Kindergarten: Module 3: Labs

4 – Choice and Challenge Stage

Labs: Choice and Challenge Stage

Days 23–30

Labs continue to take place in four stages, and the purposes of each remain the same (see Module 2 Choice and Challenge stage).

What stays the same from previous stage(s):

- During the Choice and Challenge stage, the guiding questions remain the same as in previous stages.

What is different from previous stage(s):

- Within a single Lab session during the Choice and Challenge stage, students spend half of the Lab time in the Lab space of their choice and the other half in the Imagine Lab. This is done to meet the needs of our youngest learners, giving them the time and space for play. It also gives teachers more capacity in addressing students' needs in the Engineer and Create labs.
- During the Choice and Challenge stage, a few specific tasks are also given their own separate days of Labs time: transition to Choice and Challenge stage, giving and receiving feedback, preparing to share, and celebrating. (Refer to the In the Labs section below for more detailed information on which days these tasks occur.)

Choice and Challenge Stage: At-a-Glance

Guiding Question

Create Lab

How can I create a collage that shows multiple parts of a plant?

Imagine Lab

How can I use movement to better understand living things?

Engineer Lab

How can I create a storyboard that shows the life of a plant?

Learning Target

Create Lab

I can create a collage of a complete plant.

Imagine Lab

I can use movement to show how animals depend on plants.

Engineer Lab

I can create a storyboard that shows the life cycle of a plant.

Ongoing Assessment

Create Lab

Create Lab Checklist (SL.K.1b, SL.K.3)

Imagine Lab

Imagine Lab Checklist (SL.K.1b, SL.K.3)

Engineer Lab

Engineer Lab Checklist (W.K.2, W.K.8, SL.K.1b, SL.K.3)

Choice and Challenge Stage: Daily Schedule

Lab Component	Time
Storytime	10 minutes
Setting Lab Goals	5 minutes
In the Lab: Choice Lab	20 minutes
In the Lab: Imagine Lab	20 minutes
Reflecting on Learning	5 minutes

Choice and Challenge Stage: Storytime

Teaching Notes

Purpose:

- Review the Storytime Teaching Notes in the Launch stage document as needed.

In advance:

- Choose a text from your own classroom library or the Grade K: Labs Recommended Storytime and Research Book List (in the Labs Teacher Guide)
- Consider creating a focus question for Storytime (see example in the Experience section below).
- Post: Focus question (optional).

Materials

- ☑ Labs song (one to display)
- ☑ Text for Storytime (chosen by teacher; see Teaching Notes)

Experience

- Follow the routine established in Modules 1–2 to engage students with the **Labs song** and **text for Storytime**.

Choice and Challenge Stage: Setting Lab Goals

5 MINUTES

Teaching Notes

Purpose:

- Students' goals during the Choice and Challenge stage should become more specific, as they are working on a single project over the course of multiple days. Support students in focusing their goals on a specific aspect of their Lab work that they want to finish or improve, or a particular obstacle they hope to overcome.

Habits of character:

- Some students may need additional support with perseverance and collaboration as they prepare their products for feedback and an audience. Consider providing students with supportive Lab partners to problem-solve and give continual feedback.

Logistics:

- During the Choice and Challenge stage, students visit two labs, their Choice and Challenge Lab and the Imagine Lab, each for 20 minutes.
- In advance:
  - Present the different product options available to students: the plant collage in the Create Lab or the storyboard in the Engineer Lab.
  - Create a system for students to choose which Lab they will visit for the Choice and Challenge stage. Consider using student choice to create new Lab groups for this stage.
  - Post: Guiding question for each Lab, learning target(s) for each Lab, and Labs schedule.

Materials

- ☑ Learning target(s) (one to display for each Lab; see Choice and Challenge Stage: At-a-Glance for the specific target(s) for each Lab)
- ☑ Labs schedule (one to display)

Experience

- Tell students that today they will visit two labs.
- Review the learning target(s) and Labs schedule with students.
- Invite students to follow the routine established in Modules 1–2 to guide them through setting goals:
- Turn and Talk:

  "Which Lab will you visit first? What will your goal be when you are there?" (Responses will vary)

- Turn and Talk:

  "Which Lab will you visit second? What will your goal be when you are there?" (Responses will vary)

- Tell students that their most important goals for the day are to think about the learning target, show respect for materials, show respect for other students in their group, and have fun!
- Invite students to put on their imaginary lab coats and goggles to show they are ready for learning and fun!

Choice and Challenge Stage: In the Labs 40 minutes

- Refer to the In the Labs section below for detailed plans on each specific Lab.

