Name: _____ Date: _____

Gen Bio 2 Lab #4: Sponges/Cnidarians/Ctenophores

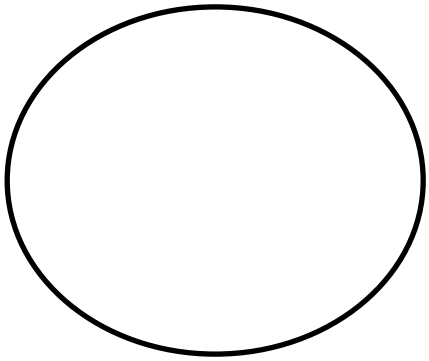
Pre-lab Reading: Pages 641-647

Pre-lab Vocabulary:

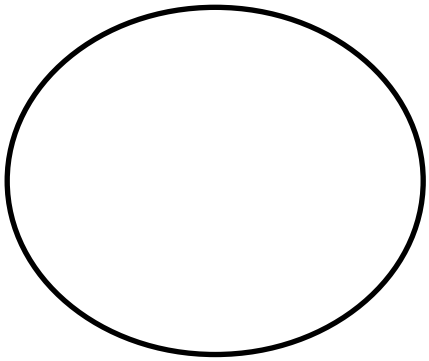
1. **Amoebocytes –**
2. **Choanocyte** (collar cells) –
3. **Epidermis (pinacocyte)** –
4. **Flagellum** –
5. **Hermaphrodite –**
6. **Holdfast** –
7. **Mesohyl** –
8. **Osculum** –
9. **Ostia** –
10. **Porocyte** –
11. **Sessile** –
12. **Spicule –**
13. **Spongocoel** –

Procedure 1: Sponges
Examine the various preserved and dried sponges. **Write observations** about the sponges below.

Procedure 2: Grantia
Examine the slide of Grantia and note the folds in the wall – these are the incurrent channels through which the water enters. **Draw and label what you see.**



Examine the slide of spicules. **Draw a few.**

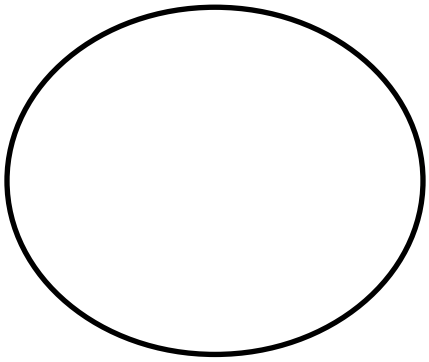


<u>Questions:</u>
What is the functional purpose of spicules?

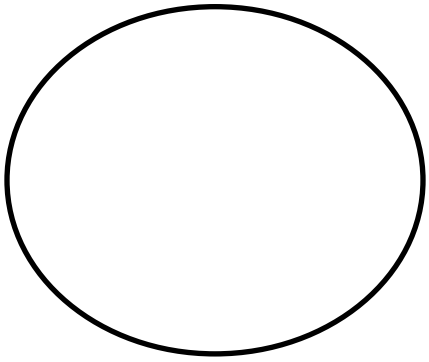
What two materials are spicules made from?

Procedure 3: Hydra
Examine the model of a hydra and the whole mount slide. Compare the structure to **Figure 31.4** in your text. **What are the 3 cell layers forming the wall of the hydra?**

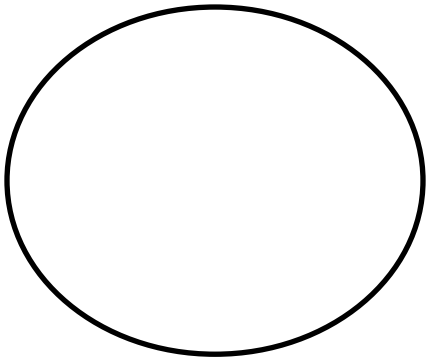
Draw and label the three layers.



Observe the slides of hydra showing budding (asexual reproduction). **Draw what you see and label structures.**

