The Life Cycle of a Plant

The Life Cycle of a Plant

Let's identify the parts of a plant. What does each part do and why is it important in the plant's survival?

The Life Cycle of a Plant

The main topic, or main idea, of today's lesson is the life cycle of a plant. When a plant first starts to grow, it does not have all of the parts they have learned about. Listen to find out more about today's topic: how the plant grows and changes during its life.

The Life Cycle of a Plant

You have already learned about the different parts of a plant.

One of those parts is the seed.

Where can you find the seeds on a plant?

(The seeds are found in the center of the flower)

The Life Cycle of a Plant

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.

The Life Cycle of a Plant

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.

The Life Cycle of a 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?

The Life Cycle of a Plant

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

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.

The Life Cycle of a Plant

What are the four things plants need to survive?

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 Life Cycle of a Plant

What do you see in this picture?

The very first picture shows a newly germinated seed that is just beginning to sprout. Germination begins when the seed gets just the right amount of light from the sun, water and nutrients.

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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 it's first root. The next pictures show the same plant over several days.

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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.

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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.

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If you plant an apple seed, it will take several years for the seedling to grow into a full-grown tree!

Why do you think it takes longer for a tree seedling to grow into a full grown plant than for a sunflower seedling to grow into a full grown plant?

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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!

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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.

The Life Cycle of a Plant

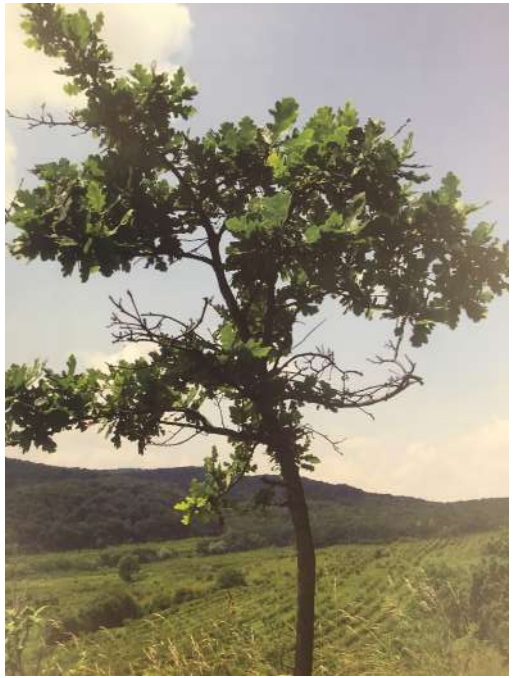
Squirrels spend all day running around looking for food and hiding food. They bury so many acorns that they often forget where they put some of them. The acorn that the squirrel forgets stays in the soil. giving the oak seed inside a better chance to germinate underground.

The Life Cycle of a Plant

What does germinate mean? Germinate means to begin growing into new plants.

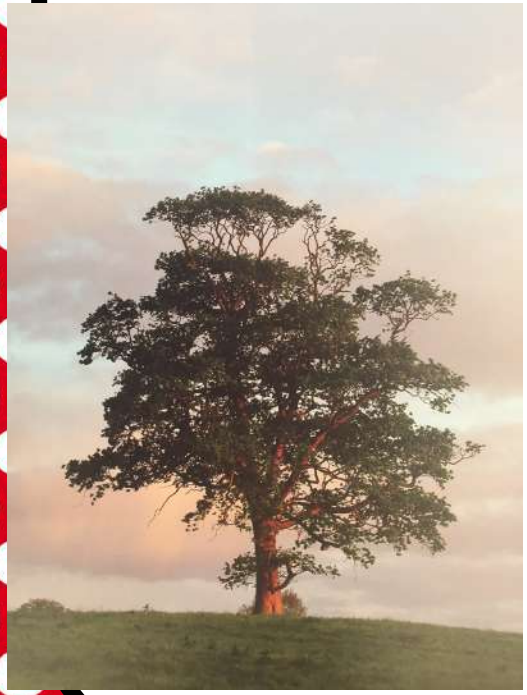
Once the seed sprouts, it will quickly grow into a seedling, but the young tree will grow only a foot or two in its first year.

