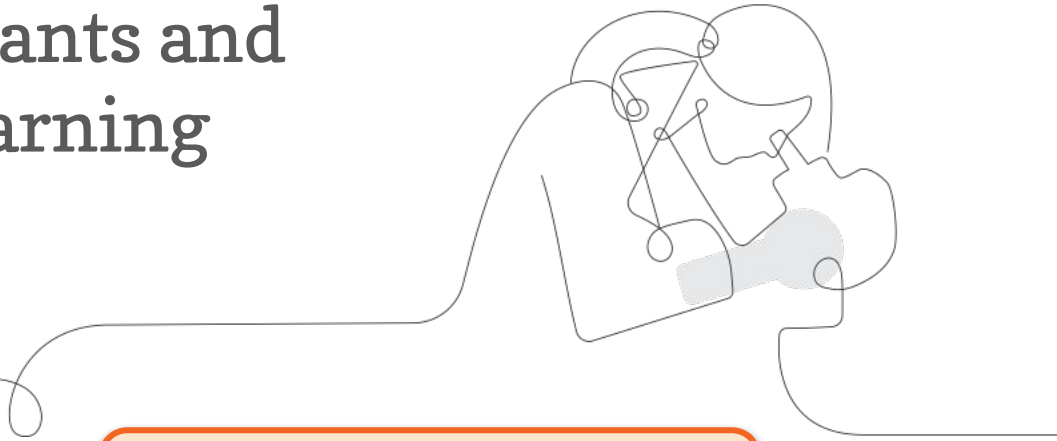
Do Now: *In the chat, share one new skill you and/or your students have learned this year during remote learning.*

Amplify Science

Unpacking Needs of Plants and Animals for Hybrid Learning

Grade K, Unit 1



LAUSD

4/x/2021

Presented by Your Name

In a new tab, please log in to your Amplify Science account through Schoology.

Amplify.

Norms: Establishing a culture of learners

Please keep your camera on, if possible.

Take some time to orient yourself to the platform

- *"Where's the chat box? What are these squares at the top of my screen?, where's the mute button?"*

Mute your microphone to reduce background noise unless sharing with the group

The chat box is available for posting questions or responses to during the training

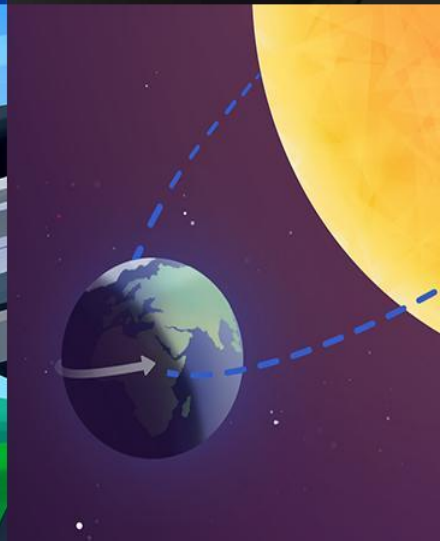
Make sure you have a note-catcher present

Engage at your comfort level - chat, ask questions, discuss, share!

Objectives

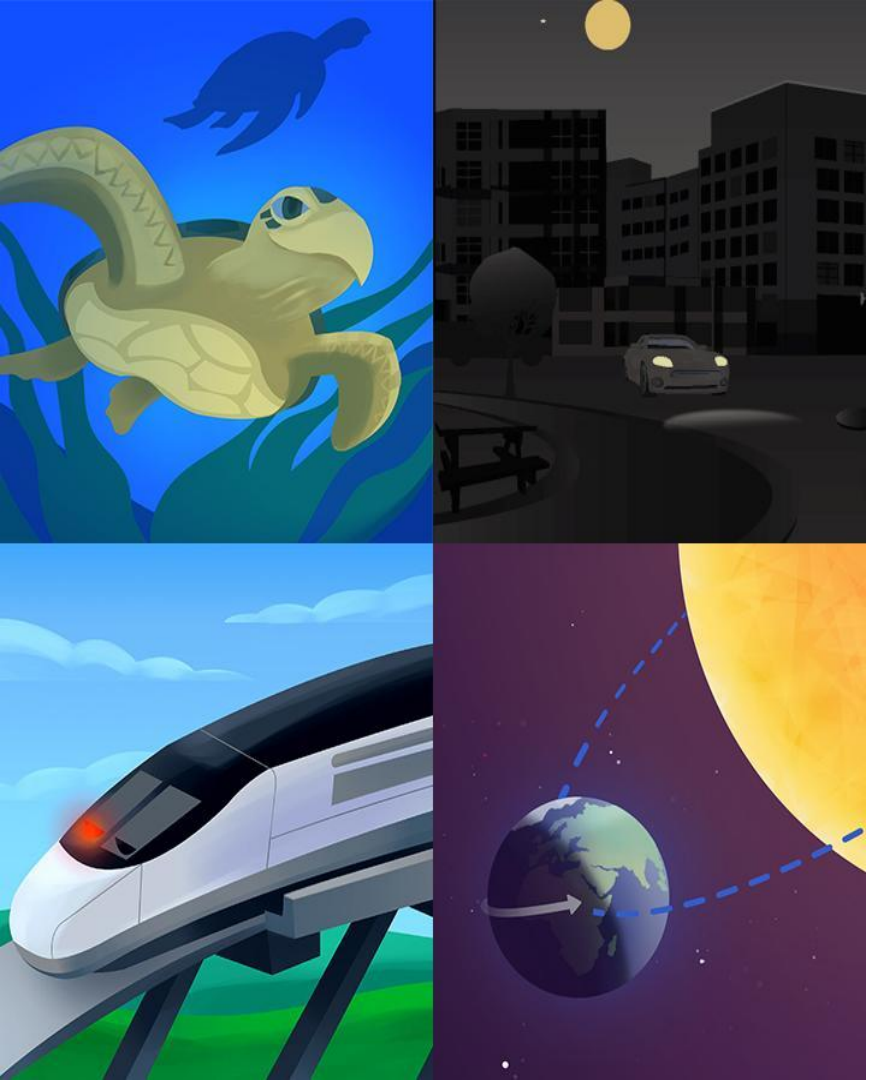
By the end of this workshop, you will be able to…

- Describe how students' conceptual understanding builds through the unit
- Explain how students figure out the phenomenon throughout the unit
- Make a plan for implementing Amplify Science within your class schedule and instructional format



Plan for the day

- **Framing the day**
  - Remote learning reflection
  - Revisiting the Amplify Approach
- **Phenomenon at the unit level**
  - Navigation refresher (standard curriculum)
  - Storyline and science concepts
  - Unit internalization work time
- **Planning to teach**
  - Navigation refresher (@Home resources)
  - Lesson walkthrough
  - Collaborative planning time
- **Closing**
  - Reflection & survey



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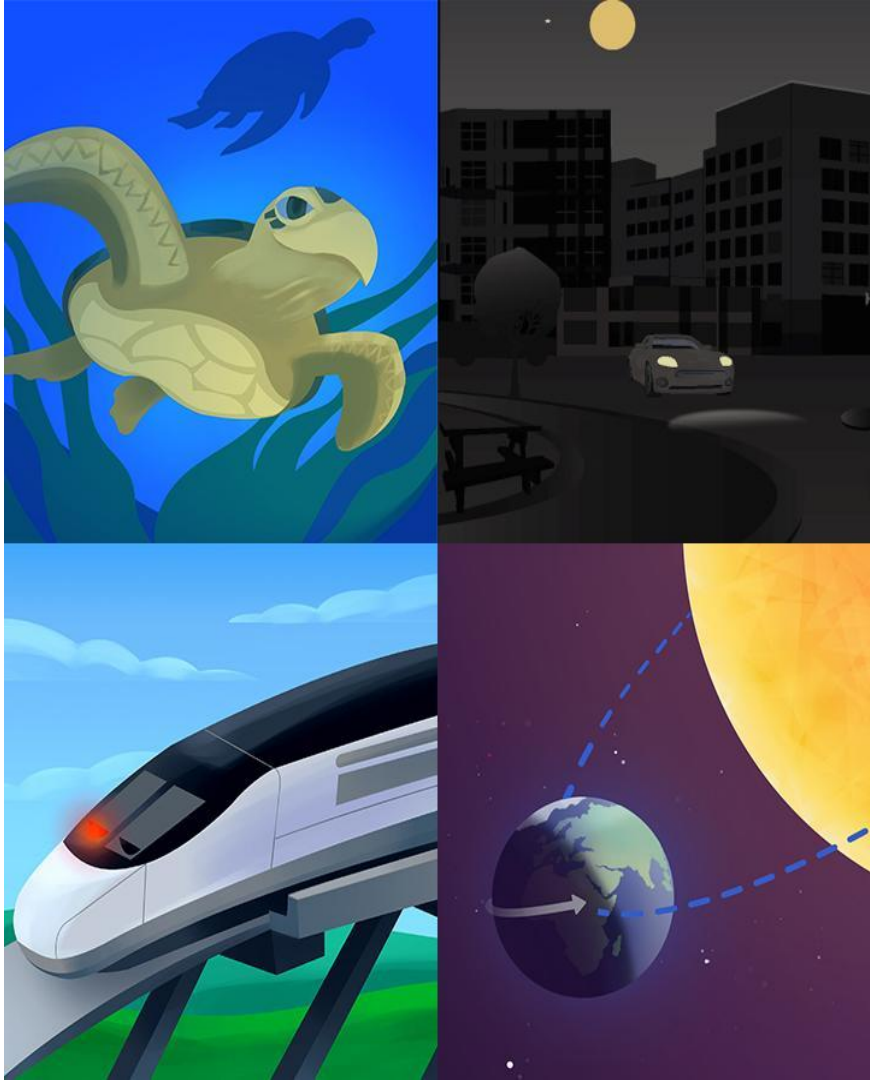
Opening reflection

