

Grade 1: Module 4: Labs

3 – Extend Stage

Labs: Extend Stage

Days 11–22

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

What stays the same from previous stage(s):

- During the Extend stage, the guiding questions remain the same as in previous stages.
- During the Extend stage, students continue to visit two Labs per day.

What is different from previous stage(s):

- The Extend stage begins with two “transition days.” These days—described briefly at the beginning of each In the Lab section—give teachers time with their whole class to introduce new materials, introduce new layers of complexity to the task, model various Lab skills and behaviors, and clear up any confusion before students return to a more independent Lab experience.
- During the Extend stage, the learning targets change to reflect students’ work in the Labs.
- During the Extend stage, students are given a greater variety of materials.



Extend Stage: At-a-Glance

Guiding Question

Create Lab

How can I create a collage puppet of my story bird?

Engineer Lab

How can I design and build a bird’s nest that holds together and supports weight?

Imagine Lab

How can I write a story using my knowledge of birds?

Research Lab

How can I discover more about the birds near me?

Learning Target(s)

Create Lab

I can use my colored collage paper to create my expert bird puppet.

Engineer Lab

I can identify several different types of bird's nests in the real world.

I can use multiple materials to build my own bird's nest.

Imagine Lab

I can plan a new story about my expert bird using story elements and my knowledge about birds.

I can write a new story about my expert bird using story elements and my knowledge about birds.

Research Lab

I can create a survey to learn more about the birds in my local area.

I can make conclusions about my community and birds based on the data.

Ongoing Assessment

Create Lab

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

Engineer Lab

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

Imagine Lab

Imagine Lab Checklist (W.1.3, SL.1.5)

Research Lab

Research Lab Checklist (RI.1.5, RI.1.7, W.1.7, W.1.8)

Extend Stage: Storytime**10 MINUTES****Teaching Notes****Purpose:**

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

In advance:

- Choose a text from your 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.
- 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 1–3 to engage students with the **Labs song** and **text for Storytime**.

Extend Stage: Setting Lab Goals

5 MINUTES

Teaching Notes

Purpose:

- Recall that Setting Lab Goals is a time to activate and reinforce executive functioning skills by focusing students' attention, making a plan for their time, exhibiting self-regulation, and following instructions.

Logistics:

- During the Extend stage, Lab groups visit two Labs for 20 minutes each.
- On the Transitioning to the Extend Stage day, students' goals will be based on their knowledge of the Labs thus far. In subsequent days, students' goals can be more finely tuned to the learning targets, materials, and habits of character unique to the Extend stage.

In advance:

- 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 Extend Stage: At-a-Glance for the specific target(s) for each Lab)
- ✓ Labs schedule (one to display)
- ✓ Labs notebook (one per student)
- ✓ Pencils (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 1–3 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**.
- 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!

Extend Stage: In the Labs

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

Extend Stage: Reflecting on Learning

Teaching Notes

Purpose:

- Similar to Modules 1–3, 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 Extend 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.).



Extend Stage: In the Create Lab

Guiding Question

- How can I create a collage puppet of my story bird?

Learning Target

- I can use my colored collage paper to create my expert bird puppet.

Teaching Notes

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

- Students use the collage paper they created in the Launch and Practice stages to create a collage puppet of a bird from their story.

What is new about this stage of this Lab:

- Students apply their knowledge of their expert bird as they look specifically at the colors and shapes they will need to form their bird puppet. Students consider what kind of beak it has, the type of feet, wings, and body, as well as the colors of those body parts.

Logistics:

- Similar to Module 3, on the first day students work as a whole class to transition to the Extend stage. During the remaining days, they spend 20 minutes each in two Labs with their Lab groups.

In advance:

- Print collage templates of various bird parts on cardstock and cut them out for student use (see supporting materials).
- Place parts for each expert bird in a plastic bag with the name of the bird. Note: Each student needs a plastic bag with his or her expert bird part templates.
- Gather additional bird decorations such as googly eyes, eyes made of paper, feathers of various colors, etc. (optional).

