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*Matter Cycle Diagrams*

1. Look at the two diagrams above. Choose the diagram that you think is the best representation of how matter cycles and explain your choice in using at least five complete sentences:

Student answers will vary. Look for evidence that their choices reflect logical thinking. Both models have strengths and weaknesses. Example answer: Diagram I is good because it shows how each of the cycles moves the water, carbon, or nitrogen from the air to living things and how it enters and exits the ocean and the land. Diagram II is good because it shows how the three cycles depend upon each other.

1. How would living organisms be affected if one cycle was missing? Include an example.

All of the cycles interact. If one cycle was missing, organisms would not be able to survive. All living organisms rely on all three cycles to survive. Example answer: If we removed the water cycle, bacteria would not be able to survive. Bacteria are very important to the carbon cycle because they breakdown the dead organisms and release the carbon back into the soil.

1. Which ecoregion of Texas do you live in?

Post Oak Woods and Prairies

1. What are key characteristics of the region you live in?

Grasslands with forested areas, nutritent rich soil, 35-45 inches of rainfall a year, cattle ranching and hay production

1. How are the ecoregions of Texas determined? What factors are considered?

Combination of biotic and abiotic factors that include: geology, landforms, vegetation, climate, soils, land use, wildlife, and availability of water.

1. Do human activities have an effect on these regions? Explain.

Yes, they can alter the areas and change vegetation with roads, cities, etc. This also affects weathering and erosion.

1. Give key information about weathering, erosion, and deposition in the chart below.

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| --- | --- | --- | --- |
|  | **Weathering** | **Erosion** | **Deposition** |
| Definition | 8. Destructive forces that change the rock | 11. Rock or soil is moved to another location | 14. Sediments settle in a different location due to gravity |
| Types or Agents | 9. Chemical or Mechanical | 12. Running Water, Ice, Wind | 15. Wind, Ice, Water |
| Other Fact(s) | 10. Answers will vary | 13. Answers will vary | 16. Answers will vary |