Grade 2: Module 3: Labs

Teacher Guide

Grade 2: Module 3: Labs Overview

Purpose of this document

This document provides a big-picture overview of *Labs* for Grade 2, Module 3. Specifically, the tables on the following pages outline the guiding questions and targets for each Lab, describe how that Lab connects to students' learning in the module lessons, and explain how each Lab evolves through the four stages (from Launch through Choice and Challenge). A Suggested Day-by-Day Schedule is also included to show how the Labs can unfold over the course of the module.

A brief reminder about the purpose of Labs within EL Education's K–2 Language Arts Curriculum

Labs are an important feature of the K–2 curriculum because they support and extend student learning from the module lessons. They are designed to help teachers ensure that *all* of their students get the time to build content knowledge, become immersed in oral language, play and explore, and practice skills and habits of character they need—both to live joyfully and to be fully successful and proficient.

Labs are one hour long and support the module lessons. These two hours of content-based literacy instruction are complementary, working together to accelerate the achievement of all students.

A few considerations when planning Labs for any given module

- You don't necessarily have to run all four Labs. Ask yourself:
  - —Is the work in a particular Lab critical scaffolding for the module performance task (in terms of either a literacy standard such as narrative writing or developing skills such as scientific drawing)? If so, don't omit this Lab!
  - —Would students be more successful with more limited choices?
  - —Are students already doing something similar in a STEM or art class?
  - —Can you access or modify all of the required materials? (See the Labs Supplemental Materials List in the front matter.)
- You can modify Labs to incorporate more writing. Ask yourself:
  - —Would students benefit from formally writing up their learning and notes from the Research Lab?
  - —Would students benefit from writing more narratives in the Imagine Lab?
  - —Would students benefit from more formal written reflection, particularly during the Choice and Challenge stage?

- You can flex your weekly or daily schedule based on student needs, accessibility of materials, and time available. See the Day-by-Day Schedule at the end of this document. Ask yourself:
  - —Do students need more or less time in a given Lab based on evidence I have gathered in previous Labs or in the module lessons?

	Launch Stage	Practice Stage	Extend Stage	Choice and Challenge Stage
CREATE LAB	**Learning Target:**	**Learning Target:**	**Learning Target:**	**Learning Targets:**
Guiding Question: How can I create a scientific drawing of a plant?	I can create an accurate and detailed drawing of a leaf.	I can create an accurate and detailed drawing of a leaf.	I can create an accurate and detailed drawing of a flower.	I can create an accurate and detailed scientific drawing of a plant. I can label my drawing to show understanding of each part's function.
Summary of Lab: In the Create Lab, students learn to create accurate and detailed scientific drawings. Through a carefully scaffolded sequence, students observe and draw leaves, flowers, and eventually a complete plant with annotated labels.	**Purpose of Launch Stage:** • Students closely observe the subject (in this case, leaves) of a scientific drawing in order to identify its details. • Students practice drawing leaves with accuracy, especially in regard to shape, veins, edges, and colors.	**New in This Stage of the Lab:** • Students have a greater degree of independence, both in their work in the Lab and in their movement during Lab time. • Students continue to create a variety of leaf drawings. The choice of the leaf and the ability to make multiple attempts, or revise their attempts, will allow for further practice.	**New in This Stage of the Lab:** • Students apply their scientific drawing skills to draw flowers.	**New in This Stage of the Lab:** • Students study a model of a scientific drawing of a plant in order to visualize the product they have been working toward, as well as to build criteria of a high-quality scientific drawing. • Instead of focusing on individual plant parts, students draw a more complete plant: a flower, a stem, and leaves. • Students learn how scientific drawings are labeled, and then label their plant to show the plant's parts and the function of those parts.
Connection to Module Lessons: Students use their knowledge of plant parts, as well as their developing scientific drawing skills, as they approach the work in the Create Lab.				

	Launch Stage	Practice Stage	Extend Stage	Choice and Challenge Stage
ENGINEER LAB	**Learning Targets:**	**Learning Targets:**	**Learning Targets:**	**Learning Targets:**
Guiding Question: How can I use my knowledge about seeds and pollination to design tools to help in these processes?	I can explore materials and methods for dispersing seeds. I can design a tool to help in the process of seed dispersal.	I can explore materials and methods for dispersing seeds. I can design a tool to help in the process of seed dispersal.	I can explore materials and methods to help the process of pollination. I can design a tool that helps the process of pollination.	I can create a final design of a pollinator tool. I can build a prototype of my pollinator tool.
Summary of Lab: In the Engineer Lab, students follow a design process to create tools to mimic the function of seed dispersal and pollination. This task is aligned to the following Next Generation Science Standard 2LS-2. *Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.*	**Purpose of Launch Stage:** • Introduces students to the purpose and materials they will use in the Lab. • Helps students build background knowledge about the idea of seed dispersal. • Introduces students to the idea of developing a simple tool that mimics the function of an animal in dispersing seeds.	**New in This Stage of the Lab:** • Students have a greater degree of independence, both in their work in the Lab and in their movement during Lab time.	**New in This Stage of the Lab:** • Students begin to engineer a tool to aid in pollination.	**New in This Stage of the Lab:** • Students bring their design to life by building a prototype of their pollinator tool. • Students test their prototype, making necessary changes to make it more effective.
Connection to Module Lessons: Students read about and experiment with different methods of seed dispersal, providing knowledge to make strategic choices as they design a model.				

