

Viewing Cells

The only way to view most cells is to use a microscope. There are different types of microscopes. An *optical microscope* is the one you will normally see and use. It can magnify a cell up to about 2,000 times so that we can easily see the basic parts of the cell. However, some cells are too small to be seen by an optical microscope. For these, an *electron microscope* is needed. An electron microscope can magnify a cell by one million times! These electron microscopes not only allow us to see the smallest of cells, they also allow us to view the tiny subparts of cells. (We will cover some of these subparts of cells in Section 2.)

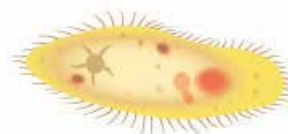
It is also helpful to use dyes to view cells. The dyes stain certain parts of the cell—such as the cell membrane and the nucleus—so that they stand out more clearly when we view the cells under a microscope. (You will use iodine as a dye in some of the experiments.)



| Optical microscope



| Muscle cells



| Paramecium



| Red blood cell



| Nerve cell



| Diatom



| Diatom

From Calvert
5th Grade
Science



Worms. Worms are animals that have soft, slender bodies and no backbone or legs. There are thousands of different kinds of worms. The largest worms are several feet long, and the smallest ones cannot be seen without a microscope.

Worms have no outside covers or bones to give them protection. Since worms have no protective structures, they live in places that are safer for them. Most of their lives are spent under the ground, in water, or inside other animals.

The larvae of some insects sometimes look like worms, but they are not really worms. There are big differences in the life cycles of real worms and the larvae of insects. Larvae will change into adult insects sometime during the life cycle. The adult insects no longer look like worms. Worms will stay worms all their lives. The adult worms can reproduce. Insect larvae cannot reproduce.

The most commonly known worm is the earthworm. **Flukes**, flatworms, roundworms, tapeworms, and leeches are other types of worms. Most of these worms have similar types of life cycles. However, some life cycles of worms cannot be completed unless the worms are located in the right place. The need for the right place to live is especially important to worms who live in other animals. These worms that live in other animals are known as **parasites**. The animal where the parasite lives is called the **host**.