Choice and Challenge Stage: Reflecting on Learning 5 minutes

Teaching Notes

Purpose:

- Similar to Modules 1–2, the cycle of goal-setting and reflecting is meant to increase student ownership and intentionality. Continue to support students with predictable structures of reflection and familiar sentence frames.

In advance:

- Post: Sentence frames or picture clues for any reflection questions you will use regularly (optional).

Materials

- ☑ Labs song (one to display)
- ☑ Learning target(s) (one to display for each Lab; see Choice and Challenge Stage: At-a-Glance for the specific target(s) for each Lab)

Experience

- Gather students whole group by singing the (conclusion of) the **Labs song**.
- Remind students of the guiding question for the specific Lab the class focused on today and guide them through their reflection:
  - Ask a reflective question.
  - Invite students to use a silent signal to indicate when they are ready to share.
  - Invite students to share with a partner, a small group, or the whole class, as time permits.
- Continue to reinforce specificity in students' responses (e.g., referring back to their goal, referring back to the learning target(s), giving concrete examples, etc.).

Choice and Challenge Stage: In the Create Lab

Guiding Question

- How can I create a collage that shows multiple parts of a plant?

Learning Target

- I can create a collage of a complete plant.

Teaching Notes

How this stage of this Lab builds on previous stage(s):

- Students continue to use the technique of layering to create a paper collage of a complete plant with a stem, leaves, and a flower representative of all the parts that meet a plant's needs as a living thing.

What is new about this stage of this Lab:

- Students use all they have learned about creating a paper collage of a leaf and flower to make a final product of a paper collage of a complete plant.
- Students use all of the tools in their Artist's Toolbelt, the Paper Plant Collage Criteria List anchor chart, and peer feedback to complete a final paper collage.

Habits of character:

- During the Choice and Challenge stage, students complete their final paper collage. Many will feel they are "done" early in the process. Encourage students to push their craftsmanship further, using details and all they know about the collaging process. Using peer and teacher feedback, students may add more details, revise specific aspects of their collage by layering, or complete a new draft.

Logistics:

- During the Choice and Challenge stage, students spend 20 minutes in their Choice and Challenge Lab and 20 minutes in the Imagine Lab.

In advance:

- Prepare:
  - The Create Lab by placing plant images, plant templates, construction paper (a variety of colors), scissors, and glue sticks in the Lab space.
  - A paper plant collage model that includes a variety of colors selected to accurately layer and cover the different parts of the plant and the corresponding plant image.

Materials

Continued materials:

- ☑ Construction paper (various colors; one small pile per student workstation)
- ☑ Scissors (one pair for teacher modeling and one pair per student)
- ☑ Glue sticks (one for teacher modeling and one per student)

Additional materials:

- ☑ Paper plant collage: teacher model (new; teacher-created; see Teaching Notes)
- ☑ Paper Collage Plant Criteria List anchor chart (new; co-created with students during Transitioning to the Choice and Challenge Stage)
- ☑ Plant images (one set per workstation)
- ☑ Plant templates (one set per workstation)

Experience

Transitioning to the Choice and Challenge Stage (Day 23):

- Students who chose to work in the Engineer Lab for the Choice and Challenge stage may transition to the Imagine Lab at this time. This will allow for a smaller group discussion specific to the needs of students who chose the Create Lab.
- Display the **paper plant collage: teacher model**.
- Tell students that they will now use this collage and the concept they added to their Artist's Toolbelts (layering) to create a criteria list that names all the important parts of a really great paper collage plant.
- Think-Pair-Share:

  "What did the artist of this collage do to make it both beautiful and realistic?" (Responses will vary, but may include: The artist layered the paper to cover all blank spaces and show the different plant parts; the artist selected accurate colors for the different plant parts, etc.)
- As students share out, capture their responses on the **Paper Collage Plant Criteria List anchor chart.** This anchor chart will be referenced throughout the creation process, but most importantly during the Choice and Challenge Giving and Receiving Feedback Day.
- Tell students that they will choose a **plant image** and **plant template** to create a paper collage plant for their final product.
- These collages will be displayed so others can learn about the art of collage and parts of plants.
- Remind students that they continue to have access to materials provided in the Launch, Practice, and Extend stages: **construction paper, scissors,** and **glue sticks**.
- During days 24-26, students continue to work on their collages of a complete plant using the materials and the Paper Collage Plant Criteria List.