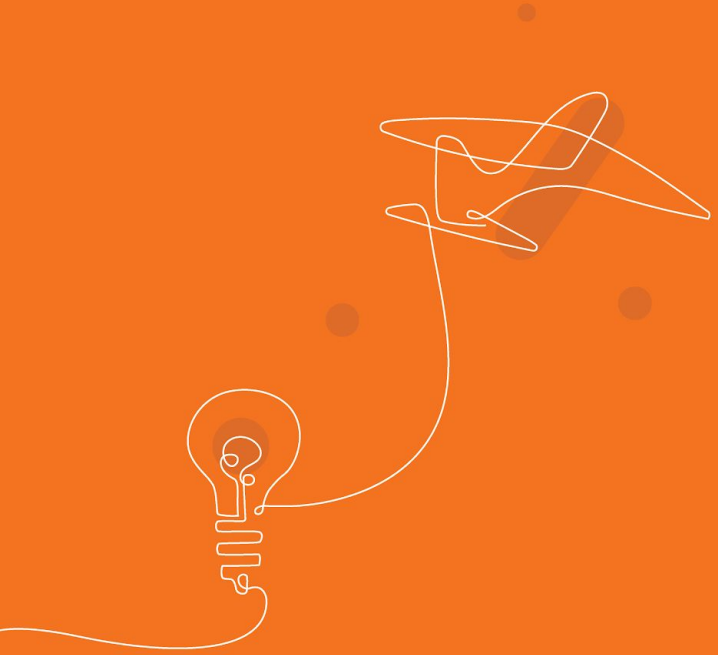
Jamboard

Having taught Amplify Science in a remote setting, what **skills and/or practices** have you developed with your students that you can **leverage as your shift to hybrid learning?**



Having taught Amplify Science in a remote setting, what skills and/or practices have you developed with your students that you can leverage as your shift to hybrid learning?

Students are able to use technology more independently.



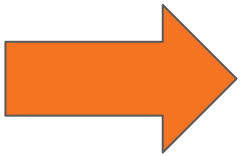
Key aspects of the Amplify Science instructional approach

Phenomenon-based instruction

A shift in science instruction

from learning about

(like a student)



to figuring out

(like a scientist)

Scientific phenomenon: An observable event in the natural world you can use science ideas to explain or predict

Coherent storylines

Chapter 1 Question

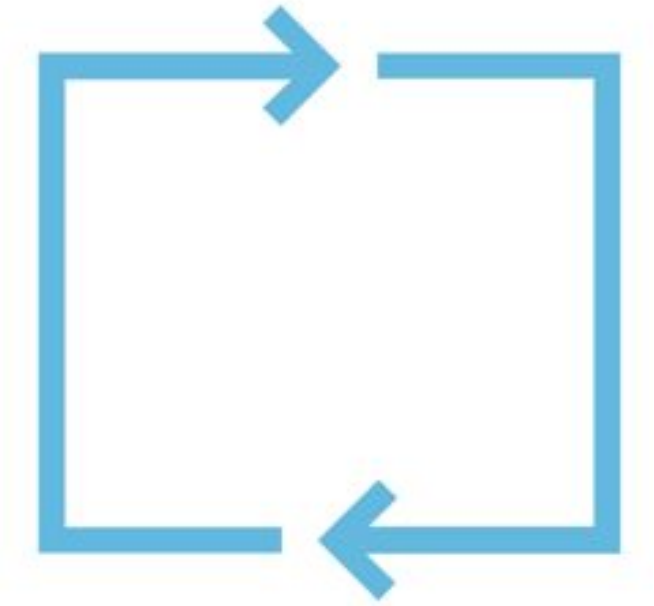
Why are there no monarch caterpillars since the Field was made into the Garden?

Chapter 2 Question

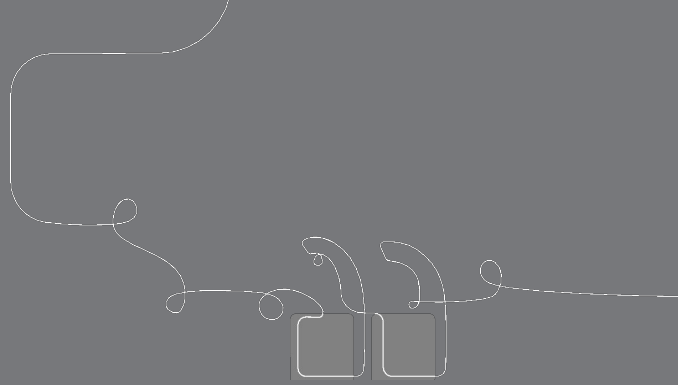
Why did two milkweed seeds become plants, but the other did not?

Multimodal learning

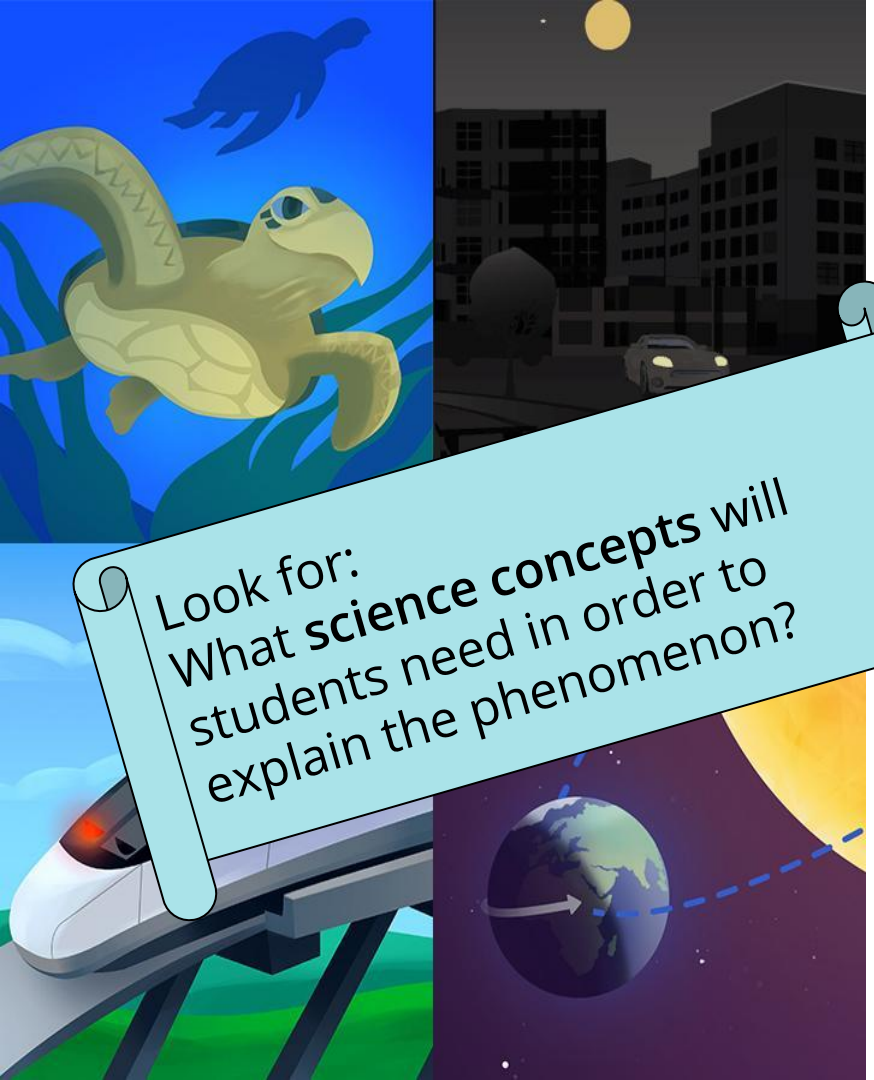
Gathering evidence over multiple lessons



Do,
Talk,
Read,
Write,
Visualize



Questions?



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Explaining the phenomenon: science concepts

Please respond in the chat

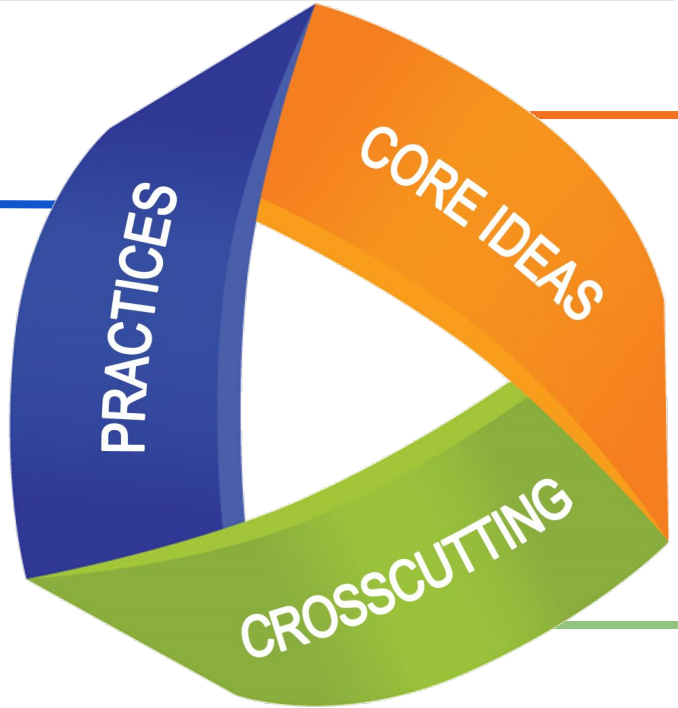
What **science concepts** do you think students need to understand in order to construct an explanation to explain why there are no more caterpillars in a community garden that was converted from a field which once had caterpillars? What would students need to know to advise the children on what they can do to attract the monarchs?