Materials

Continued materials:

- ✓ Cardinal collage (from Launch stage; one to display)
- ✓ Collage paper (from Launch and Practice stages; various per student)
- ✓ Cardinal photograph (from Launch stage; one to display)
- ✓ Expert bird photographs (from Launch stage; one per student based on their expert bird)
- ✓ Glue sticks (one per student and one for teacher modeling)
- ✓ Scissors (one pair per student and one for teacher modeling)

Additional Materials:

- ☑ Plastic bag with collage templates (one per student and one for teacher modeling)
- ☑ Plastic bag of collage templates (one per student and one for teacher modeling)
- ☑ Pencils (one per student and one for teacher modeling)
- ☑ Tape (masking; one piece per student and one for teacher modeling)
- ☑ Craft stick (one per student and one for teacher modeling)
- ☑ Bird decorations (variety per workstation)

Experience**Transitioning to the Extend Stage (Whole Class):**

- Gather students whole group and give them specific, positive feedback regarding their layering to create collage paper.
- Tell students that they will continue to work with layering and collaging. Now, instead of just creating the paper, they will make a beautiful paper bird!
- Display the **cardinal collage** and focus students on the different body parts and colors of the bird.
- Using a total participation technique, invite responses from the group:
 - “What bird body parts do you notice on this cardinal collage?” (Responses will vary, but may include: It has a body, a beak, legs.)*
 - “What color collage paper did I use for each body part?” (The body is red, the beak is orange, the legs are brown.)*
- Tell students they will create a collage of their expert bird using the **collage papers** they have been working on, as well as the **expert bird photograph** of their bird.
- Display a **plastic bag with collage templates** and the **cardinal photograph**.
- Direct students’ attention back to the cardinal collage.
- Using a total participation technique, invite responses from the group:
 - “What steps do you think the artist took to create this cardinal collage?” (Responses will vary, but may include: The artist studied the photograph of the cardinal, chose the colors needed to create it, chose the template that matched each body part, traced the template using a pencil, and then cut it out.)*
- Reaffirm that this collage took several steps to create, including:
 - Studying the photograph of the cardinal very closely
 - Noticing the colors of the different parts of the cardinal that would be needed for the collage paper
 - Selecting a part of the bird and a template to trace with a pencil on the back of the collage paper (e.g., the body)
 - Using a **glue stick** to adhere the collage paper and continuing to layer it to cover all parts of the template.
 - Emphasize that the proportion, or size, and shape of each body part are important to get right. It’s important that they match, as closely as possible, the bird in the photograph.
- Tell students that they should start with the body of the bird, since they will attach the other bird parts to the body.

- Model the process for creating the bird collage puppet:
 - Think aloud and select the correct bird part template for the body, use a **pencil** to trace it on the back of the collage paper, and use **scissors** to cut out the body.
 - Select a different body part and identify a template, trace it, cut it out, and layer it on the body to check for proportion and shape.
 - Layer parts on top of each other to see how the proportions and shapes are working together. If necessary, model how to remake body parts as needed to achieve the correct proportion and shape.
 - Use the **completed collage template** as a reference as needed.
 - Once body parts are cut out and in position, use a glue stick to glue parts together.
 - Tell students that since they are making a bird puppet, they will need a way to hold up the bird collage as a puppet. To do this, they will attach the bird collage to a craft stick.
 - Using two pieces of masking (or other) **tape**, attach a **craft stick** to the back of the puppet.
 - Tell students that they may add **bird decorations** to their completed puppet if they would like.
- Answer clarifying questions.
- Invite students to begin working. Use the Create Lab Checklist to gather evidence of students' progress toward the targeted SL standards for the Lab.
- Circulate and support students as they work.
- Remind students that they will have additional days to work on creating the collage of their expert birds.
- At the conclusion of In the Lab time, signal students to clean up their Lab space.
- As Lab groups are ready, transition them back to the whole group area for Reflecting on Learning.

Remaining Days of the Extend Stage:

- Students continue to follow the process modeled in the Extend Lab transition day to create their expert bird collage puppets.
- Consider creating a visual of the process for students to refer to as they work more independently.
- Ensure that students have access to the teacher model if they need a reminder about the finished product.



Extend Stage: In the Engineer Lab

Guiding Question

- How can I design and build a bird's nest that holds together and supports weight?

Learning Targets

- I can identify several different types of bird's nests in the real world.
- I can use multiple materials to build my own bird's nest.

Teaching Notes

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

- Students continue to try the bird nest materials as they build a bird nest.

What is new about this stage of this Lab:

- Students work individually on their bird's nest, as opposed to collaborating with a partner.
- Students engage in a more formal design process than in the previous stage. They make a couple of drawings of the nest they plan to build and identify the materials they will need. Students also reflect on their nest's ability to meet the criteria for success. This helps students to reflect on the successes and challenges of their design, as well as instills the habit of planning and reviewing.