The Life Cycle of a Plant



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.

The Life Cycle of a Plant



Oak trees take a long time to mature, or grow into an adult or full grown tree. 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.

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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.

The Life Cycle of a Plant

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.

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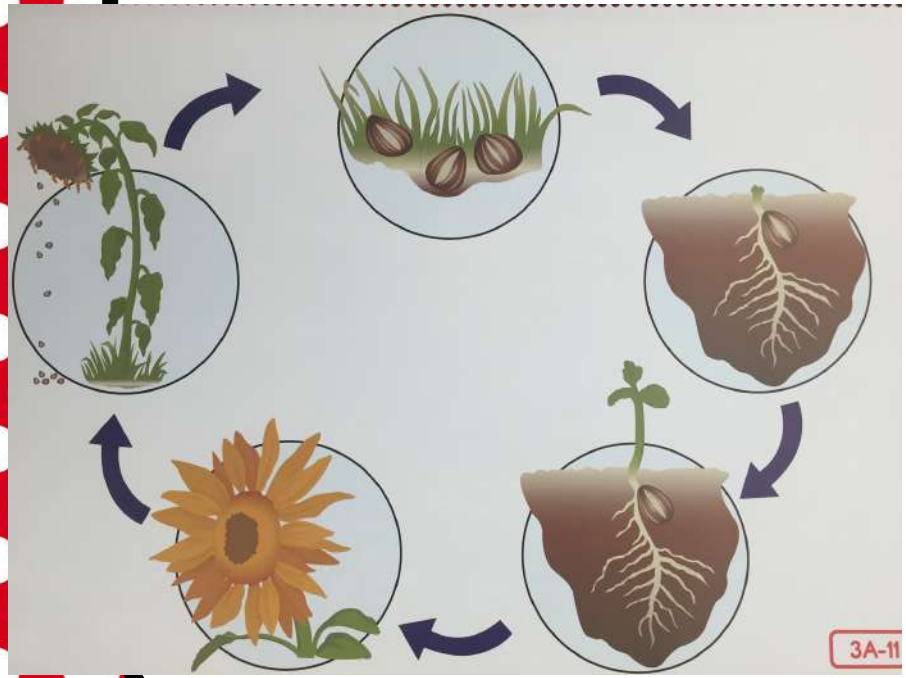
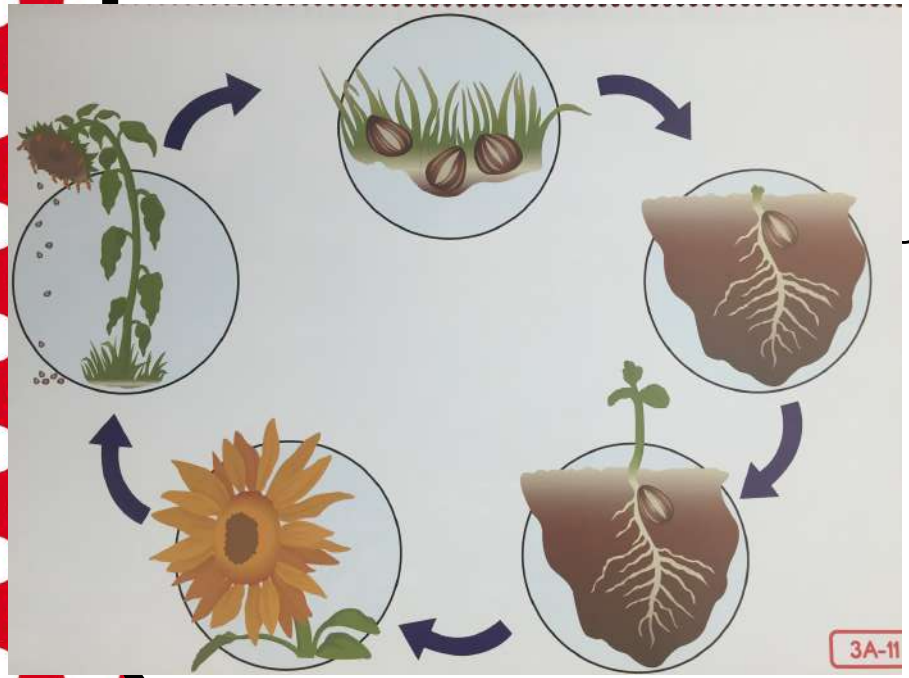
All of the nutrients in the wood will decay and become part of the soil once again. The more decayed plants there are in the soil, the more nutrients that soil will have. And, the more nutrients there are, the easier it will be for new seeds, like the acorn seeds, to germinate and grow.

