tonnes in 1991 to 5 612 000 tonnes in 2016.

2. According to Source B, what was the feature of the Solid Waste Management?
(hints: highlight the solid waste management, changes, compare the differences between groups)

Quantity of Municipal Solid Waste Disposed of and Recovered were shown in Source B.
In general, the total quantity of Municipal Solid Waste disposed of and Recovered increased slightly from 4 260 000 tonnes in 1991 to 5 698 000 tonnes in 2016.
The ratio of the solid waste recovered to the solid waste disposed was nearly 1:2.

(P.122) Questions: What are the messages conveyed in the cartoon A and B?

Clues in the cartoon	Implication
(background) There were lots of wastes on the street or park (can, paper cup, cigarettes, etc.)	People litter on the street. (behavior)
A man is reading a newspaper headlines 'Landfill expansion' and he was thinking about 'Why bother?'	The man doesn't care about the expansion of the landfill. (attitude)
Message of the cartoon There were lots of wastes in the society because of the low environmental awareness of people in the society.	

Clues in the cartoon	Implication
(businessmen) In the TV program, a man, who represents businessmen, concerns about consumption and profit maximization.	Businessmen concern about profit-maximization and thus they would keep producing different products to attract consumption.
In the house, there are lots of toys on the floor. The little boy asked his dad to buy him some new toys and he would throw all his old toys. There are also too many electronic appliances and AV products at home.	Over-consumption is shown. People keep purchasing new stuffs and throw away the old ones.
Message of the cartoon People tend to throw away their belongings. Lots of solid wastes are produced due to the over-production and over-consumption of businessmen and consumers.	

Clues in the cartoon	Implication
Citizens think: - recycling bin makes the trash inconvenient - the recycling bins and the trash look so similar The Earth: 'Just kill me already!'	People are not familiarized with/ would not take priority in recycling. People don't aware their behaviors are hurting the environment (the Earth).
Message of the cartoon Placing recycling bin is not an effective way to reduce waste as people still throw most of the rubbish (including those can or cannot be recycled) into the trash.	

3. Writing task

Does the school adopt effective solid waste management measures to tackle solid waste problem?

Suggested framework for writing task

Topic Sentence
In terms of _____ (Criteria) _____ ,
_____ (measure) _____ is / is not an effective solid waste management measure at school.

Elaboration
1. What is the measure about? 2. How is it adopted?

Evaluation
Refer to the criteria highlighted in the topic sentencce and evaluate the effectiveness of the measure

Conclusion
Conluding statement

(Example)

In terms of ***accessibility, placing recycling bins on each floor*** is not an effective solid waste management measure at school.

At school, one paper-recycling and one can-recycling bin are placed at the end of the corridor on each floor. Though recycling bins are placed, the accessibility of these bins are low. Teachers, students and janitors seldom go to the end of the corridor. Besides, limited amount of papers and cans are found in the recycling bins.

Therefore, ***placing recycling bins on each floor*** is not an effective solid waste management measure at school.

(P.130)

With reference to the above sources, evaluate the effectiveness of the solid waste management measures adopted in Hong Kong.

	Measure (What is the measure about?)	**Description** (How is the measure adopted at school?)	**Evaluation** (Can the measure help reduce the solid waste at school? Criteria for evaluation: effectiveness, feasibility, accessibility, coverage, short/long term impact, reliability, etc.)
1.	Landfill	Most municipal solid waste are dumped in three landfills in Hong Kong.	effectiveness/sustainability – all landfills will reach their maximum capacity in 2015, 2017 and 2019 respectively. Short / long term impact – landfill disposal can help relieve the solid waste problem in the short term, but not a long-term solution
2.	Incineration	Construct integrated waste management facilities with advanced incineration technology	Effectiveness – incineration can help reduce the volume of solid waste dump in the landfills, produce less pollution and odor than landfilling
3.	Waste recycling	Recycling bins for plastic bottles, glass bottles, aluminum cans, and recyclable paper are placed in most of the housing estates in the society.	Effectiveness – low effectiveness as some cleaners don't help recycle the wastes but place the recycle waste into the trash. Feasibility – citizens may not recycle waste due to the inconvenience/low environmental awareness, low incentive/motivation among the recycling industries to operate the business
4.	Waste reduction at source (e.g. Food Wise Campaign)	About 400 eateries have joined the Food Wise Eateries Scheme. The scheme encourages restaurants and their customers to join forces to reduce waste at source.	Effectiveness -reduction at source – the best option in the waste hierarchy coverage – limited coverage, limited eateries and customers join the scheme

(P.134)

Suggested Guidelines

c. According to Source A, identify and explain the features of food waste in Hong Kong. (4 marks)

Guidelines:

Read the source carefully and complete the table below.

	Guiding questions	Evidence in Source A
1.	Size of the food waste? (getting much/less)	- Total quantity of food waste is increasing.
2.	Composition of the food waste? (proportion of domestic waste/C&I waste?)	- Domestic waste takes up the largest proportion - Rapid increase can be found in C&I waste

Remarks:

1. Identify the features (include all three features)

2. Give evidence (cite data from the source)

Senior Secondary Liberal Studies
Learning and Teaching Exemplar
for NCS students (6)

Use of Public Open Space

Use of Public Open Space

A. Basic information of the lessons

Topic Use of public open space in Hong Kong

Relevant modules, themes and issues for enquiry

Leading Module 2: Hong Kong Today

Theme 1: Quality of Life

- What Hong Kong citizens consider to be the priorities which constitute quality of life?
- What are the reasons contributing to the different priorities given by various stakeholders?
- What might be the obstacles in the pursuit of quality of life?

Related Module 6: Energy Technology and the Environment

Theme 2: Environment and sustainable development

- What are the actions promoting sustainable development and what are their limitations?

Overall design rationale

This exemplar could be used as an introduction to stakeholder analysis in Hong Kong Today. Through an investigation of the use of public open space in Hong Kong and their community, students may gain insight into the different needs and priorities of various groups in Hong Kong. As the issue is close to students' daily life and is observable, this should enable the students to better understand the idea of stakeholder analysis. For non-Chinese speaking students, this also provides an opportunity for them to gain a better understanding of different segments of Hong Kong society, while at the same time, for teachers to get to know the community their students living in.

After students are equipped with the knowledge of the stakeholders in relation to public open space, teacher can proceed to guide them to identify the conflicts that might arise in the process of

pedestrianisation. Through role-play, students can understand how the different needs and priorities of various stakeholders may lead to conflicts. Teachers may further guide students to consider how these conflicts might be resolved.

A writing task on the issue of hawking is also included in the exemplar. It is intended to allow students to transfer the knowledge to a related issue (as hawking is also a use of public open space).

Time required

3 lessons (40 minutes per lesson), approximately 120 minutes in total

Learning objectives

Knowledge:

- To understand the concepts relating to public open space and its relation to quality of life.
- To understand the different stakeholders relating to the use of public open space, which can also be applied to urban planning in general.
- To understand why the use of public open space can be a controversial issue in Hong Kong.
- To explore how the conflicts relating to public open space can be managed.

Skills:

- To collect and interpret information from different sources.
- To identify the views of different stakeholders.
- To apply the relevant knowledge and concepts when studying contemporary issues.
- To express ideas in speaking and writing.

Values and attitudes:

- To adopt an open and tolerant attitude towards other people's views and values.
- To respect different lifestyles, beliefs and opinions.
- To appreciate the need for sustainable development.

Basic Concepts for application

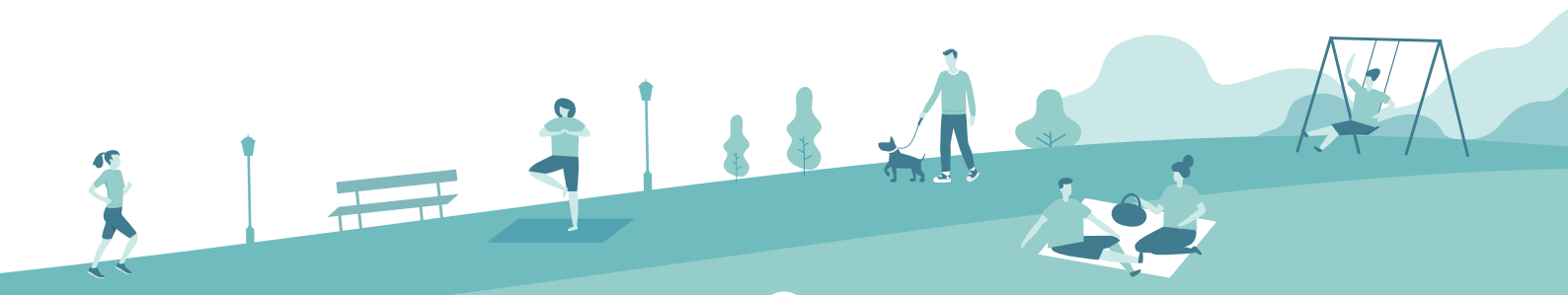
Living standard, quality of life, public space, walkability, urban planning, ageing society, inclusive society

Relevant learning experience at junior secondary levels

- The needs and problems of Hong Kong society.
- The physical and human characteristics of the environment of Hong Kong.
- The functions of the government and the services provided by it.

Catering the learning needs of NCS students

- The structure of the lesson seeks to build students' understanding about their local community through field visits, so that they can proceed to analyse the conflicts arise from pedestrianisation.
- Different uses of public open space are chosen so that NCS students can relate to their life experiences, but at the same time enhancing their understanding of Hong Kong society.
- The activity encourages students to interact with their community. It also provides an opportunity for teachers to better understand their students through the pictures they take.
- The writing task is designed with scaffolding to help NCS students formulate their answers in a more systematic way.



Lesson 1 Learning and teaching strategies and flow

Lead in (around 10 minutes)

- Introduce the concept of public open space. **(Appendix 1)**
- Show 5-10 pictures to students and ask them if they are public open space or not, in order to check their understanding of the concept.

  *(Some pictures are included in **Appendix 2** as examples. Alternatively, teachers can use the Google Streetview to show different locations to students and ask them to determine if it is public open space)*
- Teacher can conclude this part by summing up the typical public open space in Hong Kong *(as an extension, teacher can also point out that some apparently "public" space are in fact private, managed by private enterprises)*

Activity (around 15 minutes)

- Divide students into groups of 4-5 students. Each group will be given a set of 7 pictures **(Appendix 3).**
- Ask the students to identify the users of public open space in the pictures. Using the table provided in the worksheet **(Appendix 1)**, ask the students to elaborate on what do the users use the public open space for, and what might be the concerns of the users.

Round up (around 10 minutes)

- Showcase of the findings of each group *(this can be done by posting each group's table on the board if poster-sized papers are used; or by taking pictures of their worksheet and upload them to the LMS used by the school, e.g. Google Classroom)*
- Look for similarities and differences among each group's findings. Teacher can then ask each group to report their findings in 1 to 2 pictures (depending on how many groups are there in the class), especially those in which different identifications are made.
- There is no need to check the findings of each group regarding the concerns of users at this stage.

Briefing for assignment (around 5 minutes)

- Ask students to take a picture of different use of public open space in their community or near the school.
- Ask students to record where and when the picture is taken, who the user(s) is/are, the type of public open space, and what the use is, using the table provided in the worksheet **(Appendix 1)**. This helps to build students' skills of conducting field work which might be useful for their IES.
- Ask students to upload the picture before next lesson. There are several possibilities – email to the teacher, upload to LMS / Google site, or upload to a shared Google Map.

  (Alternatively, teacher can set a route and conduct a field trip with the students)

2

Lead in (around 2 minutes)

- Recall the common types of public open space in Hong Kong and the users identified in lesson 1.

Presentation (around 10 minutes)

- Distribute the worksheet **(Appendix 4)**.
- Instruct students to form groups (of 4-5 students) and share the pictures they have taken. They should record their findings on the worksheet provided. Each group can present the findings to the rest of the class.
- Teacher should focus on the students' findings with the knowledge acquired in lesson 1, as well as highlight findings that were not discussed previously (e.g. users / uses / type of public spaces not discussed in the previous lesson)
- The main purpose of this part is to develop students' skills in conducting meaningful research, and to show that they can learn by combining concept (public space) with observation.

Activity (around 18 minutes)

- Show the first survey question about the desired improvements in public open space by young people to the students **(Appendix 4)**. Ask students how they would respond to the survey questions. *(Teachers can use polling apps, e.g. Poll Everywhere in the process).*
- Record the polling results on the board.

  (If time permits, ask students how to calculate the voting results – since one can choose up to 3 choices, one way would be to add up the choices, i.e. 1st choice being 1, 2nd choice being 2, etc. and the option with the lowest number would be the most preferred option)
- Ask student to read the survey result in Source A on the worksheet and count the ranking. Compare the survey results and the polling results in class. If there is a major difference, teacher can ask students to share why they choose that way. *(The main purpose of this step, however, is for students to process the survey data)*
- Direct students to study the second survey (General Improvement) on the worksheet. Divide students into groups and ask them to translate the bar chart into the table.

  (Alternatively, the completed table can be provided to students to save time)
- Ask students to identify the differences and similarities between the preferences of different age groups. Afterwards, ask students to complete the short writing task on the worksheet.
- If time permits, direct students to return to the worksheet completed in lesson 1, in which they have proposed the concerns of different users of public open space. Ask students to check if the preferences align with the concerns of elderly they proposed last lesson.
- The main purpose of this activity is to develop students' skills of data interpretation (teachers may choose to present the data in a table rather than charts if the intention is to train students' skills in handling numerical data).

Round up and briefing for assignment (around 10 minutes)

- Conclude that (1) public space is shared by different users; and (2) different users have different needs and wishes regarding public open space.
- Point out that, as a result, conflicts might occur among different users (i.e. stakeholders).
- Distribute the assignment to the students **(Appendix 5)**. Introduce the idea of pedestrianisation. Select a portion of road in the neighborhood as the topic of investigation (Teacher can provide a few choices for students to choose from).
- Ask students to visit the selected place and record how people use the street currently on the worksheet. (Teacher may also ask students to take pictures as in last assignment)

  (e-learning strategy: Ask students to submit their observation results on LMS before the next lesson to speed up the process)

3

Lead in (around 10 minutes)

- Ask students to present their observations and write down the current users of the street on the board. (If students have already submitted their observations through LMS, teacher can go through them and skip the question).
- Further ask students if there might be groups who might potentially be affected by pedestrianisation that are not listed. Teacher may direct students to refer to the previous worksheet in **Appendix 1** for reference. Add them to the list on the board.

Activity 1 (around 15 minutes)

- Divide students into groups. Each group will be assigned a stakeholder to study (this can also be done by drawing lots).
- Give each group a set of instructions **(Appendix 6)** and a large piece of paper for them to write on.
- After each group has completed the task, stick the papers on the board.
- Quickly go through the inputs and ask for clarification if necessary.

Activity 2 (around 10 minutes)

Two options in this activity:

Option 1:

- Give each student the worksheet for conflicts identification **(Appendix 7.1)**, and draw a similar set of lines on the board.
- Ask each group to move the view of their designated stakeholder, which are already stuck on the board, to the position they think it belongs to along the spectrum.
- Give each student the worksheet in **Appendix 7.2**.
- Check the positioning of the stakeholders, and ask for explanation from each group.
- Ask students to transfer the answer into the table in the worksheet.

Option 2:

- Ask students to catagorise the views presented on the board, based on (1) whether they support / oppose the pedestrianisation proposal; and (2) whether they have different preferences for the use and regulation of the area created.
- Circle / highlight different categories of views using different colours. Explains to the students that those in same colour can be paired up as a conflict. (In other words, there can be conflicts on whether they support / oppose the proposal; and conflicts on the details of the proposal)
- Give each student the worksheet in **Appendix 7.2**. Ask students to complete the worksheet.

Round up (5 minutes)

- Introduce the post-lesson assignment **(Appendix 8)**. Teacher can guide students to follow the colour code to turn the table into written answer. (Depending on the abilities of the students and their workload, teacher may choose to ask students to write one or two pairs of conflicts only)

Optional follow-up task:

Distribute a data-response question on hawking (Appendix 9) for students to check if they can transfer the skill of conflicts identification to a similar but slightly different topic.

Appendix 1: Worksheet for Lesson 1

What is public open space?

The concept of public open space, defined in a broad sense, is "space which is:

(a) Outdoors, and

(b) can be accessed by anyone without paying a fee or meeting any requirements.

Parks, squares, streets, street markets, footbridges, and country parks are some examples of public open space.

Public open spaces are places where public life takes place, where people from different backgrounds can interact with each other as equals. These interactions take many different forms, including casual contact, socialising, community activities, entertainment, political expression, and commercial exchanges.

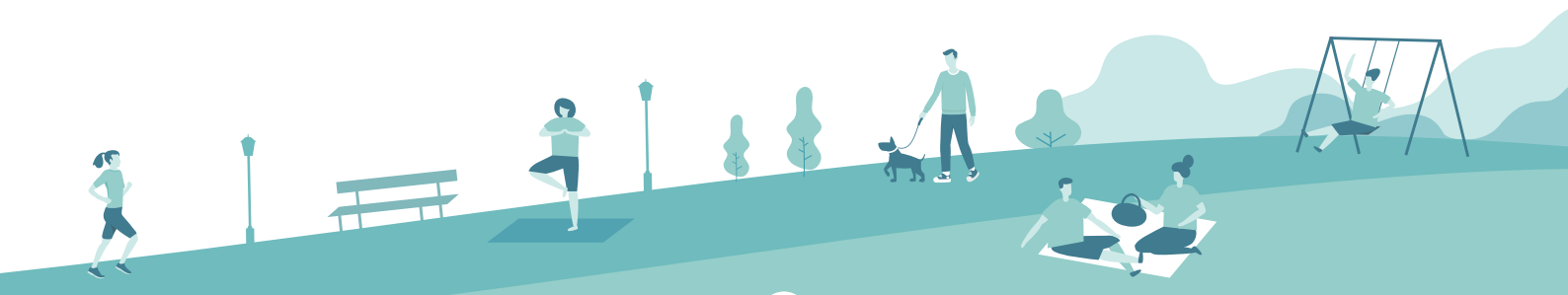
Let's learn a new concept!

Source: Open Space Handbook - A guide for journalists in Hong Kong (2018). Civic Exchange. Retrieved from https://civic-exchange.org/wp-content/uploads/2018/05/OpenSpace_HANDBOOK-201805.pdf

Task 1: Decide if the pictures are public open space.

Picture	Is it public open space?
1	Yes / No
2	Yes / No
3	Yes / No
4	Yes / No
5	Yes / No
6	Yes / No

Let's see if I get the concept!



Task 2:

Who are the users of public open space shown in the pictures? What kind of uses of public open space do they reflect? What do you think might be the users' wishes regarding public open space?

Discuss with your classmates

Picture	The user(s) in the picture	What kind of use of public open space does it show?	What do you think might be the users' wishes regarding public open space? (Optional)
1			
2			
3			
4			
5			
6			
7			
8			

Well done!

You are able to master the concept of public open space!

Achievement unlocked!

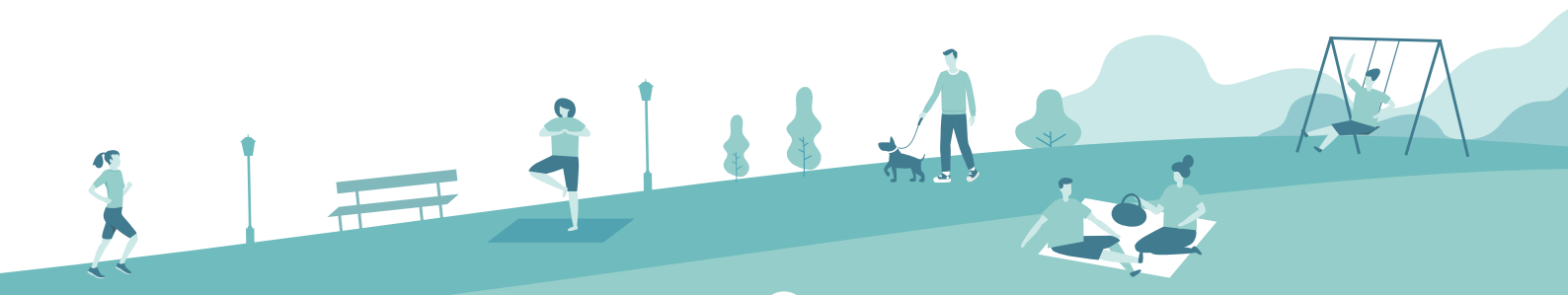
Assignment: Take a picture of different use of public open space in your community or near your school.

Field work record sheet

Insert picture here:

Let's go out and have a look!

Where was the photo taken?	
When was this photo taken?	
What type of public open space was it?	
Who was/were the user(s) in the photo?	
How did the user(s) utilise the public open space?	



Appendix 2: Pictures of public / private open space for task 1

Picture 1 : Football pitch at Sha Tsui Road, Tsuen Wan

Source of the photo: Taken by the resource developer

Picture 2: A shopping mall in Hong Kong

Source of the photo: Taken by the resource developer

Picture 3: A street market in Ma Tau Wai

Source of the photo: Taken by the resource developer

Picture 4: Clearwater Bay Golf and Country Club

Source of the photo: Taken by the resource developer

Picture 5: A school courtyard

Source of the photo: Taken by the resource developer

Picture 6: Sai Yeung Choi Street, Mongkok

Source of the photo: Taken by the resource developer

Appendix 3: Different uses of public open space for task 2

Picture 1 :

Source of the photo: Taken by the resource developer

Picture 2:

Source of the photo: Wikipedia user - Wpcpey. (2016). Retrieved from https://commons.wikimedia.org/wiki/File:Ngau_Tau_Kok_Park_Children_Play_Area_201606.jpg

Picture 3:

Source of the photo: Taken by the resource developer

Picture 4:

Source of the photo: Taken by the resource developer

Picture 5:

Source of the photo: Dilontai. (2013). Retrieved from https://commons.wikimedia.org/wiki/File:%E5%A4%A7%E5%9D%91%E8%88%9E%E7%81%AB%E9%BE%8D%E4%B9%8B%E8%B5%B7%E9%BE%8D%E9%A0%AD.JPG

Picture 6:

Source of the photo: Taken by the resource developer

Picture 7:

Source of the photo: Taken by the resource developer

Appendix 4: Worksheet for Lesson 2

Task 1: What did the class find?

Use the table below to count the findings based on the pictures taken by your classmates:

Let's share your findings!

Types of public open space	User(s)	Uses

Well done!

You have conducted a field study to combine a concept (public open space) with observation.

Achievement unlocked!

Task 2: What do people want from public open space?

Below are two survey questions from Civic Exchange about the preferred improvements to open space.

It's polling time!

1. Improvements for youth

Choose up to 3 things that you want in your community to make open spaces better for young adults and teenagers. Prioritise 1 to 3.

1. Movie Screening

Source of photo: TamanWarisanMelayu. (2013). https://commons.wikimedia.org/wiki/File:MHC_Outdoor_Film_Screening.jpg

2. Open areas where people can ride skateboards, scooters, BMX bikes

Source of photo: Fraguando. (2019). https://commons.wikimedia.org/wiki/File:Ni%C3%B1os_de_Casablanca_en_un_parque_para_patinar_02.jpg

3. Multi-purpose spaces for dance, badminton, yoga, etc.

Source of photo: National Park Service. (2020). https://www.nps.gov/articles/green-exercise-clinics.htm

4. Performances and other cultural events

Source of photo: Protur mariano moreno. (2016). https://commons.wikimedia.org/wiki/File:Expo_artesanal_Mariano_Moreno..jpg

5. Barbecue areas

Source of Photo © Robin Stott (cc-by-sa/2.0) https://www.geograph.org.uk/photo/3899024

6. More places to sit and chat

Source of photo: https://www.piqsels.com/en/public-domain-photo-zvxns

7. None

Source: Civic Exchange. (2018). Open Space Opinion Survey. Retrieved from https://civic-exchange.org/wp-content/uploads/2018/10/Civic-Exchange-Open-Space-Opinion-Survey-FULL-REPORT-updated20181128.pdf

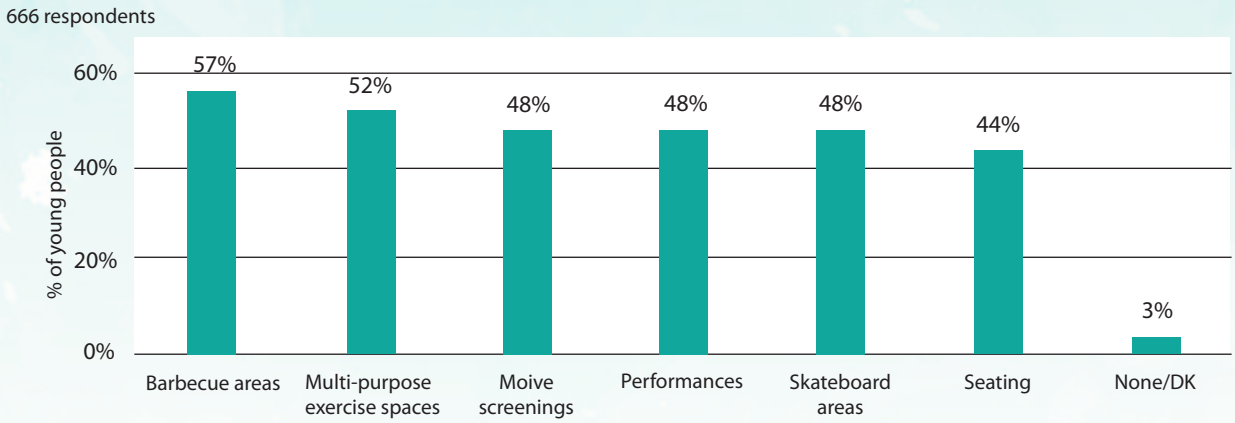
What is your choice?

	Votes*	Rank (in class)	Rank(survey)
1. Movie Screening			
2. Open areas where people can ride skateboards, scooters, BMX bikes			
3. Multi-purpose spaces for dance, badminton, yoga, etc.			
4. Performances and other cultural events			
5. Barbecue areas			
6. More places to sit and chat			
7. None			

* Each person choose up to three things which he/she would like to improve in the public open space in Hong Kong. How might we count which one is the most preferred?

Read the survey result in Source A and compare that with the preference of the class:

SOURCE A



Source: Open Space Opinion Survey, P.107. (2018). Civic Exchange. Retrieved from https://civic-exchange.org/wp-content/uploads/2018/10/Civic-Exchange-Open-Space-Opinion-Survey-FULL-REPORT-updated20181128.pdf

Is there any difference between the preference of the class and the survey result? If so, what are they?

2. General improvement

Choose up to 3 things that you would like to see to improve the open spaces in your community. Prioritise 1 to 3.

