Plant Kingdom

• Multi-cellular organisms
• Eukaryotic
  – Cells have a true nucleus
• Have cell walls
• Autotrophic
  – Photosynthesis for energy
• Reproduce sexually and asexually

Plant Basics

• Plants have organs and organ systems
• What kinds of “organs” do plants have?
  • Leaves
  • Stems
  • Roots
  • Flowers

Leaves

• Most of the food is made in the leaves
• Collect sunlight for photosynthesis
• Chlorophyll is a green pigment that captures sunlight
• When leaves change color, the chlorophyll dies and photosynthesis stops
Stems
- Support the plant
- Transport nutrients and water throughout the plant
- Different types of stems
- Different types of stems can be a clue on what characteristics a plant can have

Roots
- Help to anchor plant into the soil
- Absorb water and nutrients from soil
- Also stores extra food for later use.

Flowers, Seeds, Fruits
- Flowers are the reproductive parts of plants
- When flowers are pollinated, seeds are fertilized and a fruit is produced.
- Fruit provides covering for the seeds
- Seed contains a new plant

Types of Plants
- Two big groups of plants
- Spore bearing plants
  - Moss, Algae, Ferns
- Seed bearing plants
  - Conifers and Flowering Plants
Spore Bearing Plants
• Examples are moss, algae, and ferns
• These are “simpler” types of plants
• Spores are tiny little pieces of genetic material that form into the plant

Seed Bearing Plants
• More advanced types of plants
• 2 major types
  – Flowering Plants and Conifers
• Seeds contain an embryo and food supply
• A seed covering protects the developing plant
• A seed is nourished by the food supply until it can start to make its own food

Flowering Plants
• Also called angiosperms
• The role of the flower is to make certain fertilization occurs, and that the result is the growth of fruit which contains seeds
• What other names do we give plants in this category?

Conifers
• Also called gymnosperms
• What are some other names?
• Instead of flowers, these plants have cones
• Seeds are contained and develop within female cones
• Most of these plants are trees and shrubs
Conifers vs Flowering Plants

- What are differences between these two groups of plants?

Perennials and Annuals

- Two other ways to group plants
- Perennials live year after year
  - They grow back from the same plant
- Annuals live only one year and die
  - They re-seed to grow another plant
- What are some examples of each?

Plant defenses and adaptations

- Plants are food for many organisms, so how do they defend themselves if they can’t move?
- Plants have adapted many different ways, what are some you can think of?

Carnivorous Plants

- What does carnivore mean?
- These plants get nutrients (not energy) from animals, usually insects
- These plants grow in soil that is very poor in nutrients, so this is an adaptation to get nutrients they need.