Habits of character:

- Responsibility continues to be a key to the success of this Lab. Students are more intentional with their use of the materials and will need to plan and review their design before building their bird nest.

Logistics:

- Similar to Module 3, on the first day students work as a whole class to transition to the Extend stage. During the remaining days, they spend 20 minutes each in two Labs with their Lab groups.

In advance:

- Prepare the Engineer Lab by:
 - Choosing and procuring simulated “eggs.” These should be the approximate weight of a small egg. Items such as small stones or marbles would be appropriate. Students use these to test the durability of their nests.
 - Placing all materials to engineer and test bird nests at student workstations (see materials).

Materials

Continued materials:

- ☑ Bird Nest models (one per student and one for teacher modeling)
 - Bird Nest materials (one set workstation)
- ☑ Nest photographs (three or four per workstation and one to display)

Additional materials:

- ☑ Simulated eggs (variety per workstation)
- ☑ Labs notebook (one per student)
 - Bird Nest planner
- ☑ Colored pencils (class set; variety of colors per student)

Experience

Transitioning to the Extend Stage (Whole Class):

- Welcome students to the Engineer Lab!
- Remind students of the guiding question:
 - “How can I design and build a bird’s nest that holds together and supports weight?”
- Using a total participation technique, invite students to engage in a reflective conversation about their experience during the Launch and Practice stages:

*“What was successful? What was challenging? What materials did you like best?”
(Responses will vary.)*

- Introduce students to the next phase of this challenge: planning and building a bird nest that can hold **simulated eggs**. Discuss how this new challenge will change the way they plan and build their nests.
- Remind students of the design process (plan/do/review) and invite them to open to the **Bird Nest planner** in their **Labs notebook**.
- Share that today they will individually plan a bird nest that will hold weight. They will use colored pencils to create their plan.
- Tell students that after they plan their nest, they will use the plan to build a nest and test its ability to hold “eggs.”
- Using a **bird nest model** from the Practice stage, model how to use the simulated eggs to test the nest. Remind students that this testing is an opportunity to make their nests better. Invite them to consider the following questions:

“How many ‘eggs’ can your nest hold?”

“Could you change your nest to hold more?”

“What is the weakness of your nest?”

“How could you address this?”

- During the remainder of the transition day, students can work on drawing their plan in their Lab notebook, then sharing it with a partner.
- Invite students to begin planning.

Remaining Days of the Extend Stage

- During the remaining Extend days, students use their plans to build their nest models using the **bird nest materials** and **bird nest photographs**. They continue to test them and revise them based on the tests.
- Circulate and support students as they work. Reinforce the habit of planning, reviewing, and respect as needed. Use the Engineer Lab Checklist to track student progress toward SL standards for this Lab.
- At the conclusion of the Lab time, signal students to clean up their Lab space.
- Give Lab groups or individual students specific, positive feedback for responsible and respectful cleanup behaviors.
- As Lab groups are ready, transition them back to the whole group area for Reflecting on Learning.



Extend Stage: In the Imagine Lab

Guiding Question

- How can I write a story using my knowledge of birds?

Learning Targets

- I can plan a new story about my expert bird using story elements and my knowledge about birds.
- I can write a new story about my expert bird using story elements and my knowledge about birds.

Teaching Notes

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

- Students continue to write stories about their expert bird using the Story Elements planner in their Labs notebook and drafting paper.
- Students use the same character from their first story, since this is the expert bird they know about and is the character they fashioned their puppet after.

What is new about this stage:

- Students plan and write a new story about their expert bird. Encourage them to challenge themselves by changing at least two story elements.
- As students write their second story, they also work to add more details in their illustrations.

Logistics:

- Similar to Module 3, on the first day students work as a whole class to transition to the Extend stage. On this day, students create a new Story Elements planner in their Labs notebook.
- During the remaining days, they spend 20 minutes each in two Labs with their Lab groups. During this time, they write their new stories.

In advance:

- Prepare the technology necessary to show the Cardinal model narrative.
- Consider placing copies of the *Little Kids First Big Book of Birds* and *Did You Know?* texts (from Module 3) at workstations to support students as they remember facts about their expert birds.