1. Lawn to sit on

Source of photo:
https://www.pxfuel.com/en/free-photo-odjgn

2. Mist fountains for summer cooling

Source of photo:
https://www.piqsels.com/en/public-domain-photo-sowtd

3. Outdoor strength training equipment

Source of photo © Richard Webb (cc-by-sa/2.0)
https://www.geograph.org.uk/photo/4968255

4. Shared cycling / jogging / walking paths

Source of photo:
https://www.pxfuel.com/en/free-photo-qeowl

5. More trees and shrubs

Source of Photo: Prosperity Horizons. (2017).
https://commons.wikimedia.org/wiki/File:Po_Tsui_Park_Jogging_Path.jpg

6. More places to sit and chat

Source of photo: Cristian Bortes. (2012).
https://commons.wikimedia.org/wiki/File:Victoria_Park_(7257921088).jpg

7. Water refilling stations

Source of photo © David Hawgood (cc-by-sa/2.0)
https://www.geograph.org.uk/photo/5995283

8. More shade

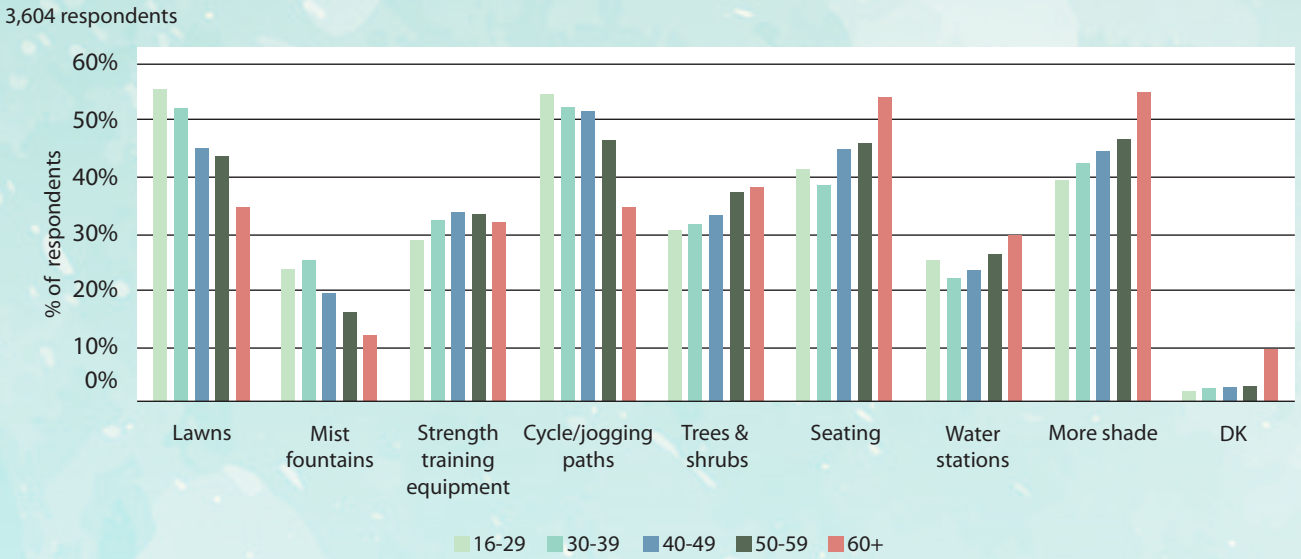
Source of photo: שאולה הייטנר. (2018).
https://commons.wikimedia.org/wiki/File:PikiWiki_Israel_53166_playground_in_neve_tzedek.jpg

9. None

Source: Civic Exchange. (2018). Open Space Opinion Survey. Retrieved from https://civic-exchange.org/wp-content/uploads/2018/10/Civic-Exchange-Open-Space-Opinion-Survey-FULL-REPORT-updated20181128.pdf

Read the survey result in Source B and rank the preference of different age groups:

SOURCE B



Source: *Open Space Opinion Survey*, P.87 (2018). Civic Exchange. Retrieved from https://civic-exchange.org/wp-content/uploads/2018/10/Civic-Exchange-Open-Space-Opinion-Survey-FULL-REPORT-updated20181128.pdf

	Votes				
	16-29	30-39	40-49	50-59	60+
1. Lawn to sit on					
2. Mist fountains for summer cooling					
3. Outdoor strength training equipment					
4. Shared cycling / jogging / walking paths					
5. More trees and shrubs					
6. More place to sit and chat					
7. Water station					
8. More shade					
9. None					

Task 3: Analyse the data

From Source B, what are the differences and similarities on the public's preference for improvement in public open space across different age groups?

Let's investigate the results!

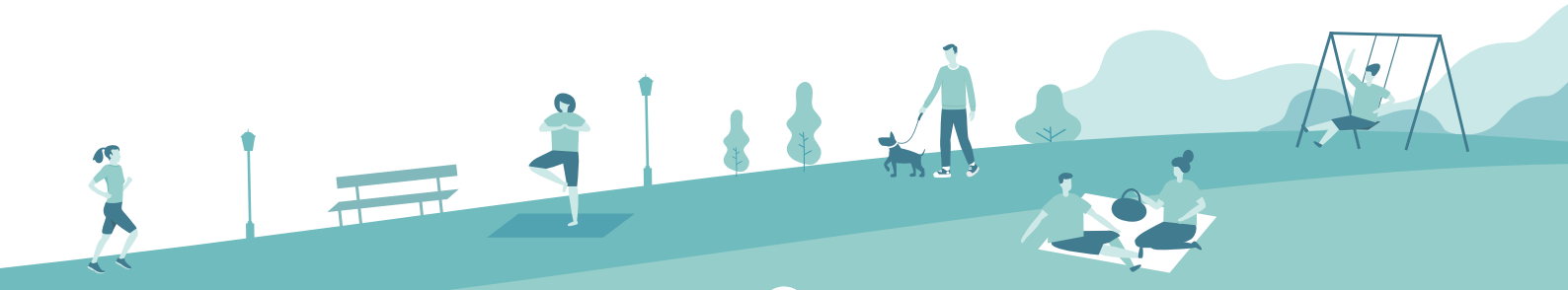
Refer to Task 2 (Appendix 4). Do the findings in the survey align with what you think are the preference of elderly?

On second thought...

Well done!

You have learnt more about the preference of the general public regarding public open space, and have tested your hypothesis with reliable data.

Achievement unlocked!



Appendix 5: Assignment

Pedestrianisation

Street is a common kind of public space. The Transport Department in Hong Kong has designated some of the streets and roads as pedestrian streets to improve their walkability.

Since year 2000, Transport Department has been implementing pedestrian schemes in several areas, including Causeway Bay, Central, Wan Chai, Mong Kok, Tsim Sha Tsui, Jordan, Sham Shui Po, Stanley and Shek Wu Hui.

Let's learn a new concept!

As we have seen, different groups have different preference towards public open space. Now, if _____ (teacher to select a place) is turned into pedestrian zone, what might happen?

Let's imagine…

Assignment: Field work

Currently, how do people utilise that part of street?

Place	
Date and time of visit	

Let's go and have a look!

User(s)	How do(es) the user(s) utilise the public space?

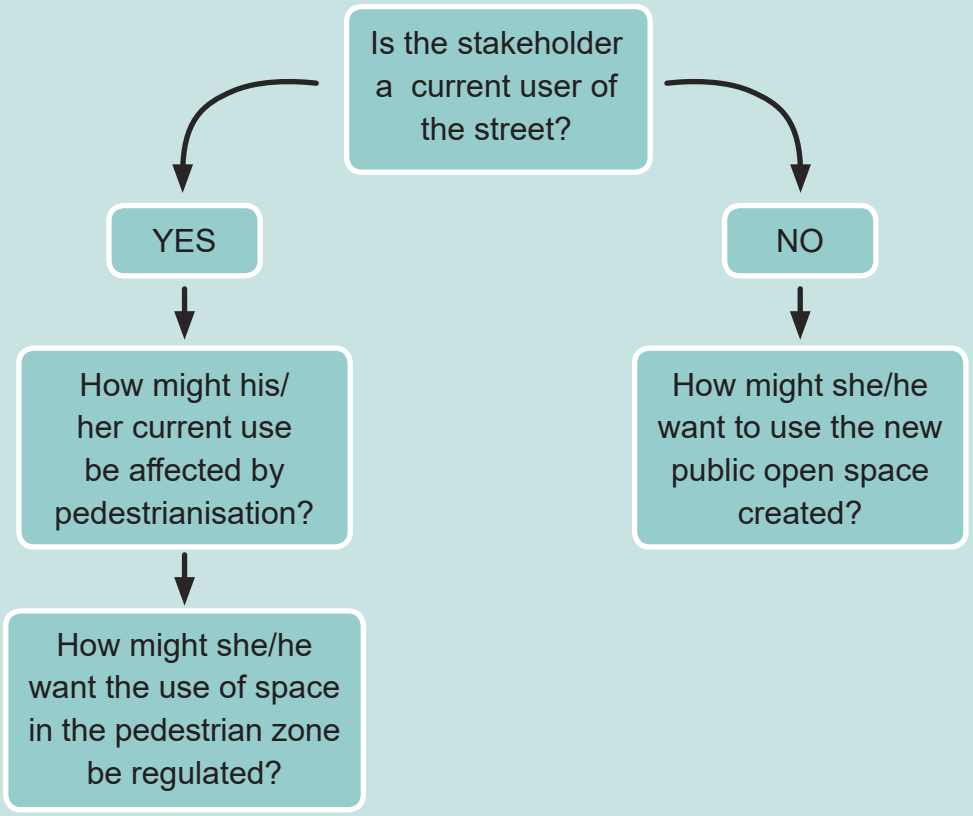
Appendix 6: Worksheet for Lesson 3

Let's get started!

Task 1:

There is a proposal to pedestrianise _____ to create more public open space. Different stakeholders are involved. Your group is asked to study the possible reactions of towards the proposal.

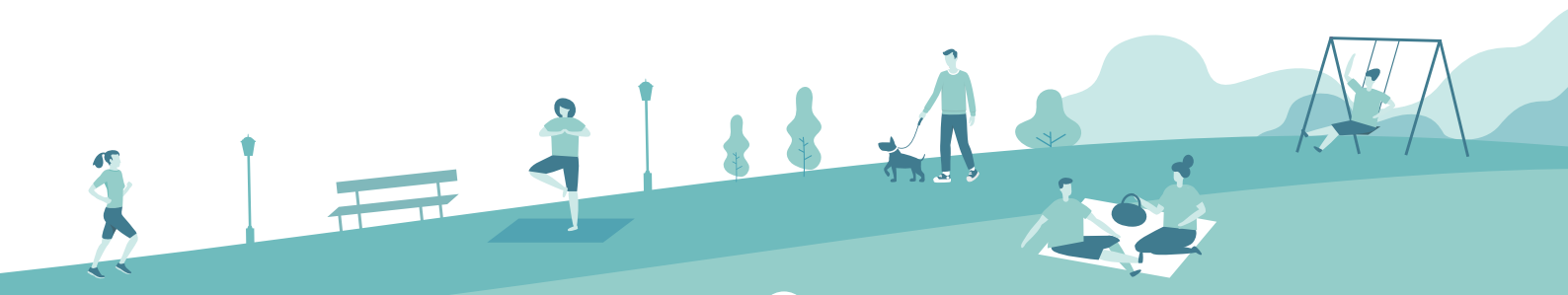
You might use the following analytical framework:



You should identify the possible ***views*** of the stakeholders and their ***reasons***.

- Include (1) views support / against the proposal; (2) views on how the pedestrian area should be regulated; (3) views on what kind of facilities should be provided, etc.
- The reasons might be due to the way their current use might be affected; or their preference of use of public open space. (Refer to the previous worksheets for reference)

Write down your analysis on the poster paper provided.



Appendix 7: Conflicts between stakeholders

Appendix 7.1

Mark the stance of the stakeholders on the diagram below:

Prefer non-pedestrian use ⟷ **Prefer pedestrian use**

More regulation on the use of the pedestrian zone ⟷ **Less regulation on the use of the pedestrian zones**

Different uses of the pedestrian zone ⟷

Let's share the findings!

Appendix 7.2:

Let's find out who is in conflict with whom…

Stakeholders A	Views of stakeholder A regarding pedestrianisation	Reasons	Stakeholders B	Views of stakeholder B regarding pedestrianisation	Reasons	Their conflict is about…

Appendix 8: Writing Task

Let's put the ideas into writing!

Question: Identify and explain the possible conflicts that might arise as the Hong Kong government sets up pedestrian zones.

Firstly, conflict about (refer to the table) might arise.	**State the conflict**
(Stakeholder A) thinks that…	State the view of the first stakeholder in conflict.
(Stakeholder A) hold this view because…	Explain the reason of the view.
(Stakeholder B) thinks that…	State the view of the second stakeholder in conflict.
(Stakeholder B) hold this view because…	Explain the reason of the view.

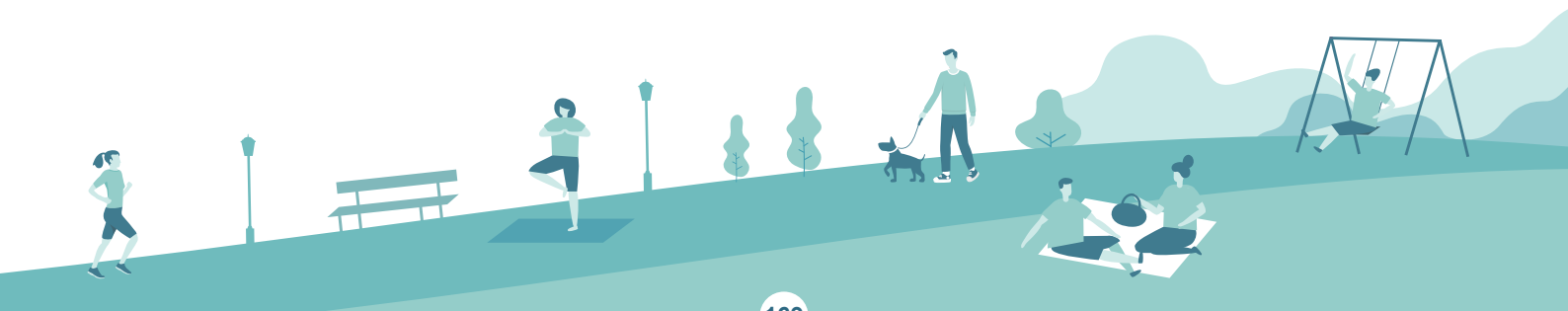
The second conflict is about (refer to the table)	**State the conflict**
(Stakeholder A) thinks that…	State the view of the first stakeholder in conflict.
(Stakeholder A) hold this view because…	Explain the reason of the view.
(Stakeholder B) thinks that…	State the view of the second stakeholder in conflict.
(Stakeholder B) hold this view because…	Explain the reason of the view.

Finally, conflicts about (refer to the table) might arise.	**State the conflict**
(Stakeholder A) thinks that…	State the view of the first stakeholder in conflict.
(Stakeholder A) hold this view because…	Explain the reason of the view.
(Stakeholder B) thinks that…	State the view of the second stakeholder in conflict.
(Stakeholder B) hold this view because…	Explain the reason of the view.

Well done!

You have successfully conducted a stakeholder analysis. It is an important tool in analyzing how certain actions may affect different people. By using the stakeholder analysis, it helps us to better understand the impacts of an action, and to decide our own stance on it.

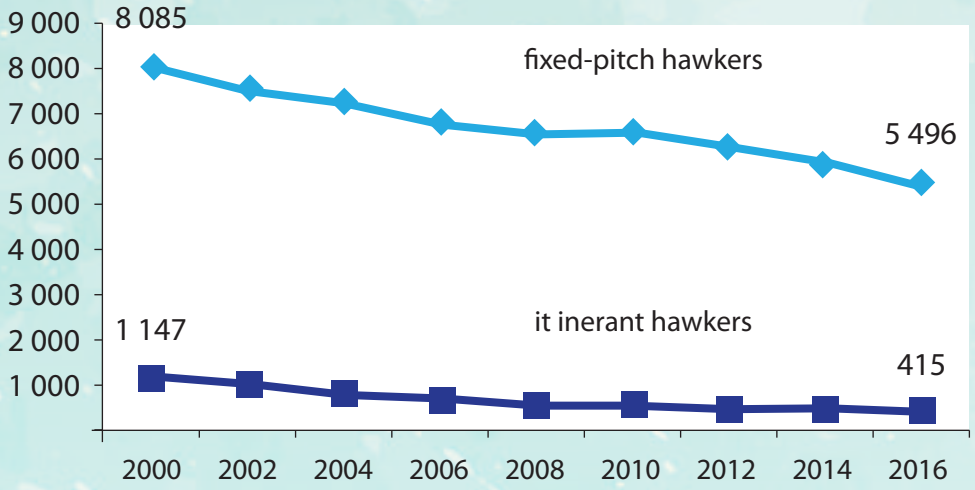
Achievement unlocked!



Appendix 9: Follow-up Task

SOURCE A

Table 1: Number of licensed hawkers in Hong Kong



** itinerant hawkers mean hawkers who are allowed to hawk in a mobile nature within a specified trading area*

Table 2: Estimated amount of unlicensed hawkers in Hong Kong

	2014	2015	2016	2017	2018
Total	1480	1594	1454	1474	1511

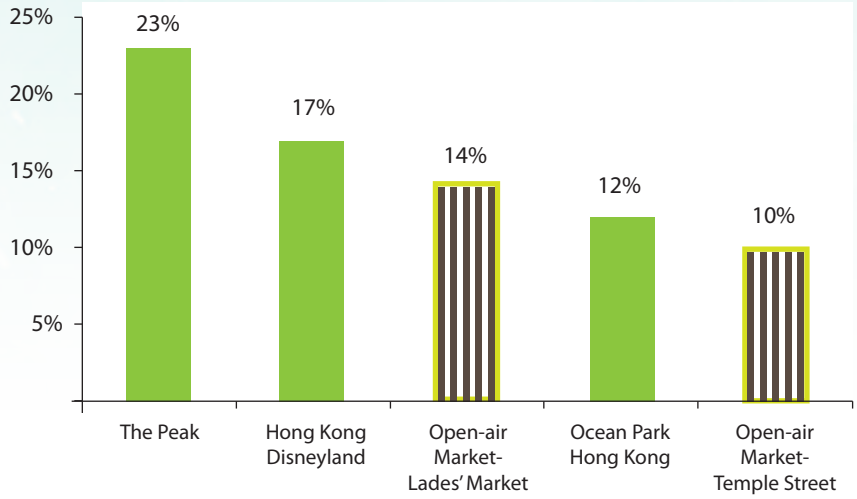
Sources:

Table 1. LegCo Statistical Highlight. Retrieved from
https://www.legco.gov.hk/research-publications/english/1718issh05-hawker-control-in-hong-kong-20171201-e.pdf

Table 2. Examination of Estimates of Expenditure 2019-20. Retrieved from
https://www.fehd.gov.hk/english/legco/2019-20/FHB(FE)354.pdf

SOURCE B

Top five most visited tourist destinations in Hong Kong, 2016



Source: LegCo Statistical Highlight. Retrieved from
https://www.legco.gov.hk/research-publications/english/1718issh05-hawker-control-in-hong-kong-20171201-e.pdf

SOURCE C Summary of the Hong Kong government's views on hawker control

- The Government has since the 1970s stopped issuing new hawker licences.
- For residents living nearby, on-street hawking activities might cause obstruction, environmental nuisance or even hazards relating to hygiene and fire risks.
- Shopkeepers in commercial premises nearby might consider on-street hawking activities an unfair competition with the businesses because hawkers did not have to pay rent.
- The government is open to suggestions of suitable locations for hawker markets, but it is extremely hard to find such spots.

Source: SCMP - Closing time. Retrieved from http://multimedia.scmp.com/hawkers/

SOURCE D Excerpt from a newspaper report

Hawking has been an economic lifeline for generations of workers. It has allowed poor, sometimes uneducated people to earn a living on their own, without the expense of finding and maintaining a permanent storefront. Stalls provide convenient foodstuffs and household items, often at prices affordable to the working class, while feeding the new generation of office workers looking for cheap eats.

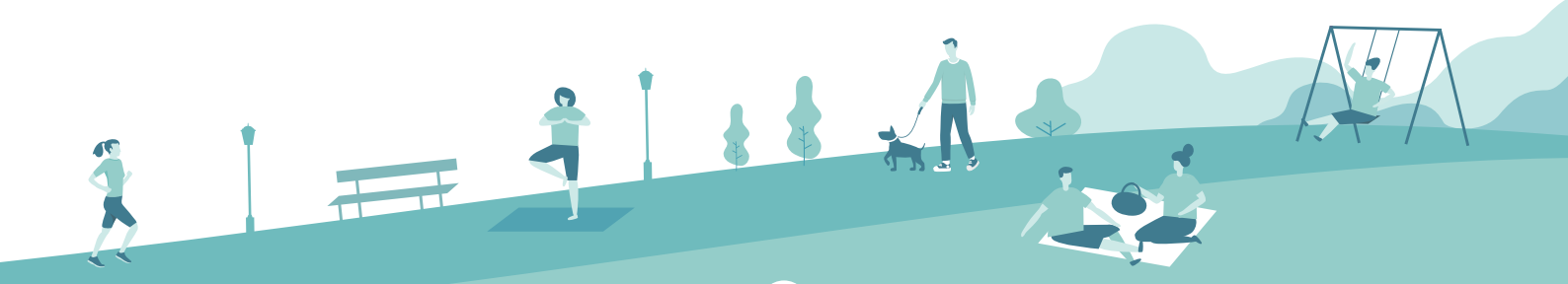
"The government needs to see that this is a cultural fixture of Hong Kong life for the past half-century," said long-time hawker Chan Kai-tai, who sells fresh fruit from a cart. "This is it. This is where the locals, the poorer folks, the working folks buy their daily necessities."

Source: SCMP - Closing time. Retrieved from http://multimedia.scmp.com/hawkers/

(a) With reference to Source A, describe the trend of hawking activities in Hong Kong. (4 marks)

(b) With reference to the above sources, suggest and explain the possible conflicts that would arise if the Hong Kong government decided to reissue hawking licence. (8 marks)

-- End of Appendix --



Suggested Guidelines

(P.151) Decide if the pictures are public open space.

- Picture 1 is public open space.
- Picture 2 is semi-public space – it is privately own and activities can be restricted. However, in many cases, shopping malls served as a public space where people can gather and socialise.
- Picture 3 is public open space.
- Picture 4 is not public open space as it is privately owned, and access is restricted.
- Picture 5 is not public open space as access is restricted.
- Picture 6 is public open space (this is to remind students that public open space is not necessarily for leisure only).

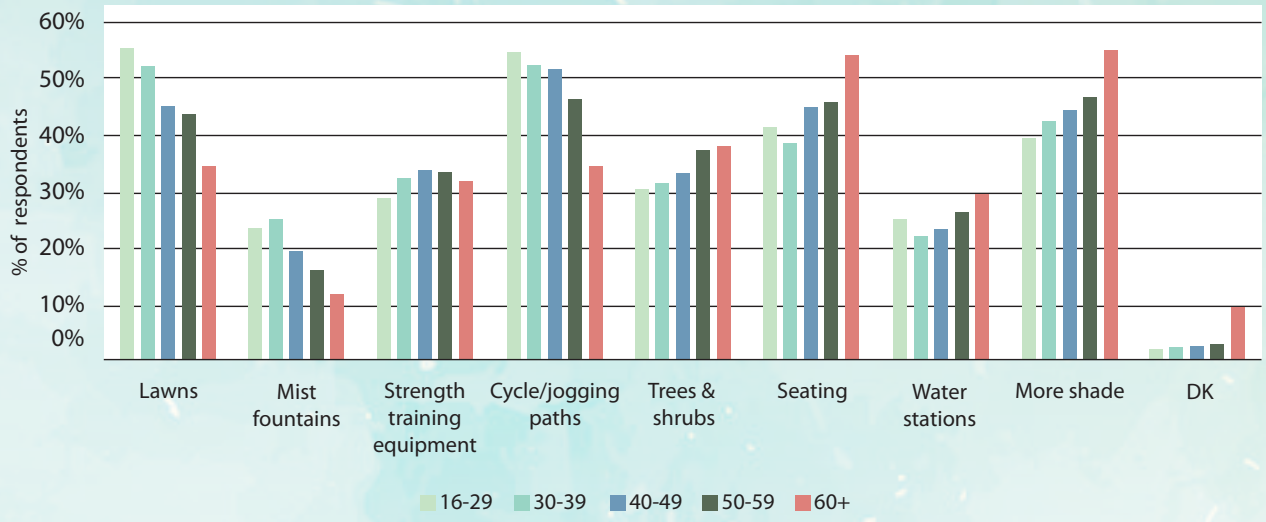
(P.152) Who are the users of public open space shown in the pictures? What kind of uses of public open space do they reflect?

Picture	
1	The picture shows a group of elderly exercising in a park. Public open space ***serves as a place for elderly to exercise and to socialise with others.***
2	The picture shows some ***parents and children*** in a playground in Ngau Tau Kok Park. Public open ***space serves as a place for family activities*** (e.g. for parents to play with their children). Parents might prefer having playgrounds or play components in public open space.
3	The picture shows two buskers in Tsim Sha Tsui. Public open space ***serves as a place for cultural activities (e.g. for busker to perform and show their talents)***. Buskers would like to have the freedom to perform (as it is not always allowed), and also the presence of crowds to watch their performances.
4	The picture shows a group of ***foreign domestic helpers*** gathering at a footbridge in Mongkok. Public open ***space serves as a place for rest and leisure***, in particularly for foreign domestic helpers, to maintain their community networks.
5	The picture shows the ***local residents in Tai Hang*** doing the fire dragon dance. Public open space ***is used as a place for festivals and celebration***. In this case, the fire dragon dance is a celebration of the Mid-Autumn Festival. This shows the importance of the use of public open space in passing on traditional culture and customs.
6	The picture shows goods being unloaded at the Yau Ma Tei fruit market. Public open space, in many cases, ***serves as temporary storage places for businesses. The users involved are drivers, workers and business owners***.
7	The picture shows a hawker selling chestnuts (they are licensed hawkers). Public open space is ***a space for hawkers, usually from lower socio-economic strata, to conduct businesses***.

(P.162) Who are the users of public open space shown in the pictures? What kind of uses of public open space do they reflect?

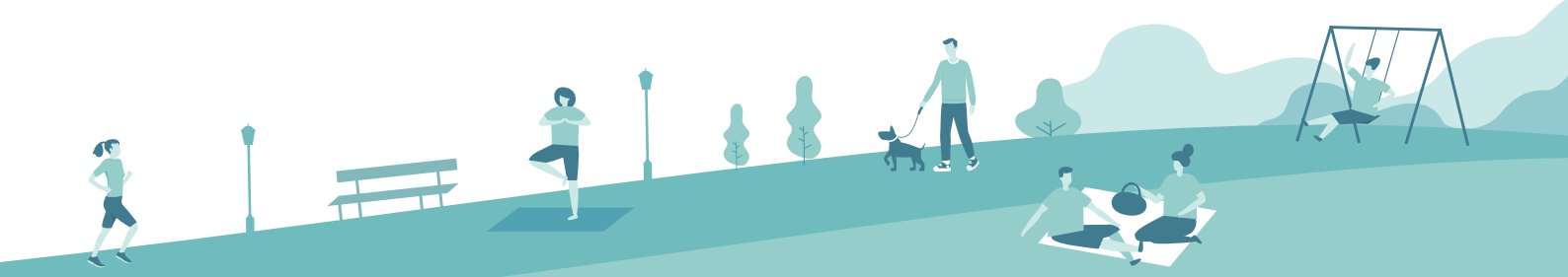
SOURCE B

3,604 respondents



Source: *Open Space Opinion Survey*, P.87 (2018). Civic Exchange. Retrieved from https://civic-exchange.org/wp-content/uploads/2018/10/Civic-Exchange-Open-Space-Opinion-Survey-FULL-REPORT-updated20181128.pdf

	Votes				
	16-29	30-39	40-49	50-59	60+
1. Lawn to sit on	1st	2nd	2nd	4th	4th
2. Mist fountains for summer cooling	8th	7th	8th	8th	8th
3. Outdoor strength training equipment	6th	5th	5th	6th	6th
4. Shared cycling / jogging / walking paths	1st	1st	1st	1st	4th
5. More trees and shrubs	5th	6th	6th	5th	3rd
6. More place to sit and chat	3rd	4th	2nd	2nd	1st
7. Water station	7th	8th	7th	7th	7th
8. More shade	4th	3rd	2nd	2nd	1st
9. None	9th	9th	9th	9th	9th



(P.163) **Task 3:** Analyse the data

From Source B, what are the differences and similarities on the public's preference for improvement in public open space across different age groups?

