

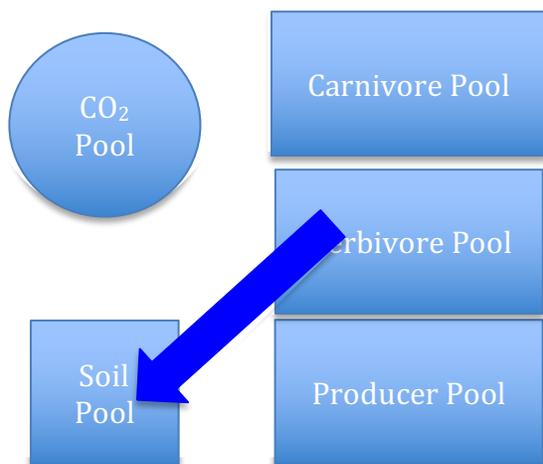
3.4: Grading Food Web Video Worksheet

This worksheet has “grading” in the title because at this point, students can be held accountable for correct answers. Level 4 (correct) responses to the questions are in **blue bold italics** below. There are also comments about common Level 2 and Level 3 responses to help you with grading and making decisions about what to emphasize in future lessons.

Red italics suggest ways to grade student responses by giving them points for correct or partially correct answers. There are 11 points total on this worksheet.

Answer questions #1-6 **during** the video. Use the time cues to know when to listen for the answers.

- (0:34) **PAUSE VIDEO.** The narrator says that all of the matter that makes up our bodies is “two or three degrees of separation from things like pond scum.” What does this mean? Explain what you think this means in your own words. Hint: use what you know about how carbon moves from pool to pool in an ecosystem to support your answer.
Because pond scum is at the bottom of the food chain, the matter and energy are passed along the food chain into the bodies of humans. Through biosynthesis, human bodies use the matter and energy from the food we eat (which might have eaten pond scum) to build the organic matter in our own bodies.
1 point for correct explanation
- (0:44) “All species in an ecosystem, from the creatures in a coral reef, to the fish in a lake, to lions on a savanna, are directly or indirectly nourished by **dead stuff.**” *1 point for correct response*
- (01:48) **PAUSE VIDEO.** What is detritus made of?
Detritus is made of body parts that have been shed by plants and animals. It is uneaten, undigested, and dead plant and animal matter.
1 point for identifying what detritus is made of
- (2:10) **PAUSE VIDEO.** The narrator just said that animals in food chains shed organic matter and waste. Use arrows below to show what is happening to matter and energy when a deer dies and this happens. Explain your arrows on the right.

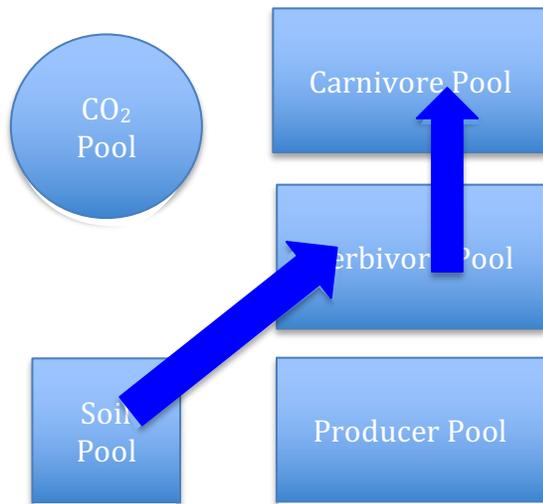


Explain your arrows.

When a deer dies and leave their remains to decay, its dead body parts become part of the soil pool because they are digested by decomposers. The carbon atoms move from herbivore pool moves to the soil pool.

1 point for correct arrow, 1 point for correct explanation; 2 points total

5. (2:31) **PAUSE VIDEO.** Use arrows to show how matter and energy from detritus would make it into the body of a human. Then on the right, explain your arrows.



Explain your arrows.

Decomposers are eaten by herbivores. If people are herbivores, this is how the energy and matter gets into the body of the human. People eat molecules that contain C-C and C-H bonds, which contain chemical energy. Some of these molecules are used to build organic matter in peoples' bodies.

1 point for each arrow, 1 point for explaining each arrow; 4 points total

6. (2:51) **PAUSE VIDEO.** Why are there so many arrows pointing to the detritus?

Because living things give off solid waste and die. When this happens, the matter and energy from their bodies is returned to the soil pool and decomposers break it down.

1 point for correct explanation

7. **AFTER VIDEO ENDS.** Why is detritus so important to food webs?

The detritus contains the organic matter and stored chemical energy that was once in the bodies of living things. When this matter and energy are broken down by decomposers, it forms the basis of the entire food web. The decomposers transform the matter and energy into useful forms so that this matter and energy can then be passed up the food chain.

1 point for correct explanation