**Lesson 13: Kingdom Plantae**

**Learning Target:** #7. I can compare and contrast the structure and function of different types of eukaryotes from Kingdoms Protists, Fungi, Plants and Animals.

**Cell Characteristics**

* Multicellular eukaryotic organisms
* All plants perform photosynthesis (have chloroplasts)
* All have cell walls composed of cellulose

**Plant Morphology**

1. **Root system**

* Anchors plant
* Absorb water and minerals
* Sometimes used for food storage
* Water enters roots through osmosis using the vascular tissues
  + Xylem: conducts water and minerals from roots
  + Phloem: conducts products of photosynthesis from leaves throughout plant
  + 2 Types of Roots
    - Monocot
      * Profusely branched roots
      * Occupy a large volume of shallow soil around plant’s base
    - Dicot
      * One main root
      * Downward growing root, with limited branching

1. **Shoot system**

* Support the plant
* Transfer water and sugars from roots to leaves
* Leaves (and stems) make sugars through photosynthesis
  + 2 main types of stems
    - Herbaceous stems
    - Woody stems
* Leaf functions
  + Primary site of photosynthesis
  + Regulate water loss
  + Storage and support

**Role in Ecosystem**

* Producers and base of food web
* Provide oxygen for all living organisms
* Provide habitats and shelter

**Human Uses**

* Humans are dependent on plants for medicines, clothing, wood, paper, food

Use 3.2 to complete table.

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| Kingdom Plantae | | | | |
| Group | **Bryophytes: Non- Vascular Plants (The Mosses)** | **Seedless Vascular Plants: The Ferns** | **Gymnosperms:Seed producing Vascular Plants (conifers)** | **Angiosperms:Seed producing Vascular Plants (flowering plants)** |
| Description |  |  |  |  |
| Reproduction |  |  |  |  |
| Habitat |  |  |  |  |
| Examples |  |  |  |  |