Next Generation Science Standards

Designed to help students build a cohesive understanding of science

What scientists do

Science and Engineering Practices



What scientists want to know

Disciplinary Core Ideas

How scientists think

Crosscutting Concepts

Key

Practices **Disciplinary Core Ideas** **Crosscutting Concepts**

Unit Level

Students carry out investigations to determine what plants and animals need to live and grow (systems and system models) in order to help a group of kids from the fictional town of Mariposa Grove solve the problem of why there are no longer monarch caterpillars living in a garden in their neighborhood (cause and effect). At the end of the unit, the class designs a solution to the problem by developing a model (scale, proportion, and quantity) for a garden that provides for both human and animal needs.

Navigation Temperature Check

Rate yourself on your comfort level accessing Amplify Science materials and navigating a digital curriculum.

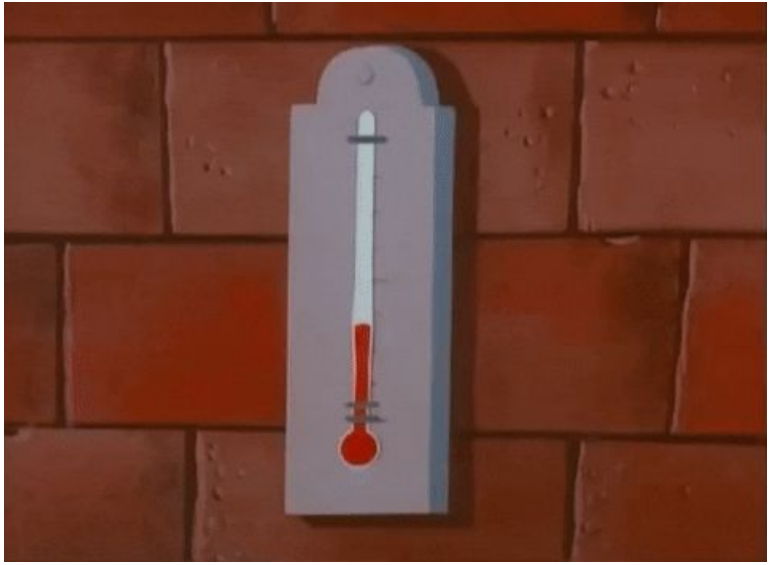
1 = Extremely Uncomfortable

2 = Uncomfortable

3 = Mild

4 = Comfortable

5 = Extremely Comfortable



Unit

Chapters

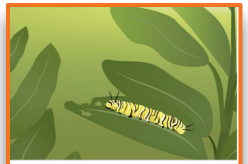
Lessons

Activities

Unit Structure

22 Lessons

Needs of Plants and Animals

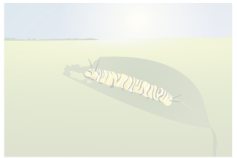


Chapter 1: Why are there no monarch caterpillars since the Field was made int...

7 Lessons

Chapter 2: Why did two milkweed seeds become plants, but the other did not?

7 Lessons



Chapter 3: Why do the milkweed plants that get water grow differently?

4 Lessons

Chapter 4: How do we make the Garden a place where monarch caterpilla...

4 Lessons

Lesson 1.1:
Pre-Unit Assessment

Lesson 1.2:
Science Walk

Lesson 1.3:
Observing a Place

Lesson 1.4:
Exploring Animal Needs

Lesson 1.5:
Investigating Animal Habitats

Lesson 1.6:
Explaining Why There Are No Caterpillars

Lesson 1.7:
Setting Up an Investigation

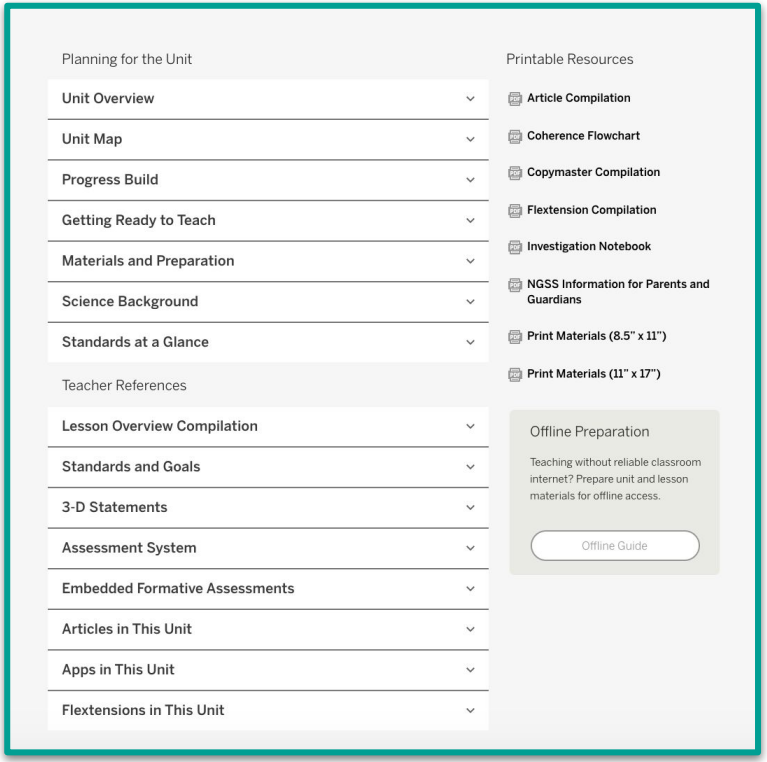
1 TEACHER-LED DISCUSSION
Introduction to Observing

2 READING
Partner Reading: Science Walk

3 TEACHER-LED DISCUSSION
Comparing Living and Nonliving Things

4 STUDENT-TO-STUDENT DISCUSSION
Discussing Plants and Animals

Unit Guide Resources



Unit Guide resources

Once a unit is selected, select **JUMP DOWN TO UNIT GUIDE** in order to access all unit-level resources in an Amplify Science unit.

Planning for the unit	
Unit Overview	Describes what's in each unit, the rationale, and how students learn across chapters
Unit Map	Provides an overview of what students figure out in each chapter, and how they figure it out
Progress Build	Explains the learning progression of ideas students figure out in the unit
Getting Ready to Teach	Provides tips for effectively preparing to teach and teaching the unit in your classroom
Materials and Preparation	Lists materials included in the unit's kit, items to be provided by the teacher, and briefly outlines preparation requirements for each lesson
Science Background	Adult-level primer on the science content students figure out in the unit
Standards at a Glance	Lists Next Generation Science Standards (NGSS) (Performance Expectations, Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts), Common Core State Standards for English Language Arts, and Common Core State Standards for Mathematics
Teacher references	
Lesson Overview Compilation	Lesson Overview of each lesson in the unit, including lesson summary, activity purposes, and timing
Standards and Goals	Lists NGSS (Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts) and CCSS (English Language Arts and Mathematics) in the unit, explains how the standards are reached
3-D Statements	Describes 3-D learning across the unit, chapters, and in individual lessons
Assessment System	Describes components of the Amplify Science Assessment System, identifies each 3-D assessment opportunity in the unit
Embedded Formative Assessments	Includes full text of formative assessments in the unit
Books in This Unit	Summarizes each unit text and explains how the text supports instruction
Apps in This Unit	Outlines functionality of digital tools and how students use them (in grades 2-5)
Printable resources	
Copymaster Compilation	Compilation of all copymasters for the teacher to print and copy throughout the unit
Investigation Notebook	Digital version of the Investigation Notebook, for copying and projecting
Multi-Language Glossary	Glossary of unit vocabulary in multiple languages
Print Materials (8.5" x 11")	Digital compilation of printed cards (i.e. vocabulary cards, student card sets) provided in the kit
Print Materials (11" x 17")	Digital compilation of printed Unit Question, Chapter Questions, and Key Concepts provided in the kit

