

- Cnidarians
  - Sea anemone, jellyfish, hydra, coral



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

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

Oct 17 - 9:49 PM

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



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

Oct 17 - 9:51 PM

- 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>

Oct 17 - 9:54 PM

- Many exist only as a polyps while some only as medusas
- Some have both phases in their life

Cnidarians have tissues

- There are two body layers ectoderm and endoderm.

Sponges  
n had  
tissues

Oct 17 - 9:53 PM

## Cnidocytes

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

Oct 17 - 9:56 PM

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

Oct 17 - 9:57 PM

## Extra cellular digestion

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

Oct 17 - 9:58 PM

- Digestion completes

intracellularly

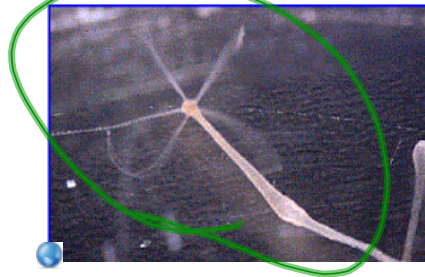
- This allows cnidarians to feed on their

larger than their cells

Oct 17 - 9:59 PM

## Class Hydrozoa- most primitive cnidarians

- Colonial organism
- Spend life as medusa and polyp



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

Oct 17 - 10:00 PM

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

Oct 17 - 10:00 PM

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

Oct 17 - 10:02 PM



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

Oct 17 - 10:03 PM

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

Oct 17 - 10:03 PM

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

Oct 17 - 10:04 PM

- 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

Oct 17 - 10:05 PM

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



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

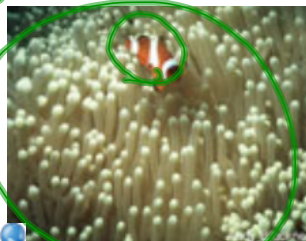
Oct 17 - 10:07 PM

- Class Anthozoans

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

Oct 17 - 10:09 PM

- 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>

Oct 17 - 10:10 PM

- 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

Oct 17 - 10:11 PM

- They can reproduce by pulling themselves in 2 halves
  - this results in large population of genetically identical sea anemones



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

Oct 17 - 10:13 PM

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

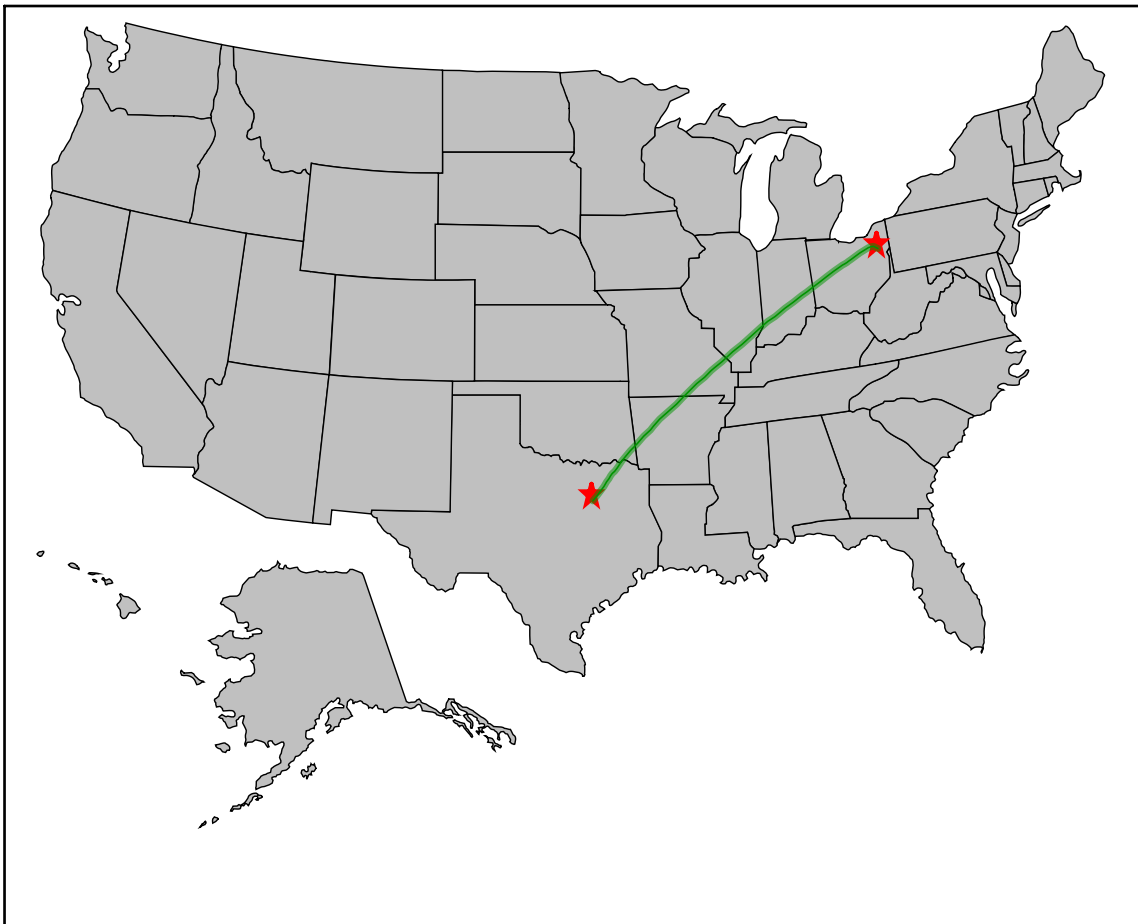
Oct 17 - 10:14 PM

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

Oct 17 - 10:15 PM

- 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

Oct 17 - 10:15 PM



USA - states