Grade 2: Module 2: Labs

1 – Launch Stage

Labs: Launch Stage

Days 1–4

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

1. The Launch stage serves four purposes:
   - To introduce and practice the Lab schedule and routines and lay the groundwork for the habits of character that students will practice in each Lab.
   - To orient students to the purpose, guiding questions, and materials of each of the Labs for this module.
   - To establish expectations for each Lab.
   - To build a sense of wonder and excitement around each Lab. Students should be filled with anticipation, questions, and ideas as they continue on to the following, more independent stages of the Labs.

Each Lab launches with a whole group experience and does so on a separate day, so students can experience a full immersion into each Lab.

During their In the Lab time, students break up into smaller Lab groups and go to separate workstations (tables or other workspaces around the classroom).

This structure creates a small collaborative atmosphere in which students will work throughout their Labs experience. It also supports the management of materials (since each workstation has its own 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. In contrast, the learning target(s) become more refined and precise from stage to stage.)

Launch 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 identify the shapes that make a dinosaur.
I can sculpt the shapes of a dinosaur.

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.

Imagine Lab

I can reenact paleontology stories using my imagination and materials of the Imagine Lab.
I can collaborate with others to reenact 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 Launch stage, this hour is divided as follows:

Launch Stage: Daily Schedule

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

Launch Stage: Storytime 10 MINUTES

Teaching Notes

Purpose:

- The purpose and structure of Storytime is identical across all four stages of the Labs and can include a read-aloud of a text or an oral storytelling experience:
  - To increase the time students encounter complex text through read-alouds.
  - To build students' understanding of the structure of narrative and informational texts through read-aloud and oral storytelling.
  - To connect to the content of the Labs (and module), as well as to the habits of character that students practice during the Labs.
- During the Launch and Practice stages, Storytime should be dedicated to reading, rereading, or retelling narratives about paleontology or dinosaurs, especially those introduced during the module lessons, but can also include others of the teacher's choice taken from the K–5 Recommended Text List (stand-alone document) or classroom library. This supports student work in the Imagine Lab, where they are expected to use materials to collaboratively reenact familiar content-related stories.
- Students benefit from seeing the text when it is read aloud. Consider displaying the text with a document camera. This is particularly essential if the illustrations are important or beautiful.
- Some students may benefit from time to verbally process a story as it is being read. Consider using discussion protocols such as Turn and Talk to allow them time to verbalize their understanding of stories. Do this judiciously, however; note that Storytime is only 10 minutes.

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).
- Create four heterogeneous Lab groups. Seat students in their Lab groups during Storytime and Setting Lab Goals for easier transitions and more focused discussions. Consider keeping the same Lab groups through the Launch, Practice, and Extend stages of Labs for this module.
- Review the Labs song.
- Post: Focus question (optional).

Materials

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

Experience (identical during all four stages of Labs)

- 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 Imagine Lab. (Examples: "While I read aloud this story, think about the ways you might use Imagine Lab materials to act it out" or "While I read aloud this story, think about this question: Who are the important characters and what are the important events that I would want to include in a reenactment of this story?")
- Read aloud the text for Storytime slowly, fluently, and without interruption.

Launch Stage: Setting Lab Goals 5 MINUTES

Teaching Notes

Purpose:

- Setting Lab Goals is a time to activate and reinforce students' executive functioning skills: 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.
- Consider using visual displays (anchor charts, a Labs schedule, a daily agenda, etc.) to support students in understanding and remembering where they are going that day and what is expected of them once they are there.

In advance:

- Decide on a system of storage and movement of Labs notebooks. Students will need these during Setting Lab Goals and Reflecting on Learning each day. They will also need the notebooks when visiting the Research Lab.
- Post: Guiding question and learning target(s) for the Lab students will be launching that day (see detailed plans for each Lab on the following pages).

Materials

- ☑ Labs notebook (new; page 1; one for teacher modeling and one per student)
- ☑ Pencils (one per student)
- ☑ Learning target(s) (one to display for each Lab; see Launch Stage: At-a-Glance for the specific targets for each Lab)

Experience

- Gather students in the whole class meeting area.
- Distribute Labs notebooks and pencils.
- Invite students to sit in specified places so they will be close to their Lab group.
- Ask students to tuck their materials underneath them or at their sides, so as not to be distracted.
- Briefly introduce the Lab that the class will launch today.
- Invite students to Think-Pair-Share with an elbow partner:

"Today we are launching the Engineer Lab. What do you remember about the Engineer Lab?" (Responses will vary.)

or

"Today, we are launching the Imagine Lab. What were your favorite experiences in the Imagine Lab thus far?" (Responses will vary.)

