Life Sciences 11 The Angiosperms Name:

**Objectives:** By the end of the lesson you should be able to:

* State the evolutionary advancements of the angiosperms
* Draw and describe the structures/functions of a flower
* Draw and explain the lifecycle of an angiosperm
* Compare and contrast all of the plant groups (Bryophyta, Pteridophyta, Gymnosperms and Angiosperms)

**Angiosperms : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ plants**

**Angiosperms - " "**

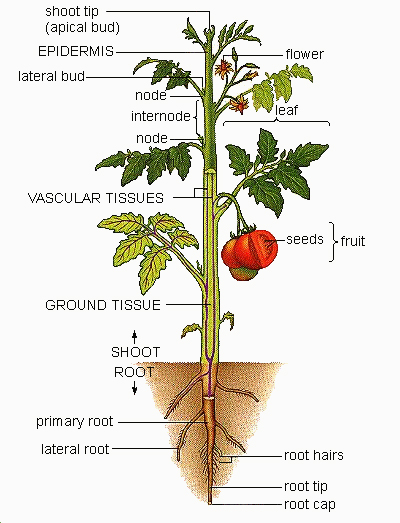
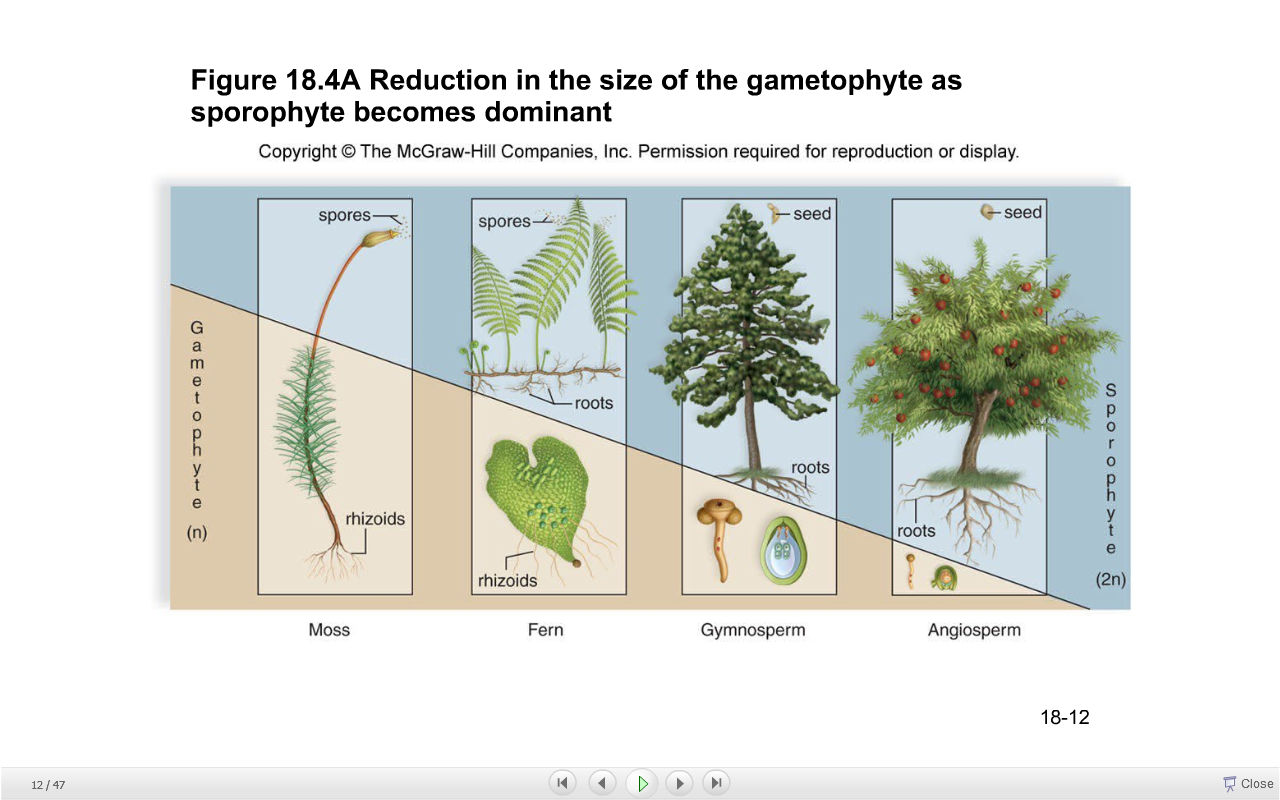
* The last major advance in plant \_\_\_\_\_\_\_\_\_\_\_\_ is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Their big advance is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Evolution**

* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ was a major improvement in \_\_\_\_\_\_\_ based reproduction.

