

Name: _____

Date: _____

Class: _____

IB Environmental Systems and Societies

7.3 Climate Change – Mitigation and Adaptation

Significant ideas:

Mitigation attempts to reduce the causes of climate change

Adaptation attempts to manage the impacts of climate change



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Mitigation

1. Describe what is meant by the term "mitigation":

2. Complete the sentences below about climate change mitigations

emissions industrial revolution carbon dioxide immediately
greenhouse gas limit past emissions

Mitigation strategies to reduce the causes of climate change may involve reducing _____ emissions, or by using _____ reduction (CDR) techniques. Limiting the amount of greenhouses gases in the atmosphere may help _____ the extent of anthropogenic global climate change, but this would not happen _____. If we somehow limit _____ to pre-1840s (pre _____) levels, the effects of climate changed will still be observed for some time because _____ will continue to have an effect for years to come.

3. Mitigation strategies often involve attempts to reduce the release of greenhouse gases into the atmosphere.

The table below lists some of the ways that greenhouse gas levels could be reduced. For each one add at least two more suggestions as to how these ideas might be implemented.

Strategy	Examples
Reduce energy consumption	1. Use heating and air conditioning less at home. E.g. wear more layers to keep warm or use a fan instead of an air con. 2. _____ 3. _____
Reduce agriculture methane emissions	1. Avoid wool products (as sheep produce methane) 2. _____ 3. _____
Reduce oxides of nitrogen emissions	1. "Congestion charges" in cities can be implemented by governments to reduce car use 2. _____ 3. _____
Use alternatives to fossil fuels	1. Governments should invest in wind farms 2. _____ 3. _____
Geo-engineering	1. Release sulphur dioxide from planes as this may increase global dimming 2. _____ 3. _____

Optional revision task: look at your examples above and decide which environmental value system is reflected in each one.

4. Carbon dioxide removal (CDR) is potentially a useful way to mitigate climate change causes. Summarise the following CDR techniques. Add examples where relevant:

Protecting/enhancing carbon sinks

Bio-fuels

Carbon capture storage

Enhancing ocean absorption



Adaptation

1. Describe what is meant by the term "adaptation" with regards to climate change.

2. Describe possible strategies of adaptation to climate change. Use the headings to guide your answer

Vaccination programmes

Flood defense

Desalination

New crop locations

New crop types

Weather control



Migrate

3.

a) Explain what is meant by the term "adaptive capacity"

b) In your opinion, does your home nation have relatively small, medium or large adaptive capacity? Justify your opinion.



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International efforts towards tackling climate change

1. Explain why international efforts to tackle climate change are necessary.

2. Complete the table below to summarize the details and work of the IPCC

Full title for the IPCC:	
Established in the year...	
Established by...	
Number of climatologists involved:	
Main activity:	
Years in which reports were published:	

3. Describe the Kyoto protocol and evaluate its effectiveness.

4. In the space below, draw a timeline of major international commitments for tackling climate change.



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