

Kindergarten: Module 2: Labs

3 – Extend Stage

Labs: Extend Stage

Days 11–18

Each of the Labs unfolds across an entire module and takes place in four stages: Launch, Practice, Extend, and Choice and Challenge.

At this point in the Labs, students have had several days in each Lab to become acquainted with purpose, tasks, and materials, as well as Labs routines.

3. The Extend stage serves two purposes:
 - To push students’ thinking and skills further by adding new materials and introducing greater complexity to each task (e.g., in the Create Lab, students learn how to add details to their toy drawings).
 - To learn and practice habits of character, such as collaboration and perseverance (e.g., in the Engineer Lab, students work with a partner to design and build a shared toy).

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.

The chart below and on the following page shows the guiding question, learning target(s), and ongoing assessment for each Lab during this specific stage.

(Note: The guiding question for a given Lab remains the same for the entire module. By contrast, the learning target(s) become more refined and precise from stage to stage.)



Extend Stage: At-a-Glance

Guiding Question

Create Lab

How can I create scenes that show how weather affects people?

Engineer Lab

How can I design and build a weatherproof shelter?

Imagine Lab

How can I use my imagination to create a world of play for myself and others?

Research Lab

How can I use photographs to research extreme weather events?

Learning Target(s)

Create Lab

I can draw pictures of people with weather-related details.

Engineer Lab

I can use a variety of materials to build a windproof shelter.

Imagine Lab

I can show respect for Lab materials and my peers.

I can collaborate with my Lab group to imagine exciting weather stories.

Research Lab

I can ask questions about photographs of extreme weather events.

Ongoing Assessment

Create Lab

Create Lab Checklist (**SL.K.1a, SL.K.4, L.K.1d, L.K.1f**)

Engineer Lab

Engineer Lab Checklist (**SL.K.1a, SL.K.4, L.K.1d, L.K.1f**)

Imagine Lab

Imagine Lab Checklist (**SL.K.1a, SL.K.4, L.K.1d, L.K.1f**)

Research Lab

Research Lab Checklist (**SL.K.1a, SL.K.4, L.K.1d, L.K.1f, W.K.7, W.K.8**)

Labs are one hour long in all four stages. During the Extend Stage, this hour is divided as follows:

Extend Stage: Daily Schedule

Lab Component	Time
Storytime	10 minutes
Setting Lab Goals	5 minutes
In the Lab	40 minutes
Reflecting on Learning	5 minutes

Extend Stage: Storytime

10 MINUTES

Teaching Notes**Purpose:**

- Review the Storytime Teaching Notes in the Launch stage document as needed.
- During the Extend stage, choose texts that meet the following criteria:
 - Show characters experiencing a variety of weather events and include those characters dressed for those weather events
 - Teach students about extreme weather events and allow for students to develop questions about those events

In advance:

- Choose a text from your own classroom library or the K–5 Recommended Texts list (stand-alone document).
- Consider creating a focus question for Storytime (see example in the Experience section below).
- Post: Focus question (optional).

Materials

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

Experience

- Gather students whole group by singing the (start of the) **Labs song**.
- Introduce the **text for Storytime**.
- Consider giving students a focus question with which you would like them to listen, especially as it supports their work in the Labs. (Examples: “While I read aloud this story, think about the ways in which characters prepare for the weather” or “While I read this story aloud, think about the question: ‘How is the main character’s day affected by the weather?’”)
- Read aloud the text for Storytime slowly, fluently, and without interruption.

Extend Stage: Setting Lab Goals

5 MINUTES

Teaching Notes**Purpose:**

- Students continue to use this time to reinforce executive functioning skills by focusing their attention, making a plan for their time, exhibiting self-regulation, and following instructions. All students, but especially primary learners, need to learn and practice the behaviors associated with executive functioning.

- Students may need additional support remembering the second Lab they will be visiting on any given day. Consider posting the Labs schedule in a clearly visible location and pause to review it before students transition to their second Lab.

Logistics:

- During the Extend stage, Lab groups visit two different Labs for 20 minutes each.

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; see supporting materials)

Experience

- Students continue to follow a similar routine for setting Lab goals as they have in the Launch and Practice stages. They will:
 - Review the **learning target(s)** for each Lab.
 - Review the **Labs schedule** with the teacher.
 - Turn and talk with an elbow partner to identify the first Lab they will visit today.
 - Make a goal using a sentence frame. (Example: “Today I will be visiting the ____ Lab first. When I’m there, I want to ____.”)
 - Repeat this process to identify the second Lab they will visit today.

