

## Biospheric Processes

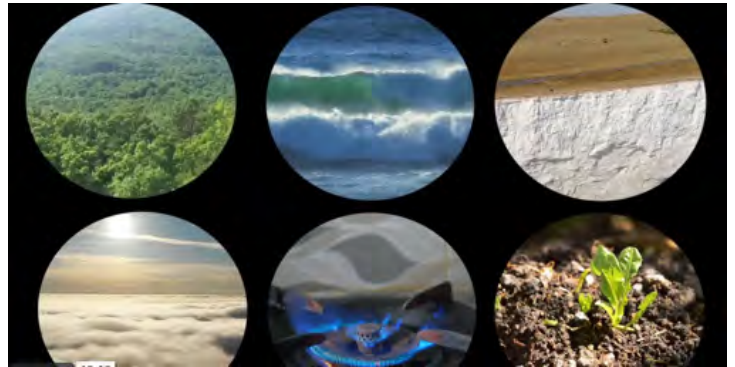
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The biosphere is all the living things on Earth. Processes related to the biosphere are central in the creation of environments.

Some of the processes related to the biosphere include:

- evolution
- carbon cycle
- oxygen cycle
- photosynthesis
- food chains and food webs
- population fluctuations and movements

In today's lesson we will be covering the carbon cycle, oxygen cycle and photosynthesis.



### Carbon Cycle, Oxygen Cycle and Photosynthesis

#### Inquiry Questions

- Where are the major stores of carbon found on the earth?
- How does carbon move through the short term carbon cycle?
- How does carbon move through the long term carbon cycle?
- What are the processes that use and produce oxygen?

Watch *Stores of Carbon on Planet Earth* – [https://timeforgeography.co.uk/videos\\_list/carbon-cycle/carbon-cycle-stores/](https://timeforgeography.co.uk/videos_list/carbon-cycle/carbon-cycle-stores/)

1. What % of biomass is made up of carbon? \_\_\_\_\_
2. What % of carbon makes up our bodies? \_\_\_\_\_
3. How is carbon distributed around the earth? Complete the table on the following page:

# CLASSROOM ACTIVITY: ENVIRONMENTAL CHANGE

MAJOR STORES OF CARBON ON THE EARTH	DESCRIPTION	%
Biosphere	Trees, plants	

Watch *The Long-Term Carbon Cycle* – [https://timeforgeography.co.uk/videos\\_list/carbon-cycle/long-term-carbon-cycle/](https://timeforgeography.co.uk/videos_list/carbon-cycle/long-term-carbon-cycle/)

4. Define sequestration .....

5. Explain how carbon moves through the long-term carbon cycle?

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Watch *The Short-Term Carbon Cycle* – [https://timeforgeography.co.uk/videos\\_list/carbon-cycle/short-term-carbon-cycle/](https://timeforgeography.co.uk/videos_list/carbon-cycle/short-term-carbon-cycle/)

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# CLASSROOM ACTIVITY: ENVIRONMENTAL CHANGE

6. Explain how carbon moves through the short-term carbon cycle?

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## Oxygen Cycle

Read: [https://www.ducksters.com/science/ecosystems/oxygen\\_cycle.php](https://www.ducksters.com/science/ecosystems/oxygen_cycle.php)

7. How is oxygen used and cycled by plants and animals? Support your answer with a labelled diagram.

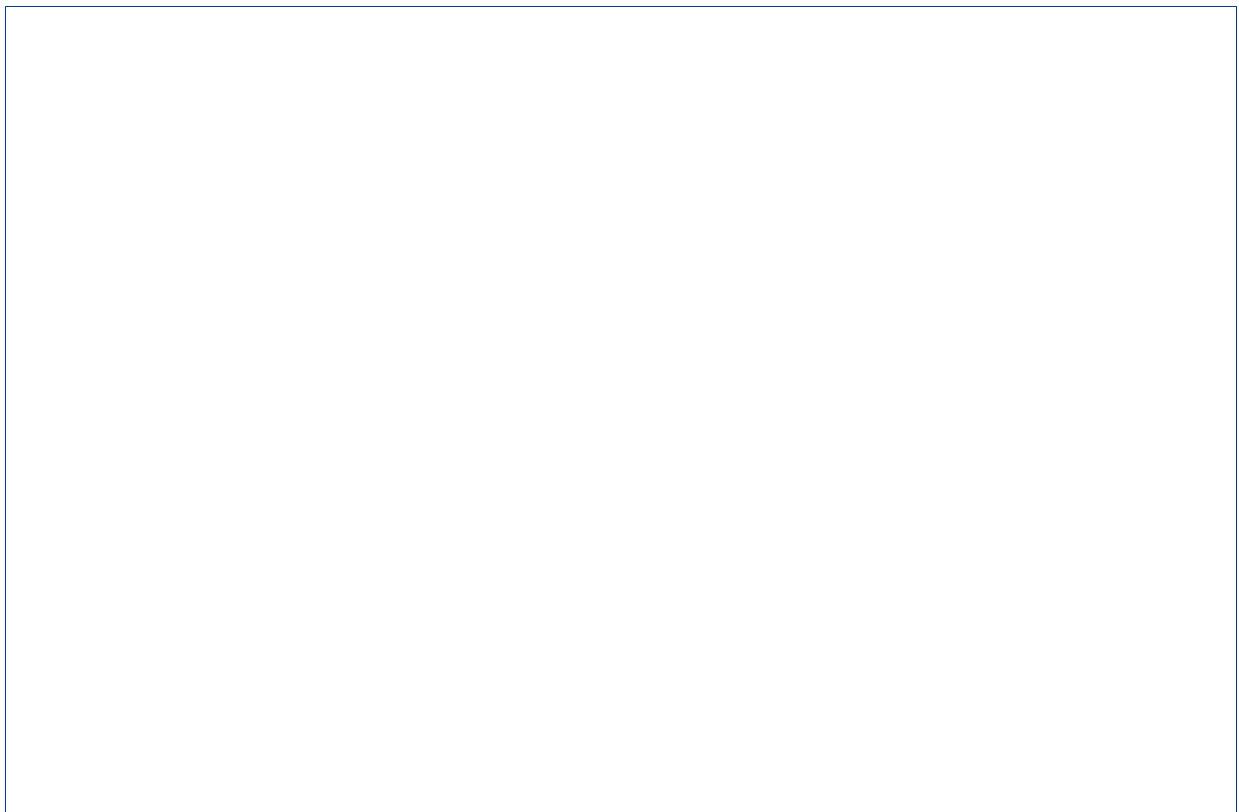
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# CLASSROOM ACTIVITY: ENVIRONMENTAL CHANGE

8. Outline the processes that use oxygen (breathing, decomposing, rusting and combustion).

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9. Outline the processes that produce oxygen (plants and sunlight).

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10. Complete the Quiz – (post your result on the MS Teams assignment page) [https://www.ducksters.com/science/quiz/oxygen\\_cycle\\_questions.php](https://www.ducksters.com/science/quiz/oxygen_cycle_questions.php)

11. List 3 additional questions or activities about the biosphere you can think of as a result of completing this activity. For example, 'Predict what would happen to our planet if carbon is not sequestered from the atmosphere,' 'How important is the biosphere in sequestering carbon?'

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Source: <https://climatereality.co.za/carbon-sinks-management/>