The Carbon Cycle

Worksheet (Grade Level) Name _____

Question 1

Describe the role of photosynthesis in the carbon cycle. How does it help move carbon between Earth's spheres?

Question 2

Explain how carbon moves from living organisms back into the atmosphere. What processes are involved?

Question 3

What happens to carbon when plants and animals die? How can this lead to the formation of fossil fuels?

Question 4

How does combustion affect the carbon cycle, and why is it a concern for the environment?

Question 5

The ocean plays an important role in the carbon cycle. How does it absorb and store carbon?

Question 6

How can human activities disrupt the natural balance of the carbon cycle? Give two examples.

Question 7

What are some ways we can help restore balance to the carbon cycle and reduce excess carbon in the atmosphere?

The Carbon Cycle

Worksheet (Higher Level) Name _____

Question 1

Explain the biochemical process of photosynthesis in relation to the carbon cycle. How does it contribute to carbon sequestration, and what factors influence its efficiency?

Question 2

Cellular respiration is often described as the reverse of photosynthesis. Analyze how this process contributes to the movement of carbon through Earth's spheres.

Question 3

Describe the process of carbon burial and fossil fuel formation. How do geological timescales affect the cycling of carbon, and what implications does this have for modern carbon emissions?

Question 4

Evaluate the impact of combustion on atmospheric CO_2 levels. How does this process disrupt carbon equilibrium, and what are the long-term consequences for climate systems?

Question 5

Discuss the role of the ocean as a carbon sink. How do physical and biological processes regulate carbon absorption, and what are the risks of ocean acidification?

Question 6

Analyze the ways in which anthropogenic activities have altered the natural carbon cycle. What feedback loops could amplify these changes, and how might ecosystems respond?

Question 7

Propose and justify potential solutions for mitigating excess carbon emissions while considering economic, technological, and ecological factors.

The Carbon Cycle

Worksheet (Lower Level) Name _____

Question 1

How do plants use carbon dioxide from the air?

Question 2

What happens when animals breathe out? How does that affect the air?

Question 3

When a tree dies, where does its carbon go?

Question 4

What happens when we burn things like coal, wood, or gas? How does that change the air?

Question 5

How does the ocean help keep carbon from building up in the air?

Question 6

How do people change the amount of carbon in the air? Can this be a problem?

Question 7

What are some things we can do to help keep the air and Earth healthy?