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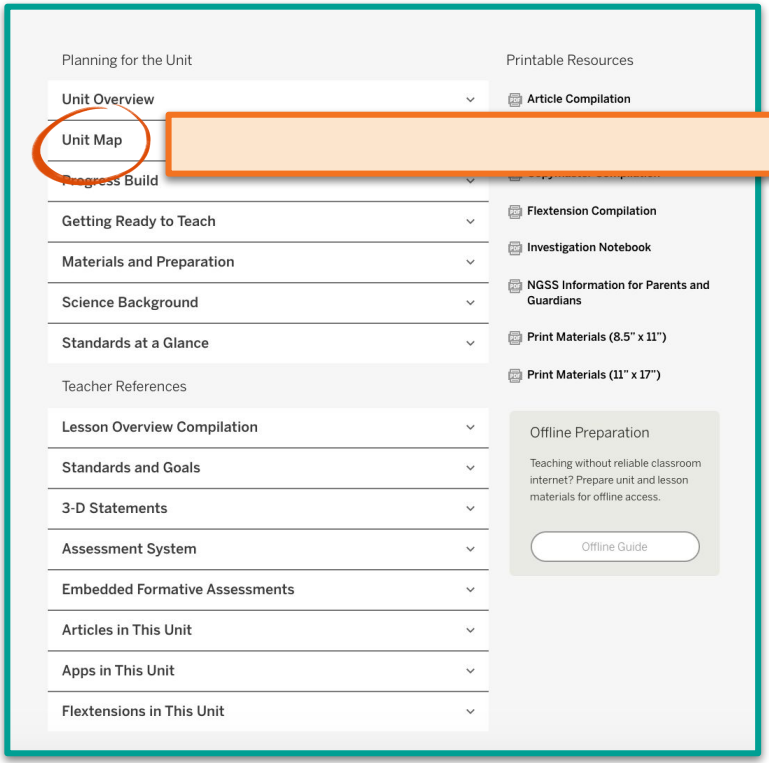
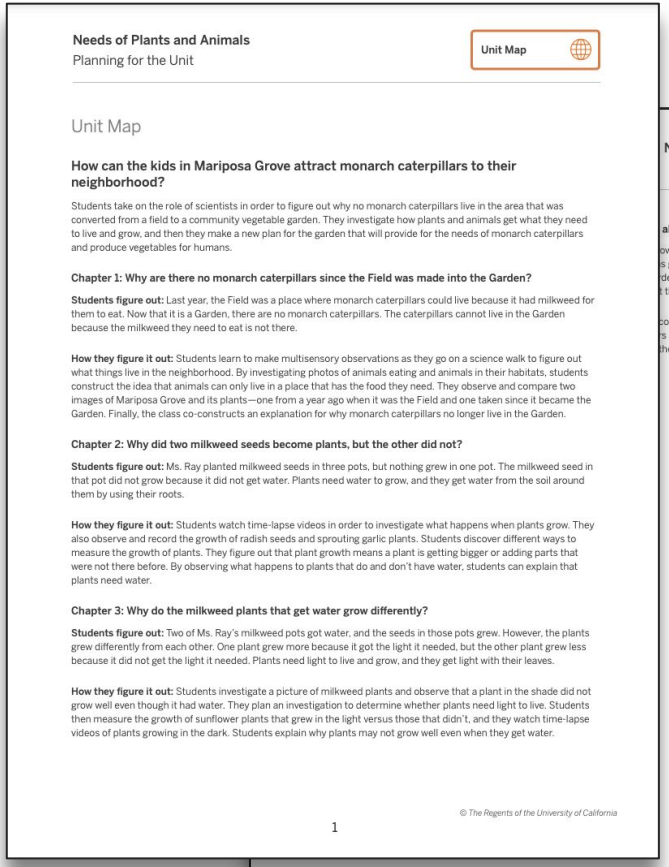
Unit Map





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Page 6

Applying conceptual understanding to explain the phenomenon

Use ideas from the Progress Build and Unit Map to make notes about the conceptual and explanatory builds in your unit.

	Science concepts	Explanation of the phenomenon
	Students figure out...	*So they can explain...*
Chapter 1	What kinds of plants and animals live in a place near their school. Students observe animals eating and figure out that different animals eat different foods.	Last year, the Field was a place where monarch caterpillars could live, because there was milkweed for them to eat there. Now, in the Garden, there are no monarch caterpillars. The caterpillars cannot live in the Garden because the milkweed they need to eat is not there.

Chapter 1: Why are there no monarch caterpillars since the Field was made into the Garden?

Students figure out: Last year, the Field was a place where monarch caterpillars could live because it had milkweed for them to eat. Now that it is a Garden, there are no monarch caterpillars. The caterpillars cannot live in the Garden because the milkweed they need to eat is not there.

How they figure it out: Students learn to make multisensory observations as they go on a science walk to figure out what things live in the neighborhood. By investigating photos of animals eating and animals in their habitats, students construct the idea that animals can only live in a place that has the food they need. They observe and compare two images of Mariposa Grove and its plants—one from a year ago when it was the Field and one taken since it became the Garden. Finally, the class co-constructs an explanation for why monarch caterpillars no longer live in the Garden.

Applying conceptual understanding to explain the phenomenon

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Chapter 1	What kinds of plants and animals live in a place near their school. Students observe animals eating and figure out that different animals eat different foods.	Last year, the Field was a place where monarch caterpillars could live, because there was milkweed for them to eat there. Now, in the Garden, there are no monarch caterpillars. The caterpillars cannot live in the Garden because the milkweed they need to eat is not there.
Chapter 2	That even plants that live in very dry habitats have ways to get the water they need using their roots. Students observe and record the roots that garlic and radishes use to get water.	Plants need water to grow, and they get water from the soil around them using their roots.

Chapter 2: Why did two milkweed seeds become plants, but the other did not?

Students figure out: Ms. Ray planted milkweed seeds in three pots, but nothing grew in one pot. The milkweed seed in that pot did not grow because it did not get water. Plants need water to grow, and they get water from the soil around them by using their roots.

How they figure it out: Students watch time-lapse videos in order to investigate what happens when plants grow. They also observe and record the growth of radish seeds and sprouting garlic plants. Students discover different ways to measure the growth of plants. They figure out that plant growth means a plant is getting bigger or adding parts that were not there before. By observing what happens to plants that do and don't have water, students can explain that plants need water.

Applying conceptual understanding to explain the phenomenon

Chapter 3: How can Spruce the Sea Turtle's offspring survive where there are sharks?

Students figure out: When the sea turtle has offspring, they will not look exactly alike, but they will grow up to have hard shells and camouflage, just like their parents. These structures allow them to defend themselves from predators in the same way that the mother sea turtle does. This is because offspring defend themselves in the same way their parents do.

How they figure it out: Students use evidence from photos to compare offspring to parent organisms, then role-play interactions between parents and offspring. They read to find out that many animals need their parents to survive while they are young, and that plants grow up without parental care.

Chapter 3	Students engage in a firsthand observation and investigation of plants and to deduce that the milkweed plants grew differently because they received different amounts of light.	Plants need light to live and grow, and they get light with their leaves.
Chapter 4		

Applying conceptual understanding to explain the phenomenon

Use ideas from the Progress Build and Unit Map to make notes about the conceptual and explanatory builds in your unit.

Chapter 4: How can aquarium scientists explain animal defenses to visitors?

Students figure out: Models highlight the important parts of what we are trying to explain and help communicate ideas clearly. A model of sea turtle defenses should either show how a hard shell stops a predator from biting and eating a sea turtle or how camouflage makes a sea turtle difficult to see so predators cannot find and eat it. Models do not need to show the parts of a sea turtle that are not part of its defense.

How they figure it out: Students read about and evaluate a model of frog defenses for effectiveness and clarity. Keeping these criteria in mind, they design and build their own models that will communicate to visitors how one of four sea animals defends itself. Students showcase their ideas by explaining their models at an exhibition held for classroom visitors.

Chapter 4	Students learn that an unintended consequence of humans cultivating wild areas for their own needs is that the habitats of other living things are changed.	When there are vegetables and milkweed plants in the Garden, humans and monarch caterpillars can have the food they need.

Applying conceptual understanding to explain the phenomenon

Use ideas from the Progress Build and Unit Map to make notes about the conceptual and explanatory builds in your unit.

	Science concepts	Explanation of the phenomenon
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Chapter 2	That even plants that live in very dry habitats have ways to get the water they need using their roots. Students observe and record the roots that garlic and radishes use to get water.	Plants need water to grow, and they get water from the soil around them using their roots.
Chapter 3	Students engage in a firsthand observation and investigation of plants and to deduce that the milkweed plants grew differently because they received different amounts of light.	Plants need light to live and grow, and they get light with their leaves.
Chapter 4	Students learn that an unintended consequence of humans cultivating wild areas for their own needs is that the habitats of other living things are changed.	When there are vegetables and milkweed plants in the Garden, humans and monarch caterpillars can have the food they need.

