

Grade 1: 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 the 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

Create Lab

How can I create a sculpture of a bird that shows the form and function of its body parts?

Engineer Lab

How can I use my knowledge of birds to design a solution to a human problem?

Imagine Lab

How can I use poetry and movement to learn more about birds?

Guiding Question

Module 3:
Choice and
Challenge Stage

Learning Target(s)

Create Lab

I can create a sculpture of a bird for which I am an expert.

I can explain how the body parts I sculpted help the bird to survive.

Engineer Lab

I can design a solution to a human problem based on bird's' feathers, beaks, or feet and their function.

Imagine Lab

I can build knowledge about birds through poetry.

I can improve my reading fluency by reading poetry aloud.

I can create movement to match poetry about birds.

Ongoing Assessment

Create Lab

Create Lab Checklist (SL.1.1, SL.1.3, SL.1.4, SL.1.6)

Engineer Lab

Engineer Lab Checklist (SL.1.1, SL.1.5, SL.1.6)

Imagine Lab

Imagine Lab Checklist (RL.1.4, RF.1.4b, SL.1.1, SL.1.6)

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

10 MINUTES

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 1: 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, because 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 bird sculpture in the Create Lab or the birds' bodies inspired design challenge 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)
- ☑ Labs notebook (one per student)
- ☑ Pencil (one per student)

Experience

- Tell students that today they will visit two labs.
- Review the **learning target(s)** and **Labs schedule** with students.
- Invite students to open their **Labs notebook** and follow the routine established in Modules 1–2 to guide them through setting goals.
- Review the sentence starters at the top of the page.
- Invite students to notice what Lab they will visit first and second and to make a goal for each Lab.
- Direct students to record their goals for the day in their **Labs notebook** using a **pencil**.
- 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)
- ✓ Labs notebook (one per student)
- ✓ Pencil (one per student)

Experience

- Gather students back together whole group by singing the (conclusion of) the **Labs song**.
- Remind students of the **learning target(s)** for their Labs and guide them through their reflection:
- Invite students to review their goal in their **Labs notebook**.
- Ask a reflective question and remind students of the sentence starters at the top of the page.
- Invite students to signal and share with a partner when they are ready.
- Invite students to record their reflection in their Labs notebook using a **pencil**.
- Invite students to give a neighbor a high-five and take off their imaginary Lab coat and goggles to indicate the end of the Lab experience.



Choice and Challenge Stage: In the Create Lab

Guiding Question

- How can I create a sculpture of a bird that shows the form and function of its body parts?

Learning Targets

- I can create a sculpture of a bird for which I am an expert.
- I can explain how the body parts I sculpted help the bird to survive.

Teaching Notes

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

- Students continue to use shapes, details, and techniques to attach parts together in their sculpting of a bird.
- Students continue to refer to photographs of birds and their knowledge of birds to create accurate sculptures.

What is new about this stage of this Lab:

- Students use all they have learned about sculpting with clay to create a sculpture of a new bird, ideally the bird they are focused on in their expert groups during the module lessons.
- Students use all of the tools as sculptors, the Bird Sculpture Criteria List anchor chart, and peer feedback to complete a final sculpture.
- Students are challenged to explain how the various parts of their bird's body work to help the bird survive.

Habits of character:

- During the Choice and Challenge stage, students complete their sculpture. 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 sculpture process. Using peer and teacher feedback, students may add more details and revise specific aspects of their sculptures.

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:

- Consider the expert groups students are, or will be a part of during the module lessons. Students should be sculpting the same bird they are studying so they can better explain the form and function of the bird parts.
- Prepare:
 - The Create Lab by placing bird images and fresh clay in the Lab space. New images of expert birds are not provided in the Labs materials; rather, use images of the expert birds from the module lessons texts.
 - A model sculpture of a bird to help students create a criteria list of high-quality work.

Materials

Continued materials:

- ✓ Air-dry clay (new; class set; 10 pounds in the Create Lab)
- ✓ Cup of water (one to share)
- ✓ Plastic forks (one per student)
- ✓ Plastic knives (one per student)
- ✓ Toothpicks (one per student)
- ✓ Plastic bags (one gallon; air tight; one per student)

Additional Materials:

- ✓ Bird Sculpture: Teacher Model (one for teacher modeling)
- ✓ Bird Sculpture Criteria List anchor chart (new; co-created with students during Transitioning to the Choice and Challenge Stage)
- ✓ Bird images (one set per expert bird group; see Teaching Notes)

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 **Bird Sculpture: Teacher Model**.
- Tell students that now that they have had the experience of sculpting a full mallard duck, during the Choice and Challenge Stage they will have the opportunity to sculpt a new bird!
- Remind students that, in the module lessons, they are becoming experts of a particular bird with their expert groups.
- They will now put their knowledge of their expert bird to great use as they create a sculpture that shows the bird's body parts and teaches others about how those body parts help the bird to survive.
- Think-Pair-Share:
 - “What did the sculptor do to make this sculpture accurate?” (The sculptor tried to make the shapes of the bird realistic. The sculptor attached the body parts together and blended the clay. The sculptor added details with tools and his or her hands.)***
- As students share out, capture their responses on the **Bird Sculpture 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 use **bird images** as well as the **continued materials** to create a sculpture of a bird for their final product.
- Tell students that they will use all they know about sculpting to begin.
- During days 24–26, students continue to work on their sculptures, using the model and Bird Sculpture Criteria list anchor chart as needed to support quality work.

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 bird sculptures to the whole group meeting area.
- Guide students through giving and receiving feedback about their bird sculptures using the routine established in Module 2:
 - Review the Bird Sculpture 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 bird sculptures with an elbow partner.
- Invite students to verbally name, or write, a concrete next step they will take based on the feedback they received.