(Possible answer) Elderly (60+) shows a significantly different preference than other age groups. While other age groups prioritise Cycling / jogging / walking paths, it is ranked much lower by the elderly. Instead, they prefer more shades and trees.
Yet, there are also a lot of similarities across the age groups. For example, water station, mist fountains, and outdoor strength training equipment are not preferred by the public.
Most public prefers more places to sit on, the difference being that younger groups (16-49) prefer lawn, while the older groups prefer to sit under shade.

Let's investigate the results!

(P.168) Appendix 8: Writing Task

There might be many conflicts arising from pedestrianisation and here are some examples:

(1) Conflicts between stakeholders who prefer non-pedestrian use of the space and those who prefer pedestrian use:

- Between **drivers / businesses along the road** and **pedestrians**
  - ✦ Businesses might oppose to pedestrianisation because they would face difficulties in loading and transportation of goods; some businesses (e.g. garages; delivery services) requires access to roads to operate. (Some businesses, however, are less reliant on transportation of goods and they might be benefited from more pedestrian flow).
  - ✦ Pedestrians generally welcome pedestrianisation as it creates a better walking environment (e.g. less crowded, better roadside air quality). It is also safer for elderly and parents with children.

(2) Conflicts over how the pedestrian zone should be regulated:

- Between **buskers** and **residents nearby**
  - ✦ Buskers would prefer busking to be allowed in the pedestrian zones; and less regulation on the performing hours.
  - ✦ Local residents might prefer music performances to be regulated as this can create noise pollution to them.

(3) Conflicts between competing uses of the pedestrian zones:

- Between **young people** and the **elderly** in the community
  - ✦ Elderly would prefer more seating / resting area within the pedestrian areas as it is their main use of the spaces.
  - ✦ Young people would prefer more open area for activities / exercise.
  - ✦ Given the limited space in the pedestrian zone, the two uses would be in conflict as both demands cannot be satisfied at the same time.

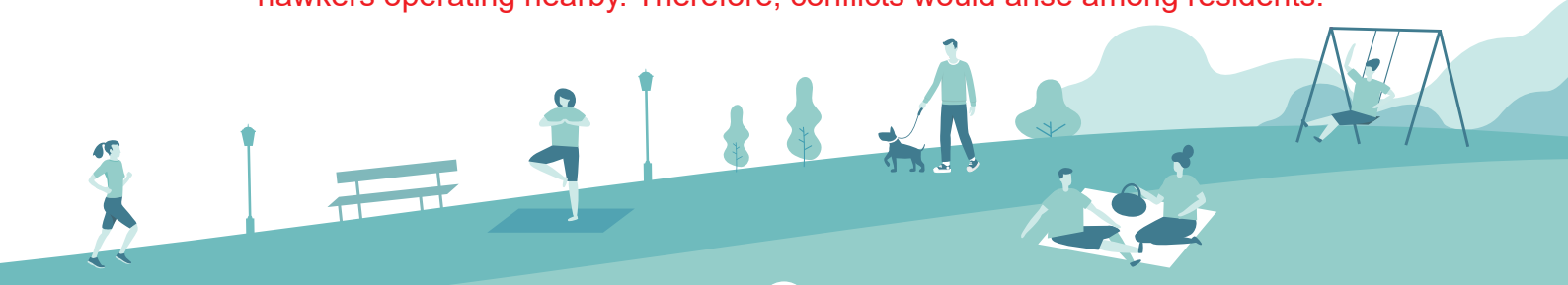
(P.171)

(a) With reference to Source A, describe the trend of hawking activities in Hong Kong. (4 marks)

- For licensed hawkers, the number of both fixed-pitch hawkers and itinerant hawkers have been dropping from 2000 to 2016. For fixed-pitch hawkers the number dropped from 8085 to 5496 (-32%). The drop for the number of itinerant hawkers was higher, from 1147 to 415 (-63%).
- The number of unlicensed hawkers in Hong Kong remains largely unchanged from 2013 to 2017, at around 1500.

(b) With reference to the above sources, suggest and explain the possible conflicts that would arise if the Hong Kong government decided to reissue hawking license. (8 marks)

- Conflicts of business interests between the tourism industry and shopkeepers: The tourism industry is likely to be benefited from reissuing of hawking license, as fixed-pitch market like the Ladies' Market and the Temple Street Market are top tourist attraction (Source B). As the number of fixed-pitch hawkers have been declining (Source A), reissuing hawking license might help revitalise the industry, or even creating new tourist attractions. Shopkeepers would be worried that hawkers create an unfair competition to them as hawkers do not need to pay rent. Reissuing hawking license, especially if they are in tourist districts, will affect the profit of shops there. Hence, they will oppose to the policy.
- Conflicts between residents with different priorities on quality of life: Some residents held a higher priority on their living environment. On-street hawking activities might cause obstruction, environmental nuisance or even hazards relating to hygiene and fire risks (Source C). Hence, they would object to allowing hawkers to operate near their living area. Some residents held a higher priority on living cost. They might see hawkers as a source of affordable and convenient foodstuff and household items (Source D), and they would welcome to have hawkers operating nearby. Therefore, conflicts would arise among residents.



- Conflicts over where the hawkers will be located: The government would prefer to find a place where the presence of hawkers would not cause obstruction, such as large open area. However, for hawkers, they would prefer to operate in places with more crowds as this can bring more businesses.

Student's sample

Sample (8 marks)	
First conflict arises between shopkeepers in commercial premises nearby and hawkers. The former might oppose reissuing hawking license because it brings unfair competition. Hawkers no need to pay rent (Source C) and spend money on maintaining a permanent storefront (Source D), while shopkeepers need to do so and their cost of running business is higher. Besides, since some of the hawkers are itinerant (Source A), they can choose to go to somewhere with more people and hence, more income can be earned than shopkeepers. Then unfair competition results. However, hawkers would support since the license protect them. After the abolishment of hawker license in 1970 (Source C), number of license falls (Source A). It might be because the hawker without license may be arrested by police, so they are discourage to hawk. However, hawking allow uneducated people to earn a living in a legal way. Therefore, conflict arise due to the concern of their own economic interest.	Conflicting stakeholders stated Their respective reasons for their views explained. Summarised the conflict (or conflict over business interests)
Second conflict is between residents living nearby and those who consume food of hawkers, like office workers in Source D. Resident living nearby may oppose it since on-street hawking activities cause obstruction, environmental nuisance and hazards relating to hygiene and fire risk. They lower residents' quality of life and bring safety threats. With reissuing hawking license, more hawkers will be encouraged to hawk since they can earn a living in a legal way and cheap way, and the number of hawkers will rise. Then, the negative impacts brought to residents nearby will become even more serious, so they will oppose it. On the other hand, people who consume will support it. As I have mentioned, the legal license would encourage people to hawk. With more hawkers, more affordable food or household items are sold (Source D). Competition between hawkers may further lower the price too. This benefits hawkers' customers since they need to spend less. Therefore, conflict arise due to different priority of quality of life and consuming affordable food.	Conflicting stakeholders stated Their respective reasons for their views explained. Summarised the conflict (better as living environment v.s. living cost)
Last conflict is between government and hawkers, based on how the license is issued. The government might suggest location with less people flow to hawkers since it is hard to find suitable spots (Source C). Besides, problem like obstruction, mentioned in Source C, would be caused in those busy place. It will bring social discontent due to lower quality of life or safety problem, and the government may be dissatisfied by the public. Therefore, government may assign place with less people flow to hawkers when they are applying for license. However, hawkers would like to be assigned to somewhere with a lot of people to attract more customers. Source D shows that hawkers are cultural fixture of Hong Kong, so it can attract tourists. Therefore, hawkers may want to sell in tourist spots, like Peak or Disneyland in Source B, to earn more. Also, the cheap hawkers' food attract office workers and poor people due to low cost (Source D). Therefore, hawkers would like to sell in districts with low-income residents or working population to earn more. These districts like Sham Shui Po are usually cramped, so government may not agree with their preference. Therefore, conflict arise due to the place assigned.	Conflicting stakeholders stated Their respective reasons for their views explained. Summarised the conflict (i.e. conflict over where the location might be assigned)

Senior Secondary Liberal Studies
Learning and Teaching Exemplar
for NCS students (7)

Climate Change and Natural Disasters

Climate change and natural disasters

A. Basic information of the lessons

Topic Climate change and natural disasters

Relevant modules, themes and issues for enquiry

Module 6: Energy Technology and the Environment;

Theme 1: The influences of energy technology

- To what extent does the development of energy technology create or solve environmental problems?
- What are the implications of environmental change on the development of energy technology?
- How do energy problems affect international relationships, and the development of countries and societies?

Theme 2: Environment and sustainable development

- How do the living styles of people and social development affect the environment and the use of energy?
- What responses could be made by different sectors of the society, governments and international organisations regarding the future of sustainable development?

Overall design rationale

The lessons start from introducing the natural disasters in various regions, including Hong Kong and South Asian countries. Both the NCS and local Chinese students may learn about the consequences of climate change in the context of Hong Kong as well as other regions.

Students will be guided to identify and analyse the possible impacts caused by and possible reasons for global warming. Students will then discuss and suggest ways to counter global warming. With reference to various sources and their own knowledge, students would be guided to identify the controversies over the responsibility of reducing carbon emission among different countries.

The tasks in this teaching package enable students to acquire useful skills to deal with different types of sources and questions.

Guided writing tasks offer students the opportunities to learn to formulate their arguments logically.

Time required

4 lessons (40 minutes per lesson), approximately 160 minutes in total

Learning objectives

Knowledge:

- To understand the current situation of global warming and its relationship with the occurrence of natural disasters worldwide
- To analyse the reasons for and impacts caused by global warming
- To explore various ways to counter global warming
- To evaluate the roles of different countries in alleviating the problem of global warming

Skills:

- To interpret multimodal sources from multiple perspectives
- To apply relevant knowledge and concepts in discussing contemporary issues
- To make sound judgements by logical reasoning
- To express ideas in speaking and writing

Values and attitudes:

- To understand the importance of environmental protection and sustainable development, and develop energy saving lifestyle
- To reflect upon one's roles and responsibilities in the society
- To foster positive attitudes towards balancing different views and comprehensive consideration

Basic Concepts for application

climate change, resource depletion, energy technology, renewable energy, non-renewable energy, sustainable development, green lifestyle, global governance

Relevant learning experience at junior secondary levels

- Forms of energy, energy changes, generation of electricity and energy sources; the composition of air, balance of carbon dioxide and oxygen in nature; global warming, the greenhouse effect, etc.
- The interdependence of living things and their environment; choice and cost in the use of scarce resources; development in and interdependence between less developed and more developed countries, etc.

Catering the learning needs of NCS students

- The lesson will start from the natural disasters in Hong Kong as well as other regions outside Hong Kong.
- The use of audio-visual learning materials may arouse the interest of students in exploring the issues of climate change.
- The data file offers NCS students a variety of sources, including data, photos, comic and animation, to equip them with necessary skills in tackling different types of sources.
- Guiding questions are set after each source in the data file. The questions guide the students to process the data and generalise the implication step by step. Teachers may assess students' ability of identifying the key concepts and overall messages reflected in the source.
- **Micro-uniting:** there are several simple tasks to complete before an integrated task. This enables students to build up knowledge with the support of simple sequential tasks.
- **Reading strategies:** teachers are encouraged to guide less capable students to adopt some reading strategies for comprehending textual sources, which include: (1) highlighting of keywords, (2) chunking by punctuation, and (3) use of colour code.
- Teachers can choose to ask students to study the sources and answer the questions that followed as individual task or pair work, with reference to the learning mode and characteristics of the NCS students.

B. Design of classroom learning and teaching

Lesson Learning and teaching strategies and flow

Before class

Lesson preparation

- Ask students to study the photos and news reports about the natural disasters occurred in Hong Kong, South Asian countries and Canada. Answer the guiding questions. **(Appendix 1)**
- Ask students to read the relevant articles for more detailed information about the incidents if necessary.

1 Focus: Current situation of global warming and its relationship with natural disasters

Lead in (around 12 minutes)

- Teachers go over **Appendix 1** with students, and facilitate their understanding of the severity and the human-caused nature of some natural disasters, aiming to enhance students' **awareness of environmental protection** and motivation.
- Guide students to read the statistics, and identify the trends of temperature in India and occurrence of major natural disasters, and the relationship between them. **(Appendix 2 – Sources A1 and A2)**
- Teachers can briefly introduce the data interpretation skills.
  - ★ First, identify the trend. Then, cite the data, followed by data analysis.
  - ★ Positive correlation is indicated by a positive value, and vice versa. Greater value reflects greater degree of correlation, and vice versa.
- Using the statistics of India may arouse students' curiosity to know more about the issues of climate change.

Individual task/ pair-work (around 18 minutes)

- Guide students to read the sources with some reading strategies, and identify the impacts caused by climate change and the reasons for climate change. **(Appendix 2 – Source B)**
- Students are expected to pick an example of natural disasters, except wildfire mentioned earlier, to explain **how climate change may cause the occurrence of natural disasters**. **(Appendix 2 – Source C)**
- Ask students to report their answers, and help students clarify and elaborate their answers.

Round-up (around 10 minutes)

- Ask students to draw a mind map to consolidate the concepts learnt in the lesson.
- Appreciate students' identification of other relevant keywords *(e.g. glacier melting, increase in sea water level, etc.)*.
- Help students clarify their understanding of key concepts.
- Teachers may offer hints with reference to students' learning ability.

Post-lesson assignment/ preparation before Lesson 2

- Ask students to watch the animation and identify the features of climate change. **(Appendix 3)**

2 Focus: Possible impacts of global warming

Lead in by questioning (around 5 minutes)

- Teachers go over **Appendix 3** with students, and help them clarify and conceptualise their answer if necessary.

Individual task/ pair-work (around 25 minutes)

- Ask students to read the sources, and identify the key messages reflected in the sources. **(Appendix 4 – Sources A and B)**
- Ask students to analyse the **impacts caused by global warming**, besides the occurrence of natural disasters (which has been discussed in Lesson 1), with reference to the sources provided. *Possible impacts include:*

  - ★ *Social aspect: Homeless problem* ***(Source A)****, worsened public health (Source B), etc.*
  - ★ *Economic aspect: Hindered economic development* ***(Source A)****, financial burden on public medical system* ***(Source B)****, etc.*
  - ★ *Environmental aspect: Polluted water resources* ***(Source A)****, etc.*

- Ask students to report their answer, and help them clarify and elaborate their answer. Emphasis should be put on students' conceptualisation of impacts.
- Explain to students that the impacts of global warming on more developed countries (MDCs) differ from those in less developed countries (LDCs) **(Appendix 4 – Question 2).**

Round-up (around 10 minutes)

- Ask students to draw a mind map to consolidate the concepts learnt in the lesson.
- Appreciate students' identification of other relevant keywords *(e.g. coral bleaching, irregular precipitation, etc.)*.
- Help students clarify their understanding of key concepts.
- Teachers may offer hints with reference to students' learning ability.

Post-lesson assignment/ preparation before Lesson 3

- Ask students to study the comic, and interpret the message reflected in the comic. **(Appendix 5)**
- Teachers can briefly introduce the comic decoding skills in advance.
  - ★ Cite the features shown in the comic, followed by the implication. Based on the comic features, summarise the overall message of the comic.

3 Focus: Possible impacts of global warming

Lead in by questioning (around 5 minutes)

- Teachers go over **Appendix 5** with students, and help them derive the message reflected in the comic if needed.

Individual task/ pair-work (around 23 minutes)

- Ask students to read the sources, and identify the key messages reflected in the source. **(Appendix 6 – Source A)**
- Ask students to analyse the **reasons for global warming** with reference to the sources provided. *Possible reasons include*:
  - ★ *Social aspect: Pursuit of high quality of life **(Source A)**, development of urbanization, etc.*
  - ★ *Economic aspect: Industrial production **(Source A)**, etc.*
  - ★ *Political aspect: National direction "priority on economy over environment", etc.*

- Ask students to report their answers, and help them clarify and elaborate their answers. Emphasis should be put on students' conceptualisation of reasons.

Round-up (around 12 minutes)

- Ask students to suggest **what governments can do to alleviate the problem of global warming** based on the reasons.
- Students are expected to suggest different types of methods which are commonly adopted by government (i.e. public education, provision of financial incentives, implementation of related policies, cooperation with other stakeholders, etc.), and be aware of their difference by nature.
- Help them clarify and elaborate their answers. Emphasis should be put on students' justification of their answers, i.e. the significance and effectiveness of implementing the suggested method.

Post-lesson assignment

- Ask students to complete a writing task for consolidating the concepts and skills acquired in the lesson. **(Appendix 7)**

4 Focus: Controversies over the responsibility of reducing carbon dioxide emission

Lead in by questioning (around 8 minutes)

- Ask students to study the statistics, and identify the relationship of the level of development of a country with carbon dioxide emission **(Appendix 8)**, and its relationship with carbon dioxide emission per capita **(Appendix 9)**.
- Teachers can facilitate students' revision of the data interpretation skills learnt before, if necessary.
  - ★ First, identify the trend. Then, cite the data, followed by data analysis.
  - ★ Identify "the most / least", "the greatest increase / decrease", etc.
- Help students consolidate the skills of categorising data, i.e. identifying the common features of the data in the same category (e.g. level of development – MDCs and LDCs) **(Appendix 8 – Questions 2 and 3; Appendix 9 – Questions 2 and 3)**, rather than analysing individual data items (e.g. China, the US, etc.) **(Appendix 8 – Question 1; Appendix 9 – Question 1).**
- With reference to the time constraint and students' learning progress, teachers may consider checking students' understanding of identifying features of MDCs / LDCs orally for **Appendix 9 – Questions 1 to 3**.

Individual task/ pair-work (around 20 minutes)

- Ask students to go over **Appendix 8 – Source A1 and Appendix 9 – Source A2**, and identify the key message reflected in the sources provided. **(Appendix 9 – Question 4)**
- Ask students to identify the factors affecting the role of different countries tackling the global warming problem.
- Ask students to report their answers, and help them clarify and elaborate their answers. Emphasis should be put on students' conceptualisation of factors.
- Guide students to compare the **responsibility of reducing carbon dioxide emission among MDCs and LDCs**. Help them clarify and elaborate their answers. Emphasis should be put on students' justification of their answer under the common ground for comparison. **(Appendix 8 – Source A1; Appendix 9 – Source A2)**

Summary (around 12 minutes)

- Teachers conclude that all countries should play their roles in tackling the global warming problem with reference to their responsibilities and resources available. The responsibility issue is controversial among countries which may hinder the effectiveness of international cooperation on global environmental issues.

Post-lesson assignment

- Brief students about the post-lesson assignment for consolidation of learning in previous lessons. **(Appendix 10)**
- A framework, which includes guidelines and examples, can be provided for less capable students.
- Share students' work (both good and weak samples), and give constructive feedback to students.

Appendix 1: Pre-lesson task

Let's warm up!

Read the sources below, and then answer the questions:

SOURCE A

In September 2018, Hurricane Mangkhut swept across Hong Kong, and caused many damages.

SOURCE B

In August 2017, Heavy monsoon rains and intense flooding caused many damages and lives killed in Bangladesh, India and Nepal of South Asia.

SOURCE C

In May 2016, a wildfire swept through the southwest of Fort McMurray, Alberta, Canada.

Source:

- Source A: SCMP. (2018). Typhoon Mangkhut officially Hong Kong's most intense storm since records began. Retrieved September 19, 2018, from https://www.scmp.com/news/hong-kong/health-environment/article/2164523/its-official-typhoon-mangkhut-was-most-intense
- Source B: REUTERS/Anuwar Hazarika
- Source C: REUTERS/Mark Blinch

Questions:

1. What are the types of natural disasters shown in the above sources?

i. _____ ii. _____ iii. _____

2. What are the possible impacts these natural disasters may cause?

_____

_____

_____

_____

3. Do you think we could prevent these natural disasters from happening in the future? Why?

_____

_____

_____

_____

Appendix 2:

Read the sources below, and then answer the questions:

SOURCE A1 Correlation matrix of temperature and major natural disasters in India from 1901 to 2013

	Annual Mean Temperature in °C	Drought	Earthquake	Flood	Landslide	Storm
Time Series (1901 – 2013)	*0.677*	*0.227*	*0.347*	*0.722*	*0.503*	*0.669*

Hint:

- Positive value indicates a positive correlation, and vice versa.
- Greater value reflects greater degree of correlation, and vice versa.

Source: Mishra, A. (2014). An Assessment of Climate Change – Natural Disaster Linkage in Indian Context. Journal of Geology & Geosciences, 3:167 doi:10.4172/2329-6755.1000167

Questions:

1. According to Source A1, what is the trend of the annual mean temperature in India from 1901 to 2013?

The annual mean temperature in India was (increasing / decreasing)*

from 1901 to 2013. According to Source A1, ( ) indicates a

positive correlation between the annual mean temperature and the time series,

which reflects that India became hotter in this period of time.

* Delete the incorrect option

2. According to Source A1, what is the trend of the major natural disaster occurrence in India from 1901 to 2013?

SOURCE A2 Correlation between temperature and major natural disasters in India from 1901 to 2013

	Drought	Flood	Landslide	Storm
Annual Mean Temperature in ^{o}C	*0.291*	*0.611*	*0.448*	*0.441*

Hint:

- Positive value indicates a positive correlation, and vice versa.
- Greater value reflects greater degree of correlation, and vice versa.

Source: Mishra, A. (2014). An Assessment of Climate Change – Natural Disaster Linkage in Indian Context. Journal of Geology & Geosciences, 3:167 doi:10.4172/2329-6755.1000167

Questions:

3. According to Source A2, what is the relationship between the temperature and major natural disaster occurrence in India?

_____

_____

_____

Read the sources below, highlight the keywords, and then answer the questions:

SOURCE B:

On 1 May 2016, a wildfire began southwest of Fort McMurray, Alberta, Canada, and then swept through the community. More than 80 000 people were evacuated from their homes. The fire burned the forested area, and halted the oil sands production at facilities of Fort McMurray.

Professor Mike Flannigan from The University of Alberta pointed out that the human-caused climate change may have turned this fire into unfolding tragedy. Polluted ozone layer as well as occurrence of lightning may cause more frequent and intense wildfires. In addition, the extremely high temperature, very low humidity and low precipitation have extended the forest fire season in recent years. The wildfires have caused irreversible permafrost thaw, which is crucial for carbon retention. More methane released exacerbates the climate change. With such a vicious cycle, the greenhouse effect may worsen and run out of control.

Highlight the impacts caused by climate change in **green.**

Highlight the reasons for climate change in **yellow.**

Source: Integrated from the following references

- CBC/Radio-Canada. (2019). Alberta wildfires linked to climate change, scientist says. Retrieved June 23, 2020, from https://www.cbc.ca/news/canada/edmonton/alberta-wildfires-climate-change-1.5168355
- RT News. (2016). Alberta wildfires expected to burn for months, threaten oil sands mines. Retrieved June 23, 2020, from https://www.rt.com/news/342257-alberta-wildfires-months-oil/
- The Washington Post. (2016). The Fort McMurray fire's stunning pulse of carbon to the atmosphere. Retrieved June 23, 2020, from https://www.washingtonpost.com/news/energy-environment/wp/2016/05/20/the-fort-mcmurray-fires-stunning-pulse-of-carbon-to-the-atmosphere/

Questions:

4. **Source B** states that "the greenhouse effect may worsen and run out of control". Explain this statement with reference to **Source B**.

Source B mentioned that climate change causes ( )
and ( ), which intensify the occurrence of ( ).
Also, ( ) weather extends the
( ). Worse still, the occurrence of wildfire results
in the melting of ( ) and release of ( ),
which in turn worsens the problem of climate change. Therefore, the
greenhouse effect is a ( ).

SOURCE C:

As mankind has produced increasing amounts of carbon dioxide and other greenhouse gases that may remain in the atmosphere for decades or even hundreds of years, we can expect to face a warmer climate. Global warming may melt glaciers and ice blocks, elevate global sea level, bleach coral reefs, and increase the frequency and intensity of typhoons.

Source: Liberal Studies Curriculum Resources Booklet Series – Energy Technology and the Environment, "Climate Change", p.28.

Questions:

5. How does climate change cause more occurrence of natural disasters? Explain your answer with an example of natural disaster **other than the one stated in Source B**.

Round-up: Concept consolidation

Illustrate the relationship among the following concepts with a mind map.
Other relevant keywords are welcome. Use stick notes if you want to.

natural disaster / global warming / greenhouse gas emission / climate change

Appendix 3:

Watch the animation and answer the question:

Animation: "Climate Kid" presented by Do The Green Thing and UNICEF
Date: 4 March 2011
URL: https://youtu.be/0l2GpCaNxLk
Duration: 1 min 49 s

According to the **animation**, how would an ordinary kid "evolve" in order to adapt to climate change?

(Hint: Refer to the features of a "fully enhanced Climate Kid" (i.e. **1 min 23 s** in the animation), and analyse how the features could facilitate one's adaptation to climate change.)

The feature of climate change	to adapt to	The feature of a "fully enhanced Climate Kid"
1.		
2.		
3.		

Appendix 4:

Read the sources below, highlight the keywords, and then answer the questions:

Hang in there!

SOURCE A:

In 2019, the decade ended with record heatwaves across the northern hemisphere, while Australia fought some of its worst wildfires in decades, which killed at least 25 people and destroyed more than 2 000 homes in the state of New South Wales alone. In fact, the Earth's average surface temperature has risen about 9°C since late 19th century. The Intergovernmental Panel on Climate Change (IPCC) reported that the warming trend is caused by emission from human activities. Climate change increases the frequency and intensity of natural disasters in Hong Kong and other countries/regions around the world. The United States based non-governmental organisation (NGO) Climate Central estimated that 1.3 million Hongkongers could be hit by flooding every year in areas such as Tai Po, Sha Tin, and at the Hong Kong International Airport.

Source:

- SCMP. (2020). Watch your carbon footprint: Hong Kong's getting hotter, as climate change makes its presence felt. Retrieved June 24, 2020, from https://www.scmp.com/news/hong-kong/health-environment/article/3046358/watch-your-carbon-footprint-hong-kongs-getting

Summarise the key message reflected in **Source A**:

Climate change increases the _____ and _____ of natural disasters. People living in coastal cities and low-lying areas are vulnerable to the _____ problem.