Progress Build

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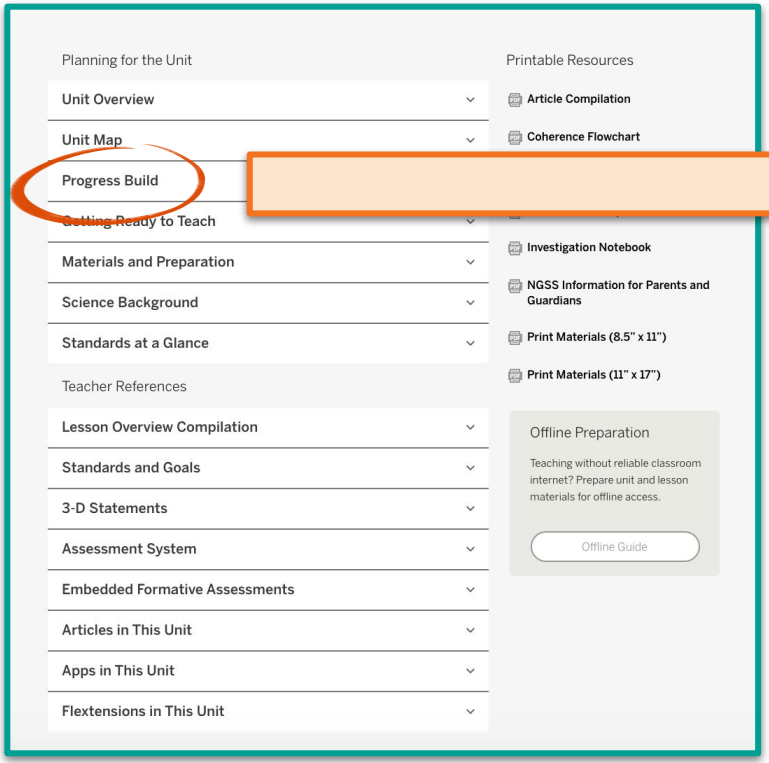

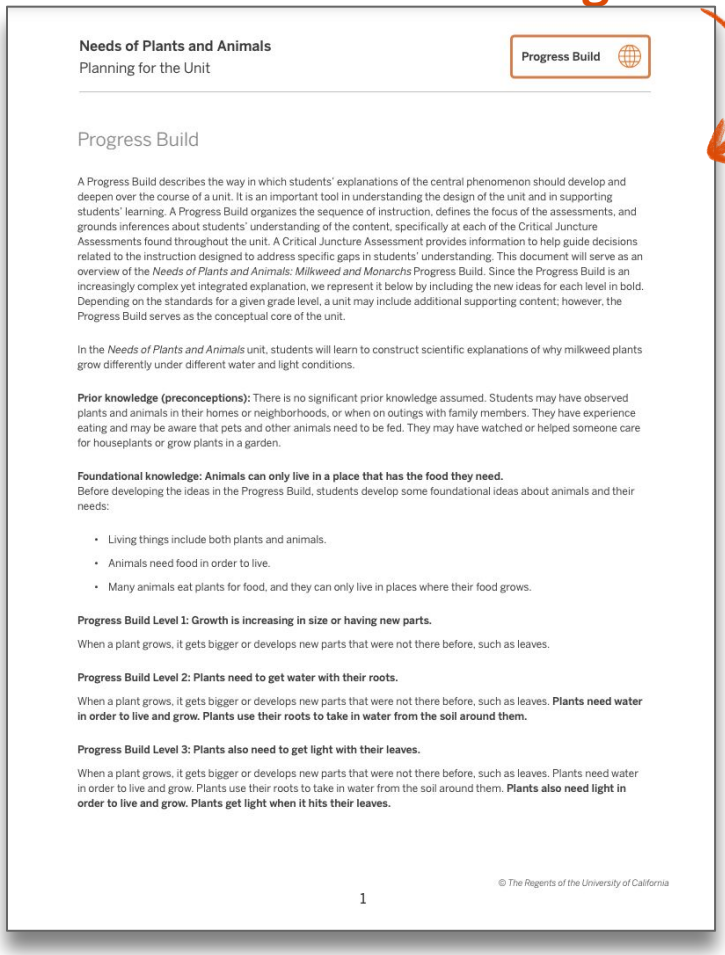

Needs of Plants and Animals
Planning for the Unit

Progress Build

Progress Build

A Progress Build describes the way in which students' explanations of the central phenomenon should develop and deepen over the course of a unit. It is an important tool in understanding the design of the unit and in supporting students' learning. A Progress Build organizes the sequence of instruction, defines the focus of the assessments, and grounds inferences about students' understanding of the content, specifically at each of the Critical Juncture Assessments found throughout the unit. A Critical Juncture Assessment provides information to help guide decisions related to the instruction designed to address specific gaps in students' understanding. This document will serve as an overview of the *Needs of Plants and Animals: Milkweed and Monarchs* Progress Build. Since the Progress Build is an increasingly complex yet integrated explanation, we represent it below by including the new ideas for each level in bold. Depending on the standards for a given grade level, a unit may include additional supporting content; however, the Progress Build serves as the conceptual core of the unit.

In the *Needs of Plants and Animals* unit, students will learn to construct scientific explanations of why milkweed plants grow differently under different water and light conditions.

Prior knowledge (preconceptions): There is no significant prior knowledge assumed. Students may have observed plants and animals in their homes or neighborhoods, or when on outings with family members. They have experience eating and may be aware that pets and other animals need to be fed. They may have watched or helped someone care for houseplants or grow plants in a garden.

Foundational knowledge: Animals can only live in a place that has the food they need.
Before developing the ideas in the Progress Build, students develop some foundational ideas about animals and their needs:

- Living things include both plants and animals.
- Animals need food in order to live.
- Many animals eat plants for food, and they can only live in places where their food grows.

Progress Build Level 1: Growth is increasing in size or having new parts.

When a plant grows, it gets bigger or develops new parts that were not there before, such as leaves.

Progress Build Level 2: Plants need to get water with their roots.

When a plant grows, it gets bigger or develops new parts that were not there before, such as leaves. **Plants need water in order to live and grow. Plants use their roots to take in water from the soil around them.**

Progress Build Level 3: Plants also need to get light with their leaves.

When a plant grows, it gets bigger or develops new parts that were not there before, such as leaves. Plants need water in order to live and grow. Plants use their roots to take in water from the soil around them. **Plants also need light in order to live and grow. Plants get light when it hits their leaves.**

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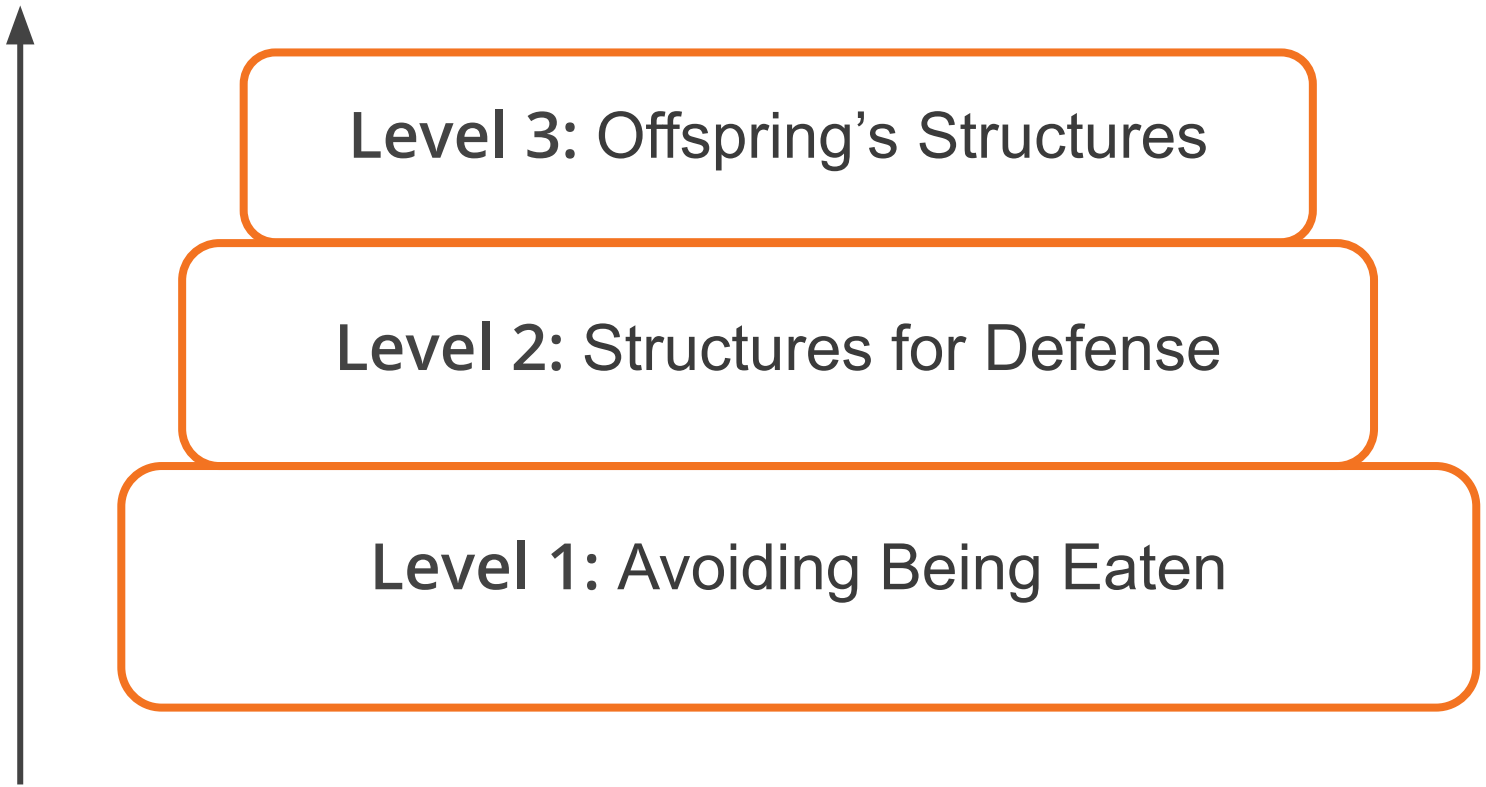
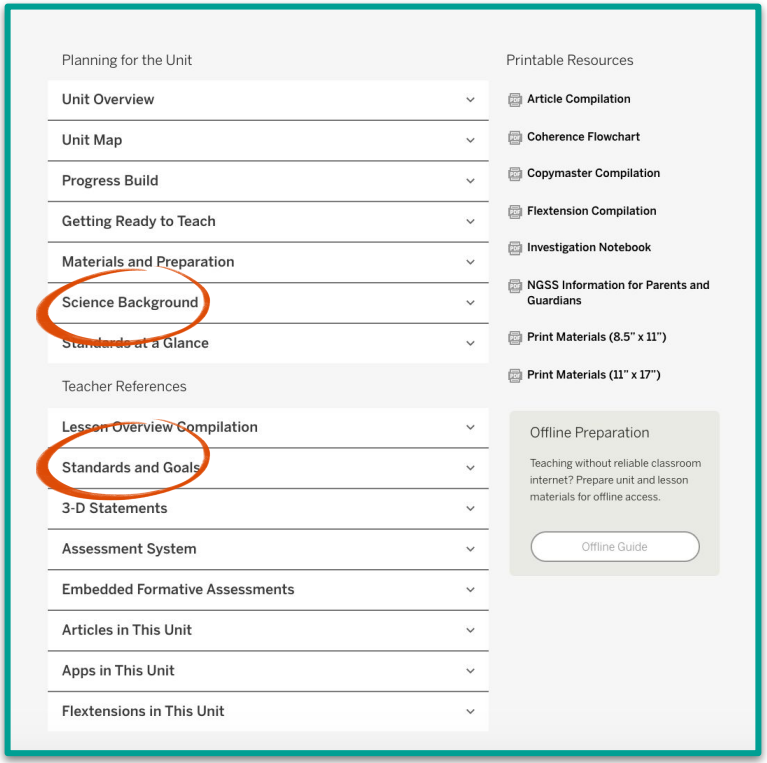
Progress Build