Applying Feedback (Day 28)

- Students use their feedback and the Bird Sculpture Criteria List to create a final version of their bird sculpture.

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 use my knowledge of birds to design a solution to a human problem?

Learning Target

- I can design a solution to a human problem based on birds’ feathers, beaks, or feet and their function.

Teaching Notes

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

- Students use birds' bodies as the inspiration for an invention that addresses or solves a human problem.
- The Engineer Lab connects to Next Generation Science Standard 1-LS1-1. Students focus on the following science and engineering practice: Use materials to design a device that solves a specific problem or a solution to a specific problem. Students focus on the following cross-cutting concept: Every human-made product is designed by applying some knowledge of the natural world and is built using materials derived from the natural world.

What is new about this stage of this Lab:

- Students are no longer restricted to the feathers of birds, but instead may use the form and function of multiple body parts (feathers, beaks, or feet) as their inspiration for a challenge.

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 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 Birds' Bodies Design Challenge: Teacher Model to help students co-create a criteria list for high-quality work by following these guidelines. Build this model using the same materials available to students during the Choice and Challenge stage.
- Collect a variety of recycled, creative materials with which students may build their models. Consider the following:
 - Cardboard tubes (make several available; not all students will use for their design)
 - Small milk cartons (make several available; not all students will use for their design)
 - Craft sticks (five or six per student)
 - Cotton balls (several per student)
 - String (one roll to share)
 - Pipe cleaners (five or six per student)
 - Small cardboard boxes (make several available; not all students will use for their design)
 - Rubber bands (make several available; not all students will use for their design)

Materials

Continued materials:

- ✓ Labs notebook (one per student and one for teacher modeling)
- ✓ Pencils (one per student)

Additional materials:

- ☑ Birds' Bodies Design Challenge: Teacher Model (one to display)
- ☑ Birds' Bodies Design Challenge Criteria List anchor chart (new; co-created with students during Transitioning to the Choice and Challenge Stage)
- ☑ Building materials (see Teaching Notes)

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

- Welcome students to the Engineer Lab.
- Remind them of the guiding question:
 - “How can I use my knowledge of birds to design a solution to a human problem?”
- Remind students that during the Extend stage in the Engineer Lab, they planned a variety of ideas based on the function and form of birds' feathers.
- Tell students that they have been collecting a lot of knowledge about birds and birds' bodies, and not just their feathers, but also their beaks and feet! This knowledge can now be used to inspire them as engineers and designers.
- Turn and Talk:
 - “What important facts have we learned about beaks?” (They are specially shaped to complete different jobs.)*
 - “What important facts have we learned about birds' feet?” (They do different jobs based on their shapes and the birds' needs. They can grab. They can swim.)*
- Display the “Birds' Bodies Design Process” page of the **Labs notebook**.
- Tell students that their design process will be to “Plan, Do, Review.” (Consider displaying for students the page of their Labs notebook that outlines this process.)
 1. Plan: Think about your ideas, discuss your ideas with your partner, make a drawing of your idea.
 2. Do: Build a model of your design and test it out.
 3. Review: Reflect on your idea and think of how you can make it better.
- Tell students that, unlike in the Extend stage, they will have the opportunity to complete all three steps of the design process and that they may choose from any of the three body parts of birds they have been studying (feet, beaks, and feathers) to inspire their design.
- Remind them that they should use the **Feathers: Class Notes** and **Beaks: Class Notes** they collected about birds' bodies as a starting place for ideas.
- Tell them they will have today and the rest of the Choice and Challenge stage to complete a drawing as well as a model of their invention.
- Dramatically reveal and display the **Birds' Bodies Design Challenge: Teacher Model**.
- Think-Pair-Share:
 - “What did the engineer of this model do to make it accurate and beautiful?” (The engineer included many details. The engineer put the pieces together carefully and with craftsmanship. The engineer made the purpose of the invention clear.)*

- As students share out, clarify and capture their responses on the **Birds' Bodies Design Challenge 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.
- Show students the various **building materials** that you have collected for them to create their models. Remind them, however, that their design comes first, and the model after.
- During days 24–26, students continue to work on their birds' bodies design, using the model and Birds' Bodies Design Challenge Criteria List anchor chart as needed to support quality work.

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 models 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 Birds' Bodies Design Challenge 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 models with an elbow partner.

Applying Feedback (Day 28)

- Students use their feedback and the Birds' Bodies Design Challenge Criteria List to create a final version of their design.

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 Imagine Lab

Guiding Question

- How can I use poetry and movement to learn more about birds?

Learning Targets

- I can build knowledge about birds through poetry.
- I can improve my reading fluency by reading poetry aloud.
- I can create movement to match poetry about birds.

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 create a series of movements for a poem about birds that they could perform for an audience.
- 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.

What is new about this stage of this Lab:

- N/A

Habits of character:

- Collaboration and respect continue to be a key to the success of this Lab. Students use collaboration to plan and execute movement based on their knowledge of birds and poetry about birds. Students productively negotiate with one another as they decide which poems to create movements for, how best to create those movements, and how to take turns. Respect is central to the way they make decisions and handle and organize Imagine Lab materials.

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:

- Consider audiences for which students might perform their poetry and movement.
- Prepare the Imagine Lab space with the imaginative play materials and the poems students have been working with in the previous stages.

Materials

Continued materials:

- ☑ Imaginative play materials (variety; from Modules 1–2)
- ☑ Poems about birds (from Launch stage; several in the Imagine Lab)

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 and **imaginative play materials** to engage in fun, creative play with one another.
 - Use movement to act out the **poems about birds**.