SOURCE B:

In 2015, a heatwave killed nearly 2 500 people in India, when the temperature reached highs of 48°C. The worst-hit region was Andhra Pradesh in the south east. Scientists sounded the alarm about climate change that it may become an annual occurrence in India and Pakistan.

Source: RT News. (2018). Deadly heat waves to hit India, Pakistan every year because of climate change – UN report. Retrieved October 26, 2018, from https://www.rt.com/news/440664-india-pakistan-heat-wave-climate/

Summarise the key message reflected in **Source B**:

The scorching weather may lead to _____ diseases such as dengue fever and _____. It may exert great burden on the _____ _____ system.

Questions:

1. What are the impacts that global warming may bring about besides the occurrence of natural disasters?

Impact	Elaboration (Hint: Describe features of the global warming problem first.)	Citation of source
Example: **< Social >** **Worsened public health**	Global warming causes (extremely hot weather)	Source B
	➔ tropical diseases, e.g. dengue fever, heatwave	
	➔ threatens public health	
	➔ exerts burden on public medical system	
< Economic >	Global warming causes ( )	
	➔	
	➔	
	➔	
	➔	
<Environmental>	Global warming causes ( )	
	➔	
	➔	
	➔	
	➔	

2. Which countries suffer the most from the natural disasters? Why?

Round-up: Concept consolidation

Based on what you have learnt, conclude the short-term and long-term impacts of the global warming problem with a mind map. All relevant keywords are welcome. Use sticky notes if you want to.

You may refer to the following concepts.

biodiversity / balance of ecological system / water resources / agricultural & fishery revenue / famine / public health / tropical diseases / burden on medical system / prosperity of tourism / homeless problem

Appendix 5:

Read the following comic, and then complete the summary table:

SOURCE A:

Source: Developed by the resource developer.

1. Interpret the message of the comic in **Source A**.

Feature shown in the comic	reflects that	Implication
1. (see the figure in the middle)		
2. (see the figure in the middle bottom)		
Therefore, the **overall message** of the comic is:		

Appendix 6:

Read the sources below, highlight the keywords, and then answer the questions:

It's almost there!

SOURCE A:

Under the Industrial Revolution and technological advances, people have been heavily relying on using fossil fuels to produce energy. Various economic and industrial activities aggravate greenhouse gas emission, resulting in more intensified greenhouse effect, and hence climate change.

Source: Australian Academy of Science. (2015). Are human activities causing climate change? Retrieved November 7, 2018, from https://www.science.org.au/learning/general-audience/science-booklets-0/science-climate-change/3-are-human-activities-causing

Summarise the key message reflected in **Source A**: *

- ☐ Less developed countries underwent Industrial Revolution, and were regarded as large CO_2 emitters.
- ☐ Increasing CO_2 emission in emerging countries originates from their accelerating industrial production.
- ☐ Increasing global CO_2 emission is attributed to the better quality of life worldwide.

*Tick the correct option

1. Based on Source A and your own knowledge, what are the reasons for global warming?

(Hint: i. To elaborate your answer logically, mention the countries (i.e. MDCs or LDCs) which contribute for the problem of global warming where applicable.

ii. Try to make use of more than one source where applicable.)

Reason	Elaboration (Hint: How is global warming aggravated?)	Citation of source
Example: **< Social >** **Pursuit of high quality of life**	Technological advances and economic development	Source A
	➔ people pursue high quality of life (QOL)	
	➔ use of electrical appliances and private cars	
	➔ more usage of fossil fuels for producing energy	
	➔ (increases emission /~~reduces absorption~~)* of CO_2	
	➔ aggravates the problem of global warming	
	➔	
	➔	
	➔	
	➔ (increases emission / reduces absorption)* of CO_2	
	➔ aggravates the problem of global warming	
	➔ (increases emission / reduces absorption)* of CO_2	
	➔ aggravates the problem of global warming	

* Delete the incorrect option

Round-up: Concept consolidation

With reference to the sources provided in Appendix 6 and your own knowledge, what can governments do to alleviate the problem of global warming?

(Hint: Refer to Appendix 6 Question 1 for the reasons. Suggest a method based on the reason.)

(1) For the Reason	(2) Suggestion	Effectiveness (Hint: (3)Explain concretely how the method can be carried out, and(4) how it can alleviate global warming.)
Example: **(1) For people's pursuit of high QOL**	**(2) Government can strengthen promotion and education about energy saving for the public**	(3) Promotion through mass media and organising territory-wide competitions
		➔ delivers the message of energy saving
		➔ (4) people learn good practice unconsciously
		➔ take the self-initiative to reduce energy use in daily life and thus carbon emission
		➔
		➔
		➔
		➔
		➔
		➔

Appendix 7:

What can governments do to alleviate the problem of global warming? Explain your answer with reference to the sources provided in Appendix 6.

(Hint: i. With reference to the example below, give one more suggestion. Explain your answer.

ii. Highlight different parts of your answer in different colours for self-checking.)

1st suggestion: (Example)

(1) **Based on a reason,**	(1) For *(people's pursuit of high quality of life),*
(2) **give a suggestion**	(2) government can *(strengthen promotion and education about energy saving for the public).*
(3) **Briefly explain the reason**	(3) To maintain high standard of living, people develop high consuming lifestyle, and contribute for high carbon emission through energy production.
(4) **Explain the suggestion in details**	(4) I suggest that government should *(strengthen public environmental education through mass media and organising large-scale competitions).*
(5) **Explain the effectiveness of the suggestion**	(5) With this method, *(the message of developing energy saving lifestyle could be delivered at the territory-wide level. People learn the good practice unconsciously, and take the self-initiative to reduce energy use in daily life, and thus carbon emission).*

2nd suggestion:

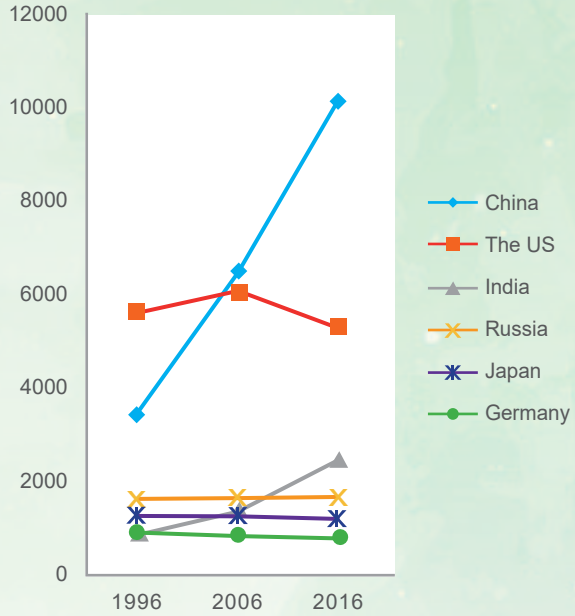
Based on a reason, give a suggestion	For ( ), government can ( ).
Briefly explain the reason	
Explain the suggestion in details	I suggest that government should ( ).
Explain the effectiveness of the suggestion	With this method, ( ).

Congratulations!

Appendix 8:

Read the following statistics, and answer the questions:

SOURCE A1:



Annual carbon dioxide emission from 1996 to 2016 (in million tonnes)

	1996	2006	2016
China	3460.26	6523.95	10150.82
The US	5636.3	6051.5	5311.69
India	881.6	1406.46	2430.8
Russia	1581.38	1653.51	1634.71
Japan	1256.7	1287.1	1209.16
Germany	958.37	877.37	801.51
World	23603.84	30498.83	36182.59

Source: Our World in Data. (2016). Annual CO_2 emissions. Retrieved September 19, 2018, from https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions#annual-co2-emissions

Questions:

1. In terms of individual countries, what are the features of annual carbon dioxide emission from 1996 to 2016?

(Hint: Consider which countries contributed for the most / least annual CO_2, and which countries contributed for the greatest increase / decrease in CO_2 emission.)

The annual carbon dioxide emission of ( ) increased the most from 1996 to 2016. It increased from ( ) in 1996 to ( ) in 2016. Its emission has exceeded that of ( ), which ranked the first, since 2006.

2. In terms of the countries' level of development, what are the features of annual carbon dioxide emission from 1996 to 2016?

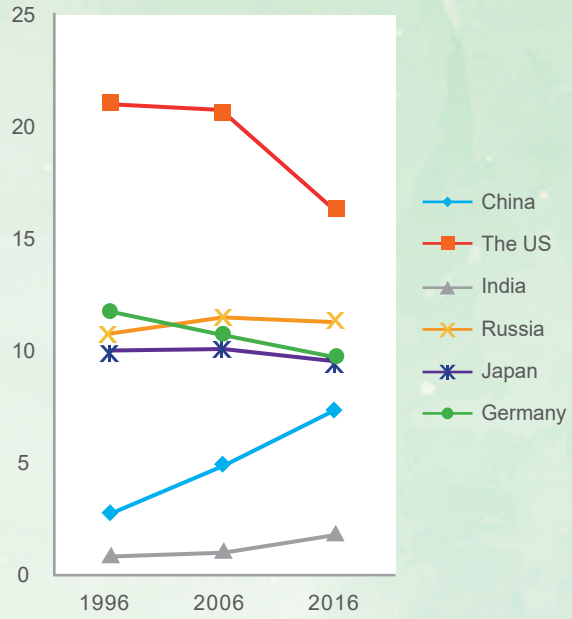
(Hint: Put the countries in **Source A1** into categories first, e.g. more developed countries and less developed countries.)

3. Do you think there is any relationship between the carbon dioxide emission and the level of development of a country?

Appendix 9:

Read the following statistics, and then answer the questions:

SOURCE A2:



Annual carbon dioxide emission per capita from 1996 to 2016 (in tonnes)

	1996	2006	2016
China	2.77	4.91	7.36
The US	20.97	20.78	16.44
India	0.9	1.12	1.84
Russia	10.68	11.54	11.33
Japan	9.92	10.02	9.52
Germany	11.77	10.76	9.7
World	4.05	4.6	4.86

Source: Our World in Data. (2016). Per capita CO_2 emissions. Retrieved September 19, 2018, from https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions#per-capita-co2-emissions

For Q.1 to Q.3, teacher may consider checking students' understanding of identifying features of MDCs/LDCs orally, with reference to students' learning progress.

Questions:

1. In terms of individual countries, what are the features of annual carbon dioxide emission **per capita** from 1996 to 2016?

   (Hint: Consider which countries contributed for the most / least annual CO_2 per capita, and which countries contributed for the greatest increase / decrease in CO_2 emission per capita.)

For Q.1 to Q.3, teacher may consider checking students' understanding of identifying features of MDCs/LDCs orally, with reference to students' learning progress.

2. In terms of the countries' level of development, what are the features of annual carbon dioxide emission **per capita** from 1996 to 2016?

   (Hint: Put the countries in **Source A2** into categories first, e.g. more developed countries and less developed countries.)

   _____

   _____

   _____

   _____

3. Do you think there is any relationship between the carbon dioxide emission **per capita** and the level of development of a country?

Summarise the key message reflected in **Sources A1 and A2**: *

- From **Source A1**, (China / The US) has to bear greater responsibility of CO_2 emission reduction regarding the annual CO_2 emission in recent years. And, (China / The US) has to bear greater responsibility of CO_2 emission reduction regarding the **increase rate** of the annual CO_2 emission in recent years.
- From **Source A2**, (China / The US) has to bear greater responsibility of CO_2 emission reduction regarding the annual CO_2 emission **per capita** in recent years. And, (China / The US) has to bear greater responsibility of CO_2 emission reduction regarding the **increase rate** of the annual CO_2 emission **per capita** in recent years.
- Therefore, the responsibility issue of CO_2 emission reduction is _____ _____.

* Delete the incorrect option

5. What do you think are the factors affecting the role of different countries tackling the global warming problem?

Factors affecting the role of countries (i.e. the common ground for comparison)

Example: *Historical responsibility*

6. From **Source A1** [Appendix 8] and **Source A2** [Appendix 9], which countries, MDCs or LDCs, do you think have the greater responsibility of reducing carbon dioxide emission? Why?

(Hint: Pick one of the common grounds from **Question 5**, and answer the question.)

Appendix 10:

SOURCE A:

Keep it up!
- Assignment

Burning of fossil fuels is one of the major sources of greenhouse gas emission. However, the high cost of developing clean energy, such as nuclear energy and wind power, makes it infeasible for LDCs. The Green Climate Fund (GCF) was established by the United Nations Framework Convention on Climate Change (UNFCCC) in 2010, with the goal of keeping average global temperature rise well below 2°C. It is the world's largest dedicated fund, which mobilises financial resources of MDC governments and private sectors in order to assist LDCs in adaptation and mitigation practices to counter climate change.

Source: Green Climate Fund. (n.d.). About GCF. Retrieved June 25, 2020, from https://www.greenclimate.fund/about

Some stated that "(1a)more developed countries should (2)help (1b)less developed countries to (3)alleviate global warming". Do you agree with this statement? Explain your answer with reference to **Source A** and your own knowledge.

(Hint: Pay attention to the key questioning words in the question, and highlight the corresponding parts in your answer (i.e. elaboration) in different colours. It serves the function of self-checking.)

Introduction:

To a (large / small)* extent, I agree with the statement.

I would elaborate on my arguments from the perspectives of (

).

* Delete the incorrect option

1st argument:

From the perspective of ( ) ,

(According to [ ] / For example)* ,

This reflects that

* Delete the incorrect option

2nd argument:

From the perspective of ( ) ,

(According to [ ] / For example)* ,

This reflects that

* Delete the incorrect option

3rd argument:

From the perspective of ( ) ,

(According to [ ] / For example)* ,

This reflects that

* Delete the incorrect option

-- End of Appendix --

Appendix 1: Pre-lesson task

Questions:

1. What are the types of natural disasters shown in the above sources?

   i. Hurricane ii. Flooding iii. Wildfire

2. What are the possible impacts these natural disasters may cause?

   Residents forced to leave home / Great burden on economic recovery / etc.

3. Do you think we could prevent these natural disasters from happening in the future? Why?

   It depends. Yes as some natural disasters were caused by human behaviours. E.g. dumping of cigarettes would cause wildfire, burning of fossil fuels would accelerate global warming and result in more frequent and intense typhoons, etc.

Appendix 2:

1. According to Source A1, what is the trend of the annual mean temperature in India from 1901 to 2013?

   The annual mean temperature in India was increasing from 1901 to 2013. According to Source A1, 0.677 indicates a positive correlation between the annual mean temperature and the time series, which reflects that India became hotter in this period of time.

2. According to Source A1, what is the trend of the major natural disaster occurrence in India from 1901 to 2013?

   The occurrence of major natural disasters in India was increasing from 1901 to 2013. According to Source A1, 0.277 – 0.722 indicate a positive correlation between natural disasters (e.g. drought, flooding, etc.) and the time series, which reflects that there were more natural disasters in this period of time.

3. According to Source A2, what is the relationship between the temperature and major natural disaster occurrence in India?

   The temperature in India is positively correlated with the occurrence of major natural disasters there. According to Source A2, 0.291 – 0.611 reflect that the weather in India got warmer and there were more major natural disasters occurred.

SOURCE B:

On 1 May 2016, a wildfire began southwest of Fort McMurray, Alberta, Canada, and then swept through the community. / More than 80 000 people were evacuated from their homes. / The fire burned the forested area, and halted the oil sands production at facilities of Fort McMurray.

Professor Mike Flannigan from The University of Alberta pointed out that the human-caused climate change may have turned this fire into unfolding tragedy. / Polluted ozone layer as well as occurrence of lightning may cause more frequent and intense wildfires./ In addition, the extremely high temperature, very low humidity and low precipitation have extended the forest fire season in recent years./ The wildfires have caused irreversible permafrost thaw, which is crucial for carbon retention. More methane released exacerbates the climate change. With such a vicious cycle, the greenhouse effect may worsen and run out of control.

Highlight the impacts caused by climate change in green.

Highlight the reasons for climate change in yellow.

4. **Source B** states that "the greenhouse effect may worsen and run out of control". Explain this statement with reference to **Source B**.

Source B mentioned that climate change causes polluted ozone layer and lightning, which intensify the occurrence of wildfires. Also, extremely hot and dry weather extends the fire season. Worse still, the occurrence of wildfire results in the melting of permafrost and release of methane, which in turn worsens the problem of climate change. Therefore, the greenhouse effect is a vicious cycle.

SOURCE C:

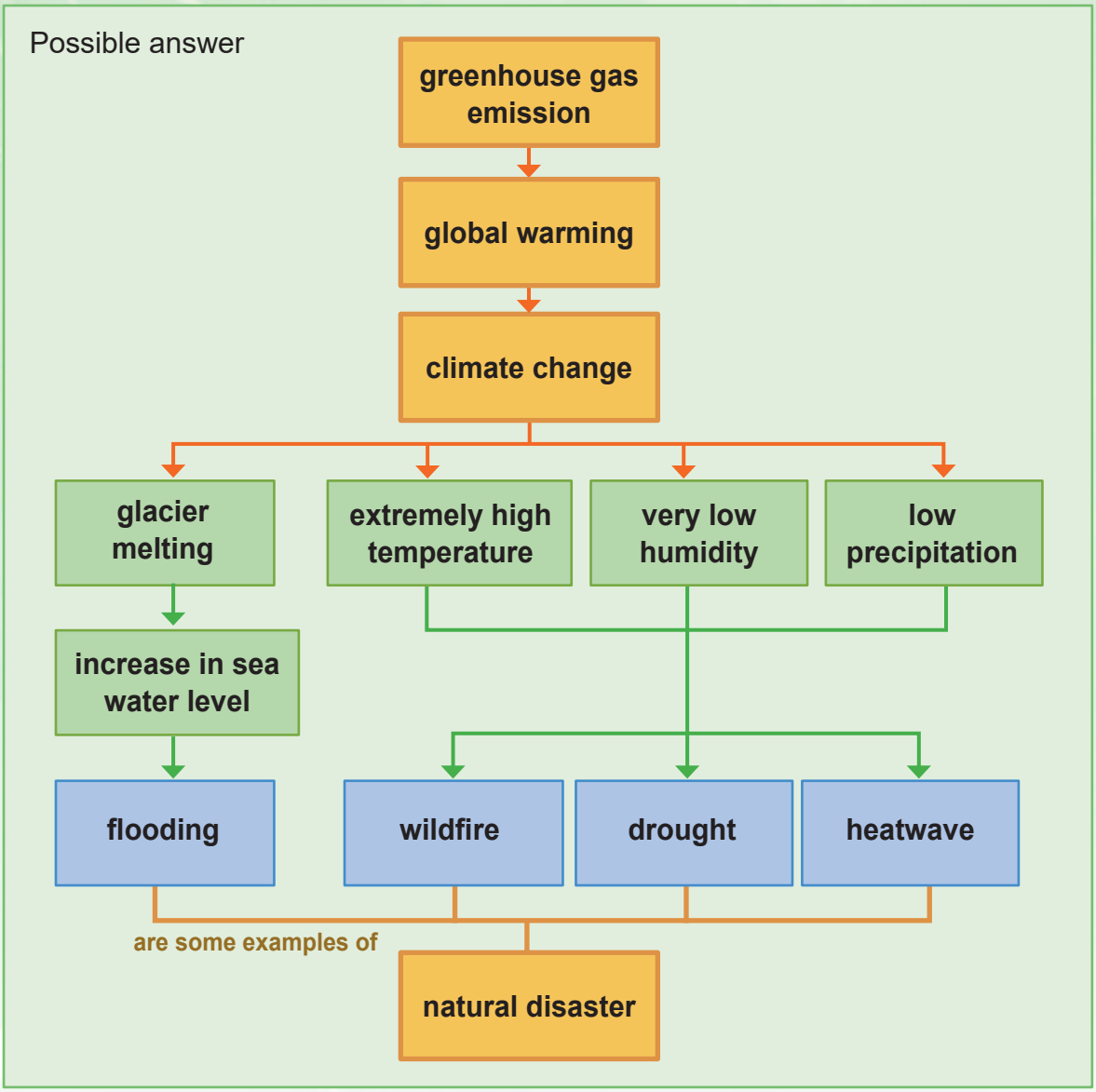
As mankind has produced increasing amounts of carbon dioxide and other greenhouse gases that may remain in the atmosphere for decades or even hundreds of years, we can expect to face a warmer climate. / Global warming may melt glaciers and ice blocks, elevate global sea level, bleach coral reefs, and increase the frequency and intensity of typhoons.

5. How does climate change cause more occurrence of natural disasters? Explain your answer with an example of natural disaster **other than the one stated in Source B**.

(Possible answer) As climate change intensifies, warmer sea water increases the sea water level. Coastal and low-lying areas are likely to be flooded, which would exert disastrous impacts on residents' living and the regional economy.

Round-up: Concept consolidation

Possible answer



Appendix 3:

According to the **animation**, how would an ordinary kid "evolve" in order to adapt to climate change?

The feature of climate change	The feature of a "fully enhanced Climate Kid"
1. Excessive rainfall and occurrence of flooding	Able to swim
2. Prolonged sunshine	Equipped with head canopy
3. Occasional occurrence of cyclones	Equipped with dust lashes and wind riders

(or other reasonable answer as shown in the animation)

Appendix 4:

SOURCE A:

In 2019, the decade ended with record **heatwaves** across the northern hemisphere, / while Australia fought some of its worst **wildfires** in decades, which **killed** at least 25 **people** and **destroyed** more than 2 000 **homes** in the state of New South Wales alone. / In fact, the Earth's average surface temperature has risen about 9°C since late 19th century. / The Intergovernmental Panel on Climate Change (IPCC) reported that the warming trend is caused by emission from human activities. / Climate change increases the **frequency** and **intensity** of **natural disasters** in Hong Kong and other countries/regions around the world. / The United States based non-governmental organisation (NGO) Climate Central estimated that 1.3 million Hongkongers could be hit by **flooding** every year in areas such as Tai Po, Sha Tin, and at the Hong Kong International Airport.

Summarise the key message reflected in **Source A**:

Climate change increases the frequency and intensity of natural disasters. People living in coastal cities and low-lying areas are vulnerable to the flooding problem.

SOURCE B:

In 2015, a **heatwave killed** nearly 2 500 people in India, when the temperature reached highs of 48°C. / The worst-hit region was Andhra Pradesh in the south east. / Scientists sounded the alarm about climate change that it may become an annual occurrence in India and Pakistan.

Summarise the key message reflected in **Source B**:

The scorching weather may lead to tropical diseases such as dengue fever and heatwave. It may exert great burden on the public medical system.

1. What are the impacts that global warming may bring about besides the occurrence of natural disasters?

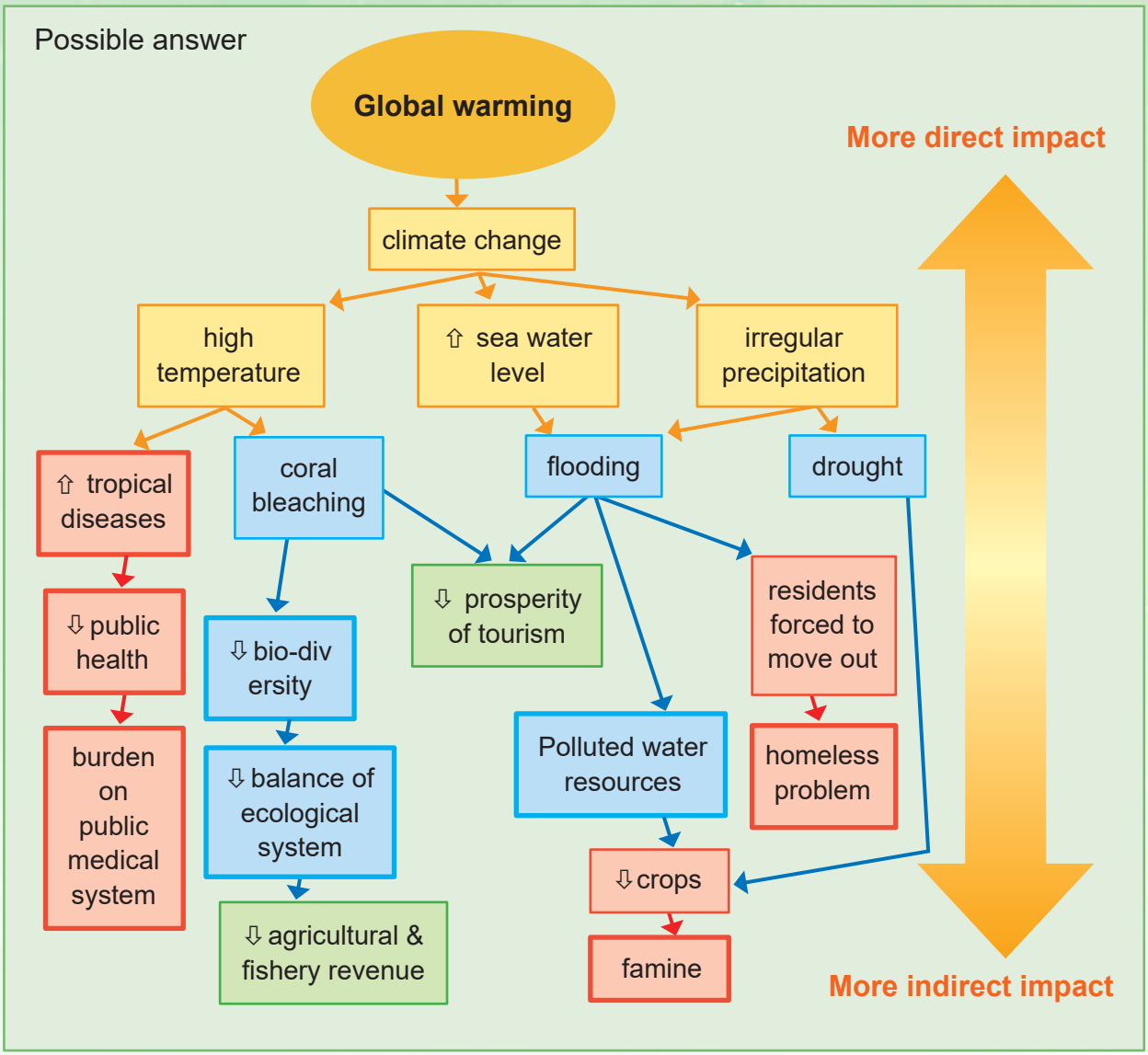
Impact	Elaboration	Citation of source
< Economic > **Hindered economic development**	Global warming causes shifted rainfall patterns	Source A or Source B
	➔ increased frequency and intensity of natural disasters	
	➔ e.g. heatwaves, wildfires, flooding	
	➔ causes loss of human lives and properties or financial burden on public medical system	
	➔ harms national economy	
<Environmental> **Polluted water resources**	Global warming causes warmer temperature increases sea water level	Source A
	➔ flooding in coastal cities and low-lying areas	
	➔ pollutes freshwater resources and destroys crops	
	➔ also, warmer ocean temperature	
	➔ enables growth of microorganism and bacteria	

2. Which countries suffer the most from the natural disasters? Why?

LDCs, in particular island countries suffer the most. These countries are geographically vulnerable to climate change and the subsequent consequences, e.g. flooding. Also, they are financially not able to recover from natural disasters or to counter global warming.