Materials

Continued materials:

- ✓ Cardinal model narrative (from Launch stage; for teacher modeling)
- ✓ Labs notebook (one per student and one to display)
 - Story Writing Pages: Story 1
 - Story Elements Planner: Story 2
 - Story Writing Pages: Story 2

- ✓ *Little Kids First Big Book of Birds* (optional; from Module 3; one or two per workstation)
- ✓ *Did You Know?* (optional; from Module 3; one or two per workstation)

Additional Materials:

- ✓ Back-to-Back and Face-to-Face Protocol anchor chart (begun in Module 1)

Experience

Transitioning to the Extend Stage (Whole Class):

- Welcome students to the Imagine Lab!
- Give students specific, positive feedback about their creative stories about their expert birds.
- Tell students that they are now going to have the chance to share their stories with each other using the Back-to-Back and Face-to-Face protocol. Remind them that they used this protocol in the module lessons and review as necessary using the **Back-to-Back and Face-to-Face Protocol anchor chart**. Refer to the Appendix for the full version of the protocol.
- Remind students that as they listen to their partner's story, they should try to identify each of the story elements.
- Guide students through the protocol using their **Story Writing Pages: Story 1** in the **Labs notebook**.
- Gather students back together and, with excitement, tell them that today they will get to plan a new story. This new story will be about the expert bird puppet that they are making out of collage paper in the Imagine Lab.
- Display a blank **Story Elements Planner: Story 2** from the Labs notebook. Remind students that they used this planner to write their draft narrative, and they will use it again to write their new narrative.
- Emphasize and review the different story elements necessary to make a good story (characters, setting, problem, resolution). Every story has these things in common.
- Tell students that they will use the same expert bird from their draft story because they know the most about this bird, and writers do their best writing when they know a lot about their topic. However, tell students that they may select a different animal or person for the helper character. Challenge students to consider a new setting, problem, and solution as well.
- Give students time to think about new elements for their story, then Think-Pair-Share:
 - “Who are the main characters in your story?”
 - “Where does your story take place?”
 - “What is your bird's problem?”
 - “Who are the helpers? What do the helpers do?”
 - “What happens to your bird?”
- Transition students to their workstations to begin planning.
- Invite students to refer to the *Little Kids First Big Book of Birds* and *Did You Know?* texts for ideas about setting or problems their expert bird might have.
- Circulate and support students as they work. Use the Imagine Lab Checklist to track student progress toward the targeted standards for this Lab.

- At the conclusion of the Lab time, signal students to clean up their Lab space.
- As Lab groups are ready, transition them back to the whole group area for Reflecting on Learning.

Remaining Days of the Extend Stage:

- Day 1: Invite students to use their Story Elements Planner: Story 2 from their Labs notebook to orally tell their story to an elbow partner. At the workstations, direct students to focus on the character page as they write and draw.
- Day 2: During work time, focus students' attention on writing and drawing their setting and problem pages.
- Day 3: During work time, focus students' attention on writing and drawing their solution and the end of their story.
- Each day, circulate and support students as they work, focusing on each story element. Use the Imagine Lab Checklist to track student progress toward the targeted standards for this Lab.



Extend Stage: In the Research Lab

Guiding Question

- How can I discover more about the birds near me?

Learning Target

- I can create a survey to learn more about the birds in my local area.
- I can make conclusions about my community and birds based on the data.

Teaching Notes

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

- Students use the knowledge they gained about their local birds to help them think more about those birds. They consider how other people might think about or interact with those birds and develop questions to survey people.

What is new about this stage of this Lab:

- During the Extend stage, students engage in an “original research” model to learn more about how people in their community interact with and feel about their local birds. They develop questions, create data collection tools, collect data, and then reflect on that data.

Habits of character:

- During this stage of the Research Lab, students collaborate to create survey questions on large charts to gather data about their community and birds. They work in teams to design and create their survey question charts.

Logistics:

- On the first day of the Extend stage, students will work in Lab groups to do one of the following:
 - A. Generate possible responses to a multiple choice research question provided by you.
 - B. Generate possible responses to a multiple choice research question they make up
- Decide in advance whether students will do A or B from the options above and prepare materials accordingly (see In Advance section).
- During the remaining days of the Extend stage, students will work in Lab groups to do the following:
 - Collect data from the school community in response to their research question. (Consider using a high-traffic space like a hallway or open area for students to display their posters.)
 - Decide how they will mark responses and record data accordingly. (This sequence recommends the use of tally marks; however, there are many different ways to collect data. Consider referencing your math curriculum to see which form of data collection is familiar and comfortable for you and your students.
- When it is time for students to gather data, consider using a high-traffic space like a hallway or open area to display the survey posters. Hang markers next to the survey charts to be accessible for community members to weigh in or use sticky notes to build a bar graph.

