

Features Analysis Chart—Food Webs

Teacher Name: _____

Circle One: PRE POST

Describe the assessment item: Question 3 on the pre-post assessment for the Food Webs unit:

Add words and arrows to show how **matter** moves in a food chain. **Be sure to label your arrows!** Explain your drawing. (Pictures shown are the Sun, grass, sheep, a mountain lion, and bacteria.)

Describe the ideal response: Grass is a producer that can take in nonfood matter (water and carbon dioxide) and make energy-supplying food (sugar) out of it. The plant can use this food (to grow bigger, for energy). This food can also be passed on to organisms (herbivores), like sheep, that eat plants. Arrows should be labeled to show that matter moves from the grass to the sheep, and then from the sheep to the mountain lion (a carnivore). Arrows should be drawn from all three of these organisms, showing that matter is passed to the decomposers through wastes and dead parts/organisms. Bacteria leave behind small pieces of matter—carbon dioxide, minerals, and water—that producers can use again to make food. So matter is constantly recycled in the food chain.

Features of a Complete, Accurate Response	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		
1. Indicates that matter moves from grass to sheep to mountain lion.																																						
2. Indicates that matter moves from all three organisms to decomposers.																																						
3. Indicates that matter goes from decomposers back to plants.																																						
4. Adds details about plants making sugar using carbon dioxide and water.																																						
5. Labels organisms as producer, herbivore, carnivore, decomposer.																																						
6. Indicates that decomposers eat dead organisms and/or wastes.																																						
7. Indicates matter is used by organisms, not just passed on.																																						
8. Adds other appropriate details, such as the Sun providing energy, bacteria releasing CO ₂ , and so forth.																																						

Features Consistent with Student Misconceptions/Problems	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36			
1. Focuses on what eats what.																																							
2. Unclear what the arrows represent.																																							
3. One or no arrows go to decomposers.																																							
4. Decomposers not connected back to plants.																																							
5. The Sun provides matter to plants.																																							
6. Arrows indicate inappropriate pathways.																																							
7. Other incorrect or unclear ideas																																							