Extend Stage: In the Labs 

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

Extend Stage: Reflecting on Learning 

Teaching Notes

Purpose:

- Recall that the reflection portion of Labs serves as a bookend to Setting Lab Goals. This time should both invite students to recall how they spent their time in the Labs and to reflect on their experience in the Labs.
- Continue to support students with predictable structures of reflection (such as repeated protocols), as well as familiar sentence frames.

In advance:

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

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 invite them to think about the goals they made at the beginning of Lab time.
- Ask a reflection question, giving students think time before they respond. This promotes more considerate responses and supports English language learners. Examples:

“Did you meet a goal for today?” (Responses will vary, but may include: I used lots of details in my drawing of a person.)

“How did you work well with a partner in the Labs today? How could you work better with your partner in the Labs tomorrow?” (Responses will vary, but may include: My partner and I had lots of questions about the pictures we saw. We could not agree on who should write, but then we decided to take turns.)

“What did you do to care for classroom materials in the Labs today?” (Responses will vary, but may include: In the Imagine Lab, I put away all the materials where they belong.)

“What is something you want to do better in the Labs tomorrow?” (Responses will vary, but may include: Tomorrow I want to try out my windproof shelter to make sure it works.)

“What was your favorite part of Labs today? Why?” (Responses will vary, but may include: My favorite part of Labs was coloring my picture.)

- 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 scenes that show how weather affects people?

Learning Target

- I can draw pictures of people with weather-related details.

Teaching Notes

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

- Students continue to think about weather-related details within their drawings.

What is new about this stage of this Lab:

- Students draw people instead of landscapes and cityscapes.
- The details in students' pictures show how weather affects people, specifically in their clothing and accessories.

Logistics:

- On the first day of the Extend stage, students work as a whole class to make the transition to this stage of the Labs.
- During the remaining days of the Extend stage, students divide into Lab groups and spend 20 minutes each in two different Labs.

In advance:

- Prepare:
 - Dress for the Weather anchor chart to help students remember the types of clothes and accessories they can include in their pictures.
 - Create Lab by placing paper, pencils, and coloring tools in the Create Lab space (see materials list).
- Consider whether the storage system previously established for storing student work is working and change as necessary.

Materials**Continued materials:**

- Paper (blank; one piece for teacher modeling; several pieces per student; if available, use watercolor paper)
- Pencils (one per student or a cup of pencils per workstation)
- Coloring tools (colored pencils, crayons, or water colors; one set per student)

Additional materials:

- Drawing Details anchor chart (new; co-created with students)

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

- Gather students together whole group and give them specific positive feedback regarding their drawing of weather scenes. (Example: “You have all done a beautiful job of adding weather details to your pictures. I can really imagine, looking at your pictures, what it might feel like to be in your scene.”)
- Tell students that now that they can draw a scene about the weather, they are going to practice a new drawing skill: people.
- Act out with students putting on their Artist’s Toolbelt. Say the phrase “drawing people,” holding it up in your hand, as students do this with you. Add “drawing people” into a new pocket of your toolbelt. Invite students to do the same.
- Tell students that, more specifically, they are going to learn to draw people as they experience different types of weather.

