**Photosynthesis Guided Notes**

1. Plant cells trap \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and store it in a usable form in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. ATP is used to make \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **(glucose)**. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* = process plants use to convert the sun’s energy and build \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or **C6H12O6**

**6CO2 + 6H2O 🡪 C6H12O6 + 6O2**

1. Photosynthesis occurs in the presence of **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** and **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** (a light absorbing pigment).
2. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:* contains the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ organelle where photosynthesis occurs. ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:*** contains \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_, where water and nutrients move throughout the plant. ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:*** where rate of cell \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the greatest; plants grow from the roots up.
3. Photosynthesis occurs in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of plant cells.
4. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**: pores on the leaves that allow carbon dioxide (CO2) in and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (O2)out during \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_** control the opening & closing of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (open during the \_\_\_\_\_\_\_\_\_\_ for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & closed at night). **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**: loss of water through the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of leaves.
5. In vascular plants, ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** takes water and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the roots to the rest of the plant (moves up). ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** carries sugars down to the roots (\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_).
6. Growth rate is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the roots, because plants grow from the \_\_\_\_\_\_\_\_\_\_\_\_\_ up!
7. Factors Affecting the Rate of Photosynthesis

a. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of light

 Red & blue increase rate of photosynthesis; green decreases rate of photosynthesis

b. Light \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (within range)

d. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ availability

e. \_\_\_\_\_\_\_\_ concentration

f. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ availability

9. **Chlorophyll** = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that traps the sun’s energy and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ most wavelengths \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ light

1. Which set of data shows the plant performing photosynthesis at the highest rate? How do you know?
2. What do the bubbles on the right represent?
3. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of energy for life on Earth is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The only way to get that energy to living things is through \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.