The Life Cycle of a Plant



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.

The Life Cycle of a Plant



Eventually, the plant will become mature and make more seeds from which new plants will grown. 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!

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Comprehension Questions:

Literal

What parts of a plant does a seedling have?

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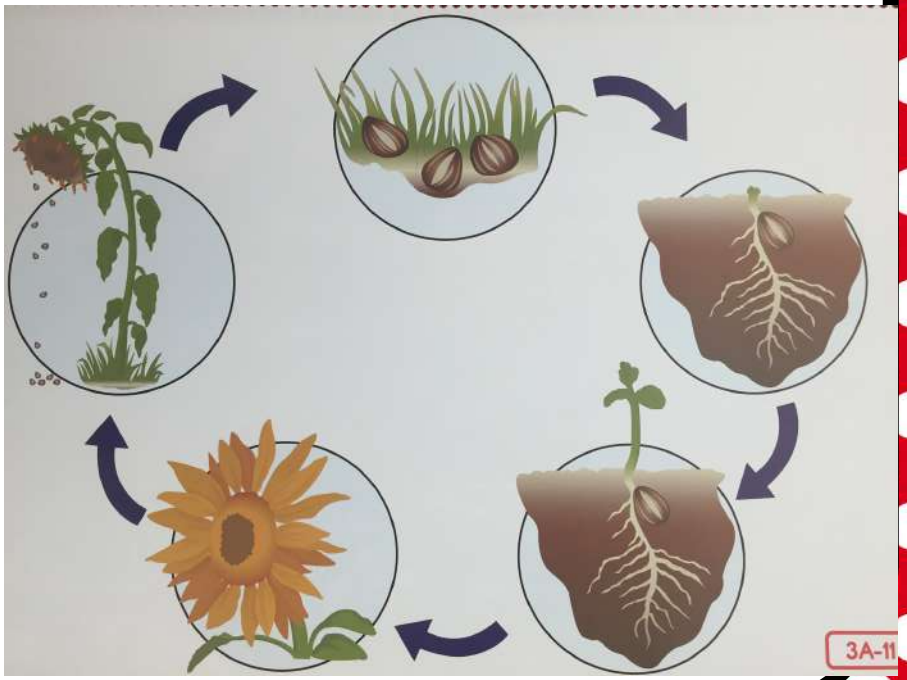
Comprehension Questions:

Inferential

Explain the life cycle of a plant.



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Comprehension Questions:

Literal

What kind of tree does an acorn grow into?

Word Work

Explicit Vocabulary Instruction

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In the read aloud you heard, "In order to **germinate**, or begin growing into new plants--seeds must have water, light from the sun, and nutrients from the soil."

Say the word **germinate** with me.
Whisper germinate to the ceiling.
Whisper germinate to your neighbor.

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Germinate *means to sprout from a seed and begin growing into a new plant.*

My bean plant has started to **germinate**, *and I can see it sprouting out of the ground!*

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Tell about the things a plant needs to **germinate**. Try to use the word germinate when you tell about it.

"A seed needs ____ to **germinate**."

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What's the word we have been talking about?

Let's clap it out.

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