Giving and Receiving Feedback (Day 27):

- Similar to Transitioning to the Choice and Challenge Lab Stage, consider dividing students into their two groups during Giving and Receiving Feedback. One group will work on giving and receiving feedback while the other group works in the Imagine Lab. Then, the groups will switch.
- Invite students in the Create Lab to bring their paper collage plants to the whole group meeting area.
- Guide students through giving and receiving feedback about their plant collages using the routine established in Module 2:
  - Review the Paper Collage Plants Criteria List anchor chart.
  - Remind students that their star and step should come from this list.
  - As needed, model giving and receiving feedback with a student volunteer.

- Invite students to give and receive feedback about their paper collage plants with an elbow partner.

Addressing Feedback (Day 28)

- Students apply the feedback they received on the previous day to revise their final plant collage.

Preparing to Share (Day 29):

- At this point, students should have a final product that they are ready to share with an audience (internal or external).
- Similar to Modules 1–2, students can use this preparation time to label their final product, present it to a partner, or write and draw a reflection.

Celebrating (Day 30):

- There are multiple ways in which students may celebrate and share their final product. Consider:
  - Setting up a "museum" of student work for students, families, or other classes to visit.
  - Displaying student work in the school library or local library.

Choice and Challenge Stage: In the Engineer Lab

Guiding Question

- How can I create a storyboard that shows the life of a plant?

Learning Target

- I can create a storyboard that shows the life cycle of a plant.

Teaching Notes

How this stage of this Lab builds on previous stage(s):

- Students use the revised sketches they have created in their Labs notebooks to create a final Life of a Plant Storyboard.
- This Engineer Lab connects to Next Generation Science Standard KLS-1. While creating a storyboard to show the life cycle of a plant, students focus on the following science and engineering practice: Develop and/or use a model to represent amounts, relationships, relative scales (bigger, smaller), and/or patterns in the natural and designed world(s).

What is new about this stage of this Lab:

- Students use the sketches they revised in the Engineer Lab, the Life Cycle of a Plant Storyboard Criteria List anchor chart, Life of a Plant Storyboard template, and peer feedback to complete their Life of a Plant Storyboard.

Habits of character

- During the Choice and Challenge stage, students create a final product. Some students may feel they are "done" early in the process. Encourage them to push their craftsmanship further by creating multiple drafts or adding additional details to create their best possible work.

Logistics:

- During the Choice and Challenge stage, students spend 20 minutes in their Choice and Challenge Lab and 20 minutes in the Imagine Lab.

In advance:

- Create a Life Cycle of a Plant Storyboard model using the Life Cycle of a Plant Storyboard template to help students co-create a criteria list for high-quality work by following these guidelines:
  - Consider Displaying the Life Cycle of a Plant Storyboard: Teacher Model using a document camera.

Materials

Continued materials:

- ☑ Plant growth – draft (one for teacher modeling and one per student)
- ☑ Pencils (one per student)

Additional materials:

- ☑ Colored pencils or crayons (class set; variety of colors per student)
- ☑ Life Cycle of a Plant Storyboard: Teacher Model (one to display)
- ☑ Life Cycle of a Plant Storyboard template (per student)
- ☑ Life Cycle of a Plant Storyboard Criteria List anchor chart (new; co-created with students during Transitioning to the Choice and Challenge Stage)

Experience

Transitioning to the Choice and Challenge Stage (Day 23):

- Students who chose to work in the Create Lab for the Choice and Challenge stage may transition to the Imagine Lab at this time. This will allow for a smaller group discussion specific to the needs of students who chose the Engineer Lab.
- Give students specific, positive feedback about the wonderful work they have done in the Engineer Lab to prepare for the Life of a Plant Storyboards.
- Tell students that all of the hard work they have done and all of the sketches and revisions they have made in their **plant growth – draft** will be put to use in an exciting final product.
- Dramatically reveal and display the Life Cycle of a Plant Storyboard: Teacher Model. Ask:

  "What life stages of a plant are represented in the completed storyboard?" (seed, sprout, seedling, and plant)

- Tell students that they will now use their sketches and careful revisions to inform their work while they create their own Life Cycle of a Plant Storyboards using a **Life Cycle of a Plant Storyboard template**.
- Display the Life Cycle of a Plant Storyboard template and focus students on the four boxes where each stage of plant life will be drawn and labeled.
- Tell students that they will now use the Life Cycle of a Plant Storyboard: Teacher Model to create a criteria list that names all the important parts of a really great Life of a Plant Storyboard.

- Think-Pair-Share:

  "What did the engineer of this storyboard do to make it accurate and beautiful?" (Responses will vary, but may include: The engineer drew each stage of plant growth accurately. The engineer added details. The engineer colored carefully with realistic colors. The engineer labeled each stage of plant growth.)