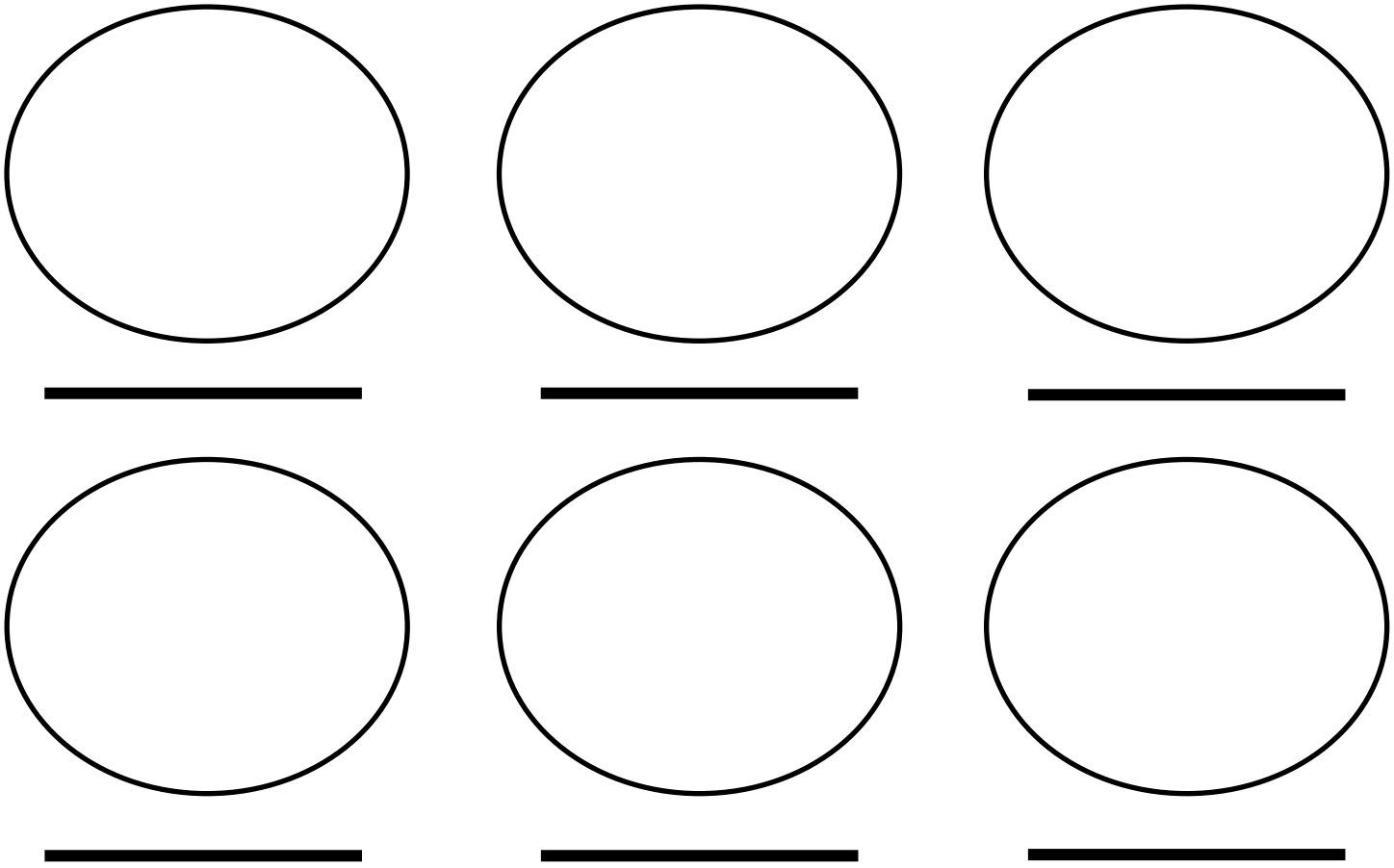


Observe the slides of hydra showing developing testes and ovaries. **Draw what you see and label structures.**



Procedure 4: Physalia
Observe the whole mount (in plastic) and specimen of *Physalia*, the Portuguese Man of War. **Have you seen these at the beach? What happens if you encounter these Cnidarians in the water?**

Procedure 5: Class Schyphozoa – the "jellies"
Examine the series of slides showing the life cycle of Aurelia. **Planula** larvae are the product of sexual reproduction. They then develop into **scyphistoma** (polyps), which produce new **medusas** (gametangia), the **strobilia** stage, then an **ephyra**, an immature medusa and finally the **adult** form. **Draw the stages in the correct order, labeling each stage.**



Procedure 6: Class Anthazoa (after observing, you can look up your answers to these questions later online if needed) Observe preserved specimens of *Metridium* (sea anemone) and the Corals. The soft-bodied coral organisms are of course long gone, but **what is the fossilized part, their external skeleton, made from?**

Where would each coral organism have lived within the structure, and how would it have fed?

Procedure 7: Phylum Ctenophora
Observe preserved specimens of comb jellies (**Phylum Ctenophora**). **Write two sentences** describing what you see.

Questions to e x p a n d your mind.

1. Identify and describe 3 aspects of what makes sponges valuable: a) ecologically and b) commercially.

2. Why are sponges considered to be an evolutionary "dead end"? What does this mean about their predecessors?

3. Coral habitat is diminishing world-wide at an alarming rate. From what you now know about sponges, cnidarians and ctenophores, why is this concerning from an ecological perspective?

4. **INTERNET RESEARCH OPPORTUNITY**: Why can clown fish live in harmony with a sea anemone?