Additional science concept resources for teachers

Science Background:
Adult-level summary of unit science concepts

Standards and Goals:
Information about NGSS standards and how they're achieved in the unit



Key Takeaway: Conceptual build and explanatory build

Throughout the unit, students' conceptual understanding grows deeper, allowing their explanations of the phenomenon to become more complete and complex.

Level 3: Offspring's Structures

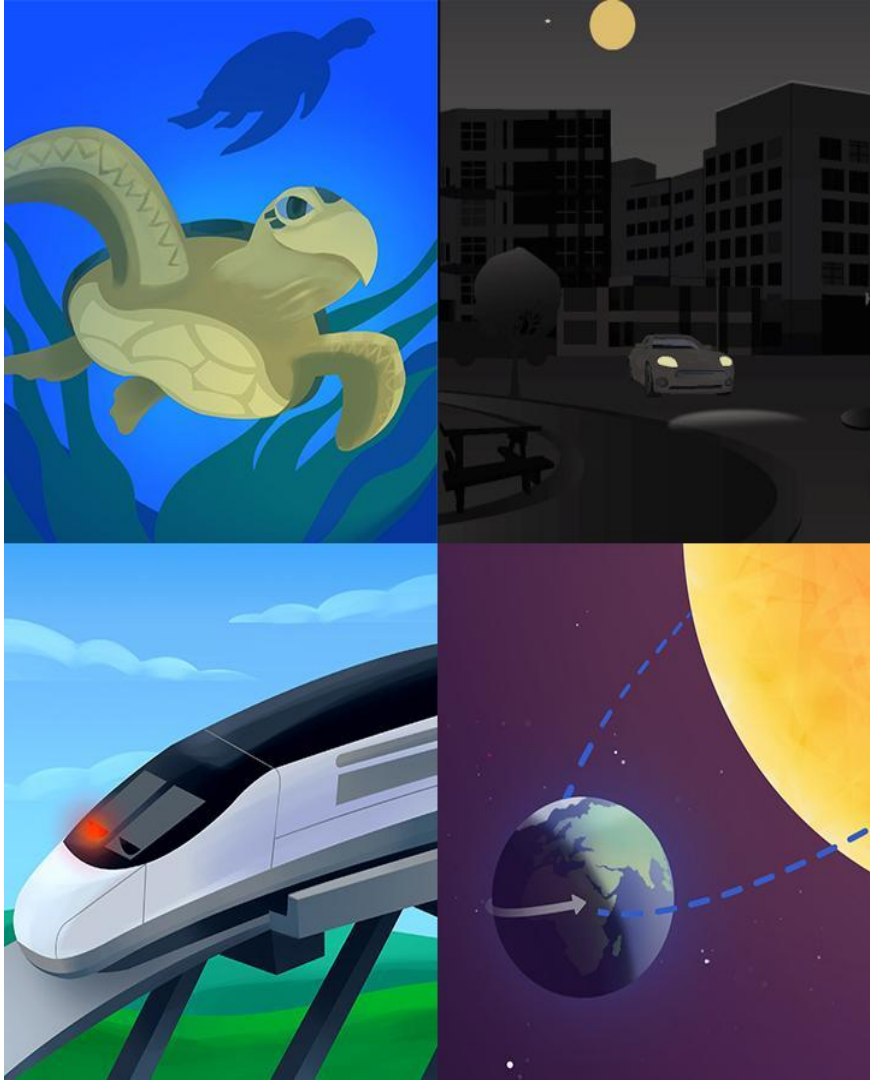
Level 2: Structures for Defense

Level 1: Avoiding Being Eaten

Reflection

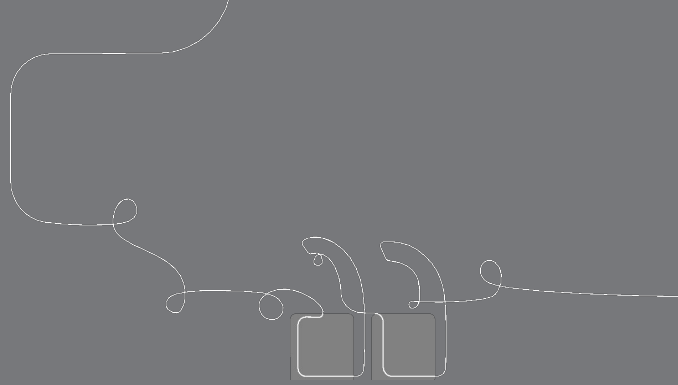
Jamboard

How will understanding the unit's **storyline** help you during **hybrid instruction**?

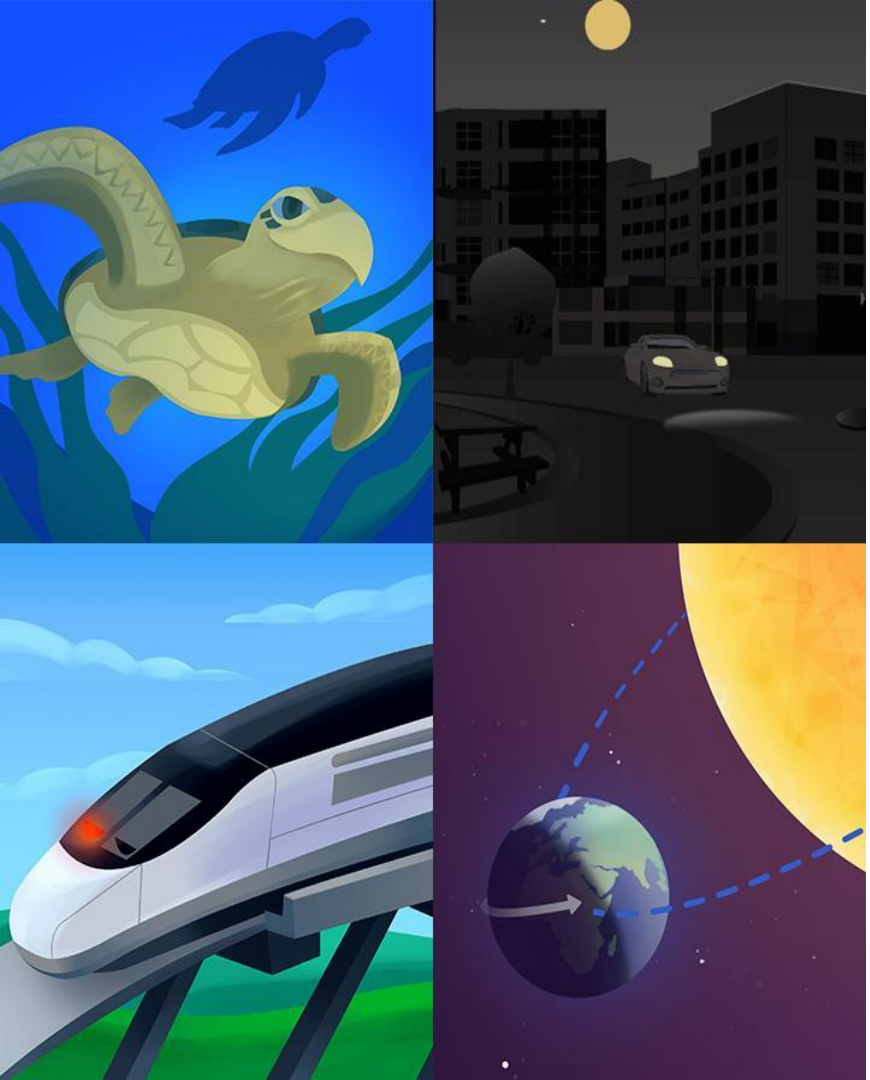


How will understanding the unit's storyline help you during hybrid instruction?