- Share the learning target(s) for the Lab the class is focused on today. Ask students to turn and talk about each of these questions with an elbow partner:

  "What do you think you will be doing in today's Lab?"

  "How can you show respect for materials?"

  "How can you show respect for other students in your group?"
- 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!
- Explain that, in addition to this, they should set a specific and individual goal that they will work toward in today's Lab.
- Display the Labs notebook and open to page 1. Invite students to do the same.
- Review the possible sentence frames at the top of the page that students might use when setting a goal.
- Dramatically place your finger to your head, in a thinking pose, and ask students to do the same.
- Tell students you want them to think deeply about what it is they want to accomplish today.
- After sufficient think time, invite students to turn and talk to an elbow partner:

  "What is your goal in Labs today?" (Responses will vary.)
- Once students have verbally processed their goal, ask them to record their goal in their Labs notebook so they can reflect on it after the Labs experience.
- Invite students to take out their imaginary bow and take aim at the learning target.
- Invite students to put on their imaginary lab coats and goggles to show they are ready for learning and fun!

Launch Stage: In the Labs 40 MINUTES

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

Launch Stage: Reflecting on Learning 5 MINUTES

Teaching Notes

Purpose:

- The reflection portion of Labs serves as a bookend to Setting Lab Goals. Students recall how they spent their time in the Lab and reflect on their experience in the Lab.

- This cycle of goal-setting and reflecting leads to greater intentionality by students as well as a sense of ownership in their learning.
- Students will have varying levels of experience with reflection. For those who may need additional support: Consider using predictable structures of reflection (such as protocols) and familiar sentence frames to support English language learners.

In advance:

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

Materials

- ☑ Labs song (one to display)
- ☑ Labs notebook (one for teacher modeling and one per student)

Experience

- Gather students back together 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.
- Ask students to look in their Labs notebook and review the goal they set at the beginning of Labs time.
- Ask a reflection question and direct students to the sentence starters at the top of the page, giving them think time before they respond. This promotes more considerate responses and supports English language learners. Examples:

  "How did you do in reaching your goal today?" (Responses will vary, but may include: I partly reached my goal, but I need more time.)

  "What is something you did really well in the Lab today?" (Responses will vary, but may include: I did really well in working with my Lab group.)

  "What is something you struggled with in the Lab today?" (Responses will vary, but may include: I had a hard time with some new and tricky words.)

  "How did you get past a difficult obstacle?" (Responses will vary, but may include: I got stuck on a word, so I asked a friend in my Lab group to help me figure it out.)

  "What was your favorite part of the Lab today? Why?" (Responses will vary, but may include: I loved dressing up as the characters from our books today.)
- 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.
- Display a copy of the Labs notebook and open to the appropriate page. Invite students to do the same.
- Invite students to record their reflection in the appropriate space.
- 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.

Launch Stage: In the Create Lab

Guiding Question

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

Learning Targets

- I can identify the shapes that make a dinosaur.
- I can sculpt the shapes of a dinosaur.

Teaching Notes

Purpose:

- In the Create Lab, the Launch stage serves three purposes:
  - Students examine a picture of a dinosaur, working together to identify the various shapes that make the dinosaur. (Students may name 2-D or 3-D shapes, depending on their own background knowledge.)
  - Students explore with clay, attempting to sculpt the various shapes of a dinosaur.
  - Students explore with toothpicks or skewers, attempting to attach the parts of a dinosaur together.

Habits of character:

- The Create Lab requires perseverance and collaboration from students. This is students' first exposure to 3-D art and first use of sculpture materials. Some may have little experience with sculpting material, making this Lab an opportunity and a challenge in fine motor skills and handling of the materials. Other students may have more experience, making this a good opportunity for them to collaborate with their peers and serve as a resource in strategies for working with clay and other sculpting materials.

Logistics:

- During the Launch stage of the Create Lab, the teacher and students work together to examine photographs of various dinosaurs. They use these photographs to identify the different shapes that make a dinosaur.
- The teacher models for students how shapes that make dinosaur body parts can be made using clay.
- The teacher models for students how dinosaur body parts can be attached using skewers or toothpicks.
- Students explore forming clay into the shapes of dinosaur body parts, and then attempt to attach those body parts together.

