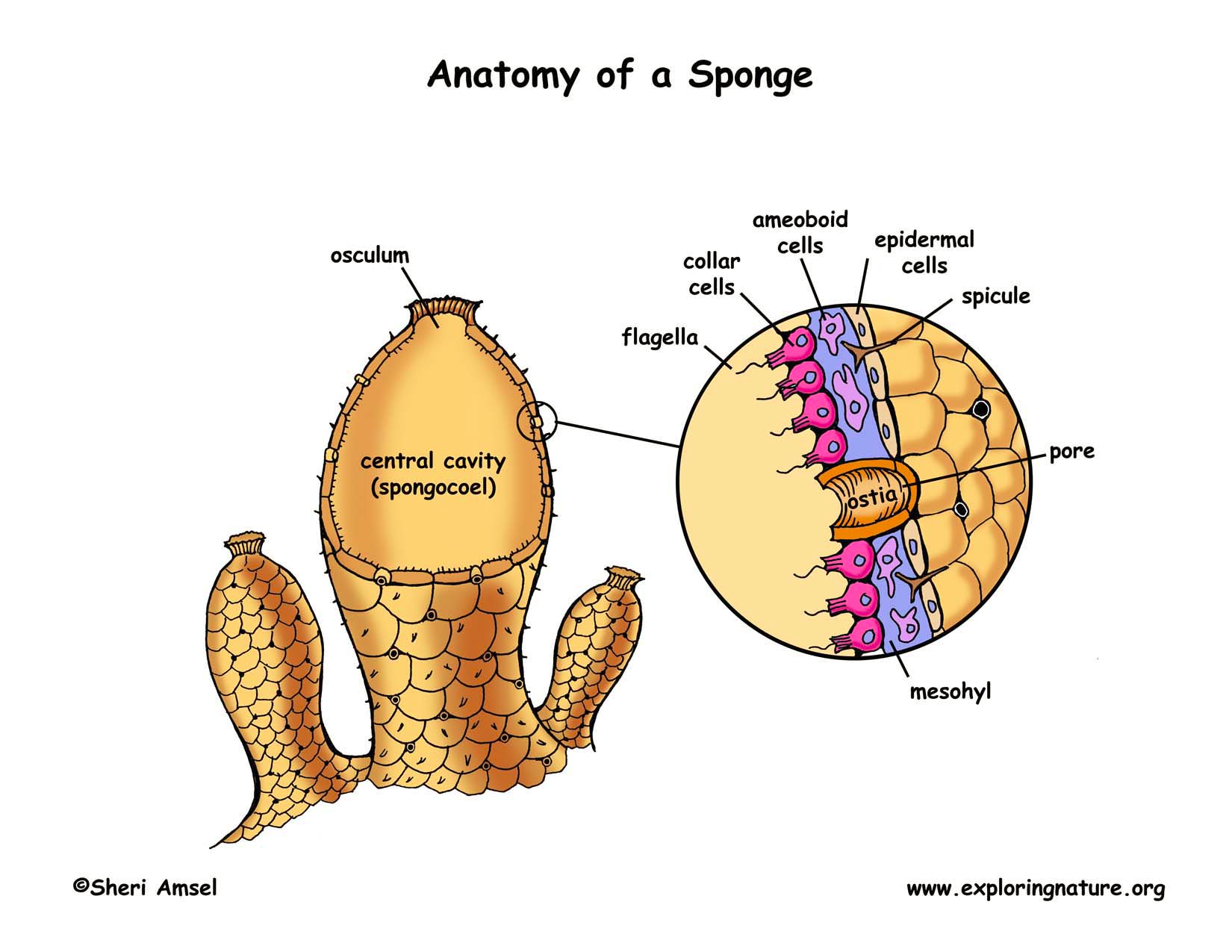
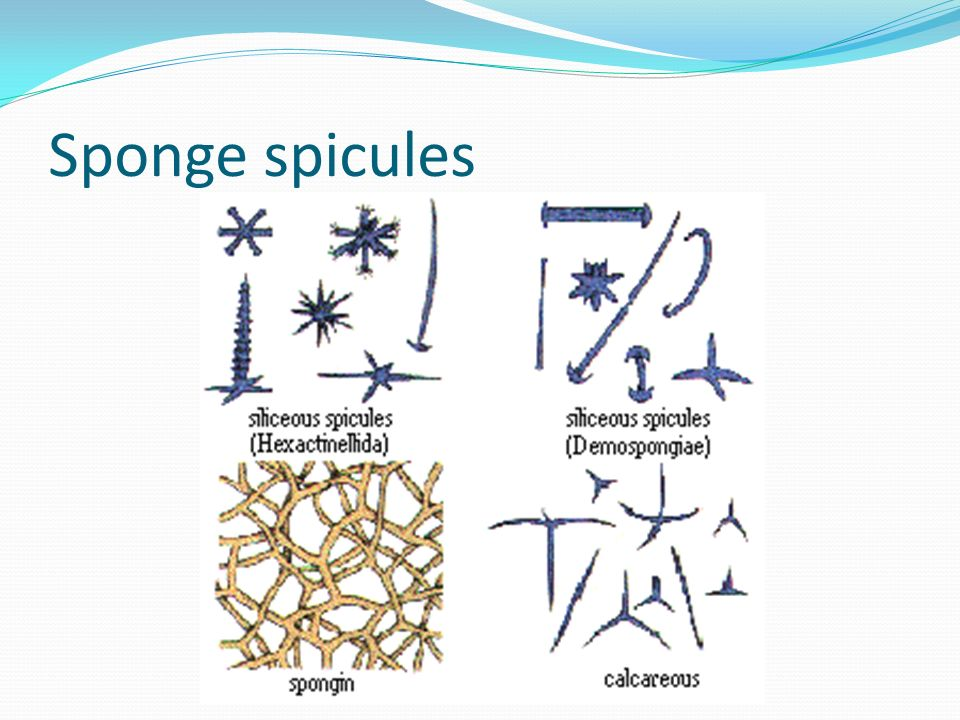
**Phylum Porifera: The Sponges** Name: Date:



