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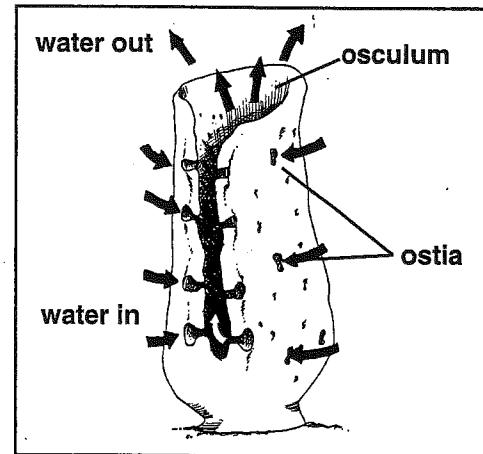
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## Invertebrates: What Is a Sponge?

Kingdom: *Animalia*Phylum: *Porifera* [por IF er uh], means "pore-bearer"

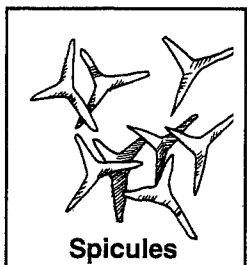
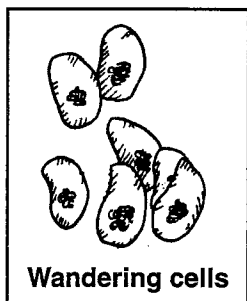
### Characteristics

In the past, people thought sponges were plants because they did not move from place to place like most animals do. All sponges are invertebrates that live in water. They are mostly **marine** (live in salt water), but some do live in fresh water. These special underwater invertebrates are the simplest of all the animals. They do not have heads, arms, legs, or any internal organs. Sponges grow in many different colors, sizes, and shapes. They are usually classified as **asymmetrical** (lacking symmetry or likeness of body parts). The adult sponge does not move about. Sponges attach themselves to plants or rocks on the ocean floor. The adult sponge is **sessile** (remains in one place for the rest of its life). It's no wonder that early scientists classified sponges as plants!

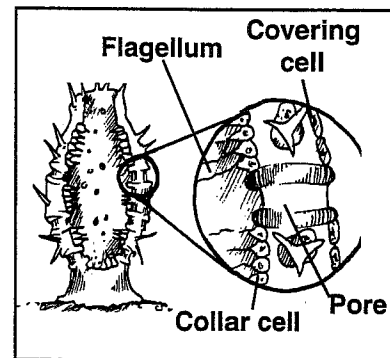


### Obtaining Food

Scientists observed the sponge and discovered that it obtains its food the same way other animals do. It eats other living creatures to get the nourishment it needs to live. A sponge filters its food from the water as it is pulled in through **pores**, or holes, called **ostia** on the sides of its body. Bacteria, algae, and protozoa are filtered out of the water as it flows through the sponge to be used as food. Organisms that obtain food this way are called **filter-feeders**.



As you can see from the drawing, the body of a sponge is made up of two layers of cells. The outer cells are thin, flat cells called **covering cells**. The inner layer of cells has **flagella** (little whips) and are called **collar cells**. The flagella on the collar cells pump the water through the pores and then out through the top of the sponge. The food is trapped and digested by the collar cells. Collar cells also help bring in oxygen from the water. The jellylike layer between contains a special cell called a **wandering cell**. The wandering cell carries food and oxygen to all of the parts of the sponge and collects waste to be given off into the water passing through the sponge. The jellylike middle also contains small needlelike support structures called **spicules**. They link together to form a simple skeleton that supports and shapes the body of a sponge. You might compare the body of a sponge to an empty sack. The sponge is hollow on the inside and has a large opening called an **osculum** at the top.



### Reproduction

Sponges can reproduce **sexually** (two parents producing offspring) or **asexually** (one parent producing offspring). When the sponge reproduces asexually, it forms an outgrowth called a **bud** from the parent sponge. This form of asexual reproduction is called **budding**. When the young bud is fully developed, it breaks off from the parent sponge. Sponges can also reproduce asexually by **regeneration**. If the sponge is cut into pieces and then returned to the ocean, each piece begins to replace or grow back its missing body parts. If the sponge is cut into three pieces, you have three sponges.