In advance:

- Based on classroom setup and available technology, determine the best way to display photographs of dinosaurs and model shaping clay into various shapes necessary to make dinosaur body parts.

- Prepare four workstations by covering them with paper or plastic and supplying them with several pictures of dinosaurs, 10 pounds of clay divided equally per workstation, a cup of water, toothpicks, and skewers.
- Choose a picture of a dinosaur to use for modeling (see supporting materials).
- Gather 15 pounds of white air-dry clay. Typically this material can be found in 2.5- or 5-pound containers. The same clay can be reused through the Launch, Practice, and Extend stages. Five pounds of new clay will be provided for students who choose the Create Lab for the Choice and Challenge stage.
- Determine:
  - A storage option for clay between uses. The clay needs to be moistened (not soaked) at the end of each day and then placed in an airtight container or plastic bag.
  - The signal (bell, word, silent signal) you will use throughout Labs to let students know when it is time to clean up their station.

Materials

- ☑ Pictures of dinosaurs (one for teacher modeling and several per workstation)
- ☑ Air-dry clay (class set; for teacher modeling and divided into containers for each workstation)
- ☑ Cup of water (one per workstation)
- ☑ Toothpicks (one for teacher modeling; several per student)
- ☑ Skewers (one for teacher modeling; several per student per workstation)

Experience

- Gather students in the whole class meeting area.
- Welcome students to the Create Lab, a space where they will now be sculptors!
- Tell students that in the Create Lab, they will add exciting new skills to their Artist's Toolbelt.
- Pretend to put on an imaginary toolbelt and invite students to dramatically do the same with you.
- Pretend to hold the idea of "shapes" in your hand and add it to your toolbelt. Invite students to do the same.
- Say: "Like our bodies, the bodies of dinosaurs are made up of many different shapes. Let's look closely at a dinosaur and identify the shapes that make up its body."
- Display a picture of a dinosaur.
- Using a total participation technique, invite responses from the group:

  "What is a shape you see on this dinosaur?" (Responses will vary, but may include: The head looks a little like a triangle. The middle of the dinosaur is an oval.)

- Show students a piece of air-dry clay.
- Tell them that this is a special tool for sculptors and one that they will explore in the Create Lab.
- Say: "Many of you noticed the oval that makes the middle of the dinosaur's body. I'm going to try to make that part of the dinosaur's body now."
- Using the piece of clay and your hands, form a flat oval piece.

- Display the oval piece of clay so all students can see and ask:

  "How is this? Does this shape match what you see here?" (Responses will vary, but may include: No! Yours is flat. Dinosaurs were not flat."

- Confirm for students the idea that, although they are looking at a 2-D picture, they are making a 3-D representation.
- Again, using the piece of clay and your hands, show students how to roll the clay and form it into a 3-D shape.
- Repeat this process until students have identified and the teacher has modeled several significant shapes of the dinosaur's body.
- As you model forming various shapes, tell students that this clay is special for many reasons. One reason is that it dries into a hard substance, like rock. This is great for saving and displaying a finished sculpture, but not good for the creation stages.
- Tell students that if their clay begins to dry, get hard, or crack, they simply need to add some "lotion," just like we do to our skin. The lotion for the clay, however, is just a bit of water.
- Using a cup of water, model for students how they can dip their fingertips into the water and gently massage it into the clay as they work with it. Be clear that students should not submerge the clay in the water.
- Once several body parts have been formed, tell students it is time to assemble them.
- Model for students pushing two body parts together. Show them how easily the two pieces fall apart.
- Using a total participation technique, invite responses from the group:

  "What can we do to help the different body shapes stay together firmly?" (Responses will vary.)

- Display the toothpicks and the skewers. Tell them that these two tools will help to build their sculptures.
- Show students how the toothpicks can be used to attach smaller body parts by:
  - Pushing the toothpick approximately halfway into the end of one body part.
  - Push the other end of the toothpick (and body part) to attach it to the appropriate place on another body part.
  - Massage the clay around the connection point to make it more sturdy and eliminate the connecting line.
- Using a total participation technique, invite responses from the group:

  "Why do you think we may use these skewers when attaching body parts?" (The skewer will help keep longer body parts, such as long necks or long tails, more stable.)

