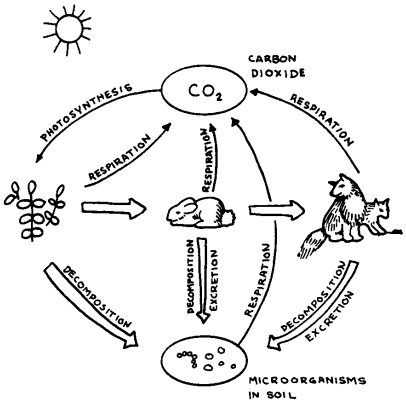
APES Cartoon Guide to the Environment Ch. 2 "Cycles"

1. How did cyanobacteria influence the early Earth's atmosphere?
2. Using your knowledge of biology and information from the *Cartoon Guide,* describe how respiration and photosynthesis create a "dynamic balance".
3. Identify 3 examples of specific producer-consumer ecological relationships in nature. What is the energy source that ultimately sustains all terrestrial life forms?
4. Describe how living organisms interact with the hydrosphere and atmosphere to create feedback loops.
5. What is a macronutrient?
6. What type of factors in the environment influence the rate of biogeochemical cycling of matter?
7. Where is the vast majority of nitrogen on Earth?
8. Describe the process of nitrogen fixation and its importance.



THE CARBON CYCLE

9. Besides carbon molecules in living organisms (proteins, nucleic acids, lipids,etc.), what are some other carbon sources one might find in nature.
10. Describe the importance of decomposition in the carbon cycle. What kind of carbon containing molecules might be created from the breakdown and decomposition of large organic molecules.
11. Does the phosphorus cycle have an atmospheric component like the carbon and nitrogen cycles? How might this influence the rate of phosphorus cycling in the environment?
12. Describe how the biotic and abiotic factors in the ecosphere represent a series of "interlocking cycles".

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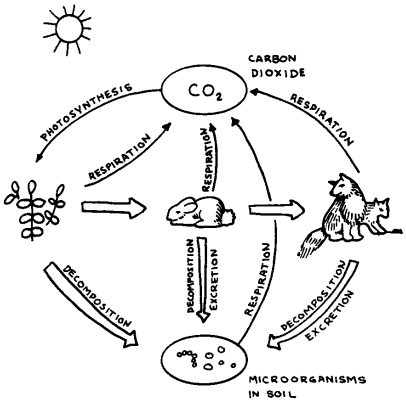

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