

WORLD'S FIRST AND FOREMOST CLIMATE CHANGE MUSEUM
全球第一所氣候變化博物館



賽馬會氣候變化博物館
JOCKEY CLUB MUSEUM OF CLIMATE CHANGE

Best for science and nature lovers

*Tatler's Ultimate Guide To Hong Kong Museums, Tatler Hong Kong
June 2020*

A nominee for the Climate Smart Award

*Leading Culture Destinations and SUNx
March 2020*

**An insightful, educational, influential, informative,
interactive and important museum**

*International Journal of Marketing Studies
May 2019*

A unique museum has been created

*Consulate General of France in Hong Kong & Macau
December 2016*

**The world's only museum specifically devoted to an issue that
many people...view as the most pressing one facing humankind**

*The New York Times
May 2015*

**A museum dedicated to climate change—the first of its kind
in Hong Kong and possibly anywhere in the world**

*Society of Woman Geographers
May 2014*



JOCKEY CLUB MUSEUM OF CLIMATE CHANGE
賽馬會氣候變化博物館

Work Sheet
for
Secondary School

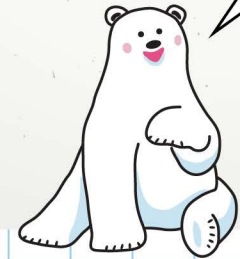
Name: _____

Class : _____

Work Sheet 1: Polar Research

- 📍 Xuelong's cabin
- 📍 'Arctic Expedition' video

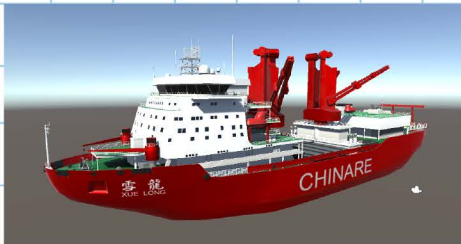
Let's go to the Arctic and begin our research voyage!



Question 1.1

Xuelong is China's largest _____.

- A. submarine
- B. icebreaking polar research vessel
- C. rescue boat
- D. cruise ship



Question 1.2

Scientists drill the sea floor for deep sea mud cores. Sea mud samples are collected from different representative depths for analysis. Why do they treat the samples in this way? What is the purpose of analysing sea mud?

Question 1.3

Inspectors have conducted various studies during the voyage and in the Arctic Research District. After watching the video, name two of these studies and briefly describe their objectives..

Research 1 :

Objectives :

Research 2 :

Objectives :



ice core drilling



sea floor drilling with gravity corer



releasing weather balloons



trawling

Work Sheet 2: Polar Ecosystem

📍 Marine species, Land species and Vegetation panels in Xuelong's cabin, Polar Gallery

Climate has a major environmental influence on ecosystems. Climate change can affect ecosystems in various ways.



Question 2.1

How does climate change affect the food web in the Arctic region?

Elaborate on the perspectives of sea ice melting, energy flow and biodiversity.



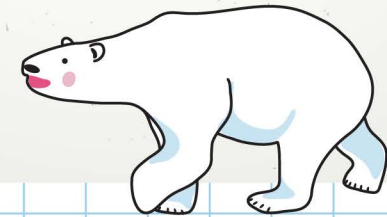
Poor Polar Bear

Question 2.2

During the Arctic Research Voyage, a polar bear gets lost and enters the Research Station... The polar bear asks, 'How does climate change threaten me?'

Work Sheet 3: Evidence on Climate Change

In 2013, the Fifth Assessment Report released by the Intergovernmental Panel on Climate Change (IPCC) concluded that 'it is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century'.



Polar Gallery and projection on its round table

Question 3

A student is revising his knowledge of climate change. Look at his notebook below. Help him to correct any mistakes in his notes.

Arctic Ocean Secondary School Unit 2: Climate Change and its Impacts

Name: Ng Tai Ming
Class: S5B
No: 13

Key points

e.g.) Climate change is a long term phenomenon. What we see every day, we call 'weather'.

☒ True ☐ False

#Revision Note

e.g.) ~~Sea ice~~ ^{Glacier} melting is one of the causes of the rise in global sea levels.

☐ True ☒ False

1) The greenhouse effect is a man-made phenomenon.

☐ True ☐ False

2) Climate change has both natural and artificial causes.

☐ True ☐ False

3) The increase of temperature in the Arctic regions is slower than that in other regions of the world.

☐ True ☐ False

4) Most of the world's fresh water reserve is stored in lakes.

