

37 Multiple choice questions

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What is weathering?

- ☐ The chemical breakdown of rocks that releases carbon.
- ☐ The mechanical erosion of rocks by wind and water.
- ☐ The physical breakdown of rocks by temperature changes.
- ☐ The formation of new rocks through volcanic activity.

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How does fashion impact the Carbon Cycle?

- ☐ Fast fashion increases textile waste and pollution, contributing to emissions.
- ☐ Fast fashion reduces textile waste and promotes recycling.
- ☐ Fast fashion supports carbon capture through sustainable practices.
- ☐ Fast fashion decreases pollution by using organic materials.

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What is the greenhouse effect?

- ☐ The stabilization of Earth's temperature by ozone depletion.
- ☐ The absorption of heat by oceans, reducing surface temperature.
- ☐ The warming of Earth's surface caused by greenhouse gases trapping heat.
- ☐ The cooling of Earth's surface due to solar radiation.

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What is combustion?

- ☐ The process of converting organic material into water and oxygen.
- ☐ The burning of organic material, releasing CO₂.
- ☐ The synthesis of organic material, storing CO₂.
- ☐ The decomposition of organic material, absorbing CO₂.

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What is carbon sequestration?

- ☐ The storage of CO₂ in plants for energy production.
- ☐ The conversion of atmospheric CO₂ into oxygen.
- ☐ The process of capturing and storing atmospheric CO₂.
- ☐ The process of releasing stored CO₂ into the atmosphere.

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How does the geosphere/ lithosphere influence the biosphere?

- ☐ Through control of water cycles and precipitation patterns.
- ☐ By influencing ocean currents and marine life distribution.
- ☐ Through regulation of atmospheric gases and weather patterns.
- ☐ Through soil formation and nutrient availability.

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What is sedimentation?

- ☐ The breakdown of sediments releasing carbon into the atmosphere.
- ☐ The accumulation of sediments that can store carbon over time.
- ☐ The dissolution of sediments in water, reducing carbon content.
- ☐ The erosion of rocks that removes carbon from the cycle.

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What is the Carbon Cycle?

- ☐ The process of nitrogen fixation in soil.
- ☐ The exchange of oxygen between plants and animals.
- ☐ The movement of carbon among Earth's spheres.
- ☐ The cycling of water through Earth's systems.

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What are greenhouse gases?

- ☐ Gases in Earth's atmosphere that cool the planet.
- ☐ Elements that maintain a constant temperature on Earth.
- ☐ Substances that block solar radiation from reaching Earth.
- ☐ Gases in Earth's atmosphere that trap heat and regulate the planet's temperature.

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How can individuals reduce their impact on the carbon cycle?

- ☐ Increasing meat consumption, using more electricity, and driving more.
- ☐ Using more plastic, ignoring recycling, and wasting water.
- ☐ Using public transport, reducing waste, conserving energy, and supporting sustainable practices.
- ☐ Flying frequently, using single-use plastics, and increasing energy consumption.

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How does the enhanced greenhouse effect differ from the natural greenhouse effect?

- ☐ The natural effect is driven by solar radiation, while the enhanced effect is caused by reduced ozone levels.
- ☐ The natural effect is caused by industrial pollution, while the enhanced effect is due to volcanic activity.
- ☐ The natural effect warms the planet excessively, while the enhanced effect maintains a stable climate.
- ☐ The natural effect maintains a habitable climate, while the enhanced effect is caused by excess greenhouse gases from human activities, amplifying warming.

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What is methane's role in the carbon cycle?

- ☐ Methane is a potent greenhouse gas produced during decomposition and by certain microbes.
- ☐ Methane is a harmless gas that cools the atmosphere.
- ☐ Methane is a rare gas produced only by volcanic activity.
- ☐ Methane is a stable gas that does not affect climate.

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What is erosion?

- ☐ The process that builds up rocks and sediments, storing carbon.
- ☐ The process that breaks down rocks and sediments, releasing stored carbon.
- ☐ The process that stabilizes soil and prevents carbon release.
- ☐ The chemical reaction that transforms carbon into minerals.

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How does water movement in the hydrosphere affect the atmosphere?

- ☐ The burning of organic material, releasing CO₂.
- ☐ Through soil formation and nutrient availability.
- ☐ Through evaporation and precipitation.
- ☐ The movement of CO₂ between the atmosphere and oceans.

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What is decomposition?

- ☐ The absorption of carbon from the atmosphere into soil.
- ☐ The synthesis of organic matter, storing carbon in plants.
- ☐ The conversion of carbon into solid minerals.
- ☐ The breakdown of organic matter, releasing carbon as CO₂ or methane.

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What are fossil fuels?

- ☐ Renewable energy sources like solar and wind power.
- ☐ Coal, oil, and natural gas formed from ancient organic matter.
- ☐ Synthetic fuels made from non-organic materials.
- ☐ Biomass fuels derived from plant matter.

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What is methane, and why is it significant?

- ☐ A harmless gas produced by industrial processes.
- ☐ A stable gas that does not affect the environment.
- ☐ A cooling gas released by ocean organisms.
- ☐ A potent greenhouse gas produced by decomposing organic matter and livestock.

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How do Earth's spheres interact?

- ☐ They maintain separate systems with no influence on each other.
- ☐ They isolate energy and matter, preventing any exchange.
- ☐ They compete for resources without interaction.
- ☐ They exchange energy, matter, and influence each other's processes.

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What is carbon offsetting?

- ☐ Increasing industrial production to boost CO₂ levels.
- ☐ Supporting initiatives that release CO₂ into the atmosphere.
- ☐ Funding projects that enhance fossil fuel extraction.
- ☐ Compensating for emissions by funding projects that reduce or capture CO₂.

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How does increased CO₂ affect global climate?

- ☐ It stabilizes weather patterns and reduces ice melt.
- ☐ It causes colder winters and more frequent snowstorms.
- ☐ It leads to decreased temperatures and increased rainfall.
- ☐ It leads to higher temperatures, melting ice, and changing weather patterns.