**Phylum Porifera**

* Porifera = ‘pore bearers’
* One of the simplest and most unusual animals
* Have been on earth for at least 540 million years
* Most of them live in the ocean – sessile
* Most commonly used by humans for natural sponges for bathing
* They are considered animals because they are multicellular, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and their cells have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* This phylum represents the first experiment in multi-cellularity for animals
* There are specialized cells, but they do no work cooperatively together - not tissues
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** animals
* Have changed little since they evolved

**Body Plan**

* Sponges are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, have no front or back ends, and no left or right sides
* Think of a large cylindrical water pump
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (collar cells) are specialized cells that use flagella to move water through the sponge
* Water exits the sponge through the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, large hole at the top
* This movement of water is for feeding, respiration, circulation, and excretion
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (amoebocytes) are motile cells which have a variety of functions including delivering nutrients to other cells and creating eggs for sexual reproduction
* ****Sponges have a simple skeleton
* In harder sponges, the skeleton is make up of spiny \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* A spicule is a spike-shaped structure made up of chalklike calcium carbonate or glass-like silica

**Spongin Spicule**

* Softer sponges have an internal skeleton made up of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, a network of flexible protein fibres

**Feeding, Respiration, Circulation, and Excretion**

* The movement of water through their bodies is to carry out body functions
* Sponges are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which means they filter food particles from the water using their choanocytes.
* Oxygen from the water \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and waste products like \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into the central cavity and out the osculum

**Response**

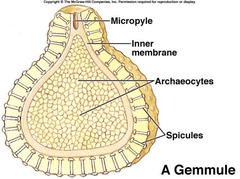
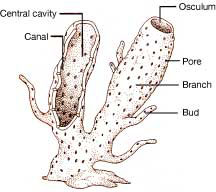
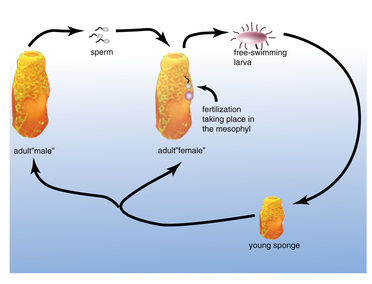
* Sponges do not have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that would allow them to respond to their environment however, some sponges create toxins that are unpalatable or poisonous to potential predators.

**Reproduction**

* Sponges can reproduce either sexually or asexually
  + Sexual - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Larvae are motile and move to a different location
  + Asexual – \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ a new sponge clone forms on the side and

eventually forms a clone

- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: in unfavourable conditions, the sponge can surround archaeocytes in spicules forming a gemmule which can survive the harsh conditions then regrow the sponge

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