

## *The Life Cycle of a Plant*

From Duval Reads

You have already learned about the different parts of a plant. One of those parts is the seed. Many plants begin with a seed. Seeds come in all shapes and sizes and, as you might guess, the seeds from different plants look different. Each seed is a plant waiting to sprout, or grow. If the seed is planted in the right place, then the seed will sprout and grow into a new plant. Only a sunflower plant can grow from a sunflower seed, and only an apple tree can grow from an apple seed. What type of plant do you think would grow if you planted a watermelon seed? How about a pumpkin seed?

Seeds are the beginnings of new plants. Like all living things, plants live according to a life cycle. A life cycle includes the stages and changes that happen in living things. The life cycle of a plant starts with a seed. Most seeds have nutrients inside them that feed the new plants for just a little while. In order to germinate—or begin growing into new plants—seeds must have water, light from the sun, and nutrients from the soil. When a plant first starts to grow from a seed, it looks very different from a fully grown or mature plant. Baby plants are called seedlings. This image shows a plant's growth from germination to seedling.

The very first picture shows a newly germinated seed that is just beginning to sprout. Germination begins when the seed gets just the right amounts of light from the sun, water, and nutrients. This causes the seed to open and the seedling to poke up through the soil. If you look very carefully at this first picture, you can see that the new plant is just starting to grow its first root. The next pictures show the same plant over several days. As the plant grows, you can see thin roots branching off deeper into the soil. The roots absorb water and nutrients and push them up through the plant's stem, which grows above ground.

It takes time for a seedling to grow into a full-grown, adult plant. The amount of time it takes depends on the type of plant. If you plant a sunflower seed, it will take about a month before the seedling begins to look more like a full-grown sunflower plant. If you plant an apple seed, it will take several years for the seedling to grow into a full-grown tree!

When the plant dies, it decays and breaks down into little pieces and goes back into the ground to become nutrients in the soil. A new life cycle of a plant begins!

Now, let's explore the life cycle of this oak tree. This acorn contains the seed of an oak tree. You may have seen acorns before, lying outside next to full-grown trees or being carried away by squirrels.

Squirrels spend all day running around looking for food and hiding food. They bury so many acorns that they often forget where they put some of them. The acorn that the squirrel forgets

stays in the soil, giving the oak seed inside a better chance to germinate underground. Once the seed sprouts, it will quickly grow into a seedling, but the young tree will grow only a foot or two in its first year.

After a few years, the oak will grow to a height of ten or more feet, but it is still considered a young tree or sapling. This tree will still be called a sapling for several years to come.

Oak trees take a long time to mature. In fact, it takes about fifty years for the average oak tree to mature so that it can produce acorns. An oak tree can produce tens of thousands of acorns over the course of its lifetime. Only a few of those acorns will germinate and grow into new oak trees.

Some oak trees can live for over two hundred years. Eventually, like all living things, the oak tree will die. The oak tree will die slowly over the course of several years. It will produce fewer and

fewer leaves each year, its branches will drop off one by one, and gradually its wood will become softer and softer.

Finally, the roots will die and the tree will fall down with a big crash on the forest floor. The tree's branches will be the first to rot and disappear into the soil, but the woody trunk will take many years to completely decay.

All of the nutrients in the wood will decay and become part of the soil once again. The more decayed plants there are in the soil, the more nutrients that soil will have. And, the more nutrients there are, the easier it will be for new seeds, like the acorn seeds, to germinate and grow.

As we have seen, all plants live according to a life cycle. This diagram shows you the life cycle of a sunflower. A new plant begins when the sunflower seed germinates and sprouts to become a seedling. If the seedling receives the right amount of water, nutrients, and light, then the plant will continue to grow. Eventually, the plant will become mature and make more seeds from which new plants will grow. When the sunflower dies and decays, it becomes the nutrients in the soil so that seeds can germinate and grow into new plants. And a new life cycle of a plant begins!