Study guide for Porifera I have tried to make this study guide a bit more organized, since none of this material is reinforced by lab experience. Please turn in questions in red for homework.

**Porifera**

**1. Film questions:** May be used on Moodle quiz

Why are sponges important to medicine?

Are there fresh water sponges?

What is the importance of sponges to reefs

What is the relationship between bacteria and sponges?

Compare sponge communities near Andros and Providence Islands.

Describe the Red Bays sponge industry

How do larval sponges orient?

On tree of life, what do the tips represent?

What do new discoveries indicate about the most ancestral of the following sponges, ctenophore and jellyfish? How do they change what we propose about how sponges have evolved? A version of this question might be on any take home portion of exam two.

**2. On background**

What is a Metazoan?

How do choanoflagellates feed?

Are sponges the last common ancestor to other animals? Be able to discuss the evidence for and against and what a last common ancestor may have looked like if Ctenophores are more indicative of the form of this ancestor. What does it mean to say that the Kingdom Animalia is monophyletic?

**3. Basics**: Be able to describe basic characteristics of sponges including the function of different specialized cells. I would make a table listing the types of cells found in sponges and their function. The two most important cell types are archaeocyte (or amebocyte) and chaonocyte.

How do sponges feed?

**4. Design and Classification:**

What are the three most common body designs? Why is the leuconoid design a marvel of engineering?

How are sponges classified and what is the relationship between body design and classification?

How are the Cladorhizidae unique feeders?

What is unique about sponge regeneration?

How do sponges reproduce? What cells give rise to sperm and eggs?

**5. Evolution:**

Given living groups of sponges, what is the most ancestral among them with regard to design and classification? How do we know?

6. How do placozoans move and feed?