

Compost Bin

Name: \_\_\_\_\_

Grade 5 – Design Task Assessment

Date: \_\_\_\_\_

Directions: For each of the questions below, choose the BEST answer.

1) Organisms that obtain nutrients by breaking down dead and decaying plants and animals are called \_\_\_\_\_ .

- A. Omnivores
- B. Decomposers
- C. Producers
- D. Consumers

2) The following organisms are examples of decomposers EXCEPT:

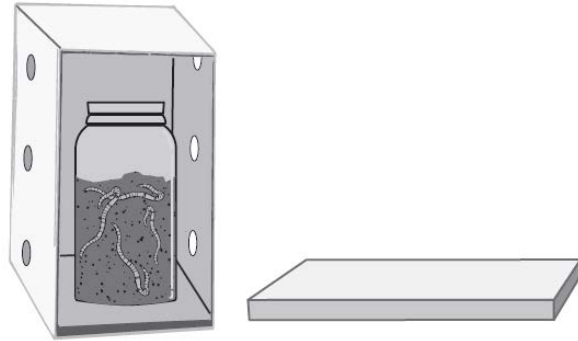
- A. Insects
- B. Bacteria
- C. Mushrooms
- D. Squirrels

3) How do decomposers help plants and animals survive? Decomposers...

- A. Put nutrients into the soil
- B. Release oxygen into the air
- C. Provide shelter for animals in forests
- D. Use sunlight to make food for plants



- 4) Jim wants to know what worms do in a garden, so he put soil, food, and worms in a clear jar. What kinds of observations can Jim make each week?



- A. Add more worms to the jar.
- B. Record the temperature inside the jar.
- C. Predict where the worms will be each day.
- D. Add more food to the jar.
- 5) To determine if decomposition is occurring in her compost column, Susan can measure all of the following factors EXCEPT:
- A. Temperature
- B. Number of organisms
- C. Size of compost bottle
- D. Amount of moisture present

6) Green leaves are a good source of what?

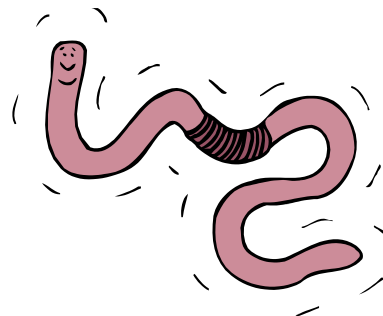
- A. Carbon
- B. Nitrogen
- C. Iron
- D. Water

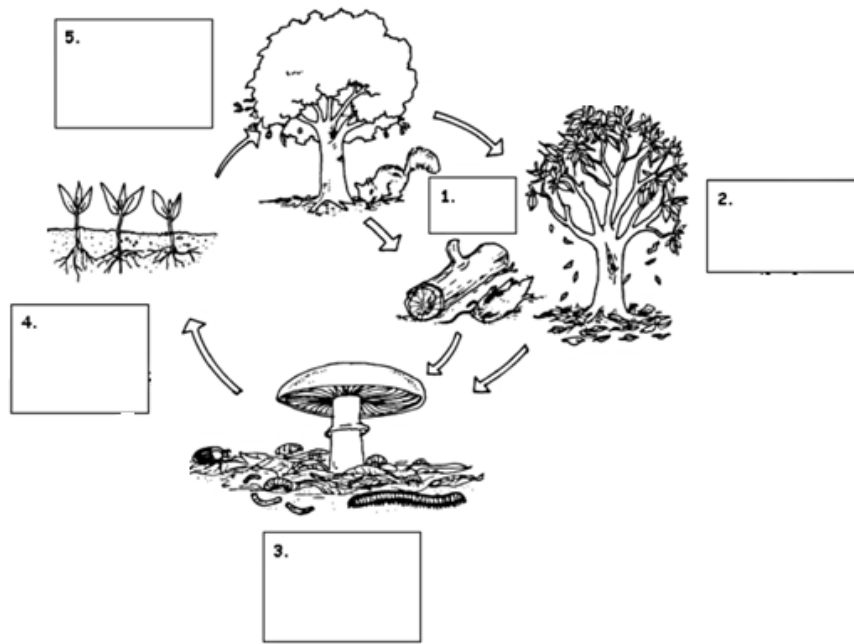
7) Bacteria that break down compost without requiring oxygen are called\_\_\_\_\_

- A. Anaerobic
- B. Thermal
- C. Aerobic
- D. Biotic

8) Which is NOT a reason to put red worms to your compost?

- A. Speed up the process of decomposition
- B. Eat bacteria
- C. Aerate the soil
- D. Eat compost material





Use the image above to answer questions 9) – 11).

9) In order for decomposition to start, plants and animals must produce organic waste material. All of the following are examples of waste material EXCEPT:

- A. Sticks
- B. Plastic bottle
- C. Dried up leaves
- D. Animal droppings

10) Which of the following is an example of decomposers at work in stage #3?

- A. Grass
- B. Soil
- C. Leaf
- D. Fungi

11) In stage #4, waste materials are broken down into nutrients. Which organism uses these nutrients to grow?

- A. Bacteria
- B. Sun
- C. Plants
- D. Air

Use the following information to answer questions 12) and 13).

Plant Solutions, Inc. has been hired by a local gardening club, Great Gardeners, to design and build a compost bin for the community. The design team at Plant Solutions, Inc. has begun investigating which organic waste materials might be used in the community compost bin and which conditions are required for the most efficient decomposition.

12) Which of the following best describes what they have just done?

- A. Create a prototype to try to solve the problem.
- B. Redesign to improve the solution.
- C. Test the prototype to see how well it solves the problem.
- D. Research and brainstorm potential solutions.

13) Who is the client?

- A. The community.
- B. Plant Solutions, Inc.
- C. Great Gardeners.
- D. There is no client.

14) The design team at Plant Solutions, Inc. has developed a design for the compost bin.

What would be the best next step for the design team to take?

- A. Take notes about the design but only after they decide if it needs to be improved.
- B. Build a prototype and test how well the compost bin works.
- C. Send a final report to the local garden club, Great Gardeners.
- D. Redesign the bin before any testing has been done.