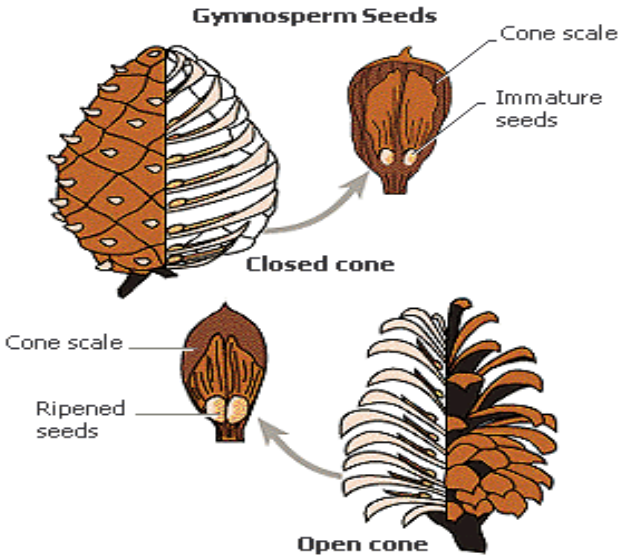
Seed Plants

- Members of the Phylum Tracheophyta (vascular plants).
- Subphylum Spermopsida (seed plants)
  - à Gymnosperms (naked seeds)
  - à Angiosperms (protected seeds)
    - à Monocots
    - à Dicots

Gymnosperms

- most ancient of the seed plants
- 3 classes
  - à Cycads
  - à Ginkgoes
  - à Conifers



Gymnosperm Characteristics

- Male and female reproductive structures found in structures called SCALES.
- Scales group into larger structures called CONES.

Cones

- male cones produce pollen (male gametophytes)
- female cones produce eggs (female gametophytes)
- seeds are protected by a seed coat, but sit "naked" on the scales

Types of Gymnosperms

Cycads

- palmlike plants
- evolved 225 mya
- cycad forests during dinosaur times
- grow in tropical and subtropical climates

Ginkgoes

- only one species remains à *Ginkgo biloba*
- may have survived only because of Chinese gardens
- medicinal à may help with memory and prevention of dementia

Conifers

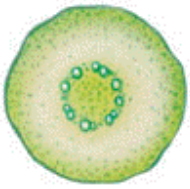
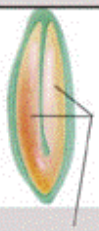
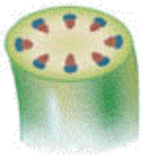
- commonly called evergreens
- needle shaped leaves
- include pines, firs, spruce, cedars, redwoods
- most are "evergreen" à don't lose their leaves in winter
- important for BC economy (logging)

Angiosperms

- flowering plants
- seeds protected in a wall which develops into a FRUIT (sometimes called vegetables)
- most widespread of all plants
- can survive in all environments

Angiosperm Subclasses

- the angiosperms can be separated into 2 subclasses
  - à monocots
  - à dicots

	Seed	Root	Stem	Leaf	Flower
Mono-cots					
		root xylem and phloem in a ring	vascular bundles scattered in stem	leaf veins form a parallel pattern	flower parts in threes and multiples of three
Eudi-cots					
		root phloem between arms of xylem	vascular bundles in a distinct ring	leaf veins form a net pattern	flower parts in fours or fives and their multiples