Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading B

Section: Cell Energy (pp. 148–151)

1. Why do cells need energy?

to maintain homeostasis (balance), to grow and develop.

2. Where do plant cells get their energy?

from the sun

3. Where do many animal cells get the energy they need?

from sugar C6H12O6 (shaped like a hexagon)

FROM SUN TO CELL

the sun

4. Where does almost all of the energy that fuels life come from?

a. Earth
b. gasoline
c. plants
d. the sun

5. Plants are able to change the sun's energy into food through a process called photosynthesis.

6. The molecules in plant cells that absorb light energy are called pigments.

7. Plants get their green color from The pigment chlorophyll

8. Where are chloroplasts found?

chlorophyll is found in the chloroplast, and chloroplasts are found in the cytoplasm of plant cells

9. What is glucose?

a monosaccharide simple sugar molecule that has six carbon atoms, twelve hydrogens, and six oxygens.

10. Why is glucose important to a plant cell?

Glucose is important because it can store energy in the roots for the plant to use during the winter or night-time when there is no sun.

11. Photosynthesis produces oxygen and glucose.

GETTING ENERGY FROM FOOD

12. Cells use enzymes to break down food using oxygen.

13. Many cells are able to get energy without using oxygen through a process called anaerobic respiration or fermentation

14. Cellular respiration is a(n) aerobic process that happens in cells.

15. Describe what takes place during cellular respiration in complex organisms.

Oxygen combines with sugar to make carbon dioxide and water, this chemical reaction releases energy in the form of charged up ATP molecules

16. What does your body do with the energy released during cellular respiration?

Your body makes about 36 ATP molecules that can be used to contract muscles (to pump blood), make body heat, breathe and move. (homeostasis)

17. Adenosine triphosphate, also called ATP, supplies energy that fuels cell activities.

18. Cellular respiration in the cells of eukaryotes, such as plants and animals, takes place in the mitochondria inside the cell.

19. During photosynthesis, plant cells use carbon dioxide to make glucose and release oxygen. How is this different from cellular respiration?

Photosynthesis is the opposite cellular respiration.
"photosynthesis makes sugar"
"cellular respiration breaks sugar"

20. Why do you get a burning sensation in your muscles during strenuous exercise?

When your muscle burns sugar it is an exothermic chemical reaction, this means that heat energy is liberated from the glucose molecule when it is broken down.