

UNESCO TEACHING AND LEARNING FOR A SUSTAINABLE FUTURE

MODULE 19 | CLIMATE CHANGE

Activity 1 – “Get the facts on the world’s hottest topic”

Q1: Identify the level of scientific certainty in these sentences from the Nautilus Institute.

Nautilus Institute Sentences	Tick if science is...	
	Certain	Uncertain
Earth is facing a climate catastrophe caused by human action.		
Scientifically, there is no longer any doubt that pollutants from the combustion of fossil fuels and other human activities are accumulating in the atmosphere, trapping radiation, and raising temperatures.		
There remains some uncertainty about the precise timing and magnitude of the warming, and about the impacts that will result from it, but this is due as much to uncertainties about how we, as humans, respond to the problem as to scientific uncertainties.		
Many types of impact are predictable and some are likely already under way: rising temperatures, changes in rainfall levels and seasonality; increased incidence of extreme weather events such as droughts, floods and hurricanes; sea level rise; the melting of polar ice and glaciers.		
The ecological and human impacts resulting from these changes are expected to include desertification, loss of tropical forests and coral reefs, declines in agricultural productivity, extinction of species, water shortages, growing casualties from natural disasters, and the spread of tropical diseases.		
Whether the scale of these impacts brings just a further decline in environmental quality and social well-being or leads to a truly catastrophic collapse that leads to starvation, massive migration, and resource wars, will depend on human action during the next several decades, and on the possibility of unanticipated response in the climate system to increasing temperatures and greenhouse gas concentrations.		

Q2: In addition to climate change, list five other subjects you might teach in Education for Sustainable Development where there are also opportunities to achieve the educational benefits of working with students about uncertainty and precaution.

Subject	What are the areas of certainty and uncertainty?
1.	
2.	
3.	
4.	
5.	

Q3: How severely will climate change affect your country or region?

Q4: What advice would you give the governments of the Amazon region about how to minimize the impacts of increased temperatures on the rainforest?

Q5: What advice would you give the Shipibo people about adapting to the changed climatic conditions along the River?

Q6: In what ways is your community experiencing the impacts of climate change?

Q7: Which of the nine impacts is the most likely to affect your local community? Why?

Q8: Which of the nine impacts is least likely to affect your local community? Why?

Q9: Who do you think will be most affected by this impact? Why?

Q10: What options are being explored in your community to try to adapt to these environmental changes?

Q11: The Commonwealth Foundation identified two ethical arguments about climate change. Identify passages in the text to support these views.

Ethical issue	Passage in the text
<i>Climate change is a major cause of poverty.</i>	
<i>The cost of addressing climate change will slow progress towards Millennium Development Goals in many poorer countries</i>	

Q12: Identify five ethical issues in the World Bank's concerns about climate change and development. Quote passages in the text to support these concerns.

Ethical issue	Passage in the text
1.	
2.	
3.	
4.	
5.	

Q13: Identify three ethical issues in the AOSIS concerns about climate change and development. Quote passages in the text to support these concerns.

Ethical issue	Passage in the text
1.	
2.	
3.	

Q14: Explain the ethical issue about climate change in this graph.

Q15: How do these examples of ethical issues compare with the triple injustice of climate change identified by New Internationalist magazine?

Q16: What are the major ethical issues about climate change in your country? To what extent are they similar or different from the ones identified in this activity? Why?

Q17: Mitigation seeks to reduce the amount of carbon in the atmosphere but adaptation seeks to help us reduce the effects of carbon in the atmosphere. Which approach do you think is the most important? Why?

Q18: Summarise the actions that Lord Stern believed have to be taken by:

Countries	Actions
1. Developed countries	
2. Developing countries	
3. Middle income developing countries	
4. All countries	

Q19: Compare the cost of effective international action on climate change to the cost of fixing other global problems.

Q20: Which of the actions recommended by An Inconvenient Truth would/do you find (i) easy and (ii) difficult to take? Why?

Actions	Explanation
Easy to take 1. 2. 3.	
Difficult to take 1. 2. 3.	

Q21: Do you think that the list of actions recommended in An Inconvenient Truth are too individualistic and best suited to people who live in rich developed countries. Why?