* While a few angiosperms still rely on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for their flowers (mainly trees), most angiosperm flowers are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pollinated (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)
* This resulted in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ evolution between \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (mostly insects)

**Sporophyte Most Dominant**

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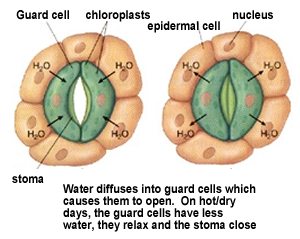
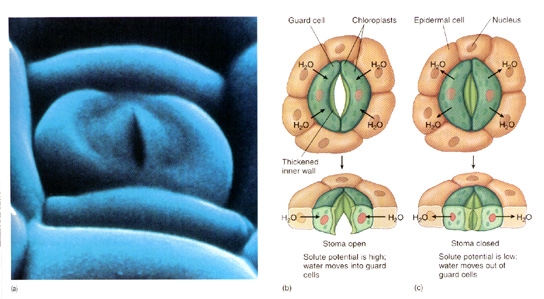
**Body Plan**

* The Angiosperms have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ principle organ systems:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Leaves: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Functioning**

Did you know that plants 'breathe' through their leaves? Tiny openings called stomata allow plants to \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ necessary for cellular processes, such as photosynthesis.

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1. Stomata Opening

* When guard cells \_\_\_\_\_\_\_ water it causes them to become more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* This causes the stomata to get bigger to allow for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.Stomata Closing

* When guard cells \_\_\_\_\_\_\_\_\_\_\_ water and become \_\_\_\_\_\_\_\_\_\_\_\_\_ their shape becomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bean shaped
* This causes the stomata to \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

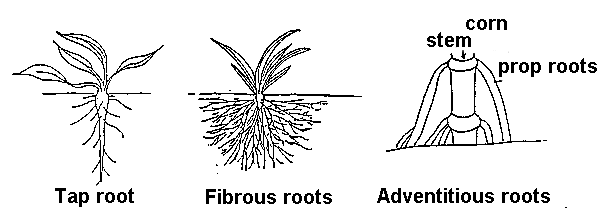
**Stems**

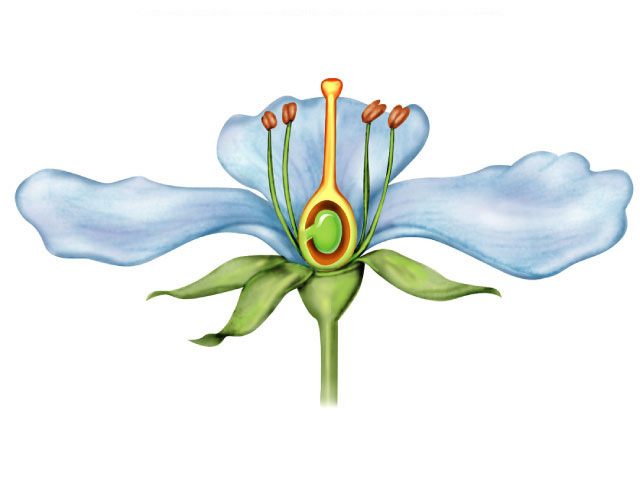
Stems are responsible for:

* Conduction of materials \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ the plant
* Orienting \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the sun
* Providing structural \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the plant
* Growth of the plant in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Roots**

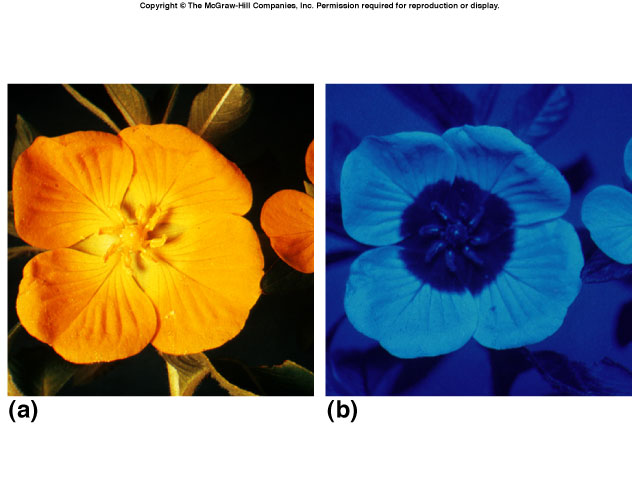
* Roots function to absorb \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the soil as well as to \_\_\_\_\_\_\_\_\_\_\_\_\_ the plant





