

BioRecycling/BioEnergy Knowledge Check **Answer Key**

1. True/False: Waste is waste and cannot be reused or recycled.
a. True
b. False
2. Which of the following CANNOT be used to produce electricity?
a. Sunlight
b. Natural gas
c. Wind
d. Glass
3. True/False: Composting and anaerobic digestion are good ways of recycling food waste.
a. True
b. False
4. For growth, plants and algae need all of the following, EXCEPT _____.
a. Nutrients
b. Water
c. Sunlight
d. Methane
5. Of the following, which photosynthetic organism grows the fastest?
a. Algae
b. Squirrels
c. Oak trees
d. Humans
6. True/False: Biogas is a renewable energy source.
a. True
b. False
7. What does anaerobic digestion produce?
a. Oxygen
b. Biogas
c. Light
d. Helium
8. True/False: Microalgae and plants can be turned into biofuel.
a. True
b. False
9. Air is composed of several constituents. Which air component do plants need most?
a. Oxygen
b. Nitrogen
c. Carbon dioxide
d. Argon
10. Plants help to control the Earth's temperature by removing _____ from the atmosphere.
a. Oxygen
b. Nitrogen
c. Carbon dioxide
d. Helium

11. Anaerobic means without _____.
- a. **Oxygen**
 - b. Nitrogen
 - c. Methane
 - d. Carbon dioxide
12. Which of the following is not a decomposer?
- a. Fungi
 - b. Bacteria
 - c. Earth worms
 - d. **Plants**
13. True/False: Composting requires oxygen and bacteria to break down the food waste.
- a. **True**
 - b. False
14. ~~If you provide enough oxygen, water and food to a compost pile, what happens?~~
- a. **The compost pile heats up**
 - b. The compost pile smells
 - c. The compost pile becomes cooler in the center
 - d. Biogas is produced
15. Compost can be used for _____.
- a. ~~Construction material~~
 - b. **Growing plants**
 - c. Producing paper
 - d. Filling empty space in landfills
16. Sequestering carbon dioxide means to _____.
- a. Convert it to heat
 - b. To steal it
 - c. ~~Dissolve it in water~~
 - d. **Lock it up, or store it in organic materials**
17. What device do engineers use to grow algae?
- a. ~~Anaerobic digester~~
 - b. **Photobioreactor**
 - c. Nuclear reactor
 - d. Business incubator
18. ~~What device do engineers use to produce biogas?]~~
- a. **Anaerobic digester**
 - b. Photobioreactor
 - c. Nuclear reactor
 - d. Business incubator
19. Biogas is a combination of _____ and _____.
- a. Oxygen and methane
 - b. Oxygen and carbon dioxide
 - c. **Methane and carbon dioxide**
 - d. Carbon dioxide and nitrogen
20. A bioreactor is _____.
- a. ~~a group of radioactive organisms~~
 - b. **a device that does some type of work using microorganisms**
 - c. the place where most superheroes come from
 - d. an Oscar award-winning bacteria