Round-up: Concept consolidation

Possible answer



Appendix 5:

1. Interpret the message of the comic in **Source A**.

Feature shown in the comic	Implication
The Earth has a fever and looks ill.	The problem of global warming is intensifying.
The exhaust gas from the factories and power generation stations makes the Earth ill.	One of the major causes for global warming is people's heavy reliance on using fossil fuels
Therefore, the overall message of the comic is: The global warming problem is intensifying, which is caused by people's heavy reliance on using fossil fuels.	

Appendix 6:

SOURCE A:

Under the **Industrial Revolution** and **technological advances**, people have been **heavily relying on using fossil fuels** to produce energy. / Various **economic** and **industrial activities** aggravate greenhouse gas emission, resulting in more intensified greenhouse effect, and hence climate change.

Summarise the key message reflected in **Source A**: *

☑ Increasing CO_2 emission in emerging countries originates from their accelerating industrial production.

☑ Increasing global CO_2 emission is attributed to the better quality of life worldwide.

1. Based on Source A and your own knowledge, what are the reasons for global warming?

Reason	Elaboration	Citation of source
< Social > **Development of urbanisation**	Countries, especially LDCs, underwent urbanisation	/
	➔ more economic activities and consuming lifestyle	
	➔ increases CO_2 emission from electricity production	
	➔ also, deforestation for construction of buildings	
	➔ reduces absorption of CO_2	
	➔ aggravates the problem of global warming	
< Economic > **Industrial production**	All relying on fossil fuels since Industrial Revolution	Source A
	➔ LDCs benefit from coal-mining at low cost	
	➔ high CO_2 emission from mass production	
	➔ shifting production lines means emission from LDCs	
	➔ increases emission of CO_2	
	➔ aggravates the problem of global warming	

Round-up: Concept consolidation

With reference to the sources provided in Appendix 6 and your own knowledge, what can governments do to alleviate the problem of global warming?

(1) For the Reason	(2) Suggestion	Effectiveness
(1) For development of urbanisation	(2) Government can enhance the transportation infrastructure	(3) Develops intelligent transportation system
		➔ provides real-time information of traffic
		➔ (4) people may change to use other routes
		➔ CO_2 emission from idling vehicles during congestion could be reduced
(1) For industrial production	(2) Government can reward factories which adopt clean energy	(3) Allocates public expenditure for rewarding "green" factories
		➔ financial incentive reduces operational cost
		➔ (4) encourages use of clean energy
		➔ CO_2 emission during industrial activities could be reduced

Appendix 7:

What can governments do to alleviate the problem of global warming? Explain your answer with reference to the sources provided in Appendix 6.

2nd suggestion:

Based on a reason, give a suggestion	For development of urbanisation, government can enhance the transportation infrastructure.
Briefly explain the reason	Under urbanisation, deforestation for construction of infrastructure reduces CO_2 absorption. Greater population increases the travel demand, and CO_2 emission from vehicles.
Explain the suggestion in details	I suggest that government should develops intelligent transportation system for smooth traffic flow.
Explain the effectiveness of the suggestion	With this method, drivers are provided with real-time information of traffic flow, and may shift to use other less congested routes. CO_2 emission from idling vehicles during congestion could be reduced..

Appendix 8:

Questions:

1. In terms of individual countries, what are the features of annual carbon dioxide emission from 1996 to 2016?

The annual carbon dioxide emission of China increased the most from 1996 to 2016. It increased from 3460.26 million tonnes in 1996 to 10150.82 million tonnes in 2016. Its emission has exceeded that of The United States, which ranked the first, since 2006.

2. In terms of the countries' level of development, what are the features of annual carbon dioxide emission from 1996 to 2016?

The annual CO_2 emission of MDCs was decreasing, while that of LDCs was increasing. As a MDC, the annual CO_2 emission of the US decreased by 5.76%. As an LDC, the annual CO_2 emission of China increased by 193%. Besides, LDCs emitted more CO_2 than MDCs in 2016. From Source A1, LDCs (i.e. China, India and Russia) emitted 14216.33 million tonnes of CO_2, which were more than MDCs (i.e. the US, Japan and Germany) did (7322.36 million tonnes) in 2016.

3. Do you think there is any relationship between the carbon dioxide emission and the level of development of a country?

Yes. In the past, CO_2 emission was positively correlated with the level of development of a country. That is, MDCs emitted more CO_2 than LDCs. Nowadays, CO_2 emission was negatively correlated with the level of development of a country. That is, LDCs emitted increasingly more than MDCs.

Appendix 9:

Questions:

[**Point-to-note for teachers**: For Questions 1 to 3, teacher may consider checking students' understanding of identifying features of MDCs/LDCs orally, with reference to students' learning progress.]

1. In terms of individual countries, what are the features of annual carbon dioxide emission per capita from 1996 to 2016?

The US remained as the largest CO_2 emitter, and its annual CO_2 emission per capita decreased the most from 1996 to 2016. It decreased from 20.97 tonnes in 1996 to 16.44 tonnes in 2016, by 21.6%. Besides, the annual CO_2 emission per capita of China increased the most. It increased from 2.77 tonnes to 7.36 tonnes, by 166%.

2. In terms of the countries' level of development, what are the features of annual carbon dioxide emission per capita from 1996 to 2016?

MDCs emitted constantly more CO_2 per capita than LDCs in general. From Source A2, MDCs (i.e. the US, Japan and Germany) emitted 35.66 – 42.66 tonnes of CO_2 per capita, which were more than LDCs (i.e. China, India and Russia) (14.35 – 20.53 tonnes). Besides, CO_2 emission per capita of LDCs was increasing, while that of MDCs was decreasing. As an LDC, annual CO_2 emission per capita of China increased by 182%. As a MDC, that of the US decreased by 21.6%.

3. Do you think there is any relationship between the carbon dioxide emission per capita and the level of development of a country?

Yes. CO_2 emission per capita was positively correlated with the level of development of a country. That is, MDCs emitted more CO_2 per capita than LDCs. And there was a trend that CO_2 emission per capita of LDCs was increasing, while that of MDCs was decreasing.

4. Summarise the key message reflected in **Sources A1 and A2**: *

- From Source A1, China has to bear greater responsibility of CO_2 emission reduction regarding the annual CO_2 emission in recent years. And, China has to bear greater responsibility of CO_2 emission reduction regarding the increase rate of the annual CO_2 emission in recent years.
- From Source A2, The US has to bear greater responsibility of CO_2 emission reduction regarding the annual CO_2 emission per capita in recent years. And, China has to bear greater responsibility of CO_2 emission reduction regarding the increase rate of the annual CO_2 emission per capita in recent years.
- Therefore, the responsibility issue of CO_2 emission reduction is controversial.

5. What do you think are the factors affecting the role of different countries tackling the global warming problem?

Factors affecting the role of countries (i.e. the common ground for comparison)

Calculation of carbon emission / Source of carbon emission / Financial capability

6. From Source A1 [Appendix 8] and Source A2 [Appendix 9], which countries, MDCs or LDCs, do you think have the greater responsibility of reducing carbon dioxide emission? Why?

(possible answer) In terms of historical responsibility, MDCs have greater responsibility of reducing CO_2 emission than LDCs. According to Source B, “under the Industrial Revolution and technological advances, heavy reliance on the use of fossil fuels for economic activities results in high greenhouse gas emission”. This reflects that there have been great amount of CO_2 emitted from mass production in MDCs since Industrial Revolution.

Appendix 10:

SOURCE A:

Burning of **fossil fuels** is one of the major sources of greenhouse gas emission. / However, the **high cost** of developing **clean energy**, such as nuclear energy and wind power, makes it infeasible for LDCs. / The **Green Climate Fund** (GCF) was established by the United Nations Framework Convention on Climate Change (UNFCCC) in 2010, with the goal of keeping average global temperature rise well below 2°C. / It is the world's largest dedicated fund, which mobilises financial resources of MDC governments and private sectors in order to **assist LDCs** in **adaptation** and **mitigation** practices to counter climate change.

Some stated that "(1a)more developed countries should (2)help (1b)less developed countries to (3)alleviate global warming". Do you agree with this statement? Explain your answer with reference to **Source A** and your own knowledge.

Introduction:

To a large extent, I agree with the statement. I would elaborate on my arguments from the perspectives of financial capability, historical responsibility and source of CO_2 emission.

1st argument:

From the perspective of financial capability, MDCs should provide LDCs with funds for developing clean energy at lower cost. According to Source A, "The high cost of developing clean energy, such as nuclear energy and wind power, makes it infeasible for LDCs." This reflects that (1a)**MDCs are more financially capable**, and can (2)**provide LDCs with green climate fund** so that (1b)**LDCs can afford** to (2)**install advanced power generators and other energy-saving equipment**, and (1b)**have less financial burden of heavy initial costs.** (3)**LDCs would be able to use clean energy and reduce carbon emission from power generation**.

2nd argument:

From the perspective of historical responsibility, MDCs should help LDCs to counter global warming for the cumulative CO_2 emission they caused. For example, under the Industrial Revolution and technological advances, heavy reliance on the use of fossil fuels for economic activities results in high greenhouse gas emission. This reflects that (1a)there have been great amount of CO_2 emitted from mass production in MDCs since Industrial Revolution. Thus, the severe condition of the global warming problem nowadays originates from MDCs, (1b)rather than LDCs. So that (2)MDCs are expected to shoulder more responsibility to offer LDCs capital or technology (3)to counter the problem more effectively.

3rd argument:

From the perspective of source of CO_2 emission, MDCs should help LDCs to counter global warming for them being the source of CO_2 emission. For example, under globalisation, Apple Company outsources the production and assembly processes of iPhones to mainland China and other LDCs. This reflects that (1a, b)the CO_2 emitted during production process was transferred from the US to China and other LDCs. (2)MDCs are expected to offer LDCs capital or technology to alleviate global warming (3)in order to compensate for their action of shifting the production and emission outside their countries. Overall amount of CO_2 emission could probably be limited.

Senior Secondary Liberal Studies
Learning and Teaching Exemplar
for NCS students (8)

Light Pollution in Hong Kong

Light Pollution in Hong Kong

A. Basic information of the lessons

Topic Light Pollution in Hong Kong

Relevant modules, themes and issues for enquiry

Leading Module 2: Hong Kong Today

Theme 1: Quality of Life

- What are the different opinions of Hong Kong residents on the priorities which constitute the quality of life?
- Which aspects of the quality of life are seen to be more important? Which are seen to be immediate needs? Who might make the decisions? Why?

Related Module 6: Energy Technology and the Environment

Theme 2: Environment and sustainable development

- How do the living styles of people and social development affect the environment and the use of energy?

Overall design rationale

The lessons start from understanding the definition, phenomenon and possible impacts of light pollution in Hong Kong **(Appendix 1)**. Then teachers can introduce the Charter on External Lighting implemented debuted in 2015, the Hong Kong government's responses to public's concerns towards light pollution in Hong Kong. **(Appendix 2)**. In this part, students are expected to identify the scope, mechanism, benefits and drawbacks of the charter.

To understand the possible barriers to achieving consensus among major stakeholders on the issue of regulating external lighting in Hong Kong, students have to first work in groups to identify the differences in the expectations and concerns among different stakeholders towards regulation of external lighting in Hong Kong **(Appendix 3)**. Students are required to watch 3 parts of the video "Light Pollution" and answer questions 1-2 (P.17 – 20). Students are required to adopt the analytical framework (P.15) to complete the questions in their discussion.

To consolidate the common barriers to achieve consensus among different stakeholders that they have learnt in the lessons, students are required to complete a post-discussion summary after the class (**Appendix 3**, P.21).

Time required

4 lessons (40 minutes per lesson), approximately 160 minutes in total

Learning objectives

Knowledge:

- To understand the concepts related to light pollution and the interrelationship between human activities and the natural environment.
- To understand the current situation of light pollution in Hong Kong.
- To understand how the Hong Kong Government responds to the issue of light pollution and the policies it uses to tackle it.
- To understand the concerns of major stakeholders in light pollution and the possible barriers to achieve consensus among different stakeholders on regulating light pollution in Hong Kong.

Skills:

- To collect and summarise information from different sources.
- To express ideas in speaking and writing.
- To interpret data from different perspectives.
- To respond immediately to queries.

Values and attitudes:

- To care for and protect the natural environment, and to make insightful, reasonable and practical decisions about environmental protection.
- To consider personal and social issues from multiple perspectives and make sound judgments with reasoning and creativity.
- To foster positive attitude towards balancing different views and comprehensive consideration.
- To understand the importance of civic society in alleviating environmental problems led by commercial activities in Hong Kong.

Basic Concepts for application

Light pollution, LUX, the International Astronomical Union standard, type of external lighting installation, invasive light, melatonin, charter, legislation.

Relevant learning experience at junior secondary levels

- The role of individuals in environmental protection.
- The interdependence of living things and their environment.

Catering the learning needs of NCS students

- The arrangement of Jigsaw technique in group discussions aims to engage NCS students and allow them to learn from classmates with different strengths.
- The data file offers NCS students a variety of sources, from picture, video, data to cartoon to equip them with necessary skills in tackling different types of sources.
- The use of audio-visual learning materials may enhance the motivation of students in learning Liberal Studies.
- Guiding questions are set after each source in the data file. The questions guide the students to process the data and generalise the implication step by step. The questions could be used for lesson preparation or in-class discussion. Students would be able to build up knowledge with the support of simple sequential tasks.

B. Design of classroom learning and teaching

Lesson Learning and teaching strategies and flow

Before class

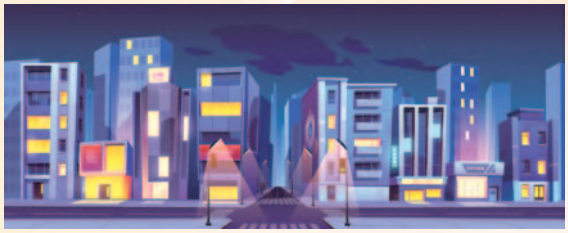
Lesson preparation

Ask students to study Sources A to C about the definition and impacts of light pollution and answer questions 1-3 on P.10 **(Appendix 1)**.

1&2

Lead in (around 10 minutes)

- Go over the pre-lesson preparation worksheet **(Appendix 1)** with students. The focus will be on the definition and impacts of light pollution.
- Remind students that there are various types of external lighting installation in Hong Kong, and public complaints against them have been increasing during 2014-2016 in general.



Individual task/ Pair-work (around 15 minutes)

- Show a short video about light pollution[1] to introduce the causes leading to light pollution in Hong Kong. If it fits students' learning progress, ask students to derive the factors from the causes identified in the video (**Appendix 1**, P.10).

Round up (around 5 minutes)

- Teachers conclude the definition, impacts and factors of light pollution in Hong Kong and ask students to think about the possible solutions to solve the problem.

[1] Source: RTHK (2013). Light Pollution.
Retrieved from http://podcast.rthk.hk/podcast/item_epi.php?pid=280&lang=en-US&id=36608

Group Discussion Activity (around 50 minutes)

Part A (around 10 minutes)

- Divide students into pairs and distribute worksheets for group discussion **(Appendix 2)**. Ask students to answer questions 1-2 (P.12) with reference to Source A.
- Students present the discussion results (the number of presentation groups may vary depending on the lesson time).
- After students' presentation, conclude that business who take part in the voluntary Charter on External Lighting have to switch off external rooftop signs and non-statics lights used for decoration, promotion or advertising.

Part B (around 15 minutes)

- Prompt students to discuss the possible benefits and drawbacks for a business owner to sign Charter on External Lighting (Questions 3 on P.13, **Appendix 2**).
- Students present the discussion results (the number of presentation groups may vary depending on the lesson time).
- Summarise the possible benefits and drawbacks for business owner to sign Charter on External Lighting and not to join the Charter on External Lighting respectively..

Part C (around 15 minutes)

- Prompt students to identify the factors considered by different groups when they are analysing the benefits and drawbacks of joining the Charter on External Lighting as a business owner. Prompt students to predict the possible challenge for the government to put forward a Charter on External Lighting to cope with light pollution in Hong Kong (Questions 4 & 5 on P.14, **Appendix 2**).
- Students present the discussion results (the number of presentation groups may vary depending on the lesson time).
- Summarise the factors affecting the considerations of business owners and the possible challenges for the government to put forward the Charter on External Lighting.

Summary (around 10 minutes)

- Teachers conclude the challenges that the government may face when putting forward the charter and ask students to reflect the considerations behind.

3&4

Lead-in by questioning (around 10 minutes)

- Ask students *if they come up with a reason* to explain why the government chose to adopt a voluntary Charter on External Lighting if they can foresee the challenges in asking companies to join it on a voluntary basis.
- Teachers introduce the topic for discussion "What are the barriers to achieving consensus among major stakeholders on the issue of regulating external lighting in Hong Kong?", the analytical framework and common barriers for stakeholders to reach consensus on an issue. Students have to identify the possible barriers to achieving consensus among major stakeholders on the issue of regulating external lighting in Hong Kong and the possible reasons leading to it with reference to the analytical framework and criteria provided (**Appendix 3**, P.13).

Students watching video, followed by teacher elaboration (around 20 minutes)

Part A (around 7 minutes)

- Teachers play Part 1 of the video (Source A) and ask students to complete question 1(a) (**Appendix 3**, P.14). Teachers should check the answers of question 1(a) with students immediately and ask students to identify the differences between about the government and other NGOs towards the seriousness of light pollution in Hong Kong.

Part B (around 13 minutes)

- Teachers then ask students to complete question 1(b) by identifying the first possible "barrier" for major stakeholders to reach consensus on the "need of regulation of external light pollution" (**Appendix 3**, P.14).

Group discussion and presentation, and teachers summary (around 40 minutes)

Part A (around 20 minutes)

- Teachers play Parts 2 and 3 of the video (Source A) and divide students into four groups (in the case of a large number of students, make arrangements based on actual circumstances) with each group responsible for working on identifying **one stakeholder, their stance, considerations and concerns** in question 2(a) and 2(b) (**Appendix 3**, P.15).
- Teachers check the answers of 2(a) and 2(b) with students and guide students to complete 2(c) by identifying one the pair of stakeholders who may be in conflict on the issue of regulating external lighting through legislation, by identifying stakeholders with different stances, or with same stance but with different concerns or priorities (**Appendix 3**, P.16). For other possible pairs of stakeholders who may be in conflict, teachers may refer to P.22-23 for the reference answers.
- Students present the results of discussion (the number of presentation groups may vary depending on the lesson time).

Part B (around 20 minutes)

- Summarize 2 to 3 pairs of stakeholders from students' presentation and ask students to complete 2(d) by identifying two out of three possible barriers for major stakeholders to reach consensus on the "need of regulation of external light pollution" (**Appendix 3**, P.20).
- Students report their conclusion about the barriers for major stakeholders to reach consensus on the "need of regulation of external light pollution" (**Appendix 3**, P.20). Teachers may help students to clarify and elaborate their answers (i.e. barriers, reasons and evidence) with reference to the sources. Emphasis should be put on whether the barriers they identified are really difficult to be solved and the reasons behind.

Feedback on the discussion results (around 10 minutes)

- Summarise all types of possible barriers for major stakeholders to reach consensus on an issue in general in question 3 (**Appendix 3**, P.21).

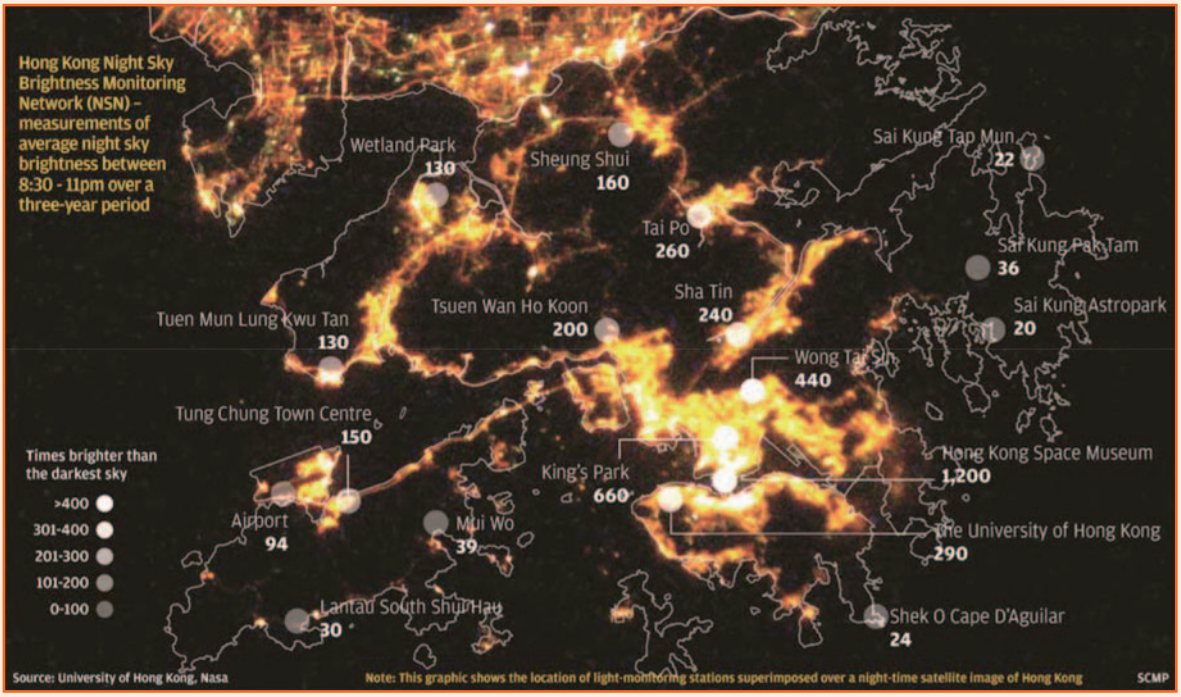
Appendix 1: Light Pollution in Hong Kong

Read the following sources carefully and answer questions 1-3.

SOURCE A Light pollution in Hong Kong

- Light pollution is artificial light to shine outward and upward into the sky, where it's not wanted, instead of focusing it downward. It is largely the result of bad lighting design.
- Hong Kong is believed to be the world's worst city for light pollution. In the world's largest light pollution study, with levels in Tsim Sha Tsui (from 8.30pm to 11pm) 1,200 times higher than the International Astronomical Union standard. There is nowhere else on earth as badly affected.

  While the Astropark stargazing facility near High Island Reservoir – where most would expect a natural dark sky – has a reading of 20 times the standard, that at the Wetland Park in Tin Shui Wai is even more alarming, at 130 times the standard.



Source: SCMP. (2013, March 20). Light pollution in HK 'worst on the planet'. Retrieved from https://www.scmp.com/news/hong-kong/article/1194996/light-pollution-hong-kong-worst-planet

SOURCE B Complaints by type of external lighting installation in Hong Kong *

Type of External Lighting		Year		
		2014	2015	2016
Lighting for shops and signboards		105	119	124
Lighting installations for buildings	Facades and features	29	16	54
	Others (e.g. rooftops, podiums, passageways)	15	6	18
Video walls		12	28	38
Lighting for construction sites (some of the installations are related to illuminated signboards)		19	23	34
Lighting for sports fields and playgrounds		2	3	7
Others (such as street lighting and lighting for schools, car parks, swimming pools, race courses, golf ranges and cargo handling areas)		47	61	62
Total		229	256	337

* received by the Environmental Protection Department

Source: Environmental Protection Department, HKSAR Government. (2017). Breakdown of complaints by type of external lighting installation received by the Environmental Protection Department. Retrieved from https://gia.info.gov.hk/general/201707/05/P2017070500421_262575_1_1499240846824.pdf

SOURCE C Impact of light pollution

Researchers found excessive brightness of varying degrees that scientists said could damage health and wildlife because ill-designed lighting washes out the darkness of night and radically alters the light levels—and light rhythms—to which many forms of life, including ourselves, have adapted. Wherever human light spills into the natural world, some aspect of life—migration, reproduction, feeding—is affected.

Health specialists say light pollution could disrupt the biological clock and affect brain and hormone function. Hong Kong Entomological Society chairman Yiu Vor said he feared the brightness would affect the breeding of fireflies, including the endemic bent-winged firefly, which relied on light signals to mate. "They might not be able to notice the signals in a bright environment or they simply release the signal less frequently. This would affect their continuing survival." Yiu said insects that relied on moonlight to navigate could also be affected.

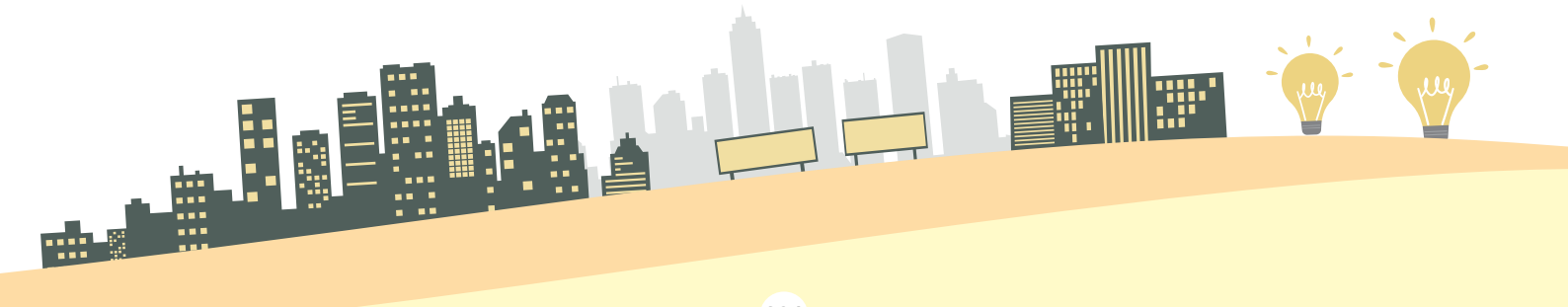
Source: SCMP. (2013, March 20). Light pollution in HK 'worst on the planet'. Retrieved from https://www.scmp.com/news/hong-kong/article/1194996/light-pollution-hong-kong-worst-planet

SOURCE D

Video: **"Light Pollution"**, Hong Kong Connection by RTHK
Date: 12 December 2013
Duration: **watch from 5:00 - 8:15**
Language: English voice-over accompanied by English subtitles
URL: http://podcast.rthk.hk/podcast/item_epi.php?pid=280&lang=en-US&id=36608

Vocabulary

1. Signs 標誌
2. Billboards 廣告牌
3. Distraught 極煩惱
4. Myopia 近視
5. Astigmatism 散光
6. Microcosm 縮影
7. Harassment 騷擾



1. From Sources A and B, **how serious** is light pollution in Hong Kong?
2. From Source D, what **causes** have led to light pollutions in Hong Kong? Derive the **factors** from each cause correspondingly after completing the causes.
3. From Sources C and D, what are the **impacts** of light pollutions in Hong Kong?

(1)

The situation of light pollution in Hong Kong (Sources A & B)
1. Light pollution in Hong Kong is _____ as it is believed to be the world's _____ city for light pollution, with levels in Tsim Sha Tsui _____ higher than the IAU standard. 2. Complaints to external lighting were _____ from 2014-2016, showing impacts of external lighting to nearby residents are becoming more _____ during the period.