- Remind students that in the Create Lab, they will:
  1. Look closely at a picture of a dinosaur.
  2. Identify the shapes that make up the dinosaur's body.
  3. Use clay and their hands to make the individual body parts.
  4. Use toothpicks and skewers to join and stabilize the body parts.
- Assign each Lab group a workstation and invite them to get started.
- Circulate and support students as they work. Encourage them in the process of sculpting, respectfully sharing materials with their Lab group, and showing perseverance when they are having difficulty.

- At the conclusion of In the Lab time, signal students to clean up their Lab space.
- Tell students that they will not save their work from today but will start fresh the next time they visit the Create Lab. Therefore, they should:
  1. Put all the clay back into one big lump.
  2. Use their water to wet the clay.
  3. Place the clay in an airtight container or plastic baggie.
- Give Lab groups or individual students specific, positive feedback for responsible and respectful cleanup behaviors. (Example: "This group is showing great responsibility with their materials by wetting the clay a bit and then carefully sealing it in a container.")
- As Lab groups are ready, transition them back to the whole group area for Reflecting on Learning.

Launch 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.

Teaching Notes

Purpose:

- In the Explore Lab, the Launch stage introduces students to the purpose, expectations, and materials of the Explore Lab.

Habits of character:

- Because the Explore Lab makes use of a variety of materials, respect will be central to students' success in multiple ways. First, students must learn and exhibit respect for materials as learning tools. Beginning with this "open exploration" time works toward this goal, as it gives students time to use the materials more like toys before creating more prescriptive, guided experiences. Additionally, students must learn and exhibit respect for one another by sharing materials and roles equitably.

Logistics:

- Teachers and students begin by examining the various materials that will be available in the Explore Lab and by setting expectations for the respectful care of those materials.
- Teachers set a purpose for the Explore Lab so students have a clear idea of how they should be spending their time.

- The Launch stage will differ based on the number of "dig sites" available:
  - If there are multiple dig sites available, students may get started in their simulated digs during the Launch stage.
  - If dig sites are more limited, students will begin work on their simulated digs in the Practice stage.

In advance:

- The Explore Lab requires a significant amount of preparation, as teachers are asked to create a simulated dig using a variety of materials. Once this preparation is complete, however, students will be afforded a significant level of independence in exploring the tools of paleontologist.
- To create the simulated dig:
  - Collect a variety of objects to serve as the "hidden treasures" that students will discover. These may include but are not limited to: pieces of a 3-D puzzle (ideally of a dinosaur) that can be constructed once the dig is complete, shells, colorful rocks, cleaned chicken bones or artificial animal bones, plastic dinosaurs, etc.
  - Obtain one or more large, shallow plastic containers (common 40–60 quart, "under bed" storage containers work very well).
  - In a large plastic container, prepare the plaster mixture by mixing eight parts sand, one part plaster, and one part water. Fill the container about halfway. (The ratios of this mixture can be adjusted to achieve various textures and ease of digging. A higher ratio of sand creates a more "crumbly" rock, for example, making the objects more easily accessible.)
  - Set the objects throughout the mixture, dispersing them in a variety of locations and at a variety of depths.
  - Pour another layer of plaster mixture on top of the objects. Be sure all of the objects are completely covered.
  - Set the container to dry for several hours in a dry, warm location.
  - Once dry, cover the top with a thin layer of sand to create the effect of multiple layers of earth.
- Consider:
  - Creating multiple "dig sites." Each Lab group may have its own, or two Lab groups might share. Fewer students sharing a dig site will result in a greater number of objects discovered by each student and a greater amount of time the dig site can be used.
  - Using marker or string to divide each dig site into six equal sections. This will help students more effectively share the space as well as record their findings in their Labs notebooks.
  - Covering the table or area of the floor on which the dig sites will be placed with a large piece of plastic or butcher block paper for easier cleanup.

