

Name: _____

Date: _____

Food Webs Student Pre- or Posttest (Answer Key)

1. Which of the following is food for plants?

Is This Food for Plants?	Yes or No?	Your Reason
a. Water	No	Water doesn't have usable Calories.
b. Sugar	Yes	Sugar has energy plants can use, and it has matter plants use to build all the things necessary for survival. Plants make their own sugar.
c. Sunlight	No	Sunlight doesn't have matter.
d. Carbon dioxide	No	Carbon dioxide doesn't have usable Calories.
e. Fertilizers ("plant food") or minerals in the soil	No	Fertilizers and minerals don't have usable Calories.

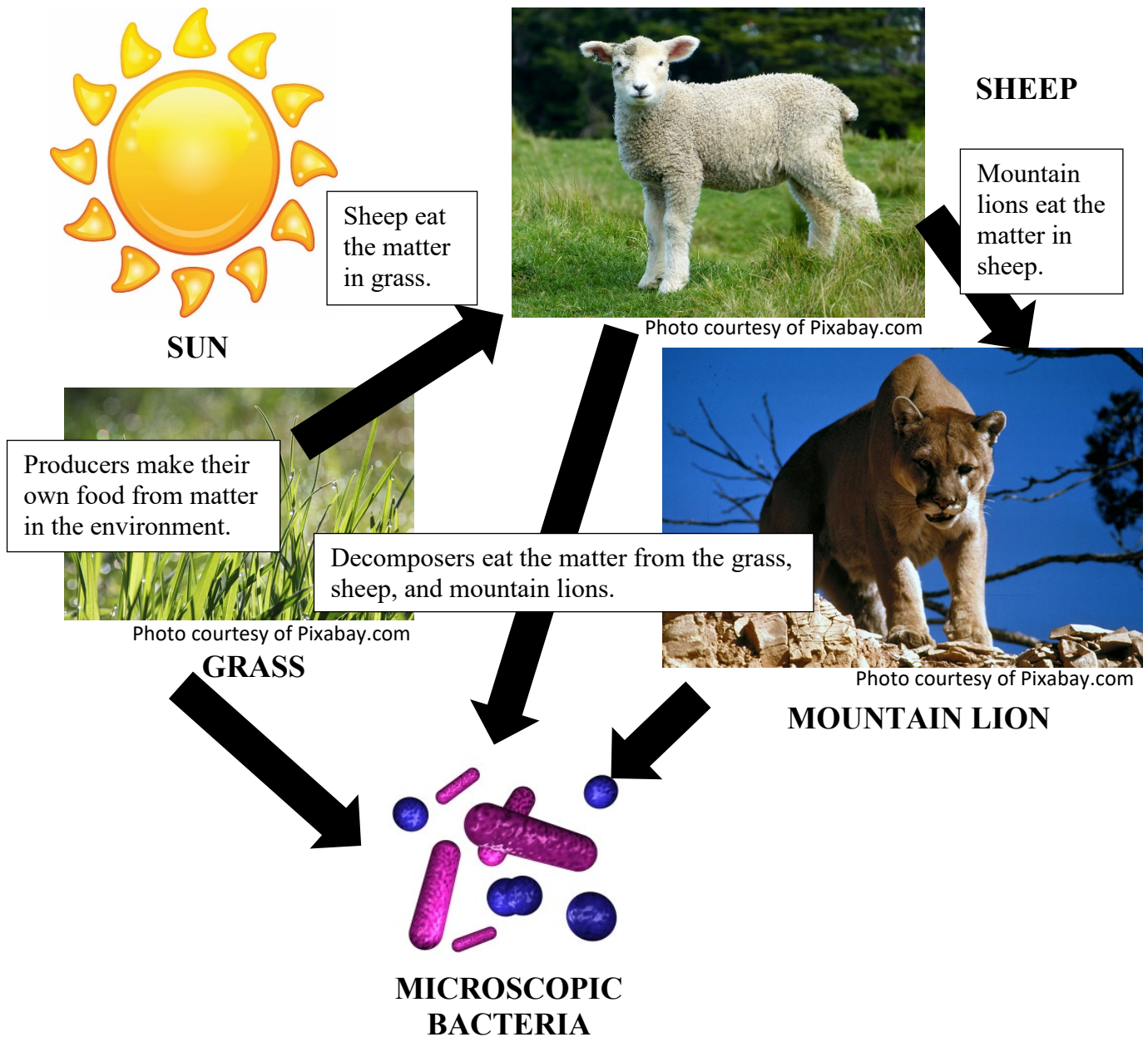
2. In forests, leaves and branches constantly fall from trees to the ground.

Over a long time, what happens to the matter in the leaves and branches that are on the ground? Give as many details as you can.

Ideal response:

The matter in the leaves and branches breaks apart and is returned to the environment, with the help of bacteria and fungi. Producers can then reuse the matter to make their body parts.