- Direct students' attention to the **Dress for the Weather anchor chart**.
- Tell students that they will focus on four types of weather. Review the headings of each of the four boxes on the Dress for the Weather anchor chart.
- Invite students to close their eyes. Say: "Imagine you have just woken up and are getting ready for the day. You have brushed your teeth and eaten breakfast, and now it is time to get dressed. So, you look out the window of your home to see what the weather is like. Surprise! Overnight a freezing cold front has moved into your area, and along with it came a huge snowstorm. Everything outside is covered in a blanket of soft, white snow."
- Invite students to open their eyes and turn and talk to an elbow partner:
 - ***"What clothes will you need to wear for this weather? List as many clothing items with your partner as you can."***
- After 30 seconds, refocus whole group.
- Tell students you would like to collect their great ideas on the Dress for the Weather anchor chart. But first, you need a person on which to put all of these clothes.
- At this point, many students are still most comfortable drawing stick figures. Tell students that a stick figure is a great beginning, as it provides the general shape of a person.
- Draw a stick figure person in the Snowy/Cold box of the Dress for the Weather anchor chart.
- Using a total participation technique, invite responses from the group:
 - ***"What does our person need to wear to be prepared for this weather?"***
- As students share, capture their ideas by layering clothes on top of the stick figure, giving it a more fully formed, two-dimensional appearance.
- Label the weather-appropriate clothing as it is added. (e.g., hat, scarf, jacket, boots, etc.)
- Repeat this process for each of the other three boxes of the Dress for the Weather anchor chart.
 - Warm/Sunny: shorts, T-shirts, bathing suits, sunglasses, flip-flops, etc.
 - Rainy: rain boots, rain jacket, rain hat, umbrella, etc.
 - Cloudy/Cool: long pants, sweater, jacket, etc.
- Remind students that being an artist is about perseverance: continuing to practice and get better, even when it feels difficult.
- Direct students' attention to the workstations around the room and point out that they continue to have access to materials provided in the Launch and Practice stages: paper, pencils, and coloring tools.
- Encourage students to use the Dress for the Weather anchor chart, as well as their own experience and imagination, to draw a person dressed for a specific kind of weather.
- If students feel they are finished with one drawing, they may put it away in the designated storage space and begin a new one.
- Invite students to begin working.
- Circulate and support students as they work, identifying details and including those details in their drawings.
- 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 for Reflecting on Learning.



Extend Stage: In the Engineer Lab

Guiding Question

- How can I design and build a weatherproof shelter?

Learning Target

- I can use a variety of materials to build a windproof shelter.

Teaching Notes

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

- Students continue to create small shelters using a variety of materials.

What is new about this stage of this Lab:

- The primary difference during the Extend stage of the Engineer Lab is the additional layer of difficulty. Students' shelters are tested for "wind resistance." This is done using a hair dryer or by simply blowing forcefully on the shelter.

Habits of character:

- Some students' shelters may not withstand the "wind" when they are tested. Shelters breaking or falling apart during the testing will test and build students' perseverance. Consider addressing this possibility, perhaps by modeling a teacher shelter that breaks apart, before testing shelters so students feel prepared to learn from failure and not feel defeated by it. Having a teacher, or other trusted adults, model a growth mindset in the context of "failure" is affirming to young learners.

Logistics:

- On the first day of the Extend stage, students work as a whole class to make the transition to this stage of the Labs.
- During the remaining days of the Extend stage, students divide into Lab groups and spend 20 minutes each in two different Labs.
- Consider forming partnerships within Lab groups to create a smaller, more supportive experience.

In advance:

- On "Transitioning to the Extend Stage Day," prepare four workstations with paper and pencils.
- For the remainder of the Extend stage, prepare the Engineer Lab space by placing all materials to design and build a windproof shelter of their own (see materials list).
- Monitor the various materials students are choosing to use in their building of shelters. Some may be more widely used than others and will need to be replenished.

- Choose a few photographs of shelters, some more obviously windproof than others. These will be used to discuss with students ways in which shelters might be made windproof and how effective different methods may or may not be.

Materials

Continued materials:

- ☑ Photographs of various weather-related shelters (several per workstation)
- ☑ Cardboard (various sizes; two or three pieces per student)
- ☑ Toothpicks (several per student; in a container to share)
- ☑ Craft sticks (several per student; in a container to share)
- ☑ Modeling clay (one package to share)
- ☑ Liquid glue (one container per student)
- ☑ Tape (one roll per workstation or pre-cut 6-inch strips)

Additional materials:

- ☑ Hair dryer (one to test the shelters)
- ☑ Paper (blank; one piece per student; only on “Transitioning to the Extend Stage Day”)
- ☑ Pencils (one cup per workstation; only on “Transitioning to the Extend Stage Day”)

Experience

Transitioning to the Extend Stage (Whole Class):

- Give students specific positive feedback on the building of shelters thus far. (For example: “Your shelters have shown great craftsmanship in the way you connect and put together materials” or “You have used our pictures of human and animal shelters to give you inspiration and ideas for your shelters.”)
- Tell students that the biggest difference between the Practice stage and Extend stage for the Engineer Lab is that their shelters will now be tested.
- Tell students that real engineers test their ideas many times in the process of designing and building something. With each test, they find ways in which their structure is working and ways in which it is not working. Both of these are equally important. If some part of their design is working, they keep it. If a part of their design is not working, they find ways to make it better.
- Direct students’ attention to the learning target and read it aloud:
“I can use a variety of materials to build a windproof shelter.”
- Using a total participation technique, invite responses from the group:
“What does it mean for something to be windproof?” (It stops the wind. It can stand up in the wind.)
- Tell students that their shelters do not have to stop the wind (wind can enter the shelter). Instead, their shelters have to be able to withstand the wind, meaning they must remain standing.
- Display four or five **photographs of various weather-related shelters.**

