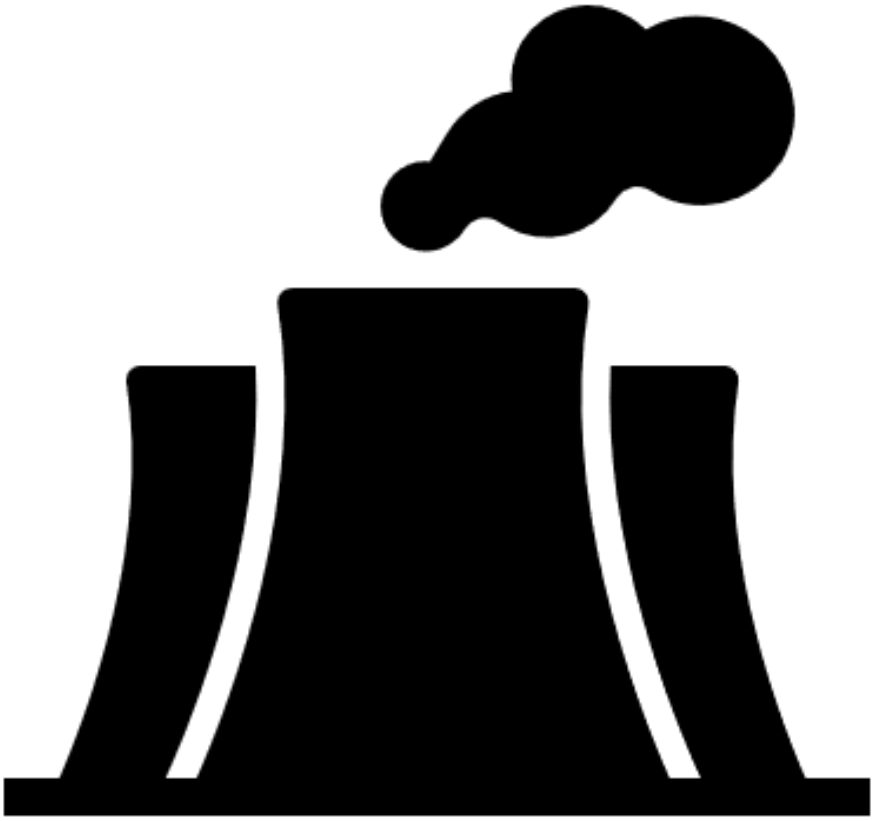
Air pollution



L1 The Carbon Cycle

We're going to explore a fascinating process that's crucial for life on Earth: the carbon cycle. Imagine it like a big recycling system for carbon, where it moves between different places like the air, land, water, and living things. Let's break it down into some easy-to-understand steps.

Step 1: Carbon Dioxide in the Atmosphere

First off, we have carbon dioxide (CO_2) in the atmosphere. This is a gas that's naturally present in the air, and it's also released when we burn fossil fuels like coal, oil, and gas. Plants use carbon dioxide during photosynthesis, which is when they make their own food.

Step 2: Photosynthesis

Next up is photosynthesis, which happens in plants. During photosynthesis, plants take in carbon dioxide from the air, along with water and sunlight, and they use these ingredients to make glucose (a type of sugar) and oxygen. This process is super important because it's how plants grow and produce oxygen for us to breathe.

Step 3: Respiration

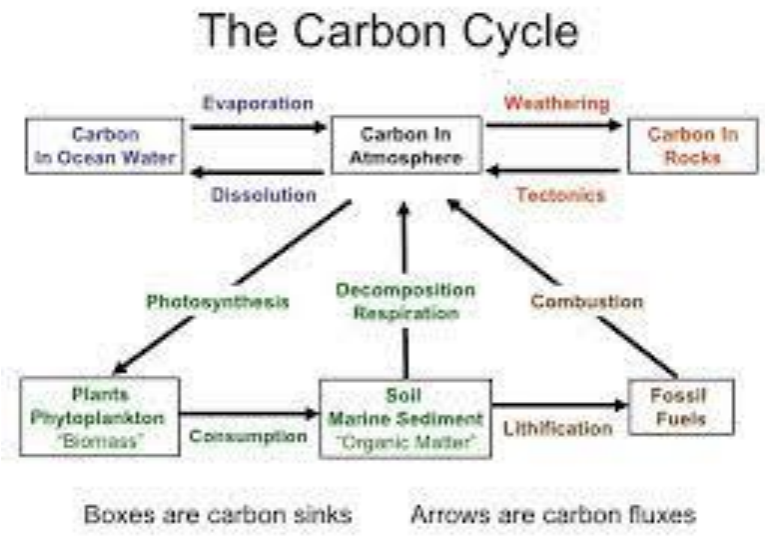
After plants make glucose through photosynthesis, they use some of it as energy to carry out their life processes. This process is called respiration, and it happens in plants and animals. During respiration, plants and animals release carbon dioxide back into the air as a waste product.

Step 4: Decomposition

Now, let's talk about decomposition. When plants and animals die, their bodies break down, and microorganisms like bacteria and fungi help with this process. As they break down, they release carbon dioxide back into the air and nutrients into the soil, which helps new plants grow.

Step 5: Fossilization

Lastly, we have fossilization. When plants and animals die in certain conditions, like underwater or in swamps, they can become fossil fuels over millions of years. Fossil fuels like coal, oil, and gas store carbon from ancient plants and animals. When we burn these fuels for energy, we release carbon dioxide back into the atmosphere, completing the cycle.



Independent practice

1. What is the carbon cycle, and why is it important for life on Earth?
2. Explain how carbon dioxide moves between the atmosphere and plants during photosynthesis.
3. What happens to the carbon in plants and animals during respiration?
4. Describe the role of decomposition in the carbon cycle.
5. **Extended Writing:** Imagine you are a carbon atom going through the carbon cycle. Write a story describing your journey from the atmosphere to a plant, through an animal, and eventually back into the atmosphere.

L2

Insert explanation.

Independent practice

Insert 14 questions including two extended writing questions.

L3 Title

Insert explanation.

Independent practice

Insert 14 questions including two extended writing questions.

L4 Title

Insert explanation.

Independent practice

Insert 14 questions including two extended writing questions.

L5 Title

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Independent practice

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L6 Title

Insert explanation.

Independent practice

Insert 14 questions including two extended writing questions.