In advance:

- Pre-determine groups of four or five students for this sequence (and the remaining days in the Research Lab).
- Based on your decision under the Logistics section (i.e., A or B), prepare:
 - Five or six pieces of chart paper with a research question written at the top of each.
 - Questions might include:
 1. How often do you see (insert name of local bird)?
 2. Where do you most often see (insert name of local bird)?
 3. What is your opinion about (insert name of local bird)?
 - Five or six pieces of chart paper that are left blank for students to record their own question.
 - An example chart paper with the survey question and various responses already filled in to use as a model for students.
- Prepare workstations by placing materials for the survey charts at each one (see materials). Consider providing photographs of the local birds for students to feature on the survey charts. (Find images of these local birds on Flickr and provide at workstations for students to add to the charts.)

Materials

- ✓ Multiple choice survey question chart (one to display)
- ✓ Chart paper (five or six sheets; used by groups to record their local bird survey question)
- ✓ Markers (various colors; used by students to create their survey question charts)
- ✓ Sticky notes (10 per group)
- ✓ Labs notebook (one per student)
 - Data Question response sheet

Experience

Transitioning to the Extend Stage (Whole Class):

- Welcome students to the Research Lab!
- Remind students that their goal in the Research Lab is to answer the question: “How can I discover more about the birds near me?”
- They have spent some time researching local birds, and now they are going to find out what others in their community think and feel about the local birds. To find out this information, they will think of questions to ask about local birds and conduct a survey. Explain that a survey is when you collect information and then study that information to see what it means.
- Display the **multiple choice survey question**. Tell students that one type of question they might ask is a multiple choice question.
- Using a total participation technique, invite responses from the group:

“What do you notice about this question?” (Responses will vary, but may include: There is more than one possible answer. There are letters next to each possible answer.)
- Discuss the idea of *multiple choice*. Point out that the creator of the survey has to think ahead: “What will be some common but different responses to my question?”
- Notice that there are five choices. Tell students that four to six different answers would be a good amount of choices.
- If the pieces of chart paper do not already have questions on them:
- Think-Pair-Share:

“What question can you generate about people and how they interact with and/or feel about local birds?”

 - Circulate and listen in as students discuss with a partner and target partnerships to share their questions with the whole group.
 - Record these questions at the top of **chart paper** (one question per chart paper).
- If the pieces of chart paper already have questions on them:
 - Direct students to the pre-made survey question charts.
 - Read the questions that are already at the top of each piece of chart paper.
 - Place one piece of chart paper at each workstation and share that, as a group, they need to come up with possible choices for responses to their question.
- Tell students that they are now going to work in their groups to brainstorm and write the responses to the question at the top of the chart paper. Post and review the following directions:
 - With your group, brainstorm four to six possible responses to your question.
 - Choose one group member to write your ideas on sticky notes.
 - Once you have decided on your responses, each person may use a **marker** to write the response on the chart paper.
- Remind students that they will first brainstorm the choices on sticky notes before they write them on the chart paper.
- Answer clarifying questions.
- Dismiss students to their workstations.
- Invite students to begin working.

- Circulate and support students as they work. Reinforce that the responses must be something that they think people might choose.
- Once groups have brainstormed appropriate responses on sticky notes, invite them to write the responses on the chart paper.
- At the conclusion of the Lab time, signal students to clean up their Lab space.
- Give Lab groups or individual students specific, positive feedback for responsible and respectful cleanup behaviors.
- As Lab groups are ready, transition them back to the whole group area for Reflecting on Learning.
- Display one of the charts and, as a whole group, set up a “tally collector” on each chart. This might mean placing the letters corresponding to each answer choice at the bottom of the chart. Participants can place a mark or use a sticky note to build a bar graph.

Remaining Days of the Extend Stage

- Each day during Labs, bring the charts back into the class so students can look at the changing data and answer/discuss questions.
- Place charts at different workstations along with students’ Labs notebooks. Direct students to the **Data Question response sheet** in their Labs notebook, which prompts students to look closely at the data on the surveys.
- Invite students to begin analyzing the data.
- At the conclusion of the Lab time, signal students to clean up their Lab space.
- Give Lab groups or individual students specific, positive feedback for responsible and respectful cleanup behaviors.
- As Lab groups are ready, transition them back to the whole group area for Reflecting on Learning.
- Invite students to share the survey results they noticed with the whole class.