Photosynthesis and Respiration Study Guide

Photosynthesis Review:
Watch this video that summarizes and reviews photosynthesis. Take notes below.
https://youtu.be/uixA8ZxX0KU

Review Questions
1. What is the purpose of photosynthesis?
2. What organisms use the process of photosynthesis?
3. What are the reactants of photosynthesis (words and symbols)?
4. What are the products of photosynthesis (words and symbols)?
5. What is the equation for photosynthesis?
6. In which organelle does photosynthesis occur?
7. Where in what organelle does light dependent reactions occur?
8. Where in what organelle does light independent reactions occur?
9. Complete the photosynthesis boxes below

10. Explain in full sentences what occurs during light dependent reactions. (i.e. make sure you can explain the boxes, not just fill them out)

11. What atom from the light-dependent reactions of photosynthesis is transferred to the light-independent reaction of photosynthesis?

12. What molecules from the light-dependent reactions of photosynthesis is transferred to the light-independent reaction of photosynthesis?

13. Explain in full sentences what occurs during light independent reactions. (i.e. make sure you can explain the boxes, not just fill them out)

14. What two pieces of matter are provided by the process of photosynthesis?

   a. How do both of those matter provide for the cell?

   b. How do both of those matter provide for the organism?
c. How do both of those matter provide for the ecosystem?

15. Explain the relationship between the snails and elodea from the photosynthesis virtual lab you completed.

16. Explain why plants are not dependent on humans in terms of photosynthesis.

17. Explain why humans are dependent on plants in terms of photosynthesis.

18. Explain the movement of the matter created from photosynthesis up a food chain/web.

**Cellular Respiration Review:**
Watch this video that summarizes and reviews cellular respiration. It goes into more detail on the 3 steps than we did, so don't worry about that. Take notes below. [https://youtu.be/4Eo7JtRA7lg](https://youtu.be/4Eo7JtRA7lg)

**Cellular Respiration**
19. What is the purpose of cell respiration?
20. What organisms use the process of cell respiration?

21. What are the reactants of cell respiration (words and symbols)?

22. What are the products of cell respiration (words and symbols)?

23. What is the equation for cell respiration?

24. In which organelle does cell respiration occur?

25. What is the energy-rich compound formed from respiration?

26. Describe aerobic respiration
   a. what does aerobic mean
   b. what are the steps
   c. where do the steps take place?
   d. how much energy is created

27. Describe anaerobic respiration
   a. what does it mean
   b. what are the types
   c. how much energy is created

28. Describe lactic acid fermentation.

29. Describe alcoholic fermentation.

30. Describe what happens to a person’s body as they run a MARATHON in relation to photosynthesis and respiration.
31. Describe the relationship between breathing and cell respiration.

32. Why does an organism want to be able to use both aerobic and anaerobic respiration?

33. Which type of respiration would an organism prefer? Why?

34. Why is cell respiration important for cells?

35. Why is cell respiration important for organisms?

36. Why is cell respiration important for ecosystems?

37. Explain why plants are not dependent on humans in terms of cell respiration.

38. Why do plants NOT need the carbon dioxide we breathe out?

39. Explain why humans are dependent on plants in terms of cellular respiration.

40. Explain how the movement of the energy goes through a food chain/web.