

**The Chinese University of Hong Kong  
Jockey Club Museum of Climate Change**

Work Sheets (Answers)

For Primary School Students (Abridged Version\*)

**Work Sheet 1: Polar Research**

1.1 \* B

1.2 \*

Ice core drilling: to review gas data from different ages extracted from snow samples and to analyse changing greenhouse gas content in the polar regions

Trawling: to collect live samples of marine organisms and estimate changes in species quantity

Releasing weather balloons: to collect air and atmospheric information for local gas composition analysis

Sea floor drilling with gravity corer: to collect deep sea muds and sediments for greenhouse gas contents analysis and to evaluate ongoing climate change in the region

**Work Sheet 2: Polar Ecosystem**

2.1 Krill → Arctic cod → Ringed seal → Polar bear

2.2 No model answer. Any thoughtful answer that is relevant to the topic is acceptable. For example: Polar bears are forced to leave their usual hunting grounds on the sea ice and search for food further afield. But melting sea ice may prevent them from completing the long return journey. Some may even starve to death.

**Work Sheet 3: Evidence on Climate Change**

3.1 a\* D

3.1 b\* C

3.2 \* Cross out are not

3.3 \* Sea ice coverage: shrinking; Sea levels: rising; Carbon dioxide concentrations: increasing;  
Global temperatures: rising

**Work Sheet 4: Impacts of Climate Change**

4.1 \* Cross out cool; wastes / sewage; decrease / irregular change

5 Students can freely express their opinions as long as these opinions are relevant to the topic.

5.1 \* No model answer. Any thoughtful answer that is relevant to the topic is acceptable. For example: extreme temperatures, rise in sea level, extreme precipitation, flooding, drought

**Work Sheet 5: Control and Mitigation on Climate Change: On Research Perspectives**

5.1 \* Students can freely express their opinions as long as these opinions are relevant to the topic.

5.2 \* Low-cost Industrial Production of Efficient Solar Panels / Solar-driven Photocatalytic Formation of Hydrogen from Water / High-efficiency Photon Energy Upconversion

**Work Sheet 6: Control and Mitigation of Climate Change: Adopting a Low Carbon Lifestyle**

6.1 Repair and reuse / Bring your own reusable tableware / Save paper

6.2 6.2、6.3\* Students can freely express their opinions as long as these opinions are relevant to the topic.

For Secondary School Students (Abridged Version\*)

### **Work Sheet 1: Polar Research**

1.1 B

1.2 To collect deep sea muds and sediments for greenhouse gas contents analysis, and to evaluate the progress of global climate change

1.3\* Any two of the following

- (1) Sea floor drilling: to collect deep sea muds and sediments for greenhouse gas contents analysis, and to evaluate the progress of global climate change
- (2) Releasing weather balloons: to collect air and atmospheric information for local gas composition analysis
- (3) Trawling: to collect live samples of marine organisms and estimate changes in species quantity
- (4) Ice core drilling: through observation of cross sections of sea ice thickness and albedo, to evaluate changes in greenhouse gas content

### **Work Sheet 2: Polar Ecosystem**

2.1\* Students can freely express their opinions as long as these opinions are relevant to the topic.

2.2 No model answer. Any thoughtful answer that is relevant to the topic is acceptable. For example: Polar bears are forced to leave their usual hunting grounds on the sea ice and search for food further afield. But melting sea ice may prevent them from completing the long return journey. Some may even starve to death.

### **Work Sheet 3: Evidence on Climate Change**

2, 5, 6, 7: True

1: False. Replace 'man-made' with 'natural'

3: False. Replace 'slower' with 'faster'

4: False. Replace 'lakes' with 'glaciers'

\*1, 4, 7, 8, 9: True

\*2: False. Replace 'Sea ice' with 'Glacier'.

\*3: False. Replace 'man-made' with 'natural'

\*5: False. Replace 'slower' with 'faster'

\*6: False. Replace 'lakes' with 'glaciers'

### **Work Sheet 4: Impacts of Climate Change**

4.1、4.2\*、4.3\* Students can freely express their opinions as long as these opinions are relevant to the topic.

### **Work Sheet 5: Control and Mitigation on Climate Change: On Research**

5.1\*、5.2\* Students can freely express their opinions as long as these opinions are relevant to the topic.

### **Work Sheet 6: Control and Mitigation of Climate Change: Adopting a Low Carbon Lifestyle**

6.1\*、6.2\*、6.3\* Students can freely express their opinions as long as these opinions are relevant to the topic.