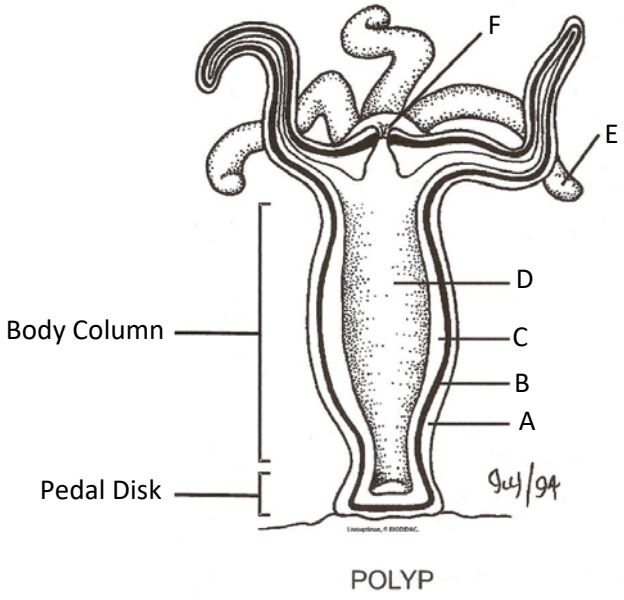
LIFE SCIENCES 11
CNIDARIANS

Phylum	Cnidara
Level of Organization	Tissue
Digestive System	Sac
Symmetry	Radial
Coelom	None
Segmentation	None

Cnidarians

- many have 2 life stages – polyp (sessile) and medusa (free-living)
- 4 main classes
    1. Hydroids
        - have both stages in their life cycle
        - many form colonies
        - example – Portuguese man-of-war
    2. Jellyfish
        - 2 classes – round and box jellyfish
        - dominant stage is the medusa
    3. Sea Anemones & Corals
        - dominant stage is the polyp
        - sea anemone – individual organisms
        - corals – colonies of polyps surrounded by calcium carbonate & live symbiotically with photosynthetic protists (zooxanthellae)
- body is composed of 2 layers of tissues
    - outer layer – protection
    - inner layer - digestion
- capture food using stinging cells (cnidocytes) on tentacles
    - cnidocytes contain nematocysts – capsule containing a poisonous barbed, thread-like structure
    - food is then pulled into the gastrovascular cavity
        - gastro – used for digestion
        - vascular – used for gas exchange
    - waste materials are expelled back out the mouth
- have a nervous system formed by a nerve net
    - stimuli cause contraction of muscle-like cells in the two tissue layers
    - results in movement of tentacles
- reproduction
    - polyp
        - asexual by budding or formation of strobila that produce ephyra (immature medusa)

- medusa
  - sexual reproduction (egg and sperm)
  - zygote develops into a planula (free-swimming larvae)
  - planula settles on the ocean floor and grows into a polyp
- uses
  - food for some organisms
  - habitat for small marine organisms (clown fish)
  - used in bone graft surgery



A. Epidermis
B. Mesoglea
C. Endodermis
D. Gastrovascular Cavity
E. Tentacle
F. Mouth