

The Carbon Cycle Worksheet

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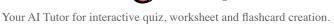
Part 1: Building a Foundation	
What is the primary process by which plants convert carbon dioxide into organic matter?	
Hint: Think about the process that plants use to create their food.	
Respiration	
Photosynthesis	
Decomposition	
Combustions	
Which of the following are considered major carbon reservoirs? (Select all that apply)	
Hint: Think about where carbon is stored in the environment.	
Atmosphere	
biosphere	
Oceans	
Sun	
Explain the role of the oceans in the carbon cycle.	
Hint: Consider how oceans absorb and release carbon.	
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List two human activities that significantly impact the carbon cycle.



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Hint: Think about activities that release or sequester carbon.
1. Activity 1
2. Activity 2
Which of the following best describes the carbon cycle?
Hint: Consider the interactions of carbon in different spheres of the Earth.
○ A process that occurs only in the atmosphere
A cycle that involves the exchange of carbon among Earth's spheres
A method for producing fossil fuels
A system that only affects plant life
Part 2: Comprehension and Application
How does deforestation affect the carbon cycle? (Select all that apply)
Hint: Think about the consequences of removing trees.
☐ Increases atmospheric CO2 levels
☐ Enhances photosynthesis
Reduces carbon storage in trees
Promotes biodiversity
Describe how human-induced climate change is linked to alterations in the carbon cycle.
Hint: Consider the effects of increased greenhouse gases.
mint. Consider the effects of increased greenhouse gases.





What happens to carbon when fossil fuels are burned?
Hint: Think about the chemical reaction that occurs.
O It is stored in the lithosphere
O It is released as CO2 into the atmosphere
It is absorbed by plants
O It remains unchanged
If a new technology reduces CO2 emissions by 50%, what potential impacts could this have on the carbon cycle? (Select all that apply)
Hint: Consider the broader implications of reduced emissions.
Decrease in atmospheric CO2 levels
Increase in ocean acidification
Reduction in global warming Increase in fossil fuel reserves
Interesse in reserves
Imagine a scenario where ocean temperatures rise significantly. Predict how this might affect the carbon cycle.
Hint: Consider the effects on carbon absorption and marine life.
Part 3: Analysis, Evaluation, and Creation

Analyze the relationship between ocean acidification and marine biodiversity. How does the carbon cycle play a role in this relationship?

Hint: Think about how increased CO2 affects ocean chemistry.



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Which factors contribute to the increase of CO2 in the atmosphere? (Select all that apply) ###################################
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lint: Consider the strengths and weaknesses of existing policies.

Propose two innovative solutions to enhance carbon sequestration in urban environments.

Hint: Think about technologies or practices that could be implemented.

1. Solution 1

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2. Solution 2	
Which of the following strategies is most likely to have a long-term positive impact on the cycle?	e carbon
Hint: Consider sustainable practices versus temporary measures.	
○ Short-term industrial shutdowns	
Sustainable agricultural practices	
Temporary reduction in car usage	
○ Seasonal tree planting	