

A garden grows · Learning journey

Learning with a grown-up · Ages 4–8 · Flexible participation

How can one seed lead to more seeds?

Begin beneath a plant, learn the jobs of its parts, then follow growth, flower visits and new seed journeys.

Keep one dated plant-observation page over several weeks. A familiar plant photograph can stand in for a living plant. Do not promise a full life cycle within a fixed number of days.

Teacher sequence

What's in Soil?: Name two soil components and distinguish the enlarged drawing from the real ground.

Look back at your model after the Plant Parts lesson. What job could you add beside the roots?

Parts of a Plant: Connect a root, stem or leaf to its pictured job.

When we look at a seedling next, which of these parts can we already recognize?

A Plant's Life Cycle: Sequence the pictured stages and explain why the cycle can begin again.

Choose a familiar growing plant to observe with an adult on different days. Record the date and what you actually see; do not expect a complete life cycle in a week.

Busy Bees and Pollination: Trace pollen moving between flowers of the same kind.

Return to the Plant Life Cycle picture. Where does this flower visit fit in the longer story?

Seeds on the Move: Match each named seed example to wind, water or an animal.

Look back at your seed journey. What would need to happen for a new plant to begin growing?

What to listen for

Invite learners to retell a seed-to-seed journey and explain where roots, flowers, pollinators and seed movement belong. Accept a drawing, pointing sequence or dictated story.

What's in Soil?

What could we find beneath a plant?

Learning aim: Name two soil components and distinguish the enlarged drawing from the real ground.

A five-minute conversation

Imagine looking through the ground instead of digging it up. Invite your child to find the plant's roots, a worm and a piece of old leaf. Soil contains mineral pieces and material from once-living things, as well as water, air and living organisms. The enlarged view helps us notice spaces between soil pieces. Some space holds water; some holds invisible air. Read one label at a time and let your child choose what to explore next.

Remember: Choose one comfortable way to notice or describe a detail. What do you already wonder about this picture?

Start here: Find a root and a worm, with a clue or description if helpful.

Explore further: Compare a living root, an old leaf piece and a mineral bit. What is different about them?

Which parts of the picture are alive?

Answer cue: The plant, including its roots, and the worm are living things. The old leaf fragments are no longer alive.

Where are air and water found in the enlarged view?

Answer cue: In spaces between soil pieces. They are not separate underground layers; air itself is invisible.

Is soil only tiny pieces of rock? What else can you find?

Answer cue: No. The picture also shows old plant material, roots and a worm, plus spaces holding water and air.

Keep the idea clear

This is a simplified cutaway, with an enlarged detail. Real soils vary and do not all contain the same amounts of each ingredient. Plants use sunlight to make food; soil is not food that roots eat.

Try: Make a view beneath the surface

Materials: The poster and an adult; optional paper and drawing materials. Describing or pointing is enough.

1. Look at the poster's surface and enlarged detail together.
2. Draw or describe a plant with roots below it; add old leaf pieces and spaces between soil pieces.
3. Explain which parts came from the picture and which details you imagined. No digging or collecting is needed.

What this can show: The drawing is a model. Air and water occupy spaces, not neat separate layers below the soil.

Return to it: Look back at your model after the Plant Parts lesson. What job could you add beside the roots?

What's in Soil? · In the classroom

A 20-minute classroom lesson

Prepare: Read the poster, answer cues and misconception note. Prepare only the materials named in the activity; keep a picture-only or described option available.

Words to explore

soil — A mixture that can include mineral pieces, material from once-living things, water, air and organisms.

model — A simplified way to show an idea.

3 min · Reconnect and wonder: What could we find beneath a plant? Invite an initial idea; record it without marking it right or wrong.

4 min · Look together: Find a root and a worm, with a clue or description if helpful. Introduce soil using the poster.

8 min · Investigate or represent: Use “Make a view beneath the surface.” Let pairs take turns noticing and recording, with adult help and the activity’s stated boundaries.

5 min · Explain and return: Ask the core check: What could we find beneath a plant? Accept pointing, words, signing or a drawing. If the learner is ready, offer this optional extension: Compare a living root, an old leaf piece and a mineral bit. What is different about them?

Understanding check: What could we find beneath a plant?

Answer guidance: The pictured soil contains mineral pieces, old leaf material, living roots and a worm, with air and water in spaces between pieces. The drawing is a model. Air and water occupy spaces, not neat separate layers below the soil.