- Invite students to turn and talk with an elbow partner:
 - *“Which of these shelters do you think would best withstand the wind? Why?” (Responses will vary depending on the photographs.)*
- Listen in on students’ conversations and select a couple of partnerships to share their ideas.
- Invite pre-selected partnerships to share out. Encourage students to elaborate on their thinking by pointing out specific design elements that support their thinking.
- Tell students that they will continue to have photographs of various weather-related shelters at their workstations and in the Engineer Lab. They should continue to use these photographs to get ideas for their own windproof shelters.
- Remind students of the continued materials they have to build their shelters. At this point, students have had multiple days to test these materials.
- Using a total participation technique, invite responses from the group:
 - *“Which materials do you think would best withstand the wind?” (Responses will vary, but may include: The craft sticks might work better than the toothpicks because they are stronger. The modeling clay may work better than the glue because the glue sometimes breaks easily.)*
- Tell students that when they have built a shelter, they will have the opportunity to periodically test. (This can be on days in which the teacher is able to visit the Engineer Lab.) Show students the **hair dryer** and explain how this will be used to test the shelters. Alternately, tell students that shelters will be tested just like in the story of the “Three Little Pigs.” They will “huff and puff” and try to “blow the house down.”
- Tell students that today, they can use the remainder of their In the Lab time to draw their initial ideas for their windproof shelter. At their workstation, they have **paper** and **pencils** to draw their ideas.
- Transition each Lab group to a workstation and invite students to begin designing.
- Circulate and support students as they work.
- With 2 or 3 minutes left, signal students to organize their workstation.
- Gather students whole group, reminding them to bring their designs to the whole group area for Reflecting on Learning.

Remainder of Extend Stage:

- Students will use their time in the Engineer Lab to construct their windproof shelters.
- Periodically, students will need to test their shelters by using a hair dryer or blowing on them. A teacher should be present for this.
- If students’ designs are successful, they may try to build another windproof shelter (inspired by another design) or help a peer in his or her process.



Extend Stage: In the Imagine Lab

Guiding Question

- How can I use my imagination to create a world of play for myself and others?

Learning Targets

- I can show respect for Lab materials and my peers.
- I can collaborate with my Lab group to imagine exciting weather stories.

Teaching Notes

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

- Students continue to use a variety of materials to create their own imaginative play scenarios.
- Students continue to use materials of the Imagine Lab to create and act out exciting weather-related stories.
- Students continue to show respect for materials and one another.

What is new about this stage of this Lab:

- N/A

Habits of character:

- The Imagine Lab continues to incorporate multiple types of materials to allow students to create a world of play for themselves and others. Respect for these materials, and respect for peers, is necessary for the success of the Imagine Lab.

Logistics:

- Because students now have access to all Imagine Lab materials, it is important that they set a clear goal for how they want to spend their time in the Lab.

In advance:

- Prepare the Imagine Lab space by placing building blocks, white boards and dry erase markers, hand or finger puppets, dress-up materials, and other possible materials at for students to create a variety of imaginative play scenarios (see materials list). Other possible materials might include modeling clay, common kitchen materials and safe cooking utensils, and felt or magnet boards.

Materials

Continued materials:

- Story dice (one pair to share)
- Building blocks (one set of wood or linking blocks)

- ☑ White board (one large to share or several small) and dry erase markers (one per student)
- ☑ hand or finger puppets (several to share)
- ☑ dress-up materials (several to share)

Experience

- Review with students the proper handling and use of the story dice.
- Consider practicing a couple of rounds as a whole group, or with the Lab Group in the Imagine Lab, to formatively assess students understanding of this tool.
- Remind students of the variety of ways they might use these stories within the Imagine Lab:
 - Use building blocks to create a set, and then puppets to act out the story within that set.
 - Use the white board to draw their story idea.
 - Use dress-up materials to become the characters of their story about weather.
- Remind students of the importance of showing respect for Imagine Lab materials and their peers.
- Invite students to turn and talk with an elbow partner:
 - “In what ways might you show respect for materials?” (put away materials before I move on to new ones, clean up materials at the end of Lab time)***
 - “In what ways might you show respect for one another?” (share materials, use my body safely, include others in my imaginative play)***
- Tell students that today they will have 20 minutes in the Imagine Lab. Invite them to begin exploring materials and imagining.
- As students work, circulate and support them, specifically in the area of creating stories using the story dice and respecting both materials and peers.
- At the conclusion of In 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. (Example: “It is great to students cleaning up quietly and efficiently so we can move on to new learning.”)
- As Lab groups are ready, transition them back to the whole group for Reflecting on Learning.



Extend Stage: In the Research Lab

Guiding Question

- How can I use photographs to research extreme weather events?

Learning Target

- I can ask questions about photographs of extreme weather events.

Teaching Notes

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

- Students continue to study photographs of extreme weather events to notice details and take notes.
- Students continue to work with a research partner as a way to support them in this process and build oral language skills.

What is new about this stage of this Lab:

- Students are now encouraged to wonder about the images they are studying and ask specific questions about the photographs and the extreme weather events being depicted.

Logistics:

- On the first day of the Extend stage, students work as a whole class to make the transition to this stage of the Labs.
- During the remaining days of the Extend stage, students divide into Lab groups and spend 20 minutes each in two different Labs.
- Consider whether to continue with the same note-taking storage system or to shift to a new one for this stage. (Example: Consider creating a Wonder Word Wall divided into the various question words, on which students can post one or two questions each time they visit the Research Lab.)

In advance:

- Prepare the Wonder Words anchor chart (see supporting materials). Leave blank space below each word to record co-created sample questions beginning with that word.

Materials

Continued materials:

- Photographs of extreme weather events (several different types in the Research Lab area)
- Sticky notes (several to model; one package per partnership)
- Magnifying glasses (one per student)
- Pencils (one per partnership)

Additional materials:

- ☑ Wonder Words anchor chart (new; teacher-created; see supporting materials)

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

- Gather students in the whole group meeting area.
- Give students specific positive feedback about the work they have been doing thus far with photographs, specifically in noticing details about those photographs. (Example: “I love how you have been really zooming in on the small details of these photographs to help you learn about extreme weather events.”)
- Say: “When researchers look at their research materials, they notice lots of details. But, maybe even more importantly, great researchers are very curious! They are always looking closely at their materials and coming up with new questions. They love to wonder!”
- Direct students’ attention to the **Wonder Words anchor chart**.
- Tell students that “wonder words” are words people use to help them ask questions.
- Review each word with students. Consider modeling a sample question for each word as you read:
 - What: “What are we having for lunch today?”
 - Why: “Why is the sun so hot?”
 - How: “How do eggs become baby birds?”
- Tell students you need their help coming up with great questions, using all these wonder words, about weather.
- Display a **photograph of an extreme weather event**.
- Give students 30 seconds to study the picture, reminding them that this picture may already be familiar from their work in the Research Lab.
- Invite students to turn and talk with an elbow partner:
 - ***“Is there anything that this picture makes you wonder?” (Responses will vary.)***
- Listen in on students’ conversations, identifying two or three questions to share whole group. Try to target a variety of wonder words.
- Invite pre-identified partnerships to share their questions.
- As students share out, capture their questions on a sticky note. Consider using a shared writing technique, inviting students to assist you in spelling words and adding proper punctuation.
- Using a total participation technique, invite responses from the group:
 - ***“Which wonder word did this partnership use to create a question?” (Responses will vary.)***
- Invite the partnership that shared to come and place the question under the corresponding wonder word on the Wonder Word anchor chart.
- Continue this process for three or four questions. Ask:
 - ***“Which wonder words have we not used?” (Responses will vary.)***

- Encourage students to create questions for the wonder words that do not yet have a posted question until all boxes on the Wonder Word anchor chart are complete.
- Tell students that when they visit the Research Lab over the next few days, their job is to generate as many questions as possible about the extreme weather photographs.
- Review the note-taking storage system students learned and used in the Launch and Practice stages or introduce a new note-taking collection system using the wonder words.
- Tell students that today they will have 20 minutes in the Research Lab. Invite them to begin exploring photographs and taking notes.
- As students work, circulate and support them, specifically in the area of working alongside their research partner and jotting notes about details they see.
- At the conclusion of In 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. (Example: “It is great to see students working together to organize materials in the Research Lab, even if it is not a material you used.”)
- As Lab groups are ready, transition them back to the whole group for Reflecting on Learning.