

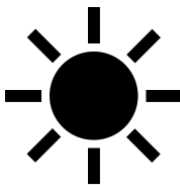

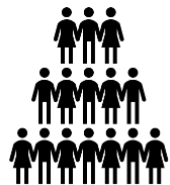



Lesson 2: What causes climate change?

You will need access to the [TEM Climate Change Explorer](#) for this lesson


There's a lot we still don't know about the way our planet works including the details of how and why climate changes. But we know from the research by scientists where the clues are that we need to investigate:

Fossils 	Ice 	Sun 	Volcanoes 	Us 
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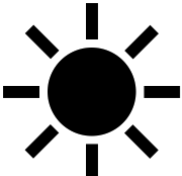
Exercise 1

	
Fossils of animal and plant life discovered in the ground can tell us a lot about how climate has changed in the past. On the Climate Change Explorer, search for Smallest Antarctic Fossil and read the story	
What is the name of the fossil discovered there?	Your answer
What kind of environment do they like to live in?	Your answer
Could the fossil have lived in that area now? If not, why not?	Your answer


Exercise 2


	
<p>There are also clues about climate change trapped in the ice of Greenland and Antarctica which scientists have revealed.</p> <p>On the Climate Change Explorer, search for Time Capsules of Ice and watch the films</p>	
<p>What does the graph produced from analysing the ice core tell us about climate change?</p>	<p>Your answer</p>

Exercise 3

	
<p>We know that slight changes in how the Sun works and how the Earth orbits round the Sun are responsible for past regular changes in temperature and CO₂ (ice ages). Scientists have sent high powered telescopes into space including one trained on the Sun, our closest star, which has been studying how the Sun works since 2010.</p> <p>On the Climate Change Explorer, search for The Sun and watch the film about NASA's project.</p>	
<p>What have you discovered about how the Sun works?</p>	<p>Your answer</p>

Exercise 4

	
<p>We know that volcanoes and volcanic activity both on land and underwater release gases from deep within the Earth that naturally contribute CO₂ into the atmosphere. There are about 1,500 potentially active volcanoes in the world today, and millions of volcanoes that have been active at some point in the Earth's past. Each time a volcano erupts it sends rock and gases from inside the Earth's crust (surface) out into the atmosphere.</p> <p>On the Climate Change Explorer, search for Krakatoa and watch the first film to find out more about the impact of this one major volcanic eruption on the Earth's weather systems.</p>	
<p>What have you discovered about the impact of volcanic eruptions on our weather?</p>	<p>Your answer</p>

	
<p>Since the Industrial Revolution began in the early C19th people across the world have been removing the Earth's natural carbon stores by mining and drilling – coal, gas and oil – burning them to create power for machinery, electricity, heat – and pumping the waste CO2 and other gases into the atmosphere.</p> <p>On the Climate Change Explorer, search for The First Factory and find out how the actions of people over the last 250 years has tipped planet Earth into a scale of climate change now that is potentially disastrous for everything everywhere living on planet Earth, including you. Unless we do something URGENTLY about it.</p>	
What have you discovered?	Your answer