	Launch Stage	Practice Stage	Extend Stage	Choice and Challenge Stage
EXPLORE LAB	**Learning Targets:**	**Learning Targets:**	**Learning Targets:**	
Guiding Question: How can I use scientific inquiry to discover the needs of plants?	I can design and conduct an investigation to discover the needs of plants. I can make observations about plants.	I can conduct an investigation to discover the needs of plants. I can make observations about plants.	I can conduct an investigation to discover the needs of plants. I can make observations about plants. I can make conclusions about plant needs based on the investigation.	The Explore Lab does not go to the Choice and Challenge stage in this module.
Summary of Lab: In the Explore Lab, students work with the teacher and other students to plan and execute an investigation about plant growth and survival. This task addresses Next Generation Science Standard 2LS-1.: *Plan and conduct an investigation to determine if plants need sunlight and water to grow.*	**Purpose of Launch Stage:** • Students are introduced to the purpose and materials of the Explore Lab. • Students work together to design and launch an experiment to help them answer the question "What do plants need to survive and grow?"	**New in This Stage of the Lab:** • Students move independently (as a Lab group) to the four plants involved in this investigation. They work as a group to record their observations and discuss their conclusions.	**New in This Stage of the Lab:** Students begin to draw conclusions based on their observations.	
Connection to Module Lessons: Students read and discuss the needs of plants, providing background knowledge to inform the design of their plant experiment.				

	Launch Stage	Practice Stage	Extend Stage	Choice and Challenge Stage
IMAGINE LAB	**Learning Targets:**	**Learning Targets:**	**Learning Targets:**	**Learning Targets:**
Guiding Question: How can I use poetry and movement to learn more about seeds and pollination?	I can build knowledge about seeds and pollination through poetry. I can improve my reading fluency by reading poetry aloud. I can create movement to match poetry about seeds and pollination.	I can build knowledge about seeds and pollination through poetry. I can improve my reading fluency by reading poetry aloud. I can create movement to match poetry about seeds and pollination.	I can build knowledge about seeds and pollination through poetry. I can improve my reading fluency by reading poetry aloud. I can create movement to match poetry about seeds and pollination.	I can build knowledge about seeds and pollination through poetry. I can improve my reading fluency by reading poetry aloud. I can create movement to match poetry about seeds and pollination.
Summary of Lab: In the Imagine Lab, students learn more about seeds and pollination through a study of poetry. Specifically, students practice reading poetry fluently and use movement to represent what they learn about seeds, seed dispersal, pollinators, and pollination through the poems.	**Purpose of Launch Stage:** • Similar to Modules 1–2, the Imagine Lab continues to provide students the time, space, and materials to create a world of imaginative play. Recall that guided play is most successful when students have greater ownership over the experience after the teacher has established the purpose and expectations.	**New in This Stage of the Lab:** • During the Practice stage, students go through this process with a greater amount of independence. • Students may also choose to engage in other forms of imaginative, collaborative play. Given the more structured nature of the other Lab spaces, the Imagine Lab is purposefully left more open to student choice.	**New in This Stage of the Lab:** • During the Extend stage, students are invited to think of other imaginative ways, using other imaginative materials as well as movement, to represent their seed and pollination poetry.	**New in This Stage of the Lab:** • During the Choice and Challenge stage, the Imagine Lab challenges students to create a series of movements for a poem about seed dispersal or animal pollination that they could perform for an audience. • The Imagine Lab serves as a space of greater freedom and flexibility, which is especially important given the constraints and demands of the Create and Engineer Labs during the Choice and Challenge stage.
Connection to Module Lessons: Students read various informational texts about seed dispersal and pollination. A working knowledge of what happens in these processes supports students as they engage in poetic expression of them.				

Suggested Day-by-Day Schedule for Grade 2, Module 3

Please note that this is a *recommended* schedule for implementing Labs in Module 3. Teachers may modify this schedule based on student needs, accessibility of materials, and time available. (For example, teachers may decide to launch the Labs in a different order, open only two Labs each day of the Practice stage, or add time to a particular stage if students need more time to meet the targets.) As adjustments are made, the key is to keep the overall purpose of Labs in mind.

Labs: Day-by-Day Schedule

Labs comprise five components: Create Lab, Engineer Lab, Explore Lab, Imagine Lab, and Research Lab. However, to help scaffold student experience and support teachers in materials management, a maximum of four Labs are running during any given time.