I'll ask my students what they're wondering at the end of each chapter.



Questions?



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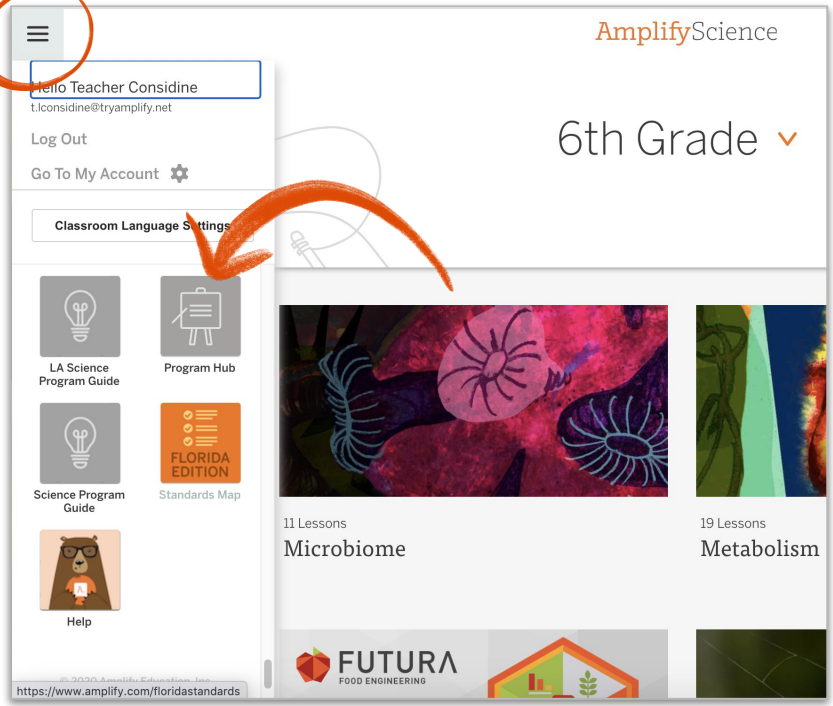
Accessing the Program Hub



Amplify Science@Home resources reference

Use this guide to keep track of the different resources available for remote and hybrid learning.

Instructional materials: Click Remote and hybrid learning resources, then select your grade level from the dropdown menu. Select your unit.	
@Home Unit resources: These will appear when you select your unit.	
Teacher Overview	General information for teaching with @Home Units, planning information, chapter and lesson outlines
Lesson Index	Lists the original Amplify Science lessons associated with each @Home lesson, and the Investigation Notebook pages, copymasters, and print materials associated with the @Home Unit Student Sheets
Family Overview	Information to send home to families to help them support students with remote learning
Student lesson materials for @Home Units	Printable or digital lessons condensed to be about 30 minutes long. You can access compilations of all student materials for your unit, or select from individual lessons.
@Home Video resources: After selecting your grade level and unit, select the @Home Videos tab below your unit title.	
@Home Video links	Links to video lessons that include all activities from the original units. Lesson playlists are on YouTube, and they autoplay in a playlist form.
Additional remote and hybrid instructional materials: These can be accessed from the tabs below your unit title.	
Hands-on investigations support	Videos of every unit's hands-on activities (note, these videos also appear in the student lesson materials).
Read-aloud videos	Link to a YouTube playlist of read-aloud videos of all books in your unit.
Orientation and Tutorials: Click Remote and hybrid learning resources, then select your grade from the dropdown menu. Click Orientation and Tutorials. You'll not only find videos to help you use the resources, but also videos you can share with students and caregivers.	

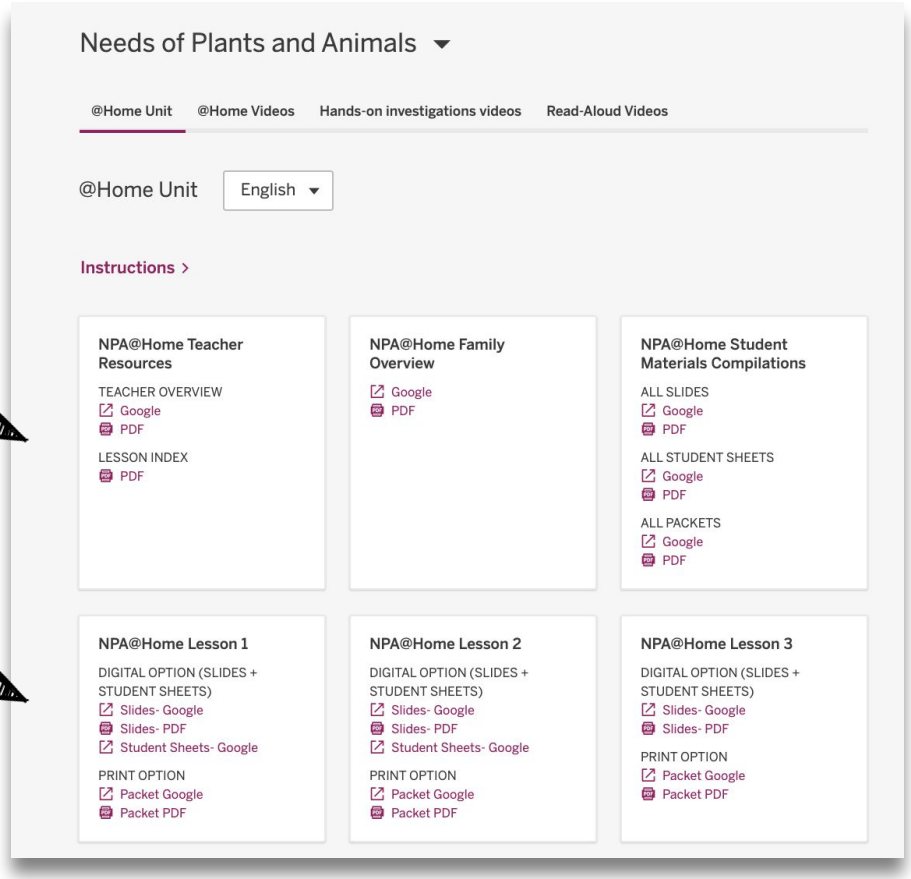
Program Hub work time

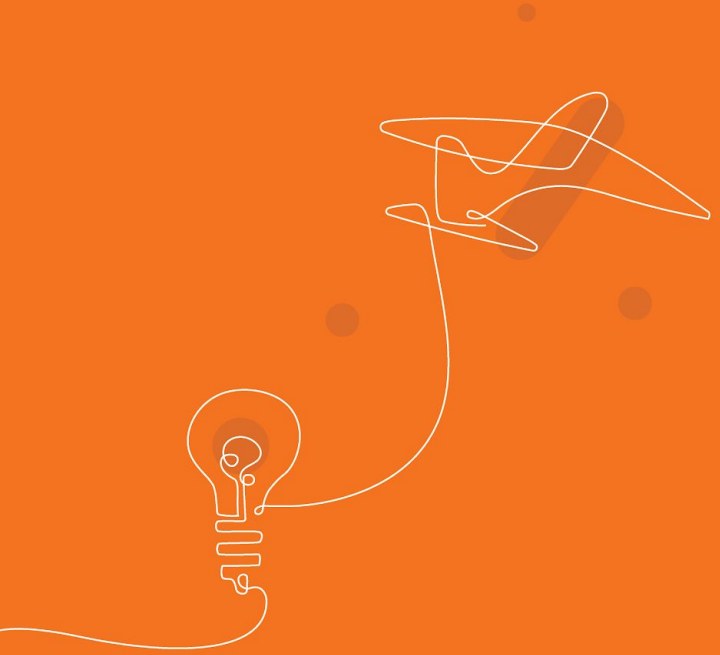
5 minutes

Navigate to the Program Hub. Open:

- Teacher Overview
- Lesson Index
- @Home Lesson 1
  - Slides- Google
  - Student Sheets- Google

If you have extra time, explore the other tabs.





Lesson Walkthrough

@Home Lesson 1

Adapted from: Amplify Science *Needs of Plants and Animals* Lesson 1.1

Key Activities

- **Introducing Mariposa Grove and the Chapter 1 Question:** Students are introduced to the unit problem, their role as scientists, and a new vocabulary word.
- **Talk:** Students discuss their initial ideas about how plants and animals get what they need to live and grow.
- **Draw and Write:** Students draw and/or write their ideas about how plants and animals get what they need to live and grow.
- **Read:** Students learn about setting a purpose for reading and listen to a read-aloud of *Science Walk*.

Ideas for synchronous or in-person instruction

Prior to meeting, have students draw and/or write their initial ideas about how animals get what they need to live and grow. When meeting, invite students to share their illustrations and/or writing. While meeting, you can also lead students in a read-aloud of *Science Walk*. Encourage students to listen to and build upon the ideas shared by others when responding to questions during and after the reading.

@Home Lesson 1

Needs of Plants and Animals

AmplifyScience

Needs of Plants and Animals

@Home Lesson 1

AmplifyScience

Children from Mariposa Grove

We have been asked to help a group of children who live in a neighborhood called Mariposa Grove. To help the children, we will **investigate what plants and animals need**.

