

Life Cycle of a Plant

Materials Needed:

- Light blue underlay cut to fit 8 inches longer than brown ground piece
- Felt pieces for seeds and plants
- Peat pots
- Planting medium
- Seeds for planting

Presentation:

Smooth out the blue underlay.

I wonder what will happen here?

Lay the brown underlay near the farther edge of the blue underlay. This represents the ground and the soil beneath.

A seed was growing safely nestled inside its parent plant. Bigger and bigger. Its coat got stronger, until one day... POP! The seed separated from its parent and landed in the dirt.

Place the unsprouted seed on your right side of the brown underlay, so that it's "planted" just under the surface of the soil.

Do you think the seed was afraid to start growing on its own? Or excited?

Place the raincloud and the sun close to you, near the top of the "sky."

But the seed needed certain things to start to grow. It needed a drink of water. It needed nice, warm temperature.

Place the seed with roots just left of the unsprouted seed.

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Once the seed had these things, the seed felt something happen. The drink of water caused the seed to swell and swell, until its coat split right open! Nothing like this had ever happened to the seed before. Roots began to grow out of the split to help it get more water. I wonder how the seed felt about the roots?

Place the seed with roots and a green sprout poking out, next in line with others.

A sprout crept out of the split in the seed's coat, and its leaves pushed up out of the dirt to soak up the sunshine. Mmmmm... Delicious sunlight fed the plant that the seed was becoming. The leaves and stem stretched upward to get closer to the sunlight.

Place seed with roots and small leaves next in line.

The plant grew more and more leaves, to eat more and more sunlight.

Point to the sun, raincloud, and soil in turn as you speak.

The plant grew more and more roots to drink more and more water. The plant grew bigger and bigger and stronger and stronger. The seed did not look like a seed at all now. The seed was gone. It had become a plant.

Did the plant think about the little seed it used to be? Did it miss being so little? Did the plant enjoy being stretched out and touched by the wind and sun?

Place the plant with buds next in line.

The plant was so big now that it grew flowers.

Place a bee near the flower.

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Bees liked to visit the plant's flowers to drink its nectar. Sometimes, pollen from the flower's **stamens** (pronounced *stāmins*) would stick to the bees.

Sometimes bees came with pollen already sticking to them. If the pollen was from another plant, a tiny pollen grain might fall off onto the **pistil** (pronounced *pistl*) in the middle of a flower, make a tube to slide down into the ovule, and join with an egg cell to make... a new seed!

Was the plant glad to be big and strong enough to make seeds? Tired?

As new seeds grew bigger, the flowers on the plant died. Where the flowers had been, the plant grew fruit or pods to keep the new seeds safe while they grew. The new seeds grew bigger and bigger. Their coats grew stronger and stronger. Until one day... POP! The new seeds were ready to fall and start the whole cycle all over again.

Wondering Questions?

I wonder which part of the story you liked best?

I wonder which part of the story was the most important?

If you were someone or something in the story, who or what would you be?

Is there anything we could leave out of the story and still have all of the story we need?

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Planting:

- Work over trays to keep the soil from spilling everywhere.
- Give each child a pot and a label. They can choose the kind of seed they will grow. One seed per pot, please, filled almost completely with soil.
- Water the pots thoroughly.
- These plants will be transplanted into our Children's Garden. Children can visit and water their plants over summer. Vegetables and flowers will be shared with neighbors through the Summit Living-at-Home/Block Nurse program.

Teacher Information (for teacher review, *not* for reading aloud to children)

Seed

A plant begins its life as a seed. Inside the seed are all the parts it will need to become a plant. Seeds are scattered by animals, insects, and wind. They fall and germinate (sprout) at a distance from the parent plant so the new plant can grow and not have to compete for food and water, increasing the chance of its survival.

Root

When the seed absorbs warmth, moisture, and oxygen, the root appears. This signals that germination of the plant has begun. The roots grow down into the earth searching for water. While the plant grows, roots form the foundation that anchors the adult plant.

Stem (and Seed Leaves)

The stem and seed leaves—or the shoot—is the first part of the plant that will break the soil's surface and absorb nutrients from the sun. Sometimes you can tell what kind of plant it will be from the stem and seed leaves; sometimes you have to wait for the true leaves to appear. The stem grows upward and bends toward sunlight, stimulating and speeding up the plant's growth toward maturity.

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First True Leaves

As the stem extends, the first leaves develop to absorb the sun's energy more efficiently. At this stage, the development of the plant is nearly complete. In a complex biological process called *photosynthesis*, green plants turn sunlight into nourishment and produce oxygen.

The Plant

Adult plant interaction with sunlight, water, and nutrients in the soil allows it to flourish and produce elements that are essential to sustain our planet. Plants are also an important part of the food chain, providing nutritional building blocks for higher life forms. Plants can live without animals, but no animal can live without plants. Coming full circle, adult plants produce seeds that are scattered away from the parent plant, to germinate and continue the life cycle of the plant.