Agree	Disagree	Reason:

Q22: If it is true that the actions are too individualistic and best suited to people who live in rich developed countries, why do you think Al Gore might have developed such a list?

Q23: Conduct an Internet search for your country in relation to:

Search terms	Number of websites
1. <'climate change' + 'what you can do'>	
2. <'climate change' + 'what governments can do'>	
3. <'climate change' + 'what corporations can do'>	
4. <'climate change' +	

'what companies can do'>	
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Q24: Compare the results from the Internet search in your country with the results of the search in Australia. Why might there be any similarities or differences?

Search terms	Number of websites		
	Worldwide	Australia	Your country
1. <'climate change' + 'what you can do'>	261,000	16,100	
2. <'climate change' + 'what governments can do'>	2,340	146	
3. <'climate change' + 'what corporations can do'> plus <'climate change' + 'what companies can do'>	1,405	12	

Q25: Why do you think that there are more websites on what individuals can do about climate change than what companies and governments can do?

Q26: Categorise the following ten strategies for mitigating and adapting to climate change according to their relevance for individuals, families, communities, governments and businesses. Place a tick in relevant boxes for each strategy. It is possible that each strategy may be relevant to more than one group.

Strategies	Individuals	Families	Communities	Governments	Businesses
Lifestyle Changes					
Thinking Long-term					
Innovation					
Population					
Healing Land					
Strong Institutions					
The Equity Imperative					
Economic Stability					
Political Stability					
Mobilizing for Change					

Q27: Identify three of these strategies that you would be able to integrate into your teaching about climate change and other sustainable development topics. Briefly explain how.

Strategy	Briefly explain you could integrate it into your teaching about climate change and other sustainable development topics.
1.	
2.	
3.	

Q28: What does UNESCO identify as the four implications for education about climate change? Which is the most significant in your country? In your school? In your teaching? Why?

Four implications	
1.	
2.	
3.	
4.	
Most significant implication	Reason
... in my country	
... in my school	
... in my teaching	

Q29: To what extent do you feel comfortable about being able to teach towards the eight themes identified by UNESCO, where:

1 = very uncomfortable

2 = uncomfortable

3 = comfortable

4 = very comfortable?

Why?

Theme	Level of comfort (√)				Reason
	1	2	3	4	
1. Scientific concepts and processes associated with climate change					
2. Certainties, uncertainties, projections and risks associated with climate change					
3. History and interrelated causes of climate change					
4. Mitigation and adaptation practices, including abilities to participate in such practices					
5. Consequences and what is being learned about mitigation and adaptation to climate change					
6. Time-space dynamics of climate change					
7. The different interests that shape different responses to climate change ... and abilities to critically judge the validity of these interests in relation to the public good					
8. Critical media literacy					

Q30: UNESCO suggests that climate change education should be (i) transformative and (ii) practice and solution-centred. Identify the modules in *Teaching and Learning for a Sustainable Future* that would provide advice on these two aspects of teaching and learning.

Teaching and Learning Approach	Relevant Modules in <i>Teaching and Learning for a Sustainable Future</i>
Transformative	
Practice and solution-centred	

UNESCO suggests that schools could conduct a policy dialogue with different stakeholders on various questions about education and climate change. This could be a dialogue at the national level of education and/or climate change policy – or it could be at the local school level.

Q31: Identify the stakeholder groups you would invite to a policy dialogue on climate change and education in your school community? What goal or outcome would you like from the discussion of each question?

Stakeholders to Invite to School Level Policy Dialogue

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Dialogue Questions	Desired Outcome of Dialogue at the School Level
Does the education system include approaches to education that focus on the causes (mitigation) and consequences (adaptation) of climate change? Are these approaches transformative or merely technical?	
To what extent does the education system include new concepts and content required to address climate change?	
To what extent are the aims and objectives underpinning the	

education system congruent with the need to mitigate and adapt to climate change? Do they reflect principles of Education for Sustainable Development?	
Does the education system support the development of creative and critical thinking skills and problem solving actions?	
Are participatory practice- and solution-centred approaches evident?	
Are climate change issues integrated into the formal curriculum and into teacher education programmes?	
Are climate change issues introduced into community learning system?	