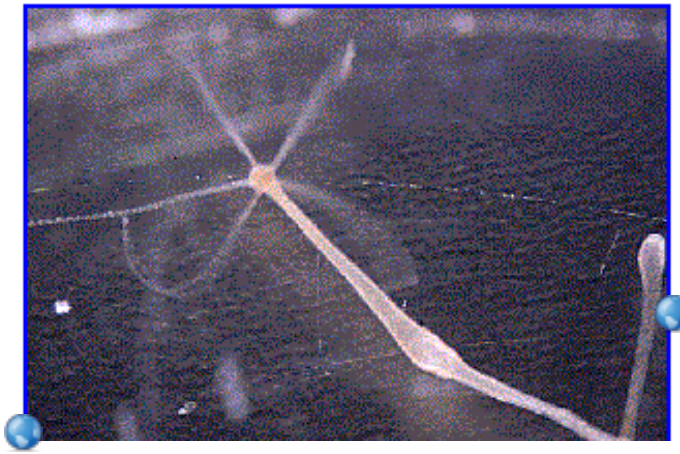
- Cnidarians
  - Sea anemone, jellyfish, hydra, coral

http://www.cyhaus.com/marine/anemone.htm



http://www.ucmp.berkeley.edu/cnidaria/hydrozoa.html

- Two body forms
  - Medusa - free-floating jelly-like forms
    - Often umbrella shaped

http://www2.hawaii.edu/~ortogero/jellyfish.html

- Polyp- forms are tube like and attached to a rock
  - Usually fringe like tentacles surround the mouth located at the free end of the body

http://www.cyhaus.com/marine/anemone.htm

- Many exist only as a polyp while some only as medusa
- Some have both phases in their life

Cnidarians have tissues

- There are two body layers ectoderm and endoderm.

Cnidocytes

- The tentacles have Stinging cells
  - These are what give the phylum their name
- Within each there is a nematocyst (small barbed harpoon)

- Some contain deadly toxins, some only stun and kill
- When the food is stung the tentacles then push the food into the

gastrovascular cavity

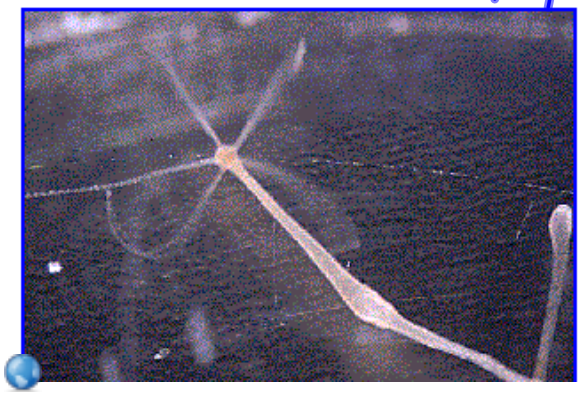
Extra cellular digestion

- Digestion occurs outside the cell
- Enzymes break down food into small fragments
- The cells lining the cavity engulf the fragments

- Digestion completes intracellularly
- This allows cnidarians to feed on thir larger than their cells

Class Hydrozoa- most primitive cnidarians

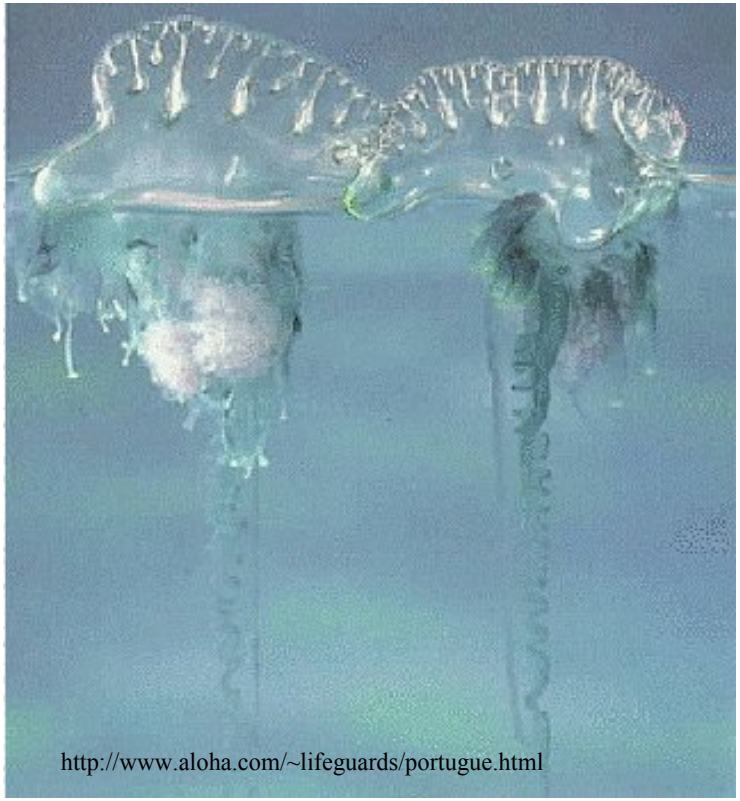
- Colonial organism
- Spend life as medusa and polyp



http://www.ucmp.berkeley.edu/cnidaria/hydrozoa.html

- Freshwater
  - *Hydra* are unique because they exist only as polyp
  - Solitary
  - Live in quiet lakes, ponds, or streams
  - Basal disk -secrete substance to glide on
- Sometimes they move by tumbling

- Marine
  - Live together in colony
  - Portuguese man-of-war
    - Incorporate medusa and polyps
    - A gas filled float allows the animal to float on the surface of the water


http://www.aloha.com/~lifeguards/portugue.html

- Tentacles reach up to 50ft long
- They are used to stun and entangle prey
- They have powerful neurotoxin in the tentacles
- It is even harmful to humans

- Reproduction in hydrozoans
  - In most polyps reproduce asexually by budding
  - Many are also capable of sexual reproduction

- Class Scyphozoa
  - Latin skyphos cup zoia animal
  - True jellyfish
    - Active predators that ensnare their prey with their tentacles
    - Some are as small as a thimble others are as large as a queen-size matress

- In many Asian countries they eat jellyfish
- The salt in the food breaks down the toxins.

http://www2.hawaii.edu/~ortogero/jellyfish.html

- Class Anthozoans
  - Largest class
  - Only polyps
  - Bright color like sea anemones and corals
  - thick stalk like body surrounded with tentacles in groups of six

- Nearly all shallow water ones have symbiotic algae such as dinoflagellates
- The color of most of these is actually the dinoflagellates

http://www.coralreef.noaa.gov/

http://www.cyhaus.com/marine/anemone.htm

- Sea anemones
  - 0.2 inches to 4.0 inches
  - feed on fish and other things that swim past their tentacles
  - when touched they retract their tentacles and curl into a tight ball

- They can reproduce by pulling themselves in two halves
  - this results in large population of genetically identical sea anemones

http://www.cyhaus.com/marine/anemone.htm

- Corals
  - Live in colonies called reef
  - Live in Symbiotic relationships with algae
    - The algae provides food while the coral provides shelter

- The top layer of the reef has living polyp
  - The coral are living on top of old skeletons

- As many as 3000 species of animals live on one reef
- Coral reef protect coastlines from wave erosion
- The Great Barrier Reef is the largest
  - 1,200 miles distance from Warren to Dallas, Texas. 19 hours