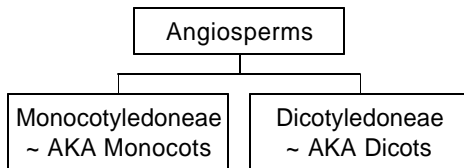


Angiosperms

Angiosperms:

- most abundant and recognized plants
- 275,000-290,000 species
- produce many seeds each year
- divided into two main groups based on cotyledons ("first leaf" or "seed leaf")
- produce their seeds in flowers

Angiosperm Types



Monocots



- Have 1 cotyledon
- parallel venation
- flower parts in 3's
- vascular bundles are scattered
- herbaceous stems
- ~ 90,000 species

Dicots



- Have 2 cotyledon
- pinnate or palmate venation
- flower parts in 4's or 5's
- vascular bundles are in rings
- herbaceous or woody stems
- ~ 200,000 species

Economic Importance:

- food -- rice, wheat, oats, vegetables, fruits, flowers (broccoli, cauliflower)
- clothing -- cotton, flax, hemp
- decoration
- drugs/medications
- cosmetics/perfumes

Some Medicinal Angiosperms:

- Foxglove -- heart attack medication (shown to the right)
- Willow -- bark used to make aspirin
- Basil-- reduces blood sugar levels, joint pain, fevers, anti-inflammatory
- Dandelion-- leaves are a diuretic, roots are a blood purifier



Fruit:



- Structure that covers and protects the seeds of an angiosperm.

Flowers:



- Reproductive structures of angiosperms
- Part of the flower develops into a fruit as seeds mature

Flower Structures:

- Petals: leaf-like blades of white or are brightly colored that surround the reproductive structures of angiosperms
- Sepals: leaf-like structures at the base of a flower; usually green, but can be other colors; enclose flowers before they open

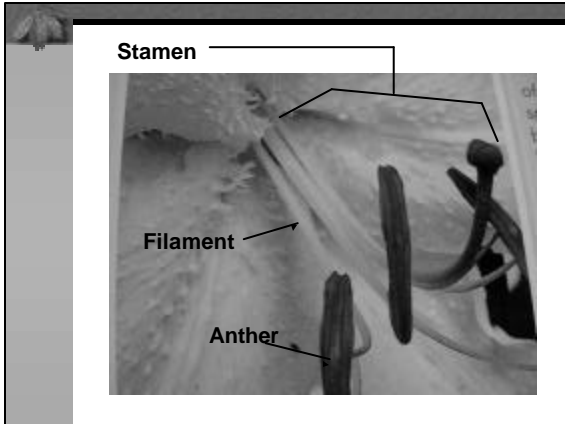
Petal

Sepal



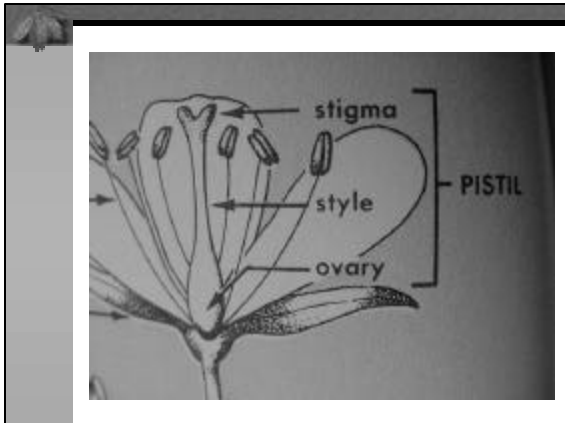
Male Flower Structures:

- Stamen-- male reproductive structure of angiosperms
- Filament-- long thin stalk of a stamen
- Anther-- sac at the end of a stamen that produces pollen



Female Reproductive Structures:

- Pistil: female reproductive structure of angiosperms
- Stigma: sticky end of a pistil that collects pollen
- Style: long slender stalk of the pistil
- Ovary: enlarged base of the pistil that contains the ovules



Making a baby angiosperm:

- Again, as with gymnosperms, pollination must occur.
- Chemicals on the stigma cause the pollen to form a pollen tube.
- Pollen tube grows toward the ovary and into the ovule.
- Sperm from the pollen travels down the pollen tube to the eggs where fertilization takes place.

- Once fertilization (the formation of a zygote)...

A black and white diagram showing a cross-section of an ovule. An arrow points from the left towards the ovule. The word "Embryo" is written at the bottom right. Below the ovule, the text "2. Embryo develops." is written. To the right of the ovule, the text "3. O..." is partially visible.

- Then...

A black and white diagram showing a cross-section of an ovule. An arrow points from the left towards the ovule. The word "Seed" is written at the top with a line pointing to the ovule. Below the ovule, the text "3. Ovule develops into seed that contains embryo and food supply." is written.