(2)

Causes (Source D)	Factors
Hint: Design and brightness: ● Poor design of _____ ● _____	Design of External lighting
● _____ _____(6:04)	_____ _____
● The electricity bill spent on signage lights is _____ comparing to stores' profits(7:28)	_____ _____
● _____ (8:07)	_____ _____

Led to

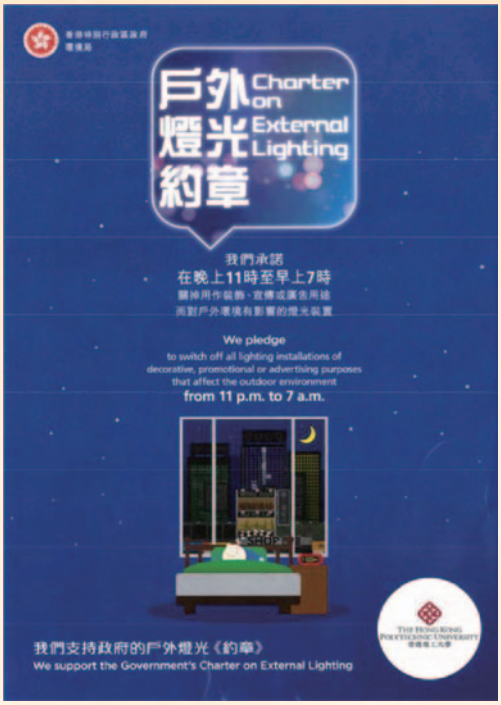
(3)

Aspect of Quality of life	Impacts	Examples (Sources C & D)
_____	_____ _____	● Affect the migration and reproduction of some aspects of life. (Source C)
Social	Affect public health of human beings	● Disrupt:_____ _____. (Source D)

Appendix 2: How did the Hong Kong government regulate external lighting in Hong Kong?

Read Source A carefully and answer questions 1-3.

SOURCE A the Charter on External Lighting



Source: The Hong Kong Polytechnic University. (2019). Charter on External Lighting takes effect and PolyU pledges its support. Retrieved from https://www.polyu.edu.hk/greencampus/en/green-tips/green-infokit/index.php?option=com_content&view=article&id=459&catid=24&Itemid=157

The Environment Bureau (ENB) launched the "Charter on External Lighting" (the "Charter") in 2016 to invite owners of and responsible persons for external lighting installations to switch off lighting installations of decorative, promotional or advertising purposes which affect the outdoor environment during the preset time (i.e. 11 p.m. or midnight to 7 a.m. on the following day).

Participants which comply with the switch-off requirement will receive the following awards:

(i) **Platinum Award:** switch off external lighting from 11 p.m. to 7 a.m. on the following day
(ii) **Gold Award:** switch off external lighting from midnight to 7 a.m. on the following day

Exempted external lighting installations

(i) Shop-front signs of shops on the ground floor which remain open at the preset time
(ii) Festive lightings
(iii) Lighting for security, safety and operational purposes (e.g. street lighting, lighting at airport and container port, construction sites, etc.)

Source: Environment Bureau, HKSAR Government. (2017). Charter on External Lighting. Retrieved from https://www.charteronexternallighting.gov.hk/en/introduction/introduction.html

Question:

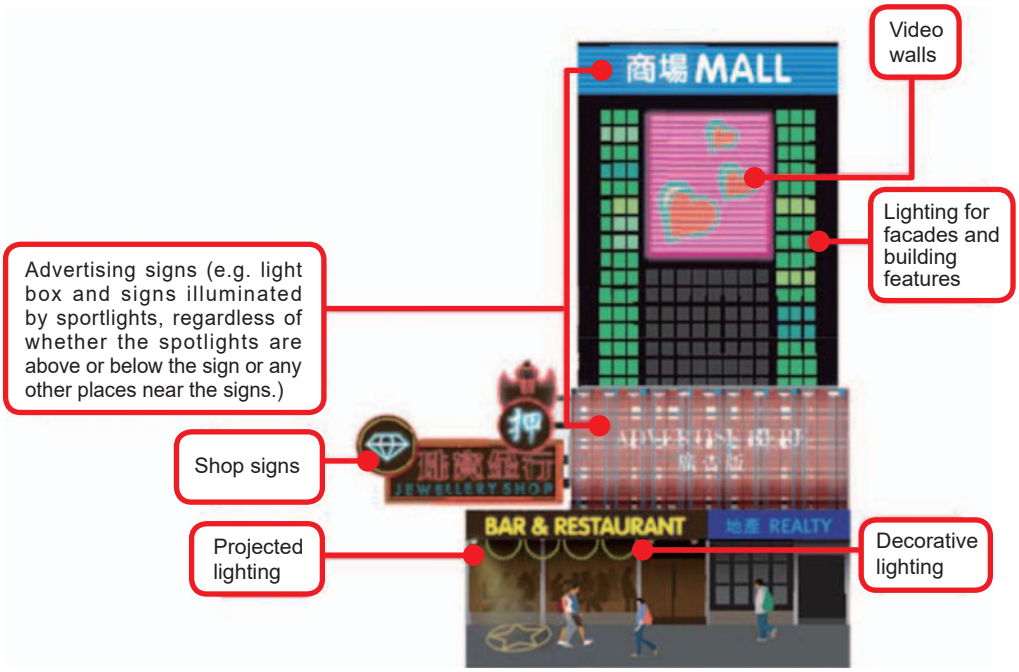
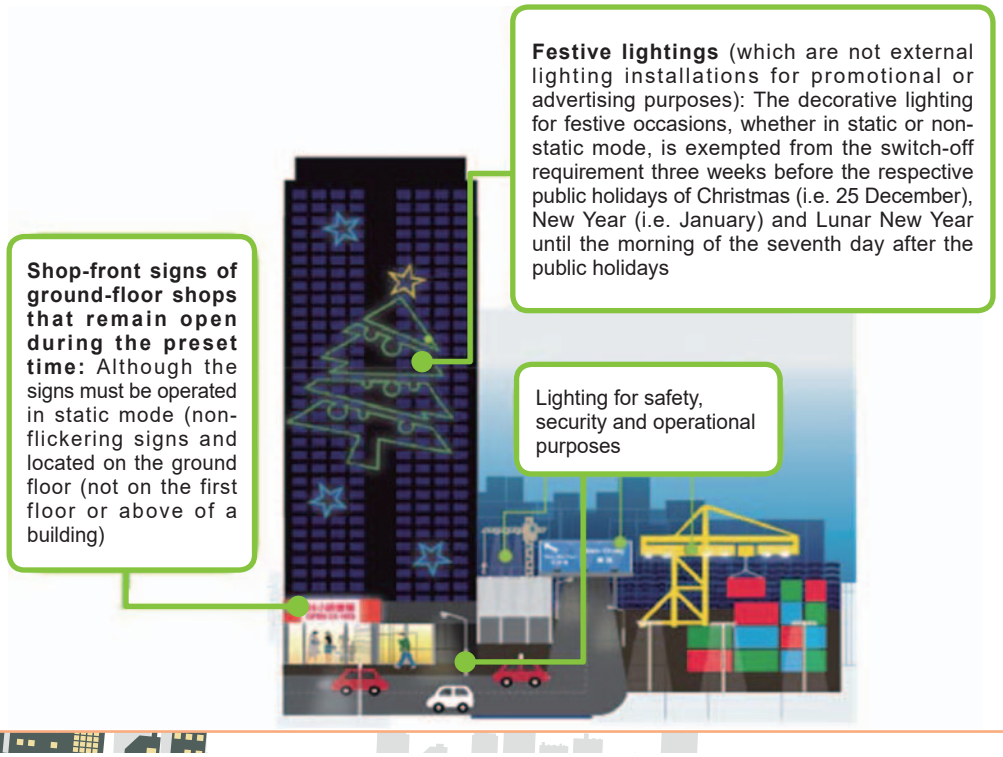
1. From Source A, what is the period of regulated hours, if participated, as stated in the Charter on External Lighting?

Basic

---

2. From Source A, what are the types of external lighting to be regulated according to the Charter on External Lighting? Circle the answer.

Advanced

Scope (Circle the correct type)	**Types of External Lighting** (Circle and label the type of lighting)
Regulated / Not regulated (exempted)	
Regulated / Not regulated (exempted)	

Source: Environment Bureau, HKSAR Government. (2017). Charter on External Lighting – FAQ. Retrieved from http://www.charteronexternallighting.gov.hk/en/faq/faq.html

3. If you were a business owner considering whether to sign the Charter on External Lighting (Source A),

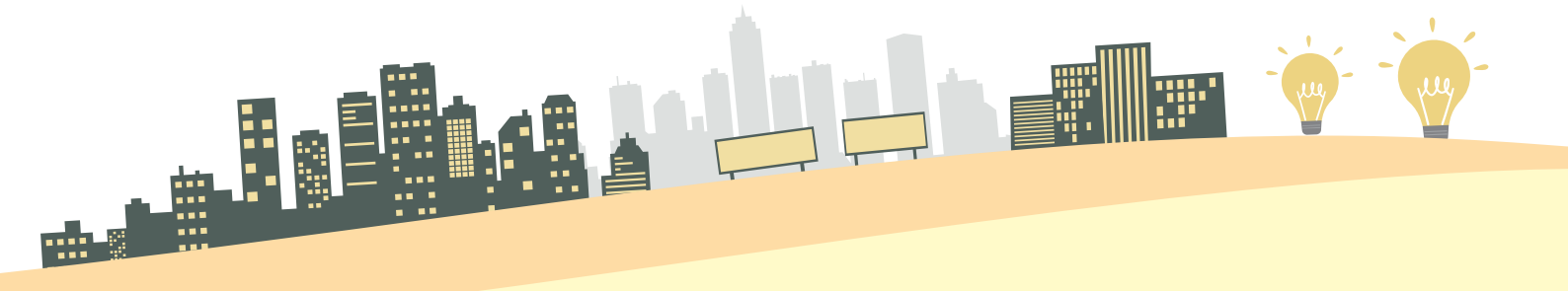
   (a) what are the benefits and drawbacks of joining and NOT joining the Charter respectively?

   (b) Will you join the Charter voluntarily? Why?

Advanced

Stance	Benefits	Drawbacks
JOINING the Charter	1. 2.	1.
NOT JOINING the Charter	1.	1.

Stance	My decision: I <u>will / will not</u> join the Charter.
Reason:	



4. From other groups' presentations, what do you think are the **possible factors** affecting business owners' decision in joining the Charter on External Lighting or not?

Advanced

Aspect	Possible Factors
Economic/ Social/ Political/ Environmental/ Cultural	1. _____ 2. _____ 3. _____

5. From the responses of other groups' presentations, do you think the Charter on External Lighting will be **effective** in addressing light pollution? Why?

Advanced

Stance	_____
Reason(s)	_____ _____ _____

Appendix 3:

What are the barriers to achieving consensus among major stakeholders on the issue of regulating external lighting in Hong Kong?

By adopting the following analytical framework, answer the questions 1 - 3.

Barriers to achieve consensus among major stakeholders

A failure in achieving consensus among major stakeholders often means "**conflicts** among major stakeholders". It usually comes from **differences** among stakeholders in "**understanding and expectation**" and "**details / technicality of a policy / ordinance**" set by the government.

Stakeholders' Opinions

affects stakeholders' acceptance (barriers in achieving consensus among stakeholders)

Understanding & Expectation (Who)

1. **Consensus among stakeholders**
2. **Citizens' Understanding & Expectation**

a) Awareness
b) Values, beliefs and culture
c) vested interests and concerns
d) Way of communication: between a regime and its citizens

3. Public Trust in Government

a) Government's Authority: the trust between a regime and its citizens

b) Government's Legitimacy: the method of formation of a regime

Details/ Technicality of a policy/ ordinance (What + How)

1. Clarity

of details of a policy/ ordinance (definition; mechanism; scope; penalty)

2. Impacts

of a policy/ ordinance on vested interests

a) Cost: How much they have to pay (financial natural and human resources)
b) Benefits: How they can be benefitted
c) Pace: when will they be affected (time allowed)
d) Convenience: Availability / maturity of ancillary facilities

3. Fairness

of an ordinance/ a policy

1. (a) From Source A (Part 1), identify the differences in **understanding** between non-government entities (medical field and private consultants) and the government on the **impacts** of external lighting.

Basic

Understanding of the government towards the impacts of external lighting	Understanding of non-government entities towards the impacts of external lighting
A medical research quoted in a consultation document of the Environment Bureau: External light entering homes is so _____, which is less than _____, that it is unlikely to curtail the secretion of melatonin.	**Other medical researches:** The presence of excessive light at night while a person is at rest may _____ melatonin, which is useful in _____ carcinogens.
The energy consumed by street lightings was just _____ of Hong Kong's total consumption, which may be useful to estimate that of all external lighting.	**Private consultants:** The signage lights on Chater Road and Des Voeux Road in Central consume nearly _____ watts of electricity per day, and that on Sai Yeung Choi Street South and Nathan Road in MongKok consumes _____ watts per day, equivalent to the _____ consumption per year in Hong Kong.

(b) From question 1(a), identify ***ONE barrier*** to engage different stakeholders to discuss the need of regulation of external lighting in Hong Kong.

Advanced

Why - What are the <u>possible stances/ views</u> of both stakeholders on the need of regulation of external lighting in Hong Kong? Do they share the same stance/ view? - What challenges may arise if their stances/ views are different?	_____ _____ (1) _____ _____ (2) _____ _____ _____ _____ _____ _____

2. (a) From Source A (Part 2 & 3), identify the **stance** and **considerations** of the major stakeholders in regulating external lighting in Hong Kong.

Basic

(b) From question (a), analyse the stakeholders' **concerns** on the necessity, way/ pace and cost of regulating external lighting in Hong Kong.

Advanced

(a) Stakeholders	(a) Stance	(a) Personal considerations	(b) Stakeholders' concerns on legislation
EXAMPLE **Local residents affected by light pollution** *Part 1 (11:50 - 13:28)*	For / Neutral/ Against	**Personal considerations:** - **Personal sleeping quality** - **Personal health of eyes**	**Stakeholders' concerns:** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting
_____ *Part 2 (9:08 - 9:59)*	For / Neutral/ Against	**Personal considerations:** - the _____ of regulation _____ _____ _____	**Stakeholders' concerns:** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting
_____ *Part 3 (16:04 - 16:08)*	For / Neutral/ Against	**Personal considerations:** _____ _____ *(Sustainability of businesses/ income of business)*	**Stakeholders' concerns:** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting
_____ *Part 3 (16:08 - 16:15)* & _____ *Part 3 (16:15 - 17:24)*	For / Neutral/ Against	**Personal considerations:** -Supported regulating light pollution, but doubted the _____ of _____ _____ are more important than their own due to cut-throat competition	**Stakeholders' concerns:** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting
_____ *Part 3 (17:24 - 18:00)*	For / Neutral/ Against	**Personal considerations:** -_____ -_____ -_____	**Stakeholders' concerns:** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting

(c) From 2(a) and 2(b), identify one pair of stakeholders who may be in conflict on the issue of regulating external lighting through legislation. Analyse the point and reason(s) of conflict behind.

Advanced

Stakeholder A		Point of Conflict		Stakeholhder B
STEP (1a) - Stakeholder A _____ _____ support / oppose ↑ led to **STEP (1b) – Concern (and value) of Stakeholder A** _____ _____	→ led to	**STEP (2a) Point of Conflict (Aspect & Issue):** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting **STEP (2b) Reason of Conflict:** (1) Conflict of interests ; (2) Conflict of views due to incompatible values; (3) Differences in understanding/ expectation. *While A believes* _____ _____ *B believes that* _____ _____	← led to	**STEP (1a) - Stakeholder B** _____ _____ support / oppose ↑ led to **STEP (1b) – Concern (and value) of Stakeholder B** _____ _____

(d) With reference to 2(a) - (c), identify **THREE possible barriers** to achieving consensus among major stakeholders on the issue of regulating external lighting in Hong Kong.

Advanced

Hints:

"Who + When + What" should be involved in regulating the external lighting in Hong Kong

Who - Did any of the stakeholders oppose regulations on external lighting in the consultation? Why? - What does that mean to the government?	
When - How long did it take the government to suggest the regulation proposed by its consultation on the regulation on external lighting? Do you think it is long? Why?	
What - What the methods of regulating external lighting difficulties were once considered? - Why were they dismissed?	

3. From questions 1 and 2, what are the barriers to achieving consensus among major stakeholders in general?

Types of Barriers	Possible causes leading to the barrier
Initiation: _____ _____ due to: different understanding/ expectation towards a policy/ an ordinance among them	● the necessity of regulation [WHY] ● the pace/ urgency of regulation [WHEN]
Process: _____ _____ _____ _____ due to: the differences in the _____ of a policy/ an ordinance on them.	● the way/ mechanism of regulation [HOW] ● the scope (e.g. targets and time) of regulation [WHO + WHERE] ● Cost of a solution to be shared [HOW MUCH]
Conclusion: Difficult to reach a consensus on the _____ _____ due to: the limitation of a policy/ ordinance in meeting _____ _____	

Reference answers for 2(c) of Appendix 3

2.(c) Other possible pairs of stakeholders who may be in conflict on the issue of regulating external lighting through legislation. Analyse the point and reason(s) of conflict behind.

Advanced

Stakeholder A		Point of Conflict		Stakeholder B
STEP (1a) - Stakeholder A _____ _____ support / oppose ↑ led to **STEP (1b) – Concern (and value) of Stakeholder A** _____ _____	→ led to	**STEP (2a) Point of Conflict (Aspect & Issue):** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting **STEP (2b) Reason of Conflict:** (1) Conflict of interests ; (2) Conflict of views due to incompatible values; (3) Differences in understanding/ expectation. *While A believes that* _____ _____ *B believes that* _____ _____	← led to	**STEP (1a) - Stakeholder B** _____ _____ support / oppose ↑ led to **STEP (1b) – Concern (and value) of Stakeholder B** _____ _____
STEP (1a) - Stakeholder A _____ _____ support / oppose ↑ led to	led to	**STEP (2a) Point of Conflict (Aspect & Issue):** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting	led to	**STEP (1a) - Stakeholder B** _____ _____ support / oppose ↑ led to
Stakeholder A		**Point of Conflict**		**Stakeholder B**
STEP (1b) - Concern (and value) of Stakeholder A		**STEP (2b) Reason of Conflict:** (1) Conflict of interests ; (2) Conflict of views due to incompatible values; (3) Differences in understanding/ expectation. *While A prefers* _____ _____ *B prefers to* _____ _____		**STEP (1b) – Concern (and value) of Stakeholder B**

-- End of Appendix --

Guidelines for Teachers

(P.232)

1. From Sources A and B, **how serious** is light pollution in Hong Kong?
2. From Source D, what **causes** have led to light pollutions in Hong Kong? Derive the factors from each cause correspondingly after completing the causes.
3. From Sources C and D, what are the **impacts** of light pollutions in Hong Kong?

(1)

The situation of light pollution in Hong Kong (Sources A & B)
1.Light pollution in Hong Kong is serious as it is believed to be the world's worst city for light pollution, with levels in Tsim Sha Tsui 1,200 times higher than the IAU standard. 2.Complaints to external lighting were increasing from 2014-2016, showing impacts of external lighting to nearby residents are becoming more serious during the period.

(2)

Causes (Source D)		Factors
Hint: Design and brightness: ● Poor design of lights ● Strong brightness	➡	Design of External lighting
● Lack of control/ No law to regulate the use of outdoor lighting (free – for-all area for lights) (6:04)	➡	Lack of Rules and regulations
● The electricity bill spent on signage lights is insignificant comparing to stores' profits (7:28)	➡	Economic incentive
● Retailing shops tend to use brighter lighting (8:07)	➡	Advancement of Technology

Led to

(3)

Aspect of Quality of life	Impacts	Examples (Sources C & D)
Environmental	Distort the natural habitat (health and lives of animals)	● Affect the migration and reproduction of some aspects of life. (Source C)
Social	Affect public health of human beings	● Disrupt: the biological clock and affect brain and hormone function ➔ harm physical and mental health. (Source D)

(P.234)

1. From Source A, what is the period of regulated hours, if participated, as stated in the Charter on External Lighting?

Basic

11 p.m. to 7 a.m.

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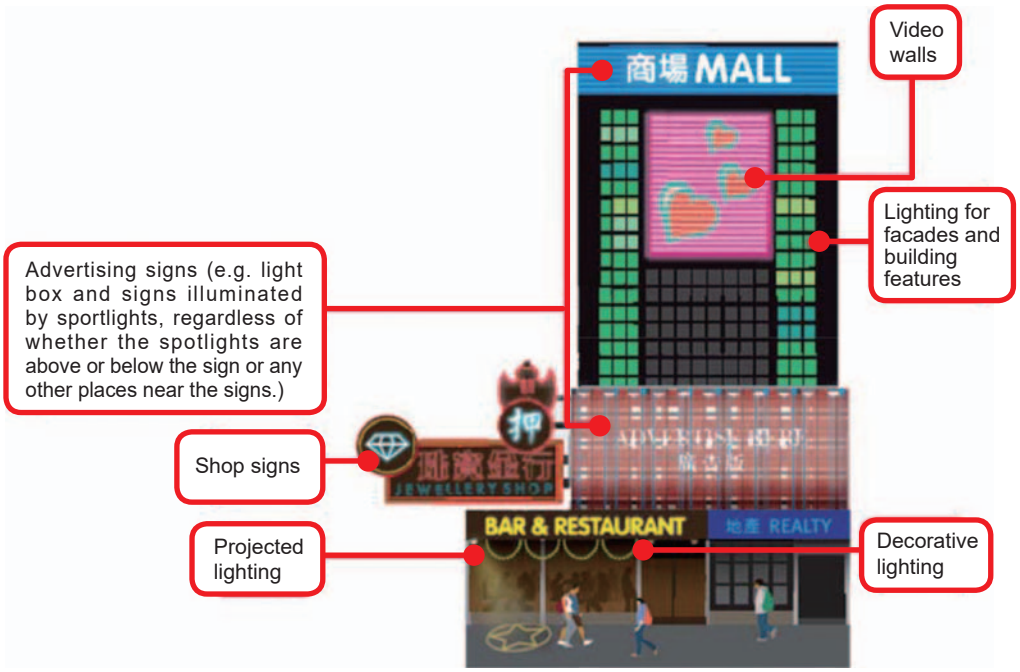
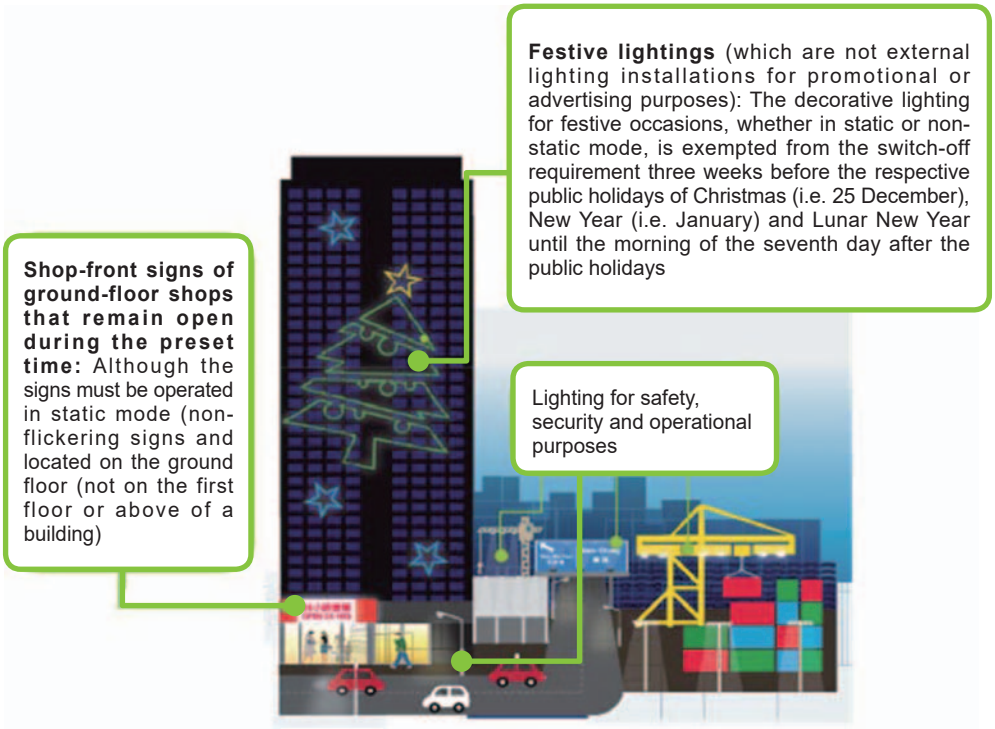
2. From Source A, what are the types of external lighting to be regulated according to the Charter on External Lighting? Circle the answer.

Advanced

Scope (Circle the correct type)	**Types of External Lighting** (Circle and label the type of lighting)
Regulated / Not regulated (exempted)	
Regulated / Not regulated (exempted)	

3. If you were a business owner considering whether to sign the Charter on External Lighting (Source A),

(a) what are the *benefits* and *drawbacks of joining and NOT joining* the Charter respectively?

(b) Will you join the Charter voluntarily? Why?

Advanced

Stance	Benefits	Drawbacks
JOINING the Charter	1. **Economic x Social x long term:** can improve my company's public image and hence its income in the long run. 2. **Economic:** my company can save cost by reducing our spending on electricity bill without compromising our brand's promotion.	2. **Economic x short term:** if some of my rivals do not join the Charter, I would be left in the dark when others are still promoting their brands and products/ services to their potential customers in the mid night and losing my brand's influence and income in the long run.
NOT JOINING the Charter	2. **Economic:** can increase the effectiveness of our brand's penetration/ promotion, or at least maintain our status quo, by keeping our commercial external advertisement boards.	2. **Economic x Social x long term:** if all my rivals are joining the Charter, my company will be left out and look indifferent and irresponsible to public health, hence ruining my company's public image and income in the long run.

Stance	My decision: I <u>will / will not</u> join the Charter.

Reason:

[WILL] the only drawback of join the charter is that I may lose my promotion opportunity in the mid night, which is not that influential given that there are only limited pedestrians walking on the street in the midnight and the promotional method is indeed shifting from towards Internet nowadays. It is outweighed by the potential benefits including my company's public image and income long term.

[WILL NOT] the only drawback of NOT joining the charter is that my company will look indifferent and irresponsible to public health. However, there is a limited amount of people value "Corporate Social Responsibility" in Hong Kong. What they care most is cost-effectiveness and whether a brand can help them become conspicuous. It is outweighed by the benefits of making full use of our external advertisement boards to promote our brand image in the long term.

(P.238-242)

1. (a) From Source A (Part 1), identify the differences in **understanding** between non-government entities (medical field and private consultants) and the government on the **impacts** of external lighting.

Basic

Understanding of the government towards the impacts of external lighting	Understanding of non-government entities towards the impacts of external lighting
A medical research quoted in a consultation document of the Environment Bureau: External light entering homes is so weak , which is less than 10 lux , that it is unlikely to curtail the secretion of melatonin.	**Other medical researches:** The presence of excessive light at night while a person is at rest may suppress melatonin, which is useful in fighting carcinogens.
The energy consumed by street lightings was just 0.25% of Hong Kong's total consumption, which may be useful to estimate that of all external lighting.	**Private consultants:** The signage lights on Chater Road and Des Voeux Road in Central consume nearly 4,000 watts of electricity per day, and that on Sai Yeung Choi Street South and Nathan Road in MongKok consumes 6,600 watts per day, equivalent to the per capita consumption per year in Hong Kong.

(b) From question 1(a), identify ***ONE barrier*** to engage different stakeholders to discuss the need of regulation of external lighting in Hong Kong.

