Plant Physiology – Guided Notes

**Plants**

* Just like other organisms, plants have \_\_\_\_\_\_\_\_\_\_\_\_, tissues and cells.

**Plant Tissues **

Plant Organs are made of four tissue systems:

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** covers the outside of a plant.
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the plant
	+ Secretes cuticle of leaves
	+ Forms \_\_\_\_\_\_\_\_\_\_\_\_ bark of trees
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** is found inside a plant.
	+ provides \_\_\_\_\_\_\_\_\_\_\_\_\_
	+ Stores materials in roots and stems
* **Meristematic Tissue** consists of small, densely packed cells that can keep \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to form new cells.
	+ Allow cells to stay forever young
	+ Involved in plant \_\_\_\_\_\_\_\_\_\_\_\_\_
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** transports water, minerals and organic compounds.
	+ Made of two networks of hollow tubes
	+ \_\_\_\_\_\_\_\_\_\_\_\_ transports water and minerals
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ transports photosynthetic products (water and sugar)

**Plant Organs**

**Roots**

* **\_\_\_\_\_\_\_\_\_\_\_\_** make up over half the body of the plant and provide many functions:

 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_ the plant to the ground

 -\_\_\_\_\_\_\_\_\_\_\_\_ water and minerals from the soil.

* Parts of a root:
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are tiny projections on the dermal cells of roots that aid in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of water and minerals
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ –** a small cone of cells that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the growing part of the root as it \_\_\_\_\_\_\_\_\_\_\_\_\_\_ through the soil
* Roots also include the \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ that aid in growth and movement of materials for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and transpiration.

**Stems**

* \_\_\_\_\_\_\_\_\_\_\_\_ have many functions:
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ leaves and flowers
	+ House most of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ system
	+ Store \_\_\_\_\_\_\_\_\_\_
	+ Grow \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for storage
	+ Form \_\_\_\_\_\_ plants
* Stems also include \_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which aid in \_\_\_\_\_\_\_\_\_\_\_\_, transpiration and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Leaves **

* Leaves are the site of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
	+ Absorb \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and carry out photosynthesis

All leaves have the same structure and function.

* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the leaf is where the majority of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are located that \_\_\_\_\_\_\_\_\_\_\_\_\_\_ the sunlight.
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the leaf contain the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and is the site of transpiration and \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** surround each **\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ Stomata open and close when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ change shape
	+ When stomata are open, \_\_\_\_\_\_\_\_\_\_\_\_ evaporates and \_\_\_\_\_\_\_ exchanges
	+ Stomata \_\_\_\_\_\_\_\_\_\_\_\_ at night and when the plant \_\_\_\_\_\_\_\_\_\_\_\_ too much water

**Flowers **

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ structure of flowering plants. They \_\_\_\_\_\_\_\_\_\_\_\_\_\_ gametes and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Many parts make up the flower:

* \_\_\_\_\_\_\_\_\_\_: modified leaves that \_\_\_\_\_\_\_\_\_\_\_\_\_\_ the developing flower.
* \_\_\_\_\_\_\_\_\_\_: Modified leaves that are \_\_\_\_\_\_\_\_\_\_\_\_ in color to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ animal pollinators.
* **Stamen**: Male structure of flower. Includes the anther and the filament.

**-\_\_\_\_\_\_\_\_\_\_\_\_** – Produce \_\_\_\_\_\_\_\_\_\_\_\_ grains (sperm)

**-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** – supports the \_\_\_\_\_\_\_\_\_\_\_\_.

* **Pistil** (or carpel): Female structure of the flower. Includes the stigma, style and ovary.

**-\_\_\_\_\_\_\_\_\_\_\_\_**- covered with sticky substance to hold \_\_\_\_\_\_\_\_\_\_\_\_ grains when they land.

**-Style**- a tube that leads from \_\_\_\_\_\_\_\_\_\_\_\_\_ to ovary.

**-\_\_\_\_\_\_\_\_\_\_\_\_**- Base of flower where the \_\_\_\_\_\_\_\_ is produced.

**Fruits**

* A \_\_\_\_\_\_\_\_\_\_ is the mature \_\_\_\_\_\_\_\_\_\_ of a flower.
* It \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and protects the \_\_\_\_\_\_\_\_\_\_ or seeds
* Play an important role in seed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
	+ Blown in the \_\_\_\_\_\_\_\_\_\_ – ex. Dandelion
	+ By \_\_\_\_\_\_\_\_\_\_\_\_\_\_ ex. Stuck in animals fur or deposited after digestion
* Can come in many forms

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**Cones**

* **\_\_\_\_\_\_\_\_\_\_** are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ structures of plants that do not bear fruit.
* Cones contain hard protective scales
* Can be Male or Female:
	+ \_\_\_\_\_\_\_\_\_\_ cones contain pollen (sperm).
	+ \_\_\_\_\_\_\_\_\_\_\_\_ are produced in \_\_\_\_\_\_\_\_\_\_\_\_\_\_ cones.
	+ Seeds also develop on the scales of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ cones.