**Flower**

* Function to attract a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Modified shoot with 4 rings of modified \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_ AKA \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Co-evolution: Flowers and Pollinators**

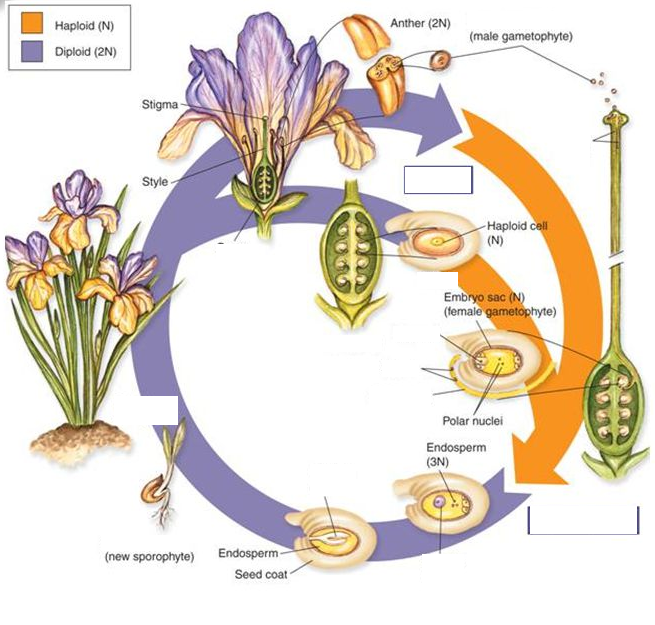
* How a bee sees a flower…

insects see UV light = a bulls-eye to the nectar

**Angiosperms: \_\_\_\_\_\_\_\_\_\_\_\_ Plants**

Write down 3 examples of fruits (that you may or may not have thought of as fruits) from the pictures on this slide:

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Angiosperm Life Cycle**



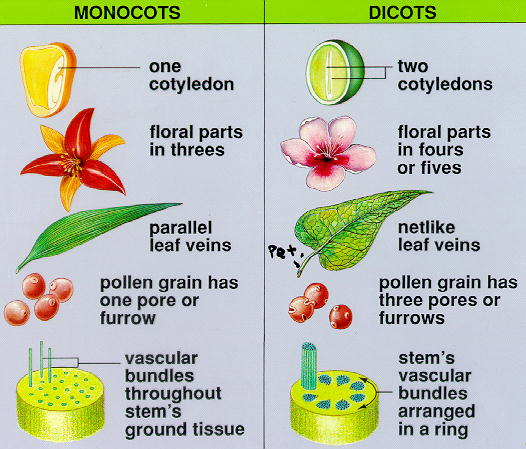
**Seed & Plant Embryo**

* Seed offers…
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for embryo (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)
  + stored \_\_\_\_\_\_\_\_\_\_\_\_\_\_ for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of embryo

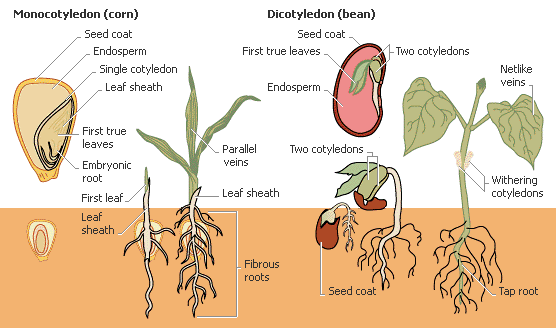
(\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

* cotyledons = “seed” leaves, first leaves of new plant

**Monocots & Dicots**



* Angiosperm are divided into \_\_\_\_\_\_\_classes
  1. \_\_\_\_\_\_\_\_\_\_\_\_\_ (eudicot)
     + 2 cotyledons (seed leaves)
     + leaves with network of \_\_\_\_\_\_\_\_\_\_\_
     + woody plants, trees, shrubs, beans
  2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_
     + 1 cotyledon
     + leaves with \_\_\_\_\_\_\_\_\_\_\_\_\_\_ veins
     + grasses, palms, lilies



**Can you …**

**… state the evolutionary advancements of the angiosperms?**

**… draw and describe the structures/functions of a flower?**

**… draw and explain the lifecycle of an angiosperm?**

**… compare and contrast all of the plant groups (Bryophyta, Pteridophyta, Gymnosperms and Angiosperms)?**