

Example Plants Explanations Handout

Photosynthesis

- A. CO_2 , H_2O go into the cell, then photosynthesis rearranges the atoms to produce glucose and O_2 . Light energy from the sun is transformed into chemical energy. The glucose and oxygen leave the cell. The glucose is transported to other cells in the plant, including root cells.
- B. Photosynthesis utilizes light energy in addition to carbon dioxide and water to make glucose which has chemical energy due to C-C and C-H bonds. Oxygen is a waste product. The glucose is then brought to the other cells in the plant.

Cellular Respiration

- A. The glucose reacts with oxygen to produce carbon dioxide and water. The chemical energy in glucose is transformed into motion and heat energy. The carbon dioxide and water leave the cell.
- B. The plant makes glucose in its cells. The glucose is then broken down into carbon dioxide and water. The glucose makes heat and motion energy for the plant to use.

Biosynthesis

- A. In biosynthesis, glucose molecules bond to other glucose molecules. Chemical energy is needed for this process. The cell grows bigger and may eventually divide.
- B. Small organic molecules and soil minerals enter the root cell. The small organic molecules and soil minerals are combined to make large organic molecules. The chemical energy stored in the small organic molecules stays in the bonds.