☐ True ☐ False

5) One research technique used by scientists is to drill ice cores in glaciers.

☐ True ☐ False

6) Warmed sea water will expand and cause sea levels to rise.

☐ True ☐ False

7) The concentration of atmospheric carbon dioxide is presently at a historically high level, well above

☐ True ☐ False

its usual levels in the past 800,000 years.

You can cross out the wrong words and write the correct ones above them.



Work Sheet 4: Impacts of Climate Change

📍 Polar Gallery

📍 Remote Sensing and Environmental Monitoring

Even if human activities
lead to global warming,
how does it relate to us?



Question 4.1

The sea ice coverage in the Arctic Ocean is shrinking. How does this affect sailing routes in the region?
Is this development good or bad? Explain briefly.

Question 4.2

Explain the relationship between permanent glacier retreat and freshwater supply.

Question 4.3


Scientists use remote sensing and environmental monitoring technologies to monitor environmental variations. Describe one such variation, and explain how climate change has led to this phenomenon.



Work Sheet 5:

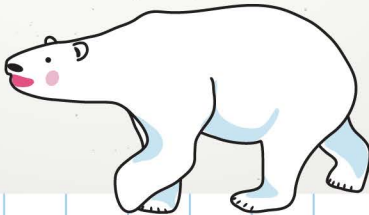
Control and Mitigation on Climate Change:

On Research Perspectives



Research and Innovation at CUHK

How can research and innovation help to mitigate the effects of climate change?



The ‘Research and Innovation at CUHK’ section describes how scholars at CUHK are pursuing innovative research to confront the challenges of climate change.

Applying Urban Climatic Information in Urban Planning for a High-density City

Question 5.1

Demand for housing in Hong Kong is high. Imagine that you are an architect who is planning a housing project. Taking into account the two urban climate models you see here, name two factors that you think can assist the city’s sustainable development and briefly explain their advantages and disadvantages. #Hints: Think about building density, construction materials, urban greening and public facilities.

I consider:

	Pros	Cons
Factor 1:		
Factor 2:		

Renewable Energy

Question 5.2

Researchers are looking into the potential of solar energy and wind energy in Hong Kong. In the future, how can renewable energy be incorporated into our daily lives? What other kinds of renewable energy can be developed? Be creative. Write down your ideas and explain how they could help to reduce our reliance on fossil fuels.

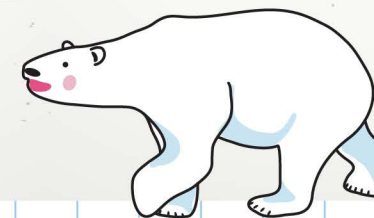
We could use renewable energy in the following areas:	I recommend that we should develop the following types of renewable energy:
1:	1:
2:	2:

Work Sheet 6:

Control and Mitigation
on Climate Change:
On Low Carbon Lifestyle

- 📍 The Hong Kong Jockey Club Green Gallery
- 📍 Action Pledge Studio

What can individuals do to
alleviate climate change?



Many community organizations are now conducting environmental protection work to support the research being done by scientists. In The Hong Kong Jockey Club Green Gallery, let's explore how communities can work together to combat the threat of climate change.

Hong Kong Green Action

Question 6.1

List three methods that we could adopt to reduce carbon emissions on campus.

1.

2.

3.

Recycling is the separation of
a waste product into its
constituent raw materials,
which are then reused to
produce other useful materials.
Upcycling involves finding a new
use for a waste product without
recycling it.

Waste Management Hierarchy

Question 6.2

Mr Chan has recently been elected as a Councillor for the North Pole District. During the election period and after the celebration party, the following materials are left over:

Suggest a "green election" proposal to Mr Chan, so that he could reduce the quantity of waste that has to be disposed into landfill because of the election and the celebration party.



	publicity banners	posters and leaflets	election T-shirts
This can be:			
This is for:	<input type="checkbox"/> Upcycling <input type="checkbox"/> Recycling	<input type="checkbox"/> Upcycling <input type="checkbox"/> Recycling	<input type="checkbox"/> Upcycling <input type="checkbox"/> Recycling

Action Pledge Studio

Question 6.3

As you walked through this Climate Change Voyage, did you find anything to inspire you? After you finish the voyage, take a photo in the Action Pledge Studio and make a carbon reduction promise. You can obtain the photo through email, share it on social media and call on people to save the Earth together!

My promise is:

At home, I am willing to:

At school, I will:

I will encourage others to: