

Grade 2: 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 the materials of each Lab, 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 sculptures).
 - To learn and practice habits of character, such as collaboration and perseverance.

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 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 a sculpture of my favorite dinosaur?

Explore Lab

What can I learn about paleontology by exploring the tools of a paleontologist?

Imagine Lab

How can I use Imagine Lab materials and my imagination to bring paleontology stories to life?

Research Lab

How can I use research skills to learn and wonder about dinosaurs?

Learning Target(s)

Create Lab

I can add details to my dinosaur sculpture using my hands and other tools.

Explore Lab

I can learn about paleontology by exploring the tools of a paleontologist.

I can show respect when using the tools of a paleontologist.

I can create my own simulated paleontological dig (optional).

Imagine Lab

I can create paleontology stories using my imagination and materials of the Imagine Lab.

I can collaborate with others to act out paleontology stories.

Research Lab

I can learn new information about dinosaurs using my research materials.

I can ask questions about dinosaurs based on my research materials.

Ongoing Assessment

Create Lab

Create Lab Checklist (**SL.2.1, SL.2.1a, L.2.1d, L.2.4**)

Explore Lab

Explore Lab Checklist (**SL.2.1, SL.2.1a, L.2.1d, L.2.4**)

Imagine Lab

Imagine Lab Checklist (**RL.2.2, RL.2.3, RL.2.5, SL.2.1, SL.2.2**)

Research Lab

Research Lab Checklist (**W.2.5, W.2.7, W.2.8, L.2.4**)

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 and Choice and Challenge stages, Storytime should be used to:
 - Read complex nonfiction texts about dinosaurs to support students in their work in the Research Lab.
 - Continue to read or revisit content-connected narrative texts to support students in their work in the Imagine Lab.
 - Reinforce habits of character, such as responsibility or perseverance, that will support students' work in all Labs.

In advance:

- Choose a text from your own classroom library or the K-5 Recommended Text List (stand-alone document).
- Consider creating a focus question for Storytime (see example in the Experience section on the following page).
- Review the Labs song.
- Post: Focus question (optional).

Materials

- Labs song (one to display)
- 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 or prompt with which you would like them to listen, especially as it supports their work in the Labs. (Example: “While I read this story aloud, think about the ways in which the characters collaborate or work together” or “How does the information in this text teach us how dinosaurs lived in their environment?”)
- Read aloud the text for Storytime slowly, fluently, and without interruption.

Extend Stage: Setting Lab Goals

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 Labs for 20 minutes each.
- On the “Transitioning to 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 (from Launch stage; one per student)
- Pencils (one per student)

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’m going to _____.”)
- Record their goal in their **Labs notebook** using a **pencil**.
- Repeat this process to identify the second Lab they will visit today. Tell students that today they will visit two Labs.

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 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).

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)
- Labs notebook (from Launch stage; one per student)
- Pencils (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 invite them to think about the goals they made at the beginning of Lab time.
- Invite students to open their **Labs notebook** to the Goal Setting and Reflecting on Learning section.

- Invite them to review the goals they recorded at the beginning of Lab time.
- Ask a reflection question and direct students to the sentence starters at top of the page, giving them 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 recorded all the treasures I found in the paleontological dig.)*
 - “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 took turns with tools today.)*
 - “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 blocks before I played with the puppets.)*
 - “What is something you want to do better in the Labs tomorrow?” (Responses will vary, but may include: Tomorrow I want to add more details to my sculpture.)*
 - “What was your favorite part of Labs today? Why?” (Responses will vary, but may include: My favorite part of Labs was acting out stories about dinosaur digs.)*
- 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.
- Direct students to use a **pencil** to record one reflection from their Labs experience in their Labs notebook.
- 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.).
- 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.



Extend Stage: In the Create Lab

Guiding Question

- How can I create a sculpture of my favorite dinosaur?

Learning Target

- I can add details to my dinosaur sculpture using my hands and other tools.

Teaching Notes

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

- Students continue to use clay and other materials to sculpt dinosaurs.

What is new about this stage of this Lab:

- Students learn multiple ways to make their clay sculptures more detailed.

Logistics:

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

In advance:

- Prepare:
 - Create Lab by placing pictures, clay, water, toothpicks, skewers, plastic forks and plastic knives in the Lab space.
 - A model sculpture of a dinosaur that looks similar to the ones students have been making in the Launch and Practice stages. Purposefully leave off a few details (such as small arms, or the head). This model will be used to show students how they can use various techniques to add details to their dinosaur sculptures.

Materials

Continued materials:

- Picture of a dinosaur (from Launch stage; one for teacher modeling)
- Air-dry clay (one container to share)
- Cup of water (one to share)
- Skewers (several per student)
- Toothpicks (several per student)

Additional materials:

- Dinosaur sculpture model (one for teacher modeling)
- Plastic forks (several to share)
- Plastic knives (several to share)

Experience

Transitioning to the Extend Stage (Whole Class):

- Gather students whole group and give them specific, positive feedback regarding their use of clay. (Example: “Wow! You have been so respectful of the new materials we have been using in the Create Lab. I see a lot of great dinosaur shapes being formed and dinosaur bodies coming together!”)
- Tell students that they will continue to work with clay to sculpt dinosaurs and that you want to show them a tool for their Artist’s Toolbelt that sculptors use to make their sculptures even more detailed and beautiful!
- Put on your imaginary “Artist’s Toolbelt” and invite students to do the same.
 - Tell students that the tool they are going to be adding is the “pinch and pull.”
 - Extend your thumb and index finger, making a pinching motion, and pull through the air as if tugging on an invisible piece of string. Invite students to do the same.
 - Pretend to add this tool to your toolbelt, inviting students to do the same.

- Tell students you will begin by looking back at the **picture of a dinosaur** that inspired your sculpture and at the sculpture you had made so far.
- Display the picture you chose.
- Display the **dinosaur sculpture model**.
- Using a total participation technique, invite responses from the group:
 - ***“Based on the picture and my sculpture so far, what details do I still I need to include?” (Responses will vary, but may include: You still need to add the head. You need to add small arms.)***
- Tell students that smaller details, such as small arms, short features, or heads, do not need to be made separately and attached. They can be “pinched and pulled” from the clay instead.
- Say: “I do not want to make a small arm and add it with a toothpick. It is such a small body part, even smaller than the toothpick itself! So I am going to ‘pinch’ some clay at the place I want to add an arm, and ‘pull’ it gently, not hard enough that it comes apart.”
- Using the model dinosaur sculpture, show students how you can use your thumb and index finger to “pinch” the clay and “pull” it out (without detaching it) in the place where you want to add an arm.
- Once the clay is extended from the body, model for students how to continue to form it into the desired shape.
- Repeat this process to add a head, if time permits.
- Display the **plastic fork** and **plastic knife**.
- Tell them that in addition to the **continued materials**, plastic forks and knives have been added to the Create Lab for them to make their sculptures more detailed.
- Direct students’ attention back to the picture of a dinosaur.
- Using a total participation technique, invite responses from the group:
 - ***“What details on this picture could I add to my sculpture using my fork and knife?” (Responses will vary, but may include: You could add the scales on the skin. You could add the mouth. You could add its claws.)***
- Model:
 - Dragging the fork lightly along the clay, first in an up and down direction, then left to right. Show them how this creates texture to the skin, making it more realistic and detailed.
 - Using the knife, add other details: to cut open a mouth for the dinosaur, to separate the end of the feet into individual toes, to create individual claws, etc.
- Tell students that over the next several days, they may work on several different dinosaur sculptures, but they should not try new dinosaurs until they have really worked on adding details to the ones they create.
- Remind students that at the end of their time in the Create Lab, they will not be keeping their dinosaurs, but instead will start each day new. This is important in order to share materials with other students.

- Invite students to begin working.
- Circulate and support them as they work.
- 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.



Extend Stage: In the Explore Lab

Guiding Question

- What can I learn about paleontology by exploring the tools of a paleontologist?

Learning Targets

- I can learn about paleontology by exploring the tools of a paleontologist.
- I can show respect when using the tools of a paleontologist.
- I can create my own simulated paleontological dig (optional).

Teaching Notes

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

- Students continue to learn about paleontology by using the tools of a paleontologist in a simulated dig. Students may continue this Lab in the same way they have been during the Launch and Practice stages: working with the tools of paleontologists to uncover “treasures” within a teacher-created simulated dig site.

What is new about this stage of this Lab:

- During the Extend stage of the Explore Lab, students may have the option to create their own simulated paleontological dig, using the same or similar materials used to create the simulated dig of the Launch and Practice stages. This option is provided as a possible extension of students’ experience in the Explore Lab thus far but is contingent upon the availability of time, resources, and supervision.

Habits of character:

- Regardless of whether students are creating their own dig site or continuing to use a teacher-created dig site, they will need to show responsibility and respect in the use and care of various tools and materials.

Logistics:

- On the first day, the teacher introduces the task, the materials, and the expectations to help students make the transition to the Extend stage of the Labs.
- During the remaining days of the Extend stage, students divide into Lab groups and spend 20 minutes each in two Labs.

In advance:

- If students are continuing to use a teacher-created simulated dig, prepare the Explore Lab by:
 - Placing one or more simulated dig sites in the Lab space. (If each Lab group has its own dig, place the appropriate dig(s) for that day.)
 - Placing the tools of a paleontologist in the Lab space (see materials list).
 - Creating supportive partnerships within Lab groups (optional).
- If students will be creating their own simulated digs, prepare the Explore Lab by:
 - Covering the Explore Lab area with paper or plastic.
 - Providing separate buckets of sand, plaster, and water to create the mixture.
 - Inviting students to collect or bring in (disposable) objects to use as their “treasures.”
 - Collecting (disposable) plastic or paper containers (e.g., shoe boxes) in which to create the simulated dig.

Materials**Continued materials:**

- Simulated dig sites (one per Lab group)
- Chisel (two or three to share)
- Small hammers (two or three to share)
- Paintbrushes (variety of sizes; several to share)
- Toothbrushes (several to share)
- Tweezers (several to share)
- Magnifying glasses (several to share)
- Labs notebook (from Launch stage; one per student)
- Trash can (one to share)

Additional materials (to be used if students are creating their own simulated digs):

- Mixing bowl (one to share)
- 1-cup measuring cups (three to share)
- Plaster of paris (1/2 cup per student)
- Sand (4 cups per student)
- Water (1/2 cup per student)
- Mixing spoon (one to share)
- Plastic or paper containers (one per student)
- Small found or collected objects (several per student)

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

- If students are continuing to explore teacher-created simulated digs, they will continue with same materials and process as found in the Launch and Practice stages (see continued materials). This means students will continue to use the **Labs notebook** (Dig Site recording form) to document the objects found.

For optional extension:

- Give students specific, positive feedback about all their great exploring. (Example: “Wow, you have been amazing paleontologists, showing great perseverance to uncover treasures. You have shown such amazing respect for all of our tools and paleontological materials, always sharing, using them for their proper job, and putting them away properly!”)
- Tell students that because they have shown such great respect and responsibility working in their digs, they will now have the opportunity to work with a partner to create their own dig!
- Tell students that the materials they will use to create a simulated dig can be very messy, so they will have to show even more respect, responsibility, and care during the Extend stage of the Explore Lab.
- Tell students that the first part of the dig is to create the stone.
 - In the **mixing bowl**, model using a **mixing cup** to measure and pour the **plaster of paris**, **sand**, and **water**.
 - Mix ingredients together using a **mixing spoon**.
 - Show students the **plastic or paper container** (e.g., shoe box). Tell them this is the place where the simulated dig will be created.
 - Pour half of the mixture into the plastic or paper container.
 - Invite student volunteers to help add the treasures, one at a time, to the mixture.
 - Tell students they should try to place the **small found or collected objects** at various depths to make the dig more interesting.
 - After all treasures have been placed, pour the other half of the mixture into the plastic or paper container, being sure to cover all the treasures.
 - Tell students that they will work with a partner to create their own dig.
- After the digs are created, they will need a night to dry. In following visits to the Explore Lab, students can work to uncover another partnership’s treasures.
- Invite students to begin exploring!
- Circulate and support students as they work in pairs. Reinforce the habit of respect and responsibility, as needed.
- 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.
- As students arrive to the whole group, invite them to congratulate or compliment as many of their peers as they can for 15–30 seconds before being seated. Model an example as necessary: “Great job in Labs today!” “Way to go!” “I’m proud of you!”



Extend Stage: In the Imagine Lab

Guiding Question

- How can I use Imagine Lab materials and my imagination to bring our paleontology stories to life?

Learning Targets

- I can create paleontology stories using my imagination and materials of the Imagine Lab.
- I can collaborate with others to act out paleontology stories.

Teaching Notes

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

- Students continue to act out stories about paleontologists or fossils.
- Students have the option to continue retelling or reenacting familiar paleontology-related stories from the module lessons.

What is new about this stage:

- During the Extend stage, students are invited, if so desired, to create their own paleontology, fossil, or dinosaur-related stories.

Logistics:

- On the first day, the teacher introduces the challenge, the materials, and the expectations to help students make the transition to the Extend stage of the Labs.
- During the remaining days of the Extend stage, students work with their Lab groups to reenact familiar stories or to create and reenact original stories about paleontology or dinosaurs.

In advance:

- Create a sun prop and a moon prop using paper, paints, or fabric. Students will use these props as they create and act out their own stories.
- Prepare the Imagine Lab space with a variety of imaginative play materials (other possible materials might include modeling clay or felt or magnet boards).

Materials

Continued materials:

- 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

Transitioning to the Extend Stage (Whole Class):

- Welcome students to the Imagine Lab!
- Give students specific, positive feedback about their work in the Imagine Lab thus far. (Example: “I love how you have been working together to include all the different parts of a story as you reenact them: the characters, the important events, and even the setting!”)
- Using a total participation technique, invite responses from the group:
 - *“What has been your favorite book to reenact in the Imagine Lab? Why?” (Responses will vary.)*
 - *“What materials of the Imagine Lab have been your favorites when reenacting stories?” (Responses will vary, but may include: building blocks, white boards, hand or finger puppets, dress-up materials.)*
- Tell students that they will still have the opportunity to act out familiar and beloved stories about paleontologists, fossils, or dinosaurs, if they wish.
- Tell students that they now also have the opportunity to using their imaginations in even bigger and more exciting ways!
- In the Imagine Lab, they now have the choice to collaboratively create their own stories based on what they have been learning in the module lessons or in the Research Lab.
- Tell students there are two types of possible stories they might want to create and act out:
 - Stories that show paleontologists discovering fossils
 - Stories in which they travel back in time and see real dinosaurs
- Invite students to get to work imagining and creating stories!
- Circulate and support students, specifically in the area of generating story ideas and being creative in how they might act out stories.
- 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.



Extend Stage: In the Research Lab

Guiding Question

- How can I use research skills to learn and wonder about dinosaurs?

Learning Targets

- I can learn new information about dinosaurs using my research materials.
- I can ask questions about dinosaurs based on my research materials.

Teaching Notes

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

- Students continue to use a variety of research materials to discover new information and answer their questions about the dinosaurs.

What is new about this stage of this Lab:

- Students focus their line of inquiry and research into a specific area of expertise: carnivores, herbivores, swimmers, or fliers.
- Facts that students learn about their specific area of expertise will be used in their final product during the Choice and Challenge stage.

Logistics:

- On the first day of the Extend stage, students decide on a specific area of research about which they would like to become an expert.
- During the remaining days of the Extend stage, students record interesting facts and research-based questions about their topic.

In advance:

- Gather baskets from the Practice stage, each with a set of research materials on a different dinosaur-related topic:
 - Basket 1: Carnivores
 - Basket 2: Herbivores
 - Basket 3: Swimmers
 - Basket 4: Fliers

Materials

Continued materials:

- Labs notebook (from Launch stage; one for teacher modeling and one per student)
- Pencils (one per student)
- Baskets of research materials (from Practice stage; one basket per dinosaur-related topic)

Experience

Transitioning to the Extend Stage (Whole Class):

- Give students specific, positive feedback for behaviors you have noticed in the Research Lab during previous stages. (Example: “I have seen students recording interesting new facts in their Labs notebook. I have seen students recording questions based on things they have seen or read in the research materials. I have seen students cooperating with one another by sharing materials and teaching each other about their topic.”)
- Remind students that, until now, they have been freely exploring four different dinosaur-related topics: carnivores, herbivores, swimmers, and fliers. They have found many facts, and they have asked many questions.

- Invite students to turn and talk with an elbow partner:
“After reading about these different topics, which do you find most interesting: carnivores, herbivores, swimmers, or fliers? Why?” (Responses will vary.)
- Listen in to student conversations, encouraging students to support their opinion of “most interesting” with specific evidence about the topic.
- Invite a few pre-selected students to share their thinking whole group to model an evidence-based opinion.
- Tell students that during the Extend stage, they will have the chance to become an expert on one of the four dinosaur-related topics. They should choose the topic that interests them most and about which they continue to have the most questions.
- Display the **Labs notebook** and turn to the next blank research page. Invite students to do the same.
- Invite students to use a **pencil** to circle, at the top of the blank page, dinosaur-related topic they have chosen.
- Tell students that they should explore only the **basket of research materials** for that specific topic, continuing to record new, interesting facts and important questions related to the research materials in their Labs notebook.
- Invite students to begin researching.
- Circulate to support students, specifically in the area of recording new facts and questions.
- 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.