

2040 - Solutions to Climate Change



Name _____

Class _____

Student Worksheet

Thought-starter: How can we use nature to stop Climate Change?

Actions for Meeting the Challenge of Climate Change

You will now complete a Think Pair Share activity to create a definition for each of the following terms:

- Reducing carbon production
- Carbon sequestration

Begin by working independently to record your initial thoughts in Column A of the table below. Once complete, you can team up with a classmate and discuss your ideas, adding new thoughts to Column B.

	Column A	Column B
Reducing carbon production		
Carbon sequestration		

Solutions to Climate Change

The threat of climate change has meant that some people are thinking of highly creative ways of meeting the challenge of climate change. These loosely fall into two categories:

- **Technological solutions** – These are solutions that require human-engineered technologies to remove carbon and reduce global heating. These solutions are often described as ‘Geoengineering’ and come with a lot of feasibility questions and ethical considerations.
- **Natural solutions** – These are solutions that require us to work with nature, using existing resources and natural processes to sequester carbon... "Natural climate solutions can help address climate change in three ways:
 - Reducing greenhouse gas emissions, such as carbon dioxide (CO₂), related to land use and changes in land use
 - Capturing and storing additional carbon dioxide from the atmosphere
 - Improving resilience of ecosystems, thereby helping communities adapt to the increase in flooding and dry spells associated with climate change." ([Source](#))

In this lesson you will be focusing on natural solutions as these are solutions that currently exist and that have been tested. The solutions you will be focusing on include:

1. Reforestation
2. Avoided Deforestation
3. Coastal Restoration
4. Regenerative Agriculture
5. Marine Permaculture
6. Biochar
7. Rewilding

You will be working in groups to research one or more of these solutions and answer the following questions (your teacher will advise you one which or how many solutions to focus on).

Resources to support you in your research:

1. Reforestation - Article: [Massive restoration of world's forests would cancel out a decade of CO₂ emissions, analysis suggests](#)
2. Avoided Deforestation - Book extract: [Halting deforestation is essential for climate stability](#)
3. Coastal Restoration - Article: [The ocean and climate change](#)
4. Regenerative Agriculture - Article: [Look after the soil, save the Earth: farming in Australia's unrelenting climate](#) and [2040: Regenerative Agriculture](#)
5. Marine Permaculture - Article: [How farming giant seaweed can feed fish and fix the climate](#) and [2040: Marine Permaculture](#)
6. Biochar - Article: [Biochar](#)
7. Rewilding - Article: [In-depth: Could 'rewilding' help to tackle climate change?](#)

Questions to guide article analysis and reflection:

1. What points about the solution you looked at do you think are interesting, important or promising?

2. What points do you think are problematic or challenging?

3. What do you think is the role of science in making decisions about climate change solutions?

4. What do you think about the natural solution you looked at as a solution for climate change?

5. What questions do you have about this solution?

Reflection

Work independently to think about this lesson and complete the activity below:

1. How are the ideas presented in this lesson connected to what you already know?

2. What new information did you get that extended your thinking?

3. What is still challenging or confusing for you?

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