Materials

- ☑ Simulated dig sites (one for teacher modeling and 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 (one for teacher modeling and one per student)

Experience

- Welcome students to the Explore Lab!
- Arrange students in a circle or other configuration in which all are able to see.
- Display a simulated dig site.
- Tell students that this dig site is going to help them explore the world in the same way paleontologists do.
- Using a total participation technique, invite responses from the group:

  "How do paleontologists explore the world?" (Responses will vary, but may include: They dig. They find fossils. They put fossils together.)
- Confirm for students the idea that paleontologists learn about the world, and about the history of the world, by digging into the earth, discovering objects, and studying the objects they find.
- Tell students that buried within this dig site are many hidden "treasures." It is their job to uncover these treasures in the same way a paleontologist uncovers treasures of the past.
- Show students the various layers of the dig site by brushing aside some of the sand. Consider inviting some or all students (depending on time) to feel the layers of the dig site.
- Using a total participation technique, invite responses from the group:

  "What do you notice about the dig site?" (Responses will vary, but may include: It has sand on top. It is hard underneath the sand. It feels like rock.)

  "How do you think we can get to the hidden treasures within the rock?" (We will need to break the rock. We will need to use tools.)
- Confirm the idea that students will need to break into the rock using a variety of tools, just like paleontologists do, to find the hidden treasures within.
- Tell students it is important, however, that they are very, very careful and gentle as they work, because they do not want to accidentally hurt the treasures as they are breaking up the rock.
- Display the variety of tools they will be using in their simulated dig (chisel, small hammer, paintbrush, toothbrush, tweezers, and magnifying glass).
- Pass these tools around the circle, reminding students to:
  1. Look closely at the tool.
  2. Feel the tool.
  3. Think about how the tool might be helpful.
  4. Pass the tool on to the next person so everyone has the opportunity to see, feel, and think about it.
- Once students have had an opportunity to see, feel, and think about the tools they will be using, ask:

  "How might these different tools be helpful as we dig for our treasures?" (The hammer and the chisel will be helpful for breaking up the rock. The paintbrushes will be helpful

in moving sand or small rocks out of the way. The toothbrush will be helpful to clean rock out of the way or clean objects once they are found. The tweezers will be helpful to pull objects out. The magnifying glass will be helpful to look at objects closely.)

- Confirm for students that each tool is helpful in its own special way. Tell students that one important expectation of the Explore Lab is that students are using the tools, and not their hands, to uncover the treasures. This is important because some of the objects might be fragile, and the tools help us to work more carefully.
- Tell students that another important tool of a paleontologist is a notebook.
- Display the Labs notebooks and ask:

  "Why do you think a notebook is an important tool for paleontologists?" (They need to write down all the things they find.)

- Tell students that, just like real scientists, they will record all of their findings in their Labs notebook.
- Display the Dig Site recording page of the Labs notebook.
- Show students how this page is divided into sections, just like the dig site. Tell students that that is so they can record both what they found and where they found it.
- Tell students that whenever a member of their Lab group excavates, or finds, an object, all members of the Lab group should record that object in their notebook, with a picture (a sketch inside of the box) and words (a note on the lines outside of the box).
- Model an example of a sketch and note for all students to see.
- During the time remaining, options vary based on available materials and teacher discretion:
  - If each Lab group has its own dig site, students may get started and spend a few minutes exploring the tools of the paleontologist.
  - If dig sites are limited or teachers want to provide a more guided experience, students may take turns trying to use the chisel and hammer on the top layer of plaster, feeling what it is like to break the surface.
- As Lab groups are ready, transition them back to the whole group area for Reflecting on Learning.

Launch 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 reenact paleontology stories using my imagination and materials of the Imagine Lab.
- I can collaborate with others to reenact paleontology stories.

Teaching Notes

Purpose:

- The Imagine Lab continues to provide students the time, space, and materials to create a world of imaginative play both independently and in collaboration with their peers. This opportunity is vital to the development of primary learners in multiple ways: negotiating with others in creating a shared set of expectations, fulfilling their own role within that framework, building language in an engaging and authentic way, and expressing their learning through multiple mediums.
- In this module, the Imagine Lab becomes a more guided experience, as students retell familiar stories (from the module lessons) through dramatization and reenactment. This gives students an additional entry point toward mastery of Reading Literature standards being taught in other parts of the day.
- It is important to note that guided play, as it is being done in the Imagine Lab, is most successful, especially in terms of student engagement and language development, when students are given greater ownership of the experience. Although the teacher is central in establishing the Lab's purpose and expectations and then monitoring student progress, students should be given autonomy in designing and regulating the actual experience.

Habits of character:

- As students are expected to work together in reenacting stories, collaboration is central to the success of the Imagine Lab. It is important that students are first taught, and then reminded of, specific strategies and rationale for planning and executing a fair, shared experience.

