

TEACHER: _____ PERIOD: _____ DATE: _____ YOUR INITIALS: _____

DECOMPOSERS PRETEST AND POSTTEST

1. A tree falls and gradually decays while it is sitting on the ground. Answer these questions about what is happening to the materials and energy in the tree as it decays.



<p>Do you think that materials (solids, liquids, or gases) are going into the decaying tree? (circle one answer below)</p> <p>Yes No I'm not sure</p>	<p>Do you think that energy is going into the decaying tree? (circle one answer below)</p> <p>Yes No I'm not sure</p>
<p>What materials do you think are going into the decaying tree?</p>	<p>What form(s) of energy do you think are going into the decaying tree?</p>
<p>Do you think that materials (solids, liquids, or gases) are coming out of the decaying tree? (circle one answer below)</p> <p>Yes No I'm not sure</p>	<p>Do you think that energy is coming out of the decaying tree? (circle one answer below)</p> <p>Yes No I'm not sure</p>
<p>What materials do you think are coming out of the decaying tree?</p>	<p>What form(s) of energy do you think are coming out of the decaying tree?</p>
<p>How do you think that materials are changing inside the decaying tree?</p>	<p>How do you think that energy is changing inside the decaying tree?</p>
<p>What are you not sure about in your answers? Explain what you need to know to answer these questions better.</p>	

2. A loaf of bread was left alone for 2 weeks. Three different kinds of mold grew on it. Assuming the bread did not dry out, which of the following is a reasonable prediction of the weight of the bread and mold after the 2-week period?

- a. The mass increases, because the mold has grown.
- b. The mass remains the same as the mold converts bread into biomass.
- c. The mass decreases as the growing mold converts bread into energy.
- d. The mass decreases as the mold converts bread into biomass and gases.

Explain your reasoning. How does decay affect the combined weight of the bread and the mold?

3. When a tree is alive it has energy stored in its living parts (roots, trunk, branches and green leaves). When the tree dies all the parts are still there (including fallen brown leaves). How much of the energy stored in the living tree is still there in the dead tree?

- a. ALL of the energy
- b. MOST of the energy
- c. SOME of the energy
- d. A LITTLE of the energy
- e. NONE of the energy

What kinds of energy are stored in the dead tree (if any)? How are they connected to the energy in the living tree?

What happens to the energy stored in the tree when the dead tree decays?

4. A potato is left outside and gradually decays. One of the main materials in the potato is the starch, which is made of many sugar molecules ($C_6H_{12}O_6$) bonded together. What happens to the atoms in starch molecules as the potato decays? Circle True (T) or False (F) for each option.

- | | | |
|---|---|---|
| T | F | Some of the atoms are changed into soil nutrients: nitrogen and phosphorus. |
| T | F | Some of the atoms are used up by decomposers and no longer exist. |
| T | F | Some of the atoms go into the air in carbon dioxide. |
| T | F | Some of the atoms are turned into energy by decomposers. |
| T | F | Some of the atoms go into the soil in water. |

5. Answer these true-false questions:

- | | | |
|------|-------|--|
| True | False | Carbon is a kind of atom. |
| True | False | Carbon is a kind of molecule. |
| True | False | There is carbon in a mushroom. |
| True | False | There is carbon in the soil of a forest. |
| True | False | There is carbon in the air. |