- As students share out, clarify and capture their responses on the **Life Cycle of a Plant Storyboard Criteria List anchor chart**. This anchor chart will be referenced throughout the creation process, but most importantly during the Choice and Challenge Giving and Receiving Feedback Day.
- Tell students that they will now create their own Life of a Plant Storyboard, using the Life Cycle of a Plant Storyboard template, **pencils,** and **colored pencils or crayons**.
- Tell students they should use their sketches and revisions from their Labs notebook as a resource for accurate drawing and labeling.
- Remind students that their first draft is just that, a first draft. They will make multiple drafts during the Choice and Challenge stage to achieve a high-quality product.
- During days 24–26, students continue to work on their storyboards using the materials and the Life Cycle of a Plant Storyboard Criteria List anchor chart.

Giving and Receiving Feedback (Day 27):

- Similar to Transitioning to the Choice and Challenge Lab Stage, consider dividing students into their two groups during Giving and Receiving Feedback. One group will work on giving and receiving feedback while the other group works in the Imagine Lab. Then, the groups will switch.
- Invite students in the Engineer Lab to bring their Life Cycle of a Plant Storyboards to the whole group meeting area.
- Guide students through giving and receiving feedback about their storyboards using the routine established in Module 2:
  - Review the Life Cycle of a Plant Storyboard Criteria List anchor chart.
  - Remind students that their star and step should come from this list.
  - As needed, model giving and receiving feedback with a student volunteer.
- Invite students to give and receive feedback about the Life Cycle of a Plant Storyboard with an elbow partner.

Addressing Feedback (Day 28)

- Students apply the feedback they received on the previous day to revise their storyboard.

Preparing to Share (Day 29):

- At this point, students should have a final product that they are ready to share with an audience (internal or external).
- Similar to Modules 1–2, students can use this preparation time to label their final product, present it to a partner, or write and draw a reflection.

Celebrating (Day 30):

- There are multiple ways in which students may celebrate and share their final product. Consider:
  - Setting up a "museum" of student work for students, families, or other classes to visit.
  - Displaying the Life Cycle of a Plant Storyboards near the class garden for students to observe and note the different life stages as the garden grows.
- Displaying student work in the school library or local library

Choice and Challenge Stage: In the Imagine Lab

Guiding Question

- How can I use movement to better understand living things?

Learning Target

- I can use movement to show how animals depend on plants.

Teaching Notes

How this stage of this Lab builds on previous stage(s):

- During the Choice and Challenge stage, the Imagine Lab challenges students to combine their movements for plants and animals to create a scene that shows how animals depend on plants, specifically trees, to meet their needs.
- The Imagine Lab serves as a space of greater freedom and flexibility, which is especially important given the constraints and demands of the Create and Engineer labs during the Choice and Challenge stage.

Logistics:

- During the Choice and Challenge stage, students spend 20 minutes in their Choice and Challenge Lab and 20 minutes in the Imagine Lab.

In advance:

- Print the Animals Depend on Trees task cards on cardstock.
- Prepare the Imagine Lab space with a variety of imaginative play materials and students' plant and animal masks from the previous Lab stages.

Materials

Continued materials:

- ☑ Plant masks (from the Launch stage; a variety per student)
- ☑ Animal masks (from the Extend stage; a variety per student)
- ☑ Building blocks (one set of wood or linking blocks)
- ☑ White board (one large to share or several small)

- ☑ White board markers (one per student)
- ☑ Hand or finger puppets (several to share)
- ☑ Dress-up materials (several to share)

Additional materials:

- ☑ Animals Depend on Trees task cards (one set in the Imagine Lab; see supporting materials)

Experience

- Remind students that the Imagine Lab is a place for them to:
  - Demonstrate habits of character, especially respect for materials and peers.
  - Use their powers of imagination, engaging in fun, creative play with one another.
  - Use movement to act out some of their favorite living things from the module lessons.
- With excitement, reveal to students that they will have one new material in the Imagine Labs: **Animals Depend on Trees task cards**.
- Tell students that since they have learned so much about living things, their needs, and how they move, they will now be challenged to create a whole scene of living things that shows how animals depend on trees.
- Display a card from the set of Animals Depend on Trees task cards. Ask:

  "What living things are on this card?" (Responses will vary depending on the selected task card, but should include a tree and animals.)
- Invite three volunteers to come up and use movements to show how these animals interact with each other and depend on the tree. Tell volunteers that each of them will move as one of the living things on the task card (e.g., the coast redwood tree, a bird, a flying squirrel).
- Tell students that they will have 20 minutes in the Imagine Lab and that they may choose to use the Animals Depend on Trees task cards or any other materials in the Lab. Invite them to begin exploring materials and imagining.