3. Add words and arrows to show how **matter** moves in a food chain. **Be sure to label your arrows!**



Explain your drawing:

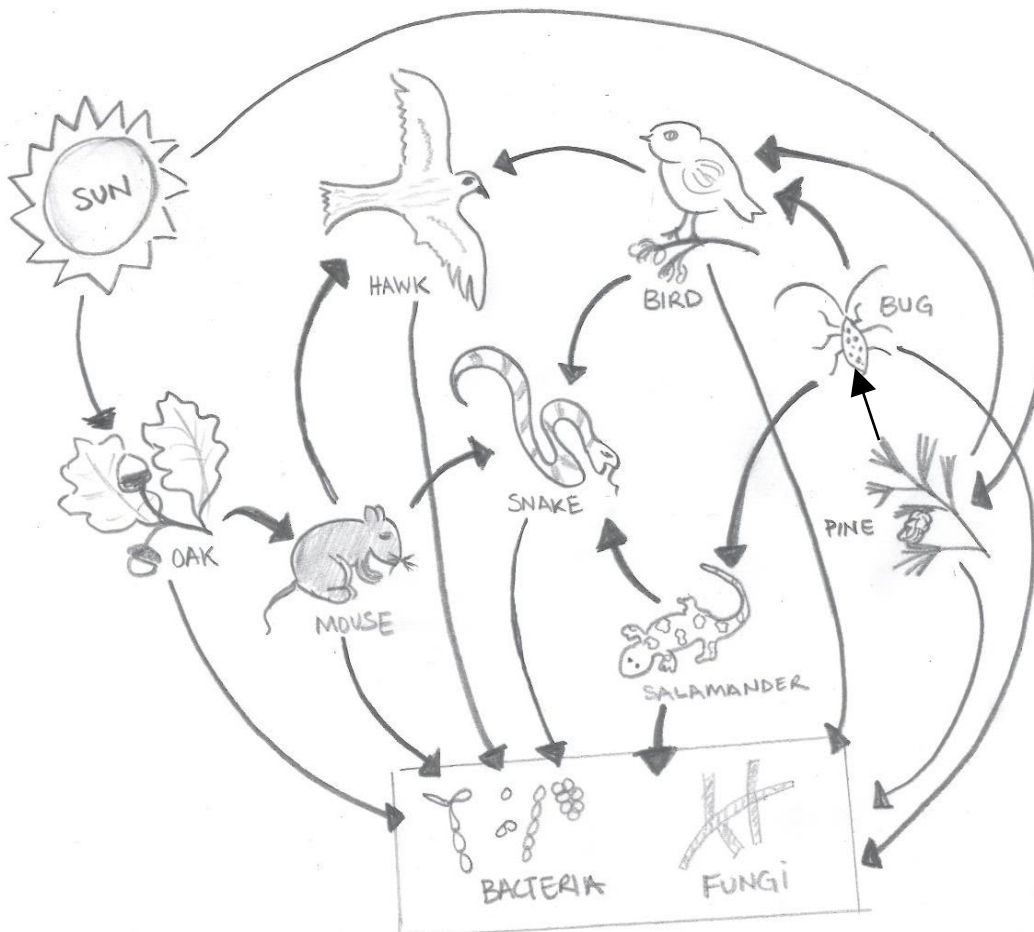
Ideal response:

Grass is a producer that can take in nonfood matter (water and carbon dioxide) and make energy-supplying food. Plants can use this matter for energy and to grow bigger.

The matter can also be passed on to organisms (herbivores), like sheep, that eat the plants.

Arrows are labeled to show that matter moves from the grass to the sheep and then from

the sheep to the mountain lion (a carnivore). Arrows point from all three of these organisms, showing that matter is passed to the decomposers through wastes and dead parts or 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.



4. Use the food-web diagram above to answer questions a, b, and c.
- a. Look at the arrow from the Sun to the oak tree. Give as many details as you can to explain what this arrow shows.

Ideal response:

Energy is transferred from the Sun to the oak tree, where the it's converted to usable energy in the oak-tree leaves through photosynthesis.

b. If there were no Sun, what would happen to this food web?

Ideal response:

This food web wouldn't have energy and would begin to decay.

c. Why would this happen?

Ideal response:

Without energy, the organisms at the lower end of the food chain (producers) would die, and without food energy from these organisms, the organisms on the higher end would die too.

d. Give one example of each from the diagram on page 3:

Decomposer	Bacteria /fungi
Producer	Oak tree/pine tree
Carnivore	Hawk/snake /bird/salamander
Herbivore	Mouse /bug/bird
Organism that makes food	Oak tree/pine tree
Organism that recycles matter	Bacteria/fungi
Source of energy	Sun, oak tree/pine tree, mouse, bird, bug, salamander

5. What can happen to the food molecules that a mouse eats? Name as many things as you can.

Ideal response:

Food molecules can help the mouse grow bigger, be lost as waste, be broken up to release energy, or be eaten by another organism.

6. A family planted a tree in their backyard. It had a mass of 10 pounds. Over 20 years, the tree grew and gained about 250 pounds. Where did the extra 250 pounds come from?

a. Matter the plant took in from the soil

b. Matter the plant made from carbon dioxide and water

c. Energy from the Sun

d. Energy from food molecules