Accept pointing, speech, signing, a drawing or adult dictation. Describe the illustration and use labels/position as well as color. Offer one contrast first, and use the extension when the learner is ready.

A response to keep

My idea or question

What I noticed (date/time if useful)

What I think now / my next question

<https://kiddos.ai/learn/learning-with-gina-and-ollie/whats-in-soil>

Related story: How Does It Grow? — Follow Gina’s seed-to-snack question, then return to the plant observations.

Parts of a Plant

How do a plant's parts help it live and grow?

Learning aim: Connect a root, stem or leaf to its pictured job.

A five-minute conversation

Begin with the whole plant, then move from the roots upward. Read each label while pointing to the matching part. Connect the jobs: roots take in water and nutrients, the stem supports and carries water, leaves use sunlight to make food, and flowers help make seeds. Keep the emphasis on noticing how parts work together.

Remember: We found roots in the soil picture. What might those roots do for a plant?

Start here: Point to a root and follow the stem upward.

Explore further: Explain why a plant needs both roots and leaves, using the labels as clues.

Which part takes in water from the soil?

Answer cue: The roots.

Which part supports the plant and carries water?

Answer cue: The stem.

What do leaves use sunlight to do?

Answer cue: Make food for the plant.

Keep the idea clear

Soil nutrients are not the same as ready-made plant food. This is a flowering-plant example, with enlarged details.

Try: Give each part a job

Materials: The poster and an adult; optional paper and drawing materials. Describing or pointing is enough.

1. Choose the pictured flowering plant or a familiar plant photograph; do not uproot a plant.
2. Draw or describe its roots, stem and leaves. Add a flower if the example has one.
3. An adult names a job from the poster. Match it to a part and explain the choice.

What this can show: Match roots with taking in water and nutrients, stem with support and carrying water, and leaves with making food using sunlight.

Return to it: When we look at a seedling next, which of these parts can we already recognize?

Parts of a Plant · In the classroom

A 20-minute classroom lesson

Prepare: Read the poster, answer cues and misconception note. Prepare only the materials named in the activity; keep a picture-only or described option available.

Words to explore

root — A plant part that takes in water and nutrients.

stem — A part that supports the plant and carries water.

3 min · Reconnect and wonder: How do a plant's parts help it live and grow? Invite an initial idea; record it without marking it right or wrong.

4 min · Look together: Point to a root and follow the stem upward. Introduce root using the poster.

8 min · Investigate or represent: Use "Give each part a job." Let pairs take turns noticing and recording, with adult help and the activity's stated boundaries.

5 min · Explain and return: Ask the core check: How do a plant's parts help it live and grow? Accept pointing, words, signing or a drawing. If the learner is ready, offer this optional extension: Explain why a plant needs both roots and leaves, using the labels as clues.

Understanding check: How do a plant's parts help it live and grow?

Answer guidance: Roots take in water and nutrients; the stem supports the plant and carries water; leaves use sunlight to make food. Accept one correctly explained part for the core check. Match roots with taking in water and nutrients, stem with support and carrying water, and leaves with making food using sunlight.

Accept pointing, speech, signing, a drawing or adult dictation. Describe the illustration and use labels/position as well as color. Offer one contrast first, and use the extension when the learner is ready.

A response to keep

My idea or question

What I noticed (date/time if useful)

What I think now / my next question

<https://kiddos.ai/learn/learning-with-gina-and-ollie/parts-of-a-plant>

Related story: How Does It Grow? — Follow Gina's seed-to-snack question, then return to the plant observations.

A Plant's Life Cycle

How can one seed lead to more seeds?

Learning aim: Sequence the pictured stages and explain why the cycle can begin again.

A five-minute conversation

Start by finding the seed together. Read one stage at a time and let your child point to what changes: roots, a shoot, leaves, flowers and new seeds. The aim is to notice a repeating sequence, rather than memorize every word. Finish by tracing from the new seeds back to the beginning.

Remember: We named roots, a stem and leaves. Where can we first find those parts as a seed begins to grow?

Start here: Choose the seed and one later stage. Describe a change.

Explore further: Connect the flowering stage to the pod and explain how the next generation begins.

What starts growing from the seed?

Answer cue: Roots grow down and a shoot grows up.

Where can new seeds be found in this picture?

Answer cue: Inside the pod on the plant.

Why does the picture lead back to a seed?