Day	Rotation	Create Lab	Engineer Lab	Explore Lab	Imagine Lab
Day 1 Launch		All Students			
Day 2 Launch			All Students		
Day 3 Launch				All Students	
Day 4 Launch					All Students
Day 5 Practice	In the Lab, Part I	Lab Group 1	Lab Group 2	Lab Group 3	Lab Group 4
	In the Lab, Part II	Lab Group 4	Lab Group 3	Lab Group 2	Lab Group 1
Day 6 Practice	In the Lab, Part I	Lab Group 2	Lab Group 1	Lab Group 4	Lab Group 3
	In the Lab, Part II	Lab Group 3	Lab Group 4	Lab Group 1	Lab Group 2
Day 7 Practice	In the Lab, Part I	Lab Group 1	Lab Group 2	Lab Group 3	Lab Group 4
	In the Lab, Part II	Lab Group 4	Lab Group 3	Lab Group 2	Lab Group 1
Day 8 Practice	In the Lab, Part I	Lab Group 2	Lab Group 1	Lab Group 4	Lab Group 3
	In the Lab, Part II	Lab Group 3	Lab Group 4	Lab Group 1	Lab Group 2
Day 9 Practice	In the Lab, Part I	Lab Group 1	Lab Group 2	Lab Group 3	Lab Group 4
	In the Lab, Part II	Lab Group 4	Lab Group 3	Lab Group 2	Lab Group 1
Day 10 Practice	In the Lab, Part I	Lab Group 2	Lab Group 1	Lab Group 4	Lab Group 3
	In the Lab, Part II	Lab Group 3	Lab Group 4	Lab Group 1	Lab Group 2
Day 11 Extend Transition		All Students			All Students
Day 12 Extend Transition			All Students	All Students	

Day	Rotation	Create Lab	Engineer Lab	Explore Lab	Imagine Lab
Day 13 Extend	In the Lab, Part I	Lab Group 1	Lab Group 2	Lab Group 3	Lab Group 4
	In the Lab, Part II	Lab Group 4	Lab Group 3	Lab Group 2	Lab Group 1
Day 14 Extend	In the Lab, Part I	Lab Group 2	Lab Group 1	Lab Group 4	Lab Group 3
	In the Lab, Part II	Lab Group 3	Lab Group 4	Lab Group 1	Lab Group 2
Day 15 Extend	In the Lab, Part I	Lab Group 1	Lab Group 2	Lab Group 3	Lab Group 4
	In the Lab, Part II	Lab Group 4	Lab Group 3	Lab Group 2	Lab Group 1
Day 16 Extend	In the Lab, Part I	Lab Group 2	Lab Group 1	Lab Group 4	Lab Group 3
	In the Lab, Part II	Lab Group 3	Lab Group 4	Lab Group 1	Lab Group 2
Day 17 Extend	In the Lab, Part I	Lab Group 1	Lab Group 2	Lab Group 3	Lab Group 4
	In the Lab, Part II	Lab Group 4	Lab Group 3	Lab Group 2	Lab Group 1
Day 18 Extend	In the Lab, Part I	Lab Group 2	Lab Group 1	Lab Group 4	Lab Group 3
	In the Lab, Part II	Lab Group 3	Lab Group 4	Lab Group 1	Lab Group 2
Day 19 Extend		Lab Group 1	Lab Group 2	Lab Group 3	Lab Group 4
		Lab Group 4	Lab Group 3	Lab Group 2	Lab Group 1
Day 20 Extend		Lab Group 2	Lab Group 1	Lab Group 4	Lab Group 3
		Lab Group 3	Lab Group 4	Lab Group 1	Lab Group 2
Day 21 Extend		Lab Group 1	Lab Group 2	Lab Group 3	Lab Group 4
		Lab Group 4	Lab Group 3	Lab Group 2	Lab Group 1
Day 22 Extend		Lab Group 2	Lab Group 1	Lab Group 4	Lab Group 3
		Lab Group 3	Lab Group 4	Lab Group 1	Lab Group 2
Day 23 Choice/Challenge Transition	In the Lab, Part I	Create Lab Students		Engineer Lab Students	
	In the Lab, Part II		Engineer Lab Students	Create Lab Students	
Day 24 Choice/Challenge	In the Lab, Part I	Create Lab Students		Engineer Lab Students	
	In the Lab, Part II		Engineer Lab Students	Create Lab Students	

Day	Rotation	Create Lab	Engineer Lab	Explore Lab	Imagine Lab
Day 25 Choice/Challenge	In the Lab, Part I	Create Lab Students		Engineer Lab Students	
	In the Lab, Part II		Engineer Lab Students	Create Lab Students	
Day 26 Choice/Challenge					
Day 27 Choice/Challenge Feedback Day	In the Lab, Part I	Create Lab Students		Engineer Lab Students	
	In the Lab, Part II		Engineer Lab Students	Create Lab Students	
Day 28 Choice/Challenge Addressing Feedback	In the Lab, Part I	Create Lab Students		Engineer Lab Students	
	In the Lab, Part II		Engineer Lab Students	Create Lab Students	
Day 29 Choice/Challenge Prepare to Share	In the Lab, Part I	Create Lab Students		Engineer Lab Students	
	In the Lab, Part II		Engineer Lab Students	Create Lab Students	
Day 30 Choice/Challenge Celebrate	All Students				