Advanced

Why - What are the possible stances/ views of both stakeholders on the need of regulation of external lighting in Hong Kong? Do they share the same stance/ view? - What challenges may arise if their stances/ views are different?	A lack of consensus on the impacts of external lighting make it difficult for the government to: (3) ngage stakeholders to discuss and reach consensus on the 'necessity' of regulating external lighting (4) ecide the strategy/ approach of implementation/ monitoring to take as it cannot judge the urgency and necessity. e.g. Voluntary or mandatory; How to check against the intensity of lighting; determine the acceptable level of lighting, how to monitor whether companies abide by the regulation on the time of night lighting)

2. (a) From Source A (Part 2 & 3), identify the **stance** and **considerations** of the major stakeholders in regulating external lighting in Hong Kong. Basic

(b) From question (a), analyse the stakeholders' **concerns** on the necessity, way/ pace and cost of regulating external lighting in Hong Kong. Advanced

(a) Stakeholders	(a) Stance	(a) Personal considerations	(b) Stakeholders' concerns on legislation
EXAMPLE **Local residents affected by light pollution** *Part 1* *(11:50 - 13:28)*	For / Neutral/ Against	**Personal considerations:** - **Personal sleeping quality** - **Personal health of eyes**	**Stakeholders' concerns:** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting
Lau Chi-fung Chairman of Hong Kong Astronomical Society *Part 2* *(9:08 - 9:59)*	For / Neutral/ Against	**Personal considerations:** - the effectiveness of regulation on external lighting (in view of the effectiveness of voluntary charter)	**Stakeholders' concerns:** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting
Some firms that manufactured lights and commercial signs *Part 3* *(16:04 - 16:08)*	For / Neutral/ Against	**Personal considerations:** *legislation to control city lights would have adverse effect on various businesses* *(Sustainability of businesses/ income of business)*	**Stakeholders' concerns:** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting
Some firms that manufactured lights and commercial signs *Part 3* *(16:08 - 16:15)* & William Tam, Manager of Lighting Company *Part 3* *(16:15 - 17:24)*	For / Neutral/ Against	**Personal considerations:** - Supported regulating light pollution, but doubted the effectiveness of voluntary observance - Clients' orders / preferences are more important than their own due to cut-throat competition	**Stakeholders' concerns:** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting
Business sector - firms that installed lights and commercial signs *Part 3* *(17:24 - 18:00)*	For / Neutral/ Against	**Personal considerations:** - environmental protection - Hotel's image - Gradual legislation and control	**Stakeholders' concerns:** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting

(c) From 2(a) and 2(b), identify one pair of stakeholders who may be in conflict on the issue of regulating external lighting through legislation. Analyse the point and reason(s) of conflict behind.

Advanced

Stakeholder A		Point of Conflict		Stakeholhder B
STEP (1a) - Stakeholder A Firms that manufactured lights and commercial signs support / oppose ↑ led to **STEP (1b) – Concern (and value) of Stakeholder A** *Operating cost… or* *Effectiveness of advertising and their long term brand image and revenue ➔ (1)* *Limited impacts of external lighting on citizens' health ➔ (3)*	➔ led to	**STEP (2a) Point of Conflict (Aspect & Issue):** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting **STEP (2b) Reason of Conflict:** (4) Conflict of interests ; (5) Conflict of views due to incompatible values; (6) Differences in understanding/ expectation. *While A believes that there is no need to regulate external lighting.* *B believes that external lighting should be regulated (as soon as possible).*	← led to	**STEP (1a) - Stakeholder B** Local residents affected by light pollution (AND/ OR Chairman of Hong Kong Astronomical Society) support / oppose ↑ led to **STEP (1b) – Concern (and value) of Stakeholder B** *Personal sleeping quality and health ➔ (1)* *Great impacts of external lighting on their health ➔ (3)*

(d) With reference to 2(a) - (c), identify **THREE possible barriers** to achieving consensus among major stakeholders on the issue of regulating external lighting in Hong Kong.

Advanced

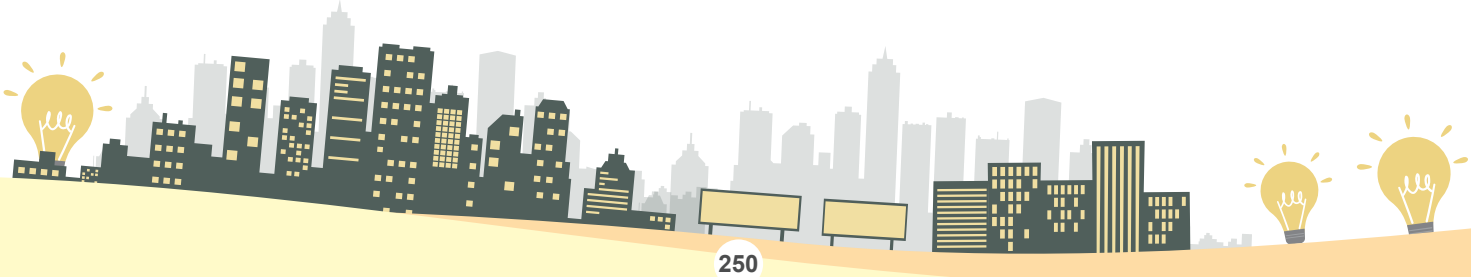
Hints:

"Who + When + What" should be involved in regulating the external lighting in Hong Kong

Who - Did any of the stakeholders oppose regulations on external lighting in the consultation? Why? - What does that mean to the government?	**It is difficult, if ever possible, to reach a consensus among different major stakeholders as they were trying to protect their own vested interest.** - Business was concerned about the financial consequences of regulating external lighting (e.g. the effectiveness of promotion of their business). - The government was concerned about maintaining a fair regulation while minimising its regulations and impacts on private sectors.
When - How long did it take the government to suggest the regulation proposed by its consultation on the regulation on external lighting? Do you think it is long? Why?	**It is difficult and takes a long time to reach a consensus among different stakeholders on the necessity and ways of regulations on light pollution.** Part 2 (8:15 – 10:54) Difficult to reach consensus within internal discussion (task force on external lighting) and took 2 years or the government to put forward the voluntary charter on xternal lighting.
What - What the methods of regulating external lighting difficulties were once considered? - Why were they dismissed?	**It is difficult to set a strategy/ policy with details that can effectively solve the problem while catering concerns from all vested interests.** - (e.g. zoning method vs. restrictions on commercial signage vs. legislation vs. voluntary action)

3. From questions 1 and 2, what are the barriers to achieving consensus among major stakeholders in general?

Types of Barriers	Possible causes leading to the barrier
Initiation: Difficult to find a common ground to engage major stakeholders in dialogues due to: different understanding/ expectation towards a policy/ an ordinance among them	• the necessity of regulation [WHY] • the pace/ urgency of regulation [WHEN]



Process: Difficult to reach a consensus on the direction/ approach of policy because different major stakeholders will try to protect their own vested interest due to: the differences in the extent of influences of a policy/ an ordinance on them.	● the way/ mechanism of regulation [HOW] ● the scope (e.g. targets and time) of regulation [WHO + WHERE] ● Cost of a solution to be shared [HOW MUCH]
Conclusion: Difficult to reach a consensus on the technicality/ details of a policy/ an ordinance due to: the limitation of a policy/ ordinance in meeting all stakeholders' expectations without compromise.	

(P.243) Reference answers for 2(c) of Appendix 3

2.(c) Other possible pairs of stakeholders who may be in conflict on the issue of regulating external lighting through legislation. Analyse the point and reason(s) of conflict behind.

Advanced

Stakeholder A		Point of Conflict		Stakeholder B
STEP (1a) - Stakeholder A Firms that manufactured lights and commercial signs support / oppose ↑ led to **STEP (1b) – Concern (and value) of Stakeholder A**	→ led to	**STEP (2a) Point of Conflict (Aspect & Issue):** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting **STEP (2b) Reason of Conflict:** (1) Conflict of interests ; (2) Conflict of views due to incompatible values; (3) Differences in understanding/ expectation. *While A believes that external lighting should not be regulated by legislation,* *B believes that legislation is a better way to regulate external lighting.*	← led to	**STEP (1a) - Stakeholder B** Firms that manufactured lights and commercial signs support / oppose ↑ led to **STEP (1b) – Concern (and value) of Stakeholder B**

STEP (1a) - Stakeholder A Business sector - firms that installed lights and commercial signs support / oppose ↑ led to	led to	**STEP (2a) Point of Conflict (Aspect & Issue):** (1) Need/ urgency; (2) Way & Pace; (3) Impacts of regulating external lighting	led to	**STEP (1a) - Stakeholder B** _____ _____ support / oppose ↑ led to
Stakeholder A		**Point of Conflict**		**Stakeholder B**
STEP (1b) - Concern (and value) of Stakeholder A		**STEP (2b) Reason of Conflict:** (1) Conflict of interests ; (2) Conflict of views due to incompatible values; (3) Differences in understanding/ expectation. While A prefers to regulate external lighting gradually, B prefers to regulate it as soon as possible.		**STEP (1b) – Concern (and value) of Stakeholder B**

Senior Secondary Liberal Studies
Learning and Teaching Exemplar
for NCS students (9)

Major Sports Events in Hong Kong

Major Sports Events in Hong Kong

A. Basic information of the lessons

Topic Major Sports Events in Hong Kong

Relevant modules, themes and issues for enquiry

Leading Module 2: Hong Kong Today

Theme 1: Quality of Life

- Which aspects of the quality of life are seen to be more important? Which are seem to be immediate needs? Who might make the decisions? Why?
- How can individuals or organisations contribute to the maintenance and improvement of the quality of life? What are the obstacles to their efforts? Which groups of people are most affected if these obstacles are not removed?

Related Module 4: Globalization

Theme: Impact of globalization and related responses

- How do people from different parts of the world react to globalization? Why?

Overall design rationale

This exemplar aims at using the case of Hong Kong Rugby Sevens to investigate the major sports events in Hong Kong. This exemplar covers the curriculum content of Physical Education (PE) as an elective subject in the HKDSE, combining Part 1 (Physical Education, Sport, Recreation, Leisure and Wellness: History and Recent Development) and Part 8 (Social Aspects of PE, Sport and Recreation). It also explores how major sports events in Hong Kong impact the city through a debate about whether to keep holding the event in Causeway Bay or to construct a new stadium in Lantau Island as an alternative.

Different e-learning tools are used to cater for learner diversity. An LMS (Learning Management System) which incorporates different learning activities could motivate students' interest in learning. Functions including polling, short quiz and message board provide a platform for teachers to check students' understanding and opinions. Even quiet students are able to engage in the lessons. In a classroom with students of different language ability and ethnicity, e-learning could provide them with instant translation or search of information, which further makes their learning easier.

Time required

3 lessons (40 minutes per lesson), around 120 minutes in total

Learning objectives

Knowledge:

- To understand the sports policy in Hong Kong
- To explore the challenges posed by holding major sports events
- To understand the benefits of organising major international competitions
- To understand the stances of different stakeholders related to the major sports events

Skills:

- To collect and summarise information from different sources.
- To apply relevant knowledge and concepts when studying issues.
- To interpret data from different perspectives.
- To communicate in oral and written expression.

Values and attitudes:

- To adopt an open and tolerant attitude towards other people's views and values.
- To appreciate the value of sports.

Basic Concepts for application

Promotion of sports, sustainable development, globalization

Lesson 1&2 Learning and teaching strategies and flow

Lead in (around 10 minutes)

- **Activity 1: Pop-up quiz**

➔ Ask students to conduct a quiz to test their understanding on the basic concept about sustainable development. The quiz is conducted using e-learning tools which give instant result-checking (e.g. Kahoot, Quizizz).

➔ **Suggested questions:**

1. Which of the following are the sports development strategies of Hong Kong since the 2006-2007 Government Policy Address?

   1) Making Hong Kong a major location for international sports events
   2) Developing elite sports
   3) Promoting sports in the community

   A. (1) and (2) only
   B. (1) and (3) only
   C. (2) and (3) only
   D. (1), (2) and (3) ✓

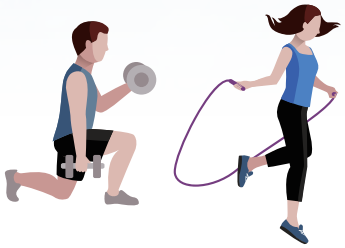
2. Which of the following organisations is responsible for sports development in Hong Kong?

   A. PE Section, Curriculum Development Institute, Education Bureau
   B. Leisure and Cultural Services Department
   C. Hong Kong Sports Institute
   D. Home Affairs Bureau ✓

3. Which of the following are the reasons why commercial corporations in Hong Kong are willing to invest in recreational programmes for employees?

   1) To increase employees' productivity.
   2) To nurture elite athletes.
   3) To decrease absenteeism. ✓
   4) To improve employees' health.

   A. (1), (2) and (3) only
   B. (1), (2) and (4) only
   C. (1), (3) and (4) only ✓
   D. (2), (3) and (4) only



Activity 2: The Sports Events in Hong Kong

➔ Ask students to search for sports events in Hong Kong on the Internet.

Examples:

Standard Chartered Hong Kong Marathon

FIVB Volleyball Nations League – Hong Kong presented by China Life (Overseas)

BOC Life Hong Kong Premier League

➔ Ask students if they know what M" Mark Events are and whether they have participated in one of the "M" Mark Events. Students may search relevant information from the following websites:

- https://www.mevents.org.hk/en/index.php
- https://www.gov.hk/en/residents/culture/events/major_events.htm

➔ Discuss with the students the differences between local sports events (e.g. Hong Kong Premier League or Hong Kong Basketball League) and "M" Mark Events.

Problem identification (3 minutes)

- Ask students to rank the difficulty of the following steps in organising a sports event:
  - ➔ Promotion of sports event
  - ➔ Booking of venue
  - ➔ Invitation of participants
  - ➔ Management of operating cost
  - ➔ Guaranteeing good attendance
- Discuss with students why they think these steps are difficult.

Direct Teaching (12 minutes)

- Brief the students about the development of sports in Hong Kong using the information in **Appendix 1**.
  1. Source A: The function of HAB
  2. Source B: The Major Sports Events Committee (MSEC)
  3. Source C: “M” Mark System
- Watch the video “M Mark System”
  - ➔ https://www.youtube.com/watch?v=UQRs50bh5Mw
- Ask students whether they have participated in any of the "M" Mark Events and share their experience.

Short Question (10 minutes)

- Ask students to complete the short questions in **Appendix 2**.

Group Discussion and presentation (8 minutes)

- Distribute **Appendix 3**. Ask students to discuss and compare the differences between “M” Mark Sports Event and Local Sports Event based on their understanding.

Instruction (5 minutes)

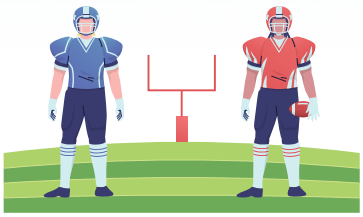
- Teacher introduces Hong Kong Rugby Sevens using **Appendix 4** & **Appendix 5**.

Activity 1: Watching Video about Rugby (17 minutes)

- Students watch the videos listed in **Appendix 6**, including videos of TV advertisements, games, and rugby fans in and outside the stadium.
- Discuss the differences between football and rugby in terms of scoring method, mode of body contact, direction of passing and number of players etc.
- Discuss the reasons why foreign rugby fans come to support their favourite team annually.

Activity 2: Data analysis (5 minutes)

- Read the data in Appendix 7, and answer the short questions to understand the background of the participants of the Rugby Sport Event.



Arrange after-class learning activity (10 minutes)

- Divide students into small groups and ask them to investigate one of the following major sports events:

Examples of major sports events:

- Standard Chartered Hong Kong Marathon
  (Source: https://www.hkmarathon.com/)
- FIVB Volleyball Nations League – Hong Kong presented by China Life (Overseas)
  (Source: https://www.mevents.org.hk/en/event-volleyball.php)
- Prudential Hong Kong Tennis Open
  (Source: https://www.hktennisopen.hk/en/)

- New World Harbour Race
  (Source: https://www.hktennisopen.hk/en/)
- YONEX-SUNRISE Hong Kong Open Badminton Championships, part of the HSBC BWF World Tour Super 500
  (Source: http://www.hkopenbadminton.org/)
- CCB (Asia) Hong Kong International Dragon Boat Races
  (Source: https://hkidbr.sportsoho.com/en/page/intro)
- LONGINES Masters of Hong Kong
  http://www.hkef.org/?news=longines-masters-of-hong-kong-2020-announcement
- Everbright Sun Hung Kai Hong Kong Squash Open
  http://www.hksquashopen.com/home.php
- Hong Kong Open (Golf)
  https://thehongkongopen.com/
- CGSE • Million Tinkle World Men Championships
  http://www.hktbc.org.hk/results/wmc2018-res.htm

- The guided questions for discussion are as follows:
  - To what extent does the event draw attention from the public? Why?
  - Which organisation runs the event? What is the scale of the event? What human, financial and time resources are involved?
  - How is the event organised? What role does the government play?

➔ What kinds of marketing strategies are adopted?

➔ How can the gains and losses of the event be evaluated? What are the comments from various sectors?

3 ***Student presentation of preparation work before class (10 minutes)***

- Students present the information about the major sports events they searched. Briefly discuss the impact of the events.

Stakeholders' conflicts (20minutes)

- Assign students into groups with different stakeholders and give them relevant sources with different level of difficulties. With the use of the sources provided and online information, each group collaborates to discuss the impact on different stakeholders if Hong Kong Rugby Sevens is cancelled this year.
- With the use of **Appendix 9**, arouse students' awareness that Hong Kong Rugby Sevens might be cancelled due to COVID-19 pandemic.
- Use the analytical framework in **Appendix 10** to discuss the impact on different stakeholders if Hong Kong Rugby Sevens is to be cancelled this year. Teachers choose individual groups to present their discussion results. Make sure that students are able to identify the stances of different stakeholders and the values that different persons hold.
- Each group could input their discussion result in a share document (Discussion table in **Appendix 10**) using the e-learning tools to prepare for presentation.

Debriefing and after-class work (10 minutes)

- Comment on students' presentation and their explanations. Round up the lesson by using **Appendix 11**.
- Students answer the Short Questions in **Appendix 12**.

Appendix 1 – Activity 2: The development of sports in Hong Kong

SOURCE A The Home Affairs Bureau (HAB)

The Home Affairs Bureau (HAB) is committed to promoting the development of sports in Hong Kong. The Recreation and Sport Branch is responsible for the promotion and implementation of the Government's three objectives in sports development, namely to promote sports in the community, support elite sports development and promote Hong Kong as a centre for major international sports events. HAB will also increase and enhance sports and recreation facilities, as well as encourage collaboration among communities in fostering a strong sports culture in Hong Kong.

Sports Policy

Promoting Sports in the Community

HAB has been promoting community sports to encourage the public to participate in various types of sports activities and build a sports culture in the community, helping them develop a healthy lifestyle and enhance their overall quality of life.

Promotion of sports in the community accounted for a majority of the Government's recurrent expenditure on sports development. In 2017-18, 86% of our recurrent expenditure on sports development, or $4.2 billion, was allocated to this objective.

HAB and other government departments as well as related organisations, including the LCSD, the Department of Health, the Education Bureau, the Sports Federation and Olympic Committee of Hong Kong, China (SF&OC), "national sports associations" (NSAs), district sports associations, other sports organisations and schools provide a wide range of community sports activities at various levels, encouraging people of different backgrounds, age groups, abilities and interests to participate in sports activities regularly, so as to promote the culture of "Sport for All".

Promoting Major International Sports Events

HAB actively promotes Hong Kong as a centre for major international sports events. "M" Mark System was launched in November 2004, with the aim to gain greater participation and support from the commercial sector as well as the community to help NSAs for holding major sports events, in order to nurture more sustainable major international sports events in Hong Kong. This will not only give a chance for the local athletes to compete on home ground, but also give Hong Kong audience more opportunities to enjoy top level performance sports and to cultivate a sports culture in the community. In recent years, the number and the scale of the major sports events hosted in Hong Kong has been increasing. The level of participation has also significantly increased.

Major Sports Events Matching Grant Scheme

The Government announced in its Budget in 2018 an allocation of $500 million to the "Major Sports Events Matching Grant Scheme" to enhance the existing matching grant under the "M" Mark System 9 with a view to encouraging more sponsorships from the business and private sector, and further enhance the existing funding mechanism in order to provide better support.

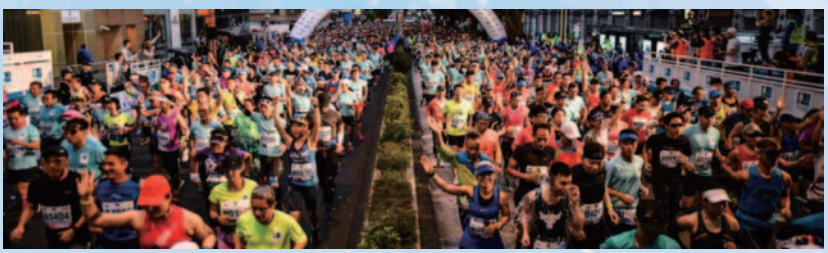


Photo credit: Standard Chartered Hong Kong Marathon

SOURCE B The Major Sports Events Committee (MSEC)

The Major Sports Events Committee (MSEC), one of the three committees under the Sports Commission (SC), is tasked to advise the Government through the SC on the hosting policy and resource allocation for major sports events in Hong Kong. The MSEC provides a decision-making framework for determining the Government's funding priorities and involvement in hosting major sports events in the city. The policy sets out the Government's role in hosting events and provides a mechanism for assessing proposals against established criteria. It also provides for the monitoring of events to ensure that the public funding provided is used properly and cost-effectively. In order to help nurture more sustainable major sports events, the MSEC launched the "M" Mark System and Support Packages (the "M" Mark System) in November 2004. "M" Mark status will be awarded to the recognised major sports events held in Hong Kong. A package of tailor-made support measures is provided to meet the needs of individual "M" Mark events to help them evolve into regular, marketoriented and profitable events.

Objectives of establishing the "M" Mark System

- To instill a sustainable sporting culture, foster a sense of pride and social cohesion, and to bring tangible economic benefits to our community. Major sports events should also help enhance Hong Kong's image as Asia's sports events capital.
- To help "national" sports associations (NSAs) develop sustainable major sports events through greater participation and support from the commercial sector as well as the community at large.
- To support NSAs in securing and hosting one-off mega international sports events considered beneficial to the community.

Support for “M” Mark Events

- Professional advice from the MSEC Advisory Panel concerning the organisation, sponsorship, marketing and promotion strategies for events.
- Co-ordinated logistic support from relevant government departments to support the planning and organising of "M" Mark events.
- Enhanced local and overseas publicity opportunities for "M" Mark events.
- Funding support for sustainable "M" Mark events comprises interest-free loans and direct grants for a maximum of three years and matching fund without a time limit. Both direct grants and matching funds will be allocated on a sliding scale.
- An additional one-off $0.8 million direct grant for marketing purposes in any one year in the first three years of a sustainable "M" Mark event.
- A mix of matching fund and/or direct grant for world championships or one-off competitions at equivalent level.
- Subsidised charges for "M" Mark events using Leisure and Cultural Services Department venues, subject to the established criteria for such subvention.

Terms of reference

To advise the Administration through the Sports Commission on:

- The strategies and initiatives for the promotion and hosting of major sports events in Hong Kong.
- The strategies to foster partnership with the sports, tourism and private sectors for major sports events.
- The principles, procedures and the control mechanism for allocation of funds for major sporting events.
- The funding priorities for major sports events.

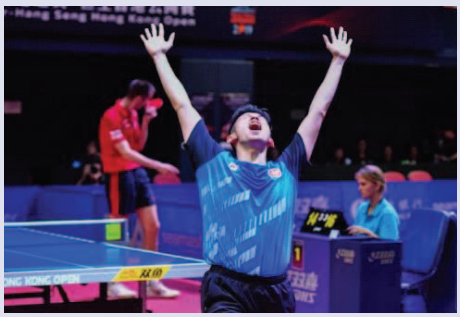


Photo credit: Hong Kong Table Tennis Association

Sources:

- Home Affairs Bureau. (2019). *Sports Policy*. Retrieved from https://www.hab.gov.hk/en/policy_responsibilities/sport_policy/sport_policy.htm
- Major Sports Events. (2020). *About The Major Sports Events Committee*. Retrieved from https://www.mevents.org.hk/en/about.php

SOURCE C M" Mark Events

Under this scheme, organisers of the "M" Mark events would seek support, including funding support, from the Major Sports Events Committee. Over the past decade, the amount of grant approved for the "M" Mark events has been over $100 million, and the number of events has also increased from 4 events at the beginning to 12 events in 2018.

With the joint efforts and resources dedicated by NSAs and sponsors, "M" Mark events have successfully upgraded Hong Kong as a hub of major sports events. "M" Mark is an icon for spectacular and exciting events, and is awarded only to the major international sports events held in Hong Kong. In 2018, "M" Mark events includes:

- Volvo Ocean Race – Hong Kong Stopover
- Standard Chartered Hong Kong Marathon
- LONGINES Masters of Hong Kong
- ***Cathay Pacific / HSBC Hong Kong Sevens***
- FIVB Volleyball Nations League – Hong Kong presented by China Life (Overseas)
- CCB (Asia) Hong Kong International Dragon Boat Races
- Prudential Hong Kong Tennis Open
- New World Harbour Race
- YONEX-SUNRISE Hong Kong Open Badminton Championships, part of the HSBC BWF World Tour Super 500
- Everbright Sun Hung Kai Hong Kong Squash Open
- Honma Hong Kong Open (Golf)
- 2018 CGSE • Million Tinkle World Men Championships

Source: Home Affairs Bureau. (2019). *Sports Policy.* Retrieved from https://www.hab.gov.hk/en/policy_responsibilities/sport_policy/sport_policy.htm

Appendix 2: Short questions

Question:

1. State the Government's three objectives in sports development.

_____

_____

_____

2. State three organizations related to the sports development in Hong Kong.

_____

_____

_____

3. State any two "M" Mark Sports Event in Hong Kong.

_____

_____

4. State two duties of the Major Sports Events Committee.

_____

_____

_____

Appendix 3: Comparison of the differences between "M" Mark Sports Event and Local Sports Event

	Local Sports Event	"M" Mark Sports Event
Number of audiences		
Size of competition arena		
Tickets' Price		
Origin of participants		
Participants' capabilities		
Attractiveness of the events		
Cost of the events		

Appendix 4 : Introducing Cathay Pacific / HSBC Hong Kong Sevens

EVENT INFORMATION

Cathay Pacific / HSBC Hong Kong Sevens
Venue: Hong Kong Stadium
Organiser: Hong Kong Rugby Union
Website: www.hksevens.com
Match Duration: All matches are 7 minutes each way with 2-minute intervals

BACKGROUND

The annual Hong Kong Sevens, celebrating its 45th anniversary this year, is considered the "Jewel in the Crown" in the Sevens World Series. First held in 1976, the tournament has now grown in huge popularity with players and spectators.

