

Ponds

What is a Pond?

What makes a pond different from a lake? Both are open bodies of fresh water in a depression in the ground.

A pond is usually smaller and shallower than a lake. Because they are shallower than lakes, ponds have plants growing on the bottom of them from one side to the other. Most ponds are less than six or seven feet deep. Plants need sunlight to grow and lakes are usually too deep in the middle for plants to grow on the bottom. The temperature of the water in a pond is usually about the same from the top to the bottom and it changes with the air temperature. In really cold places, ponds can freeze solid from top to bottom!



Zoom Image Credit: US Fish and Wildlife

Here and Gone

There are two types of ponds, **permanent** and **temporary**. Permanent ponds exist year-round. Temporary or **vernal ponds** usually develop in the spring when rain



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and melting snow fill in depressions in the ground. Vernal ponds dry up in the summer. Vernal ponds are often breeding grounds for frogs and other amphibians. Some organisms in vernal ponds are adapted to survive through the dry season. Some algae and protozoa dig into the mud and make a **cyst** or hard cover out of lime! This protects the organisms until water fills the pond in the spring. Vernal ponds are also called **vernal pools**.

Land to Water and Back Again

Ponds are depressions in the ground that fill with water. Over time, sometimes hundreds of years, ponds can change into marshes and swamps and then back to land!

In the Beginning

Ponds form when water begins to fill in a depression in the ground. Early plants or **pioneers** start growing on the bottom of the pond.

Eventually plants called **emergents** start to grow on the edge of the pond. Over time the plants in and around a pond grow and die and decompose. As the plants decompose, layers of soil build up and the pond becomes shallower and shallower. As the pond becomes more shallow, the plants on the edge of the pond may begin to grow in the pond. When this happens, the pond becomes a **marsh**. As the marsh plants grow and die and decompose, trees may begin to grow in the marsh. Now the marsh is a **swamp**. Over time, if the swamp dries up, the land may become a forest or grassland! All of this happens over hundreds of years!



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