Answer cue: Those new seeds can grow into new plants, beginning the cycle again.

Keep the idea clear

This is a simple flowering-plant example. Plants differ; not every plant makes a pod.

Try: Tell a seed-to-seed story

Materials: The poster and an adult; optional paper and drawing materials. Describing or pointing is enough.

1. An adult draws six large spaces on paper, or points to the poster's six stages.
2. Together, draw, dictate or gesture one change at each stage. Revisit the labels when unsure.
3. Trace from the new seeds back to the start. Tell why the story can begin again.

What this can show: Look for an ordered account of growth and a link from new seeds to new plants. This poster's pod is one flowering-plant example.

Return to it: Choose a familiar growing plant to observe with an adult on different days. Record the date and what you actually see; do not expect a complete life cycle in a week.

A Plant's Life Cycle · In the classroom

A 20-minute classroom lesson

Prepare: Read the poster, answer cues and misconception note. Prepare only the materials named in the activity; keep a picture-only or described option available.

Words to explore

germination — The beginning of a seed's growth.

life cycle — The stages through which a living thing grows and produces a new generation.

3 min · Reconnect and wonder: How can one seed lead to more seeds? Invite an initial idea; record it without marking it right or wrong.

4 min · Look together: Choose the seed and one later stage. Describe a change. Introduce germination using the poster.

8 min · Investigate or represent: Use "Tell a seed-to-seed story." Let pairs take turns noticing and recording, with adult help and the activity's stated boundaries.

5 min · Explain and return: Ask the core check: How can one seed lead to more seeds? Accept pointing, words, signing or a drawing. If the learner is ready, offer this optional extension: Connect the flowering stage to the pod and explain how the next generation begins.

Understanding check: How can one seed lead to more seeds?

Answer guidance: A seed can germinate and grow into a plant; flowers can form fruits or pods containing new seeds, which can begin the cycle again. Look for an ordered account of growth and a link from new seeds to new plants. This poster's pod is one flowering-plant example.

Accept pointing, speech, signing, a drawing or adult dictation. Describe the illustration and use labels/position as well as color. Offer one contrast first, and use the extension when the learner is ready.

A response to keep

My idea or question

What I noticed (date/time if useful)

What I think now / my next question

<https://kiddos.ai/learn/learning-with-gina-and-ollie/plant-life-cycle>

Related story: How Does It Grow? — Follow Gina's seed-to-snack question, then return to the plant observations.

Busy Bees and Pollination

How can a flower visitor help a plant make seeds?

Learning aim: Trace pollen moving between flowers of the same kind.

A five-minute conversation

Point to the bee and find the pollen in the illustration. Read the sequence: a bee visits flowers for nectar or pollen, pollen sticks to its body, and some can rub off on another flower of the same kind. Explain that this can help many plants make seeds. The diagram enlarges the tiny details.

Remember: Our growing plant reached the flower stage. How might a flower visitor help the story continue toward new seeds?

Start here: Point to the bee and the pollen in the picture.

Explore further: Explain what the bee carries and where some of it can rub off.

What can stick to the bee's body?

Answer cue: Pollen.

Where can the bee carry some pollen next?

Answer cue: To another flower of the same kind.

How can this help many plants?

Answer cue: It helps them make seeds.

Keep the idea clear

Bees are one example of pollinators. Observe them from a distance with an adult; do not touch or disturb them.

Try: Follow the visitor

Materials: The poster and an adult; optional paper and drawing materials. Describing or pointing is enough.

1. Use two flower drawings or the two pictured flowers.
2. Trace or describe a bee visiting the first flower and carrying pollen.
3. Continue to another flower of the same kind, then connect the journey to making seeds.

What this can show: Pollen moves on the visitor's body. The bee is not carrying ready-made seeds between the flowers.

Return to it: Return to the Plant Life Cycle picture. Where does this flower visit fit in the longer story?

Busy Bees and Pollination · In the classroom

A 20-minute classroom lesson

Prepare: Read the poster, answer cues and misconception note. Prepare only the materials named in the activity; keep a picture-only or described option available.

Words to explore

pollen — Tiny grains made by flowers that help with seed production.

pollination — Moving pollen to a flower part where it can help the plant make seeds.

3 min · Reconnect and wonder: How can a flower visitor help a plant make seeds? Invite an initial idea; record it without marking it right or wrong.

