**Plants Guided Notes**

Plants are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ eukaryotes. They have \_\_\_\_\_\_\_\_\_\_\_\_ in their cell walls, and are considered \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (make their own food). They carry out photosynthesis using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Plants require sunlight, water and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for survival. They conduct gas exchange.

**Roots**

Roots are like straws absorbing \_\_\_\_\_\_\_\_\_\_\_\_\_ and minerals from the \_\_\_\_\_. Tiny root \_\_\_\_\_\_\_\_ stick out of the root, helping with the absorption of water. Roots help to \_\_\_\_\_\_\_\_\_\_\_ the plant in the soil so it does not fall over. Roots also store extra \_\_\_\_\_\_\_\_ for future use.

**Leaves**

Most plants food is made in their \_\_\_\_\_\_\_\_\_. Leaves are designed to capture \_\_\_\_\_\_\_\_\_\_\_\_\_ which the plant uses to make food through a process called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Flowers (Angiosperms)**

Flowers are the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ part of most plants. Flowers contain \_\_\_\_\_\_\_\_\_\_\_\_\_ and tiny eggs called ovules. After \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the flower and fertilization of the ovule, the \_\_\_\_\_\_\_\_\_\_ develops into a fruit

**Fruit-**provides a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ for seeds. Seeds contain \_\_\_\_\_\_\_ plants. Seeds form in \_\_\_\_\_\_\_\_.

**Stems**

They support the plant. They act like the plant’s \_\_\_\_\_\_\_\_\_\_\_\_\_ system, conducting water and nutrients from the \_\_\_\_\_\_\_\_\_ and food in the form of \_\_\_\_\_\_\_\_\_\_\_\_\_ from the leaves to other plant parts.

**Photosynthesis**

Photosynthesis is a process by which plants make \_\_\_\_\_\_\_ from light, water and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Cellular Respiration**

We all need energy to \_\_\_\_\_\_\_\_\_\_\_\_\_ and we get this energy from the foods we eat. The most efficient way for cells to \_\_\_\_\_\_\_\_\_\_\_ energy stored in food is through cellular respiration, a pathway for the production of \_\_\_\_\_\_\_\_\_\_\_\_ triphosphate (ATP). ATP, a high \_\_\_\_\_\_\_\_\_\_ molecule, is expended by working cells.

**Transpiration**

Transpiration is a process similar to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Transpiration is the \_\_\_\_\_\_\_\_ of water vapor through \_\_\_\_\_\_\_\_\_\_\_. Water vapor exits the leaf’s \_\_\_\_\_\_\_\_\_\_\_\_\_. It helps pull water to the top \_\_\_\_\_\_\_\_\_\_\_. It is the major \_\_\_\_\_\_\_\_\_ moving water through plants.

Guard cells \_\_\_\_\_\_\_\_\_\_ the opening and closing of the \_\_\_\_\_\_\_\_\_\_\_\_ (pores in the leaf). This prevents too much allows leaves to \_\_\_\_\_\_\_\_\_\_\_ water vapor made by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Leaf Parts and Functions**

-Phloem

-Xylem

-Stomata

-Cambium-a layer of material inside a plant or tree which consists of actively \_\_\_\_\_\_\_\_\_\_\_\_\_ cells which generates \_\_\_\_\_\_\_\_\_\_\_ for the plant.

**Four Tissue Types in Primary Plants**

-Meristematic-division of \_\_\_\_\_\_ cells for new growth and repair

-Ground tissue-bulk tissue; \_\_\_\_\_\_\_\_\_\_\_\_\_, processing, physical support

-Dermal tissue-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and sometimes nutrient absorption

-Vascular tissue-movement of \_\_\_\_\_\_\_/food and physical support.

**Dermal Tissue Covers the Outside of a Plant**

It protects the plant, \_\_\_\_\_\_\_\_\_\_\_\_\_ cuticles of leaves (\_\_\_\_\_\_\_\_ outer covering). It forms the outer \_\_\_\_\_\_\_\_ of trees.

**Ground Tissue is Found Inside of the Plant**

It provides \_\_\_\_\_\_\_\_\_\_\_\_, stores materials in roots and \_\_\_\_\_\_\_\_\_

**Vascular Tissues**

-Vascular system-collection of tissues that bring \_\_\_\_\_\_\_\_\_\_, minerals and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ up from the rots and disperses \_\_\_\_\_\_\_\_\_\_\_ down from the leaves.

1. Water and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ minerals move through the \_\_\_\_\_\_\_\_\_\_.

2. \_\_\_\_\_\_\_\_\_\_\_\_ carries sugar from photosynthesis throughout the \_\_\_\_\_\_\_\_

**Vascular System**

The pressure-flow model explains \_\_\_\_\_\_\_\_\_ movement. Plants \_\_\_\_\_\_\_\_\_\_\_\_ transport sugar from the source. Sugar flows to the \_\_\_\_\_\_\_\_ due to pressure differences

**Cohesion-Adhesion Theory**

-Cohesion is the tendency of water molecules to \_\_\_\_\_\_\_ with each other.

-Adhesion is the tendency of water molecules to bond with other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Gymnosperms**

Gymnosperms reproduce using an \_\_\_\_\_\_\_\_\_\_\_\_ seed (not enclosed by an \_\_\_\_\_\_\_ like angiosperms-flowers). \_\_\_\_\_\_\_\_\_ are born in cones and aren’t \_\_\_\_\_\_\_\_\_\_\_. Examples: Conifers (\_\_\_\_\_\_\_ trees), cycads