Logistics:

- During the Launch stage of the Imagine Lab, the teacher and students review a familiar story from the module lessons. As a whole group, they discuss ways in which the various Imagine Lab materials might be used to reenact, or retell, that story.
- After the purpose and expectations of the Imagine Lab are established, students travel with their Lab groups to their workstation to explore the materials and how they might use them to reenact, or retell, the story they just reviewed.

In advance:

- Consider forming new Lab groups based on students' progress, strengths, and needs as exhibited in the Module 1 Labs.
- Prepare workstations, each with a different type of imaginative play material that will be housed in the Imagine Lab (other possible materials might include modeling clay or felt or magnet boards):
  - Workstation 1: building blocks (one set of wood or linking blocks)
  - Workstation 2: white board (one large to share or several small) and dry-erase markers (one per student)
  - Workstation 3: hand or finger puppets (several to share)
  - Workstation 4: dress-up materials (several to share)
- Consider labeling each workstation with a name or number to assist students in transitioning from one to the next.

Materials

- ☑ Workstation materials (various; used by students to create a world of play for themselves and others; see Teaching Notes)

Experience

- Welcome students to the Imagine Lab!
- Using a total participation technique, invite responses from the group:

  "Of all the things you have done in the Imagine Lab, what has been your favorite so far?" (Responses will vary, but may include: I loved building with the blocks. I loved dressing up. My favorite is the puppets!)

- Give students specific, positive feedback about the time they have spent in the Imagine Lab already this year. (Example: "It has been wonderful to see how you bring all the beautiful ideas you have in your imagination to life in the Imagine Lab. It is also so wonderful how you collaborate with one another in sharing your ideas and working together to create a world of play.")
- Tell them that they will continue to use all those great Imagine Lab materials, including their imaginations.
- Say: "I think that, because you have been so successful in the Imagine Lab, it is time for a new challenge! Do you agree? I have loved the books we have been reading about paleontology and dinosaurs, like Stone Girl, Bone Girl and Dinosaur Detectives. They are such great stories with such beautiful illustrations. Don't you wish you could go inside those books, meet those characters, and go to those places?"
- Invite students to turn and talk with an elbow partner:

  "If you could go inside either of those books and meet the characters, which one would you choose? Why?" (Responses will vary.)

- Select students to share out.
- Tell students that although they cannot actually go inside the books, they can do something just as good: they can bring those places, those events, and those characters into their own classroom!
- Share with students that they will use all the great materials in the Imagine Lab, and their wonderful imaginations, to work with their Lab groups to bring those stories to life, by drawing them, by building the sets, by dressing up, and by acting them out.
- Choose a familiar story that students have read or heard during the module lessons.
- Invite students to turn and talk with an elbow partner:

  "What characters are in that book?" (Responses will vary based on the text selected.)

  "What important events, or actions, happen in the book, in order from the beginning to the end that you would need to include if you acted out this story? (Responses will vary, based on the text selected.)

- Support students in formulating an accurate list of characters and events in the story. (Students may need additional support to sequence the story or choose the most relevant details. Students will receive direct instruction on retelling stories in the module lessons. This should simply serve as an introductory activity.)
- 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: "I appreciate how this group is working together to clean up their workstation.")
- As Lab groups are ready, transition them back to the whole group area for Reflecting on Learning.

Launch 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

Purpose:

- In the Research Lab, the Launch stage serves two purposes:
  - Students are introduced to the purpose of the Research Lab.
  - Students are given time to explore the various materials they will use in the Research Lab and begin to formulate ideas about their individual research interests and how they might use these materials in the future.

Habits of character:

- The Research Lab requires both responsibility and collaboration on the part of students. Students are expected to remain focused on the research materials, recording facts and questions as they read. They are also encouraged to collaborate with their peers, sharing interesting things they learned, and to support one another in solving tricky words or understanding new, complex ideas.

Logistics:

- During the Launch stage, the teacher and students set a purpose for the Research Lab, namely for students to begin with an open exploration of dinosaur-related texts and materials, with the focus question of "How did dinosaurs survive in their environment?" In later stages, students choose a more focused area in which they would like to build expertise.
- Students then visit multiple workstations, each with its own dinosaur-related focus, to become acquainted with the research materials available on each topic and begin to formulate their own, individual interest for future research and reading.