4 min · Look together: Point to the bee and the pollen in the picture. Introduce pollen using the poster.

8 min · Investigate or represent: Use “Follow the visitor.” Let pairs take turns noticing and recording, with adult help and the activity’s stated boundaries.

5 min · Explain and return: Ask the core check: How can a flower visitor help a plant make seeds? Accept pointing, words, signing or a drawing. If the learner is ready, offer this optional extension: Explain what the bee carries and where some of it can rub off.

Understanding check: How can a flower visitor help a plant make seeds?

Answer guidance: Pollen can stick to a visiting bee and rub onto another flower of the same kind, helping the plant make seeds. Pollen moves on the visitor’s body. The bee is not carrying ready-made seeds between the flowers.

Accept pointing, speech, signing, a drawing or adult dictation. Describe the illustration and use labels/position as well as color. Offer one contrast first, and use the extension when the learner is ready.

A response to keep

My idea or question

What I noticed (date/time if useful)

What I think now / my next question

<https://kiddos.ai/learn/learning-with-gina-and-ollie/pollination>

Related story: How Does It Grow? — Follow Gina’s seed-to-snack question, then return to the plant observations.

Seeds on the Move

How might a seed reach a new place?

Learning aim: Match each named seed example to wind, water or an animal.

A five-minute conversation

Look at one example at a time and ask what helps the seed move. Connect the dandelion to wind, the coconut to water and the acorn to the squirrel. Explain that some buried acorns are left to grow. These examples introduce different journeys; they are not a complete list of ways seeds spread.

Remember: Moving pollen can help flowers make seeds. How might those new seeds reach another place?

Start here: Find the dandelion's parachute-like shape.

Explore further: Compare two seed journeys. Which pictured feature or helper is different?

Which seed has a parachute-like shape?

Answer cue: The dandelion seed.

What helps the coconut travel in this example?

Answer cue: Water; it can float.

How can a squirrel help an acorn become a new plant?

Answer cue: It buries acorns, and some are left to grow.

Keep the idea clear

Not every seed can float or drift on wind. Use the three named examples rather than testing or scattering unknown seeds.

Try: Plan a pictured seed journey

Materials: The poster and an adult; optional paper and drawing materials. Describing or pointing is enough.

1. Choose the dandelion, coconut or acorn in the poster.
2. Draw or describe its starting place, helper and possible destination.
3. Use a label to explain the route. Keep imaginary details separate from the named example.

What this can show: Dandelion uses wind, coconut can float in water, and squirrels can bury acorns. These examples do not describe every seed.

Return to it: Look back at your seed journey. What would need to happen for a new plant to begin growing?

Seeds on the Move · In the classroom

A 20-minute classroom lesson

Prepare: Read the poster, answer cues and misconception note. Prepare only the materials named in the activity; keep a picture-only or described option available.

Words to explore

dispersal — Movement away from the parent plant.

parent plant — The plant that made the seed.

3 min · Reconnect and wonder: How might a seed reach a new place? Invite an initial idea; record it without marking it right or wrong.

4 min · Look together: Find the dandelion's parachute-like shape. Introduce dispersal using the poster.

8 min · Investigate or represent: Use "Plan a pictured seed journey." Let pairs take turns noticing and recording, with adult help and the activity's stated boundaries.

5 min · Explain and return: Ask the core check: How might a seed reach a new place? Accept pointing, words, signing or a drawing. If the learner is ready, offer this optional extension: Compare two seed journeys. Which pictured feature or helper is different?

Understanding check: How might a seed reach a new place?

Answer guidance: In these examples, wind carries dandelion seeds, water can carry coconuts, and squirrels bury acorns that may be left to grow. Dandelion uses wind, coconut can float in water, and squirrels can bury acorns. These examples do not describe every seed.

Accept pointing, speech, signing, a drawing or adult dictation. Describe the illustration and use labels/position as well as color. Offer one contrast first, and use the extension when the learner is ready.

A response to keep

My idea or question

What I noticed (date/time if useful)

What I think now / my next question

<https://kiddos.ai/learn/learning-with-gina-and-ollie/seeds-on-the-move>

Related story: How Does It Grow? — Follow Gina's seed-to-snack question, then return to the plant observations.

Our discovery record

Use words, marks, a drawing or an adult's notes. Keep this page with you; nothing needs to be uploaded.

Date / time (if useful): _____

My question or idea

What I noticed

What I think now

What I want to explore next

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