In 1993, the Rugby World Cup Sevens held its first tournament in Scotland, the origin of the game rugby sevens. Later, Hong Kong was awarded the prestige twice of hosting the Rugby World Cup Sevens in 1997 and 2005 respectively. The Rugby World Cup Sevens in 1997, the second of its kind, was a huge success as it was held in a memorable year of the establishment of Hong Kong as a special administrative region after its reunification with the Mainland. In 2005, the Hong Kong Rugby Union held the game again and became the first body hosting the world championship of rugby sevens for twice.

Over the years, the Rugby World Cup Sevens has an important role in nurturing good rugby players. To name a few, Jonah LOMU, Christian CULLEN and George GREGAN, first demonstrated their speed and agility in the Hong Kong Sevens, have now become dominant figures in the rugby sevens arena. The World Rugby, recognising the status of the sevens game, launched its inaugural Sevens World Series in 2000 (also the year of the 25th anniversary of Hong Kong Sevens) to increase participation by players worldwide. A core of 15 top teams in the world now participate in 10 rugby tournaments in Dubai, South Africa, Australia, New Zealand, North America, Europe and Asia.

Source: Website of Major Sports Events
https://www.mevents.org.hk/en/event-sevens-bg.php

Appendix 5

What the Sevens means to Hong Kong

Who would have thought a little tournament started 40 years ago by a few rugby-mad expatriates would become the signature international event on Hong Kong's sporting calendar? That the Hong Kong Sevens has become so and more is a testament to the game's appeal, and its being in the right city at the right time. Just when Hong Kong was coming of age as an international finance centre, the Hong Kong Sevens presented the city with a perfect event to showcase what it has to offer – a modern, dynamic city full of hustle and bustle, and an international metropolis ready to host a fantastic, fun-filled party throughout the three day extravaganza for visitors from all over the world. The result? A sporting experience that is truly and uniquely Hong Kong.

The outcomes speak for themselves: The Hong Kong Sevens is indisputably the crown jewel of the Rugby Sevens World Series events; it's the one that rugby fans and players alike talk about and mark on their calendars. And, due in large part to Hong Kong's playing an instrumental role in popularizing the sport in non-rugby playing countries especially in Asia, Rugby Sevens will be an Olympic sport in 2016 in Brazil – an outcome nobody would have dreamed of 40 years ago.

While still perceived as sporting a event for expatriates, the effect of the Hong Kong Sevens on the city itself has been highly positive in terms of benefits to the local economy, Hong Kong's brandbuilding, and enhancing its reputation as a world city and a preferred international destination – a place to be, if you will.

The economic case is easy to make: every year, thousands of visitors descend onto Hong Kong in the last week of March to attend the event. Most arrive in a mood to party, have fun, and spend money – on dining, drinking, sightseeing and shopping, in addition to their accommodation. Compared with the average tourist, Sevens attendees tend to stay quite a bit longer, many staying for a week or more. So it's no surprise that hotels are booked solid for the Rugby Sevens week, especially those on Hong Kong Island and Kowloon, and restaurants and bars are packed for the duration, especially in the evenings, dropping tens of millions of dollars into the Hong Kong economy.

Clearly, the benefits to Hong Kong reach further than that. For example, many international banks and corporations, especially those that are sponsors of the Hong Kong Sevens, hold their annual investor or customer conferences during Rugby Sevens week to ride on the popularity of the event. The ability to embed the Hong Kong Sevens into the calendars of Hong Kong's corporate titans certainly energises the event and more importantly, helps re-inforce the image of Hong Kong as Asia's most dynamic and glamorous international city.

As the Hong Kong Sevens looks towards the future, with a possible relocation to a bigger stadium to be built, it is worth remembering the positive effect the Hong Kong Sevens has had on Hong Kong and the continuing role it plays in Hong Kong's brand and reputation.

Source: CityLife. (n.d.) *What the Sevens means to Hong Kong*. Retrieved from http://rugby.hkcitylife.com/what-the-sevens-means-to-hong-kong/

Appendix 6 : Introducing the Cathay Pacific / HSBC Hong Kong Sevens

Video of TV advertisement

Cathay Pacific / HSBC Hong Kong Sevens 2019
https://www.youtube.com/watch?v=vs39rkDNcsU

Cathay Pacific / HSBC Hong Kong Sevens 2020
https://www.youtube.com/watch?v=aXEOyhRMkRQ

Video of the games

2019 Saturday Men's Sevens Series Qualifiers
https://www.youtube.com/watch?v=Sgnk9pK1YD0&t=33s
(Game of Team Hong Kong: 2'10 to 4'05)

2019 Friday: Women's Sevens Qualifier - Semi-Finals and Finals
https://www.youtube.com/watch?v=gwg0YIOhXQg

Video of rugby fans in the stadium

Home town support! (Residents)
https://www.youtube.com/watch?v=j0PoRFMfX-A

Fiji rugby fans cheer on their team at Hong Kong Sevens (Visitors)
https://www.youtube.com/watch?v=B8n74_h-B0k

Dress like a star: the five best costumes at Hong Kong Sevens 2019
https://www.youtube.com/watch?v=DuYyFZy2--o

Cheers, beers and colourful costumes: party vibe at Hong Kong Sevens 2019
https://www.youtube.com/watch?v=6clkSfX2Kso

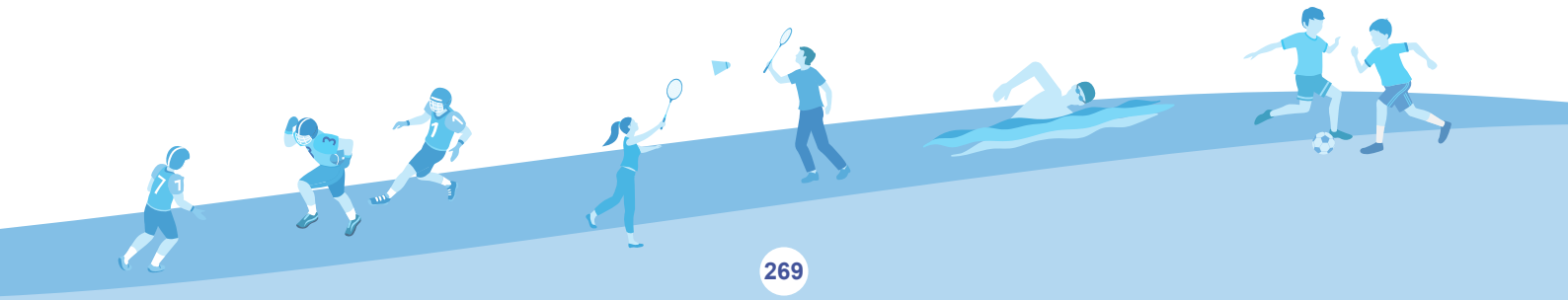
Rugby Sevens goes wild on the South Stand in Hong Kong
https://www.youtube.com/watch?v=drHHj5f-P98

Video of the rugby fans outside the stadium

Cathay Pacific/HSBC Hong Kong Sevens FanWalk
https://youtu.be/WK5GcWICKtE

Rugby Sevens brings business to Hong Kong
https://www.bbc.com/news/av/business-17512431

Andrew Wood reports. Published: 26 March 2012, BBC News



Appendix 7: Data Analysis

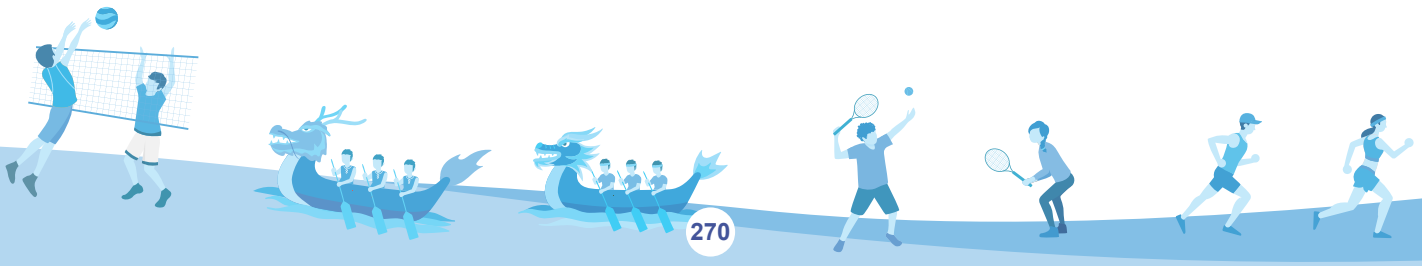
Read the following statistics, and then answer the questions:

Profile of interviewees

Participants	Age	Gender	Visitors/residents	Number of visit to Rugby Seven	Average spending this event
P1	25	M	Resident	5	HK$5,000
P2	49	M	Resident	2	HK$2,000
P3	51	M	Visitors	6	HK$28,000
P4	27	M	Resident	5	HK$3,500
P5	27	M	Resident	2	HK$2,000
P6	32	M	Resident	1	HK$2,000
P7	27	F	Visitors	5	HK$21,000
P8	26	M	Visitors	7	HK$18,000
P9	28	M	Visitors	2	HK$20,000
P10	54	M	Resident	4	HK$3,000
P11	30	M	Visitors	2	HK$18,000
P12	32	F	Visitors	2	HK$20,000
P13	33	M	Visitors	2	HK$22,000

Source: Chan, G. (2015). Perceived Impact of Hosting a Sport Event in a Destination: A Case Study of the Hong Kong Rugby Sevens. *Journal of Management and Sustainability, 5*(3), 49-60. http://dx.doi.org/10.5539/jms.v5n3p49

This study interviewed _____ participants comprising ____ males and _____ females. Seven participants were local _____ and the other seven were overseas _____. The table shows the profile of the interviewees. Most of them have visited Rugby Sevens from _____ to _____ times. The age group ranged from 25 to 54 years. The average spending was from HK$_____ to HK$ _____. The findings also demonstrated that _____ were willing to spend more in the events compared with _____.



Appendix 8

Hong Kong Sevens 2020 to be postponed due to the Coronavirus Outbreak

February 12, 2020

The 45th Cathay Pacific/HSBC Hong Kong Rugby Sevens 2020, a popular yearly rugby event which has been running uninterrupted since 1976 may be postponed due to the coronavirus crisis which has been causing havoc in many parts of the world.

Hong Kong Rugby Union Chief Executive Robbie McRobbie stated that the body will be making an official announcement regarding the Hong Kong Sevens on Thursday evening.

When asked about the situation, Robbie said, “We’ll make an announcement of what we intend to do tomorrow evening (Thursday).”

Earlier, Hong Kong local broadcaster TVB reported about the Sevens event, “The Hong Kong Sevens, an annual international rugby tournament that has been running since 1976, is set to be postponed.”

The Hong Kong Sevens is the most prestigious among the Sevens tournaments around the world. It started in 1976 as a small competition with clubs and national teams which grew into one of the top sevens tournaments in the world. In 2019, the Hong Kong Sevens saw more than 120,000 fans at the three-day event.

The Hong Kong Sevens has been a model for Rugby Sevens globally as many nations have established the system into their own tournament structure. It becomes so popular to the extent that it made its debut at the 2016 Rio Olympic Games with Fiji taking gold. The system will be used again for both Men and Women at the coming 2020 Olympics in Tokyo.

The Hong Kong Sevens is not the first major sporting event to be interrupted by the coronavirus, the Formula One Grand Prix which was to be held in China, has been postponed. The virus has played havoc with many other events, both sporting and social, have been either postponed or cancelled.

Source:
Planet Sevens. (2020, February 12). *Hong Kong Sevens 2020 to be postponed due to the Coronavirus Outbreak.* Retrieved from https://planet7s.com/2020/02/12/hong-kong-sevens-2020-to-be-postponed-due-to-the-coronavirus-epidemic/

Appendix 9 : Stakeholders' conflicts

Points of view of different stakeholders on the impact of Hong Kong Rugby Sevens

SOURCE A Hong Kong Rugby Union Chief Executive, Robbie McRobbie

It is no secret that the Sevens is vital for the Union's well-being, given that it generates around 95 per cent of its annual revenue. Previous estimates suggest the Sevens brings nearly HK$400 million to the Hong Kong economy every year, with its last event raking in HK$116 million and HK$55 million in corporate box income and tickets, respectively.

Simply put, the Sevens only works if the fans are there to watch it. "We have done the figures and know what number crowd we need to get to the stadium. As long as we've got 50 per cent or more, the event makes commercial sense for us. That's what we'll be working towards, the benchmark of 50 per cent. Below it and we would need to reconsider."

"We've always said that an event with no crowd makes no sense for us. That's the nature of our commercial model. We don't make any money from broadcast – that goes into the central pool with World Rugby – so we are very reliant on bums on seats and sponsors, patrons and corporates in the stadium,"

Source: South China Morning Post. (2020, December 17). *Hong Kong Sevens 'makes no commercial sense' unless at least 50 per cent of stadium is filled, says Rugby Union boss.* Retrieved from https://www.scmp.com/sport/hong-kong/article/3114384/hong-kong-sevens-makes-no-commercial-sense-unless-least-50-cent?utm_source=copy_link&utm_medium=share_widget&utm_campaign=3114384

SOURCE B The manager at Brick Lane Restaurant on Leighton Road

Local pubs and restaurants see a substantial boost in customers during the tournament, business jumps about 20 per cent during the tournament. His eatery is well prepared for the fans through experience. "We have a Sevens combo, a burger and a beer, so they seem to like that. That keeps them happy," he said.

Source: South China Morning Post. (2019, April 3). *Hong Kong Sevens: Causeway Bay bars and pubs brace for drunken rugby storm.* Retrieved from https://www.scmp.com/sport/rugby/hk-sevens/article/3004434/hong-kong-sevens-causeway-bay-bars-and-pubs-brace-drunken

SOURCE C Hotel Owner

Compared with the average tourist, Sevens attendees tend to stay quite a bit longer, many staying for a week or more. So it's no surprise that hotels are booked solid for the Rugby Sevens week, especially those on Hong Kong Island and Kowloon, and restaurants and bars are packed for the duration, especially in the evenings, dropping tens of millions of dollars into the Hong Kong economy.

Source: CityLife. (n.d.) *What the Sevens means to Hong Kong*. Retrieved from http://rugby.hkcitylife.com/what-the-sevens-means-to-hong-kong/

SOURCE D Environmentalist

Although Hong Kong has promoted international sport events, it has been criticized for its lack of environmental support. All events generate waste, and the drive for sustainability and low carbon footprint is the responsibility of the event organizers and the Hong Kong government. During such an event with more than 40,000 attendees per day over a three-day period, enormous amounts of waste are generated. During the event, no recycling program or any similar support to the environment was implemented, the event also adds noise, smell, light, and waste pollution. A portion of the ticket fee should be allocated to waste management, which can create a cleaner environment.

Source: Chan, G. (2015). Perceived Impact of Hosting a Sport Event in a Destination: A Case Study of the Hong Kong Rugby Sevens. *Journal of Management and Sustainability, 5*(3), 49-60. http://dx.doi.org/10.5539/jms.v5n3p49

SOURCE E Audience

Local Audiences

Rugby Sevens engenders a positive social impact on the city itself and generates benefits for local residents. The sport event can gather people together and unite different cultures into one place. The event is an opportunity for local residents to interact with tourists over a mutual passion. Numerous local residents view the event as oriented toward the western community.

Foreign Audiences

The event creates an international atmosphere without cultural barriers during events. As Hong Kong Rugby Sevens allows attendees easy accessibility by local transportation to the urban area, organizers have provided a successful link to this event. With the proper prerequisites and sufficient preparation, a sport event can foster diversity, encourage passion, enliven team spirit, and bring together different cultures. Hong Kong Rugby Sevens can gather people together and generate a new vibe in Hong Kong. The event is an opportunity for local residents to interact with tourists over a mutual passion. Many people also regard the event as a spectacle in which "east meets west."

Source: Chan, G. (2015). Perceived Impact of Hosting a Sport Event in a Destination: A Case Study of the Hong Kong Rugby Sevens. *Journal of Management and Sustainability, 5*(3), 49-60. http://dx.doi.org/10.5539/jms.v5n3p49

SOURCE F Residents

Residents A (age 60)

The image of the Rugby Sevens gravitated toward excessive binge drinkers and the younger generation who can tolerate three days of constant partying.

Residents B (Age 25)

The lack of recycling, increased traffic congestion, and noise or light pollution may not necessarily create noticeable increases in related disturbances any more than usual.

Source: Chan, G. (2015). Perceived Impact of Hosting a Sport Event in a Destination: A Case Study of the Hong Kong Rugby Sevens. *Journal of Management and Sustainability, 5(3),* 49-60. http://dx.doi.org/10.5539/jms.v5n3p49

SOURCE G Government Officials

Government Official A

According to the industry report in 2012, the Hong Kong Rugby Sevens event attracted more than 20,000 affluent international visitors to Hong Kong, who generated economic benefits and obtained an extremely positive impression of Hong Kong as "Asia's world city". Visitors coming to Hong Kong during the three-day event will help develop and support different industries from which the community will benefit. The Hong Kong Rugby Sevens generates about HK$400 million for the city's economy each year. Last year, the event accumulated HK$116 million and HK$55 million in corporate box office and tickets respectively. Hong Kong is already generating excessive waste, such that a three-day event would create a negligible impact on the environment relative to the economic gains it has to offer.

Government Official B

During a large event such as the Hong Kong Rugby Sevens, consumer spending is high, particularly due to the added attention from the event being held on an annual basis only. The spending comes from visitors and local residents, and the major spending is found in food and beverage and the hospitality industry. In the hospitality industry, the majority spend on hotel accommodation and retailing. Various products, such as T-shirts, magazines, and rugby jerseys, are available during sport events. Most overseas attendees are willing to buy the merchandise of the annual event. Aside from the high spending from visitors, local residents demonstrated high consumption in alcohol and food. Compared with local residents and visitors, the consumption of overseas visitors was significantly higher, even if some of them had attended the events several times.

Made reference to the following sources:

- Chan, G. (2015). Perceived Impact of Hosting a Sport Event in a Destination: A Case Study of the Hong Kong Rugby Sevens. *Journal of Management and Sustainability, 5*(3), 49-60. http://dx.doi.org/10.5539/jms.v5n3p49
- South China Morning Post. (2020, December 17). *Hong Kong Sevens postponed for second straight year as city battles fourth wave of Covid-19*. Retrieved from https://www.scmp.com/sport/hong-kong/article/3114277/hong-kong-sevens-postponed-second-straight-year-city-battles-fourth?utm_source=copy_link&utm_medium=share_widget&utm_campaign=3114277
- The Standard. (2020, December 18). *Bummer for fans as sevens postponed*. Retrieved from https://www.thestandard.com.hk/section-news/section/11/225847/Bummer-for-fans-as-sevens-postponed

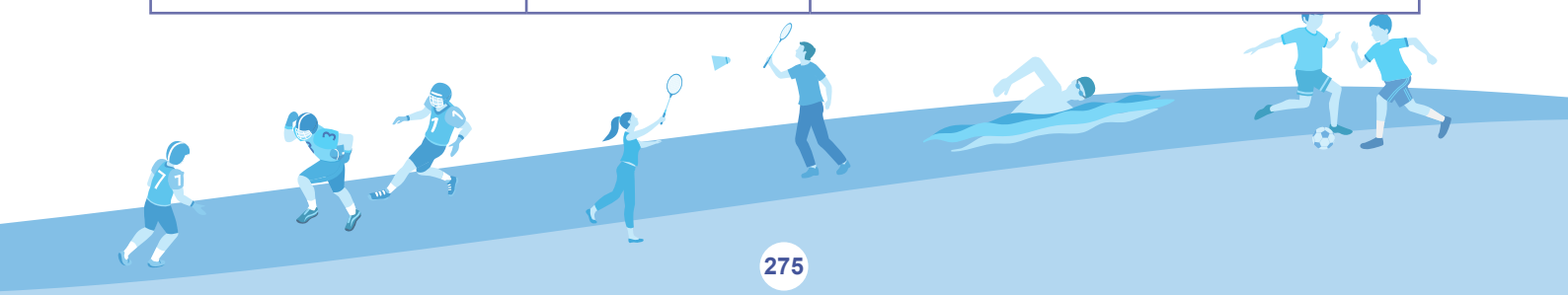
Appendix 10: Discussion

The impact on different stakeholders if Hong Kong Rugby Sevens is to be cancelled this year

Guiding questions:

- What are the **benefits** of cancelling the Hong Kong Rugby Sevens?
- What are the **harms** of cancelling the Hong Kong Rugby Sevens?

Stakeholder	Stance	Arguments
1. Participants	Benefits / Harms	
2. Audiences	Benefits / Harms	
3. Residents live near the competition arena	Benefits / Harms	
4. Hong Kong Rugby Association	Benefits / Harms	
5. Government Official	Benefits / Harms	
6. Bar Owners	Benefits / Harms	
7. Hotel Owners	Benefits / Harms	



Appendix 11 : Rounding up

The benefits of organising major sports events

Organising major sports events may have political, economic and cultural benefits.

Examples of political benefits:

- The host countries/ cities can demonstrate their strengths, arouse international attention and recognition through organising major international competitions.
- With diplomatic strategies, they can promote political propaganda and foster cooperation.
- They can arouse the national identity and strengthen the sense of belonging and cohesion of their people.
- They can distract the focus in the countries from dissatisfaction on economic, social and political items to major international competitions.

Examples of economic benefits:

- The host countries/ cities can attract a large number of visitors and consumers so that several sectors such as tourism industries, advertising and marketing companies, hotels and restaurants will benefit.
- They can create opportunities to expedite the city infrastructure, like improving transportation, communication and environmental hygiene.
- They can create “brand image” for the host cities to attract foreign expertise and capital.

Examples of cultural benefits:

- The host countries/ cities can promote active and healthy lifestyles by improving sports facilities and facilitating more citizens to participate in physical activities.
- They can construct many new sports facilities for major sports competitions and some of these will become the landmarks of their cities.
- They can introduce their cultural heritage to the world through the mass media.
- They can develop elite sports and promote sports in the community and across different countries/ cities.

Appendix 12 : Short Questions

Describe two positive influences of organising "M" Mark Events in Hong Kong on the economic and cultural aspects respectively.

Guidelines for Teachers

(P.265)

1. State the Government's three objectives in sports development.

   to promote sports in the community;
   to support elite sports development; and
   to promote Hong Kong as a centre for major international sports events

2. State three organization related to the sports development in Hong Kong

   LCSD, the Department of Health, the Education Bureau, the Sports Federation and Olympic Committee of Hong Kong, China (SF&OC), "national sports associations" (NSAs)

3. State two"M" Mark Sports Event in Hong Kong
   (Any two of the following events)

   - Volvo Ocean Race – Hong Kong Stopover
   - Standard Chartered Hong Kong Marathon
   - LONGINES Masters of Hong Kong
   - Cathay Pacific / HSBC Hong Kong Sevens
   - FIVB Volleyball Nations League – Hong Kong presented by China Life (Overseas)
   - CCB (Asia) Hong Kong International Dragon Boat Races
   - Prudential Hong Kong Tennis Open
   - New World Harbour Race
   - Everbright Sun Hung Kai Hong Kong Squash Open

4. State two duties of the Major Sports Events Committee.

   - To advise on the strategies and initiatives for the promotion and hosting of major sports events in Hong Kong
   - To advise on the funding priorities in hosting major sports events

(P.266)

	Local Sports Event	"M" Mark Sports Event
Number of audiences	Less	*More*
Size of competition arena	Smaller	*Larger*
Tickets' Price	Cheaper	More expensive
Origin of participants	Local	All over the world
Participants' capabilities	Lower	World Class
Attractiveness of the events	Lower	Higher
Cost of the events	Lower	Higher

(P.270)

The current study interviewed 14 participants comprising 11 males and 3 females. Seven participants were local residents and the other seven were overseas visitors. The table shows the profile of the interviewees. Most of them have visited Rugby Sevens from one to six times. The age group ranged from 25 to 54 years. The average spending was from HK$2,000 to HK$28,000. The findings also demonstrated that visitors were willing to spend more in the events compared with local residents.

(P.275)

Stakeholder	Stance	Arguments
1. Participants	Benefits / Harms	Participants might lose a chance to interact with rugby teams from foreign countries. The preparation plan for Tokyo 2020 Olympic Games might be also hindered.
2. Audiences	Benefits / Harms	The local audiences might lose the opportunity to interact with tourists over a mutual passion. The foreign Audiences might miss the chance to support their favorite teams and Many people also regard the event as a spectacle in which "east meets west."
3. Residents live near the competition arena	Benefits / Harms	The residents might get rid of the annual traffic congestion, and noise or light pollution.
4. Hong Kong Rugby Association	Benefits / Harms	The Rugby Sevens is vital for the Rugby Union, given that it generates around 95 per cent of its annual revenue. Cancellation of the event may lead to budget shortage of the promotion of Rugby in Hong Kong.

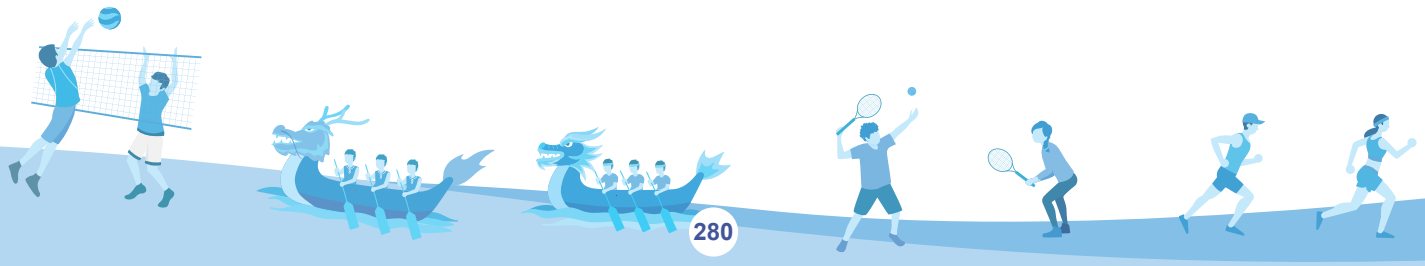
Stakeholder	Stance	Arguments
5. Government Official	Benefits / Harms	Cancellation of the event this year might lose about HK$400 million for the city's economy, visitors coming to Hong Kong during the three-day event will help develop and support different industries from which the community will benefit. The spending comes from visitors and local residents, and the major spending is found in food and beverage and the hospitality industry. The positive impression of Hong Kong as "Asia's world city" might also lose a chance to broadcast, the economic loss during COVID-19 might need more time to restore.
6. Bar Owners and Hotel Owners	Benefits / Harms	Local pubs and restaurants see a substantial boost in customers during the tournament; business jumps about 20 per cent during the tournament. Sevens attendees tend to stay quite a bit longer, many staying for a week or more. If the events are cancelled, they might loss the golden opportunity to make the profit after the COVID-19 pandemic.

(P.277)

5. Describe two positive influences of organising "M" Mark Events in Hong Kong on the economic and cultural aspects respectively.

Economic: (Any 2)

- ➔ To attract a large number of visitors to come and consume in Hong Kong. This benefits directly the catering services, advertising and accommodation.
- ➔ To improve city infrastructure, transportations, communications, environmental hygiene and etc.
- ➔ To create a positive brand image for Hong Kong so as to attract foreign expertise and capital.

Cultural: (Any 2)

- ➔ To construct different sports facilities for major sports competitions and some of these will become the cultural landmarks of Hong Kong.
- ➔ To elevate the awareness of building a healthy body, which promotes more citizens to participate in physical activities.