In advance:

- Prepare:
  - One workstation for each of the dinosaur-related topics, by placing a variety of research materials (e.g., books, photographs, videos) at the workstation. This helps all students access new information and answer questions about which they are curious:
- Workstation 1: Carnivores
- Workstation 2: Herbivores
- Workstation 3: Swimmers
- Workstation 4: Fliers
- Consider labeling each workstation with a name or number to assist students in transitioning from one to the next.

Materials

- ☑ Labs notebook (one for teacher modeling and one per student)
- ☑ Book or photograph (one for teacher modeling)
- ☑ Baskets of research materials (one per workstation)

Experience

- Welcome students to the Research Lab!
- Tell students that you have overheard them notice interesting facts about dinosaurs, make connections between different texts they have encountered, and ask many insightful questions about which they are curious. They are already doing the important work of being a researcher!
- Remind students that the Research Lab is a space for them to discover new and exciting things about different kinds of dinosaurs and the ways in which those dinosaurs survived in a variety of environments. It is a place to explore. It is a place to find answers to all of their important questions.
- Invite students to turn and talk to an elbow partner:

  "What is something you are wondering about dinosaurs?" (Responses will vary, but may include: What was the biggest dinosaur? How many dinosaurs were there? How did dinosaurs become extinct?)
- Circulate and listen in to student conversations, choosing several examples of questions to share with the whole group.
- Give students specific, positive feedback about the questions they are asking. (Example: "Wow! These are such great questions, now you have me curious to find out more about dinosaurs and the way they lived!")
- Tell students that today and over the next several days in the Research Lab, they will use a variety of materials (e.g., books, pictures, videos) to learn more about dinosaurs and, just as importantly, to continue to ask questions based on those research materials.

- Say: "As you work in the Research Lab and look at many different research materials, I want you to keep one very important question in mind: 'How did dinosaurs live in their environment?'"
- Using a total participation technique, invite responses from the group:

  "What are different things all animals do to live?" (Guide students to understand that all animals must eat, drink, avoid dangers like predators, find shelter, and produce young.)
- Say: "Just like all animals, dinosaurs had to do many things to live in their environment. They had to eat, drink, find shelter, avoid predators, and produce young. As you explore the research materials, I want you to notice when you find information about how different dinosaurs did these things."
- Display the Dinosaur Research Questions page of the Labs notebook.
- Review the questions with the students.
- Tell students that these questions are there to guide them in their exploration of the research materials. If they encounter information that relates to one of these questions, they should make a note of it in their Labs notebook.
- Point out the physical setup of the classroom space for today's Lab time. Each workstation has a unique focus: carnivores, herbivores, swimmers, and fliers.
- Lab groups will have time at each station to explore the research material. While at each station, students should use their Labs notebook to record interesting information they discover as well as questions they have based on that material.
- Display the Labs notebook and open to page 1. Invite students to do the same.
- Tell students that each day they visit the Research Lab, they should use a new page of their Labs notebook. Today they will record on the first page of the research section, next time on the second page, etc.
- Display a book or photograph. Tell students that this is an example of a material they may encounter in the Research Lab. Read through the text or give students time to study the photograph.
- Using a total participation technique, invite responses from the group:

  "What is something that this research material helps you to learn about dinosaurs?" (Responses will vary, based on the material being studied, but may include: I see that some dinosaurs laid eggs. I see a dinosaur eating leaves.)
- While still displaying the Labs notebook, model how they could record this in the "I notice ..." section of the page.
- Using a total participation technique, invite responses from the group:

  "What is something that this research material makes you wonder about dinosaurs?" (Responses will vary, based on the material being studied.)
- While still displaying the Labs notebook, model how to record this in the "I wonder ..." section of the page.
- Assign each Lab group to one of the workstations and invite them to quickly and quietly move to their space.
- Tell students that today they will have 9 minutes of exploration time at each workstation.

- Invite them to begin exploring and researching. As students work, circulate and support them, specifically in the area of recording their notices and wonders.
- After 9 minutes, give the cleanup signal. Take a quick survey of each workstation to be sure students have carefully stored all materials and are ready to rotate.
- Remind students which workstation they will visit next. Invite them to rotate.
- Repeat this process until students have visited each of the four workstations.
- 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: "I love to see students kindly reminding each other how to put materials back where they belong.")
- As Lab groups are ready, transition them back to the whole group area for Reflecting on Learning.