The Field

The children who live in this neighborhood used to enjoy playing in an area called the **Field**.

When the children played in the Field, they used to find many **monarch caterpillars** there.

The Garden

The people in the community decided to turn the Field into a **vegetable garden**. Now that it is a vegetable garden, the children **can't find any caterpillars** there.

The children in Mariposa Grove need our help.

They want to know **why there are no monarch caterpillars in the Garden** and how they can make the Garden into a place where the caterpillars can live again.

In this chapter, we will work to figure out:

Chapter 1 Question

Why are there no monarch caterpillars since the Field was made into the Garden?

We are going to be **scientists**. Scientists are people who study and learn about what happens in the world around us.

In order to help the children, we are going to be scientists and figure out **what changed in the Garden**, and **why the monarchs no longer live there**.

We will learn new **science words** to help with our investigations.

Now we will think more about **one** of the new words we are learning.

A **scientist** is a person who learns about the natural world.

scientist

1. Practice saying the word to yourself: **scientist**
2. Practice saying the word to someone at home: **scientist**
3. Practice whispering the word: **scientist**

Glossary

compare: to notice how two or more things are alike or different
comparar: notar en qué son iguales o diferentes dos o más cosas

grow: to get bigger or get new parts
crecer: hacerse más grande o hacer partes nuevas

habitat: the place where an animal or plant lives and grows
hábitat: el lugar donde vive y crece un animal o una planta

investigate: to try to learn more about something
investigar: tratar de aprender más sobre algo

leaves: the flat, green plant parts that catch light
hojas: las partes planas y verdes de una planta que atrapan la luz

observe: to use any of the five senses (sight, hearing, smell, taste, touch) to learn more about something
observar: usar cualquiera de los cinco sentidos (vista, oído, olfato, gusto, tacto) para aprender más sobre algo

record: to draw or write down information
apuntar: dibujar o escribir información

roots: the underground plant parts that take in water
raíces: las partes subterráneas de una planta que absorben agua

scientist: someone who learns about the natural world
científico: alguien que aprende acerca del mundo natural

seed: a young plant that has not started to grow
semilla: una planta joven que no ha empezado a crecer

stem: the plant part that holds up the plant
tallo: la parte de una planta que la mantiene firme

You have a **Glossary** you can use if you need to find definitions for science words we are using.

Adapted from: Amplify Science *Needs of Plants and Animals* Lesson 1.1

Key Activities

- **Introducing Mariposa Grove and the Chapter 1 Question:** Students are introduced to the unit problem, their role as scientists, and a new vocabulary word.
- **Talk:** Students discuss their initial ideas about how plants and animals get what they need to live and grow.
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Ideas for synchronous or in-person instruction

Prior to meeting, have students draw and/or write their initial ideas about how animals get what they need to live and grow. When meeting, invite students to share their illustrations and/or writing. While meeting, you can also lead students in a read-aloud of *Science Walk*. Encourage students to listen to and build upon the ideas shared by others when responding to questions during and after the reading.

Scientists ask a lot of **questions** to learn more about the world. We are going to ask questions, too, in order to figure out why there are no monarch caterpillars after the Field was made into the Garden.

For now, let's ask ourselves a bigger question about all **living things**.

We will work as scientists to answer this question:

Unit Question

What do living things need to live and grow?

When scientists have a question, they think about what **ideas they already have**.

Let’s talk about the ideas that we already have about **what living things need to live and grow**.

You will talk with a **partner** about plants and animals in the Garden.

Your partner could be a family member, a friend or classmate on the phone, a stuffed animal or even a pet!

The Garden

How do the **plants** get what they need to live and grow?

The Garden

There are also many **animals** living in the Garden.

How do the **animals** get what they need to live?

Key Activities

- **Introducing Mariposa Grove and the Chapter 1 Question:** Students are introduced to the unit problem, their role as scientists, and a new vocabulary word.
- **Talk:** Students discuss their initial ideas about how plants and animals get what they need to live and grow.
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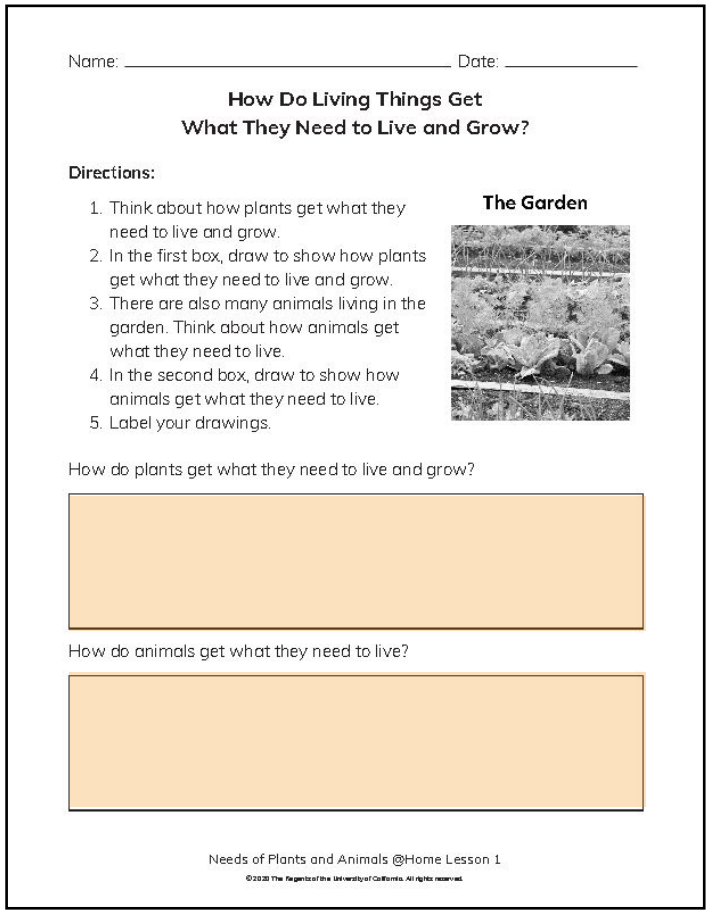

Name: _____ Date: _____

How Do Living Things Get What They Need to Live and Grow?

Directions:

1. Think about how plants get what they need to live and grow.
2. In the first box, draw to show how plants get what they need to live and grow.
3. There are also many animals living in the garden. Think about how animals get what they need to live.
4. In the second box, draw to show how animals get what they need to live.
5. Label your drawings.

The Garden

How do plants get what they need to live and grow?

How do animals get what they need to live?

Needs of Plants and Animals @Home Lesson 1

Find the **How Do Living Things Get What They Need to Live and Grow?** page.

Draw to show how plants and animals get what they need.

Label your drawings.

Now is a good time to take a break.

Next you will read a book. Check with your teacher about how you will access books in this @Home Unit.

Adapted from: Amplify Science *Needs of Plants and Animals* Lesson 1.1

Key Activities

- **Introducing Mariposa Grove and the Chapter 1 Question:** Students are introduced to the unit problem, their role as scientists, and a new vocabulary word.
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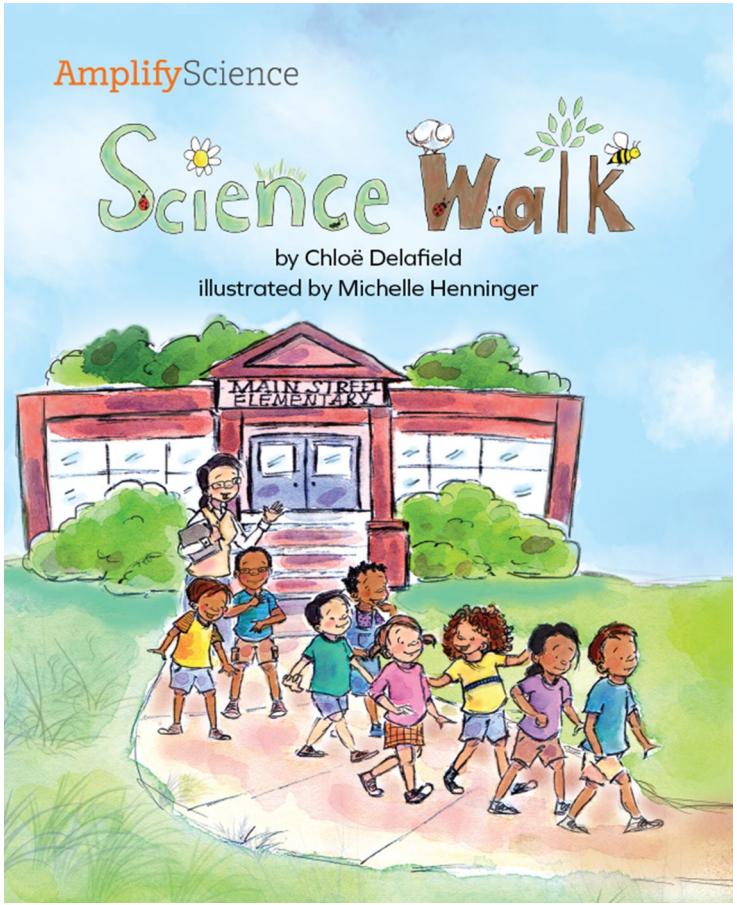


We will read the book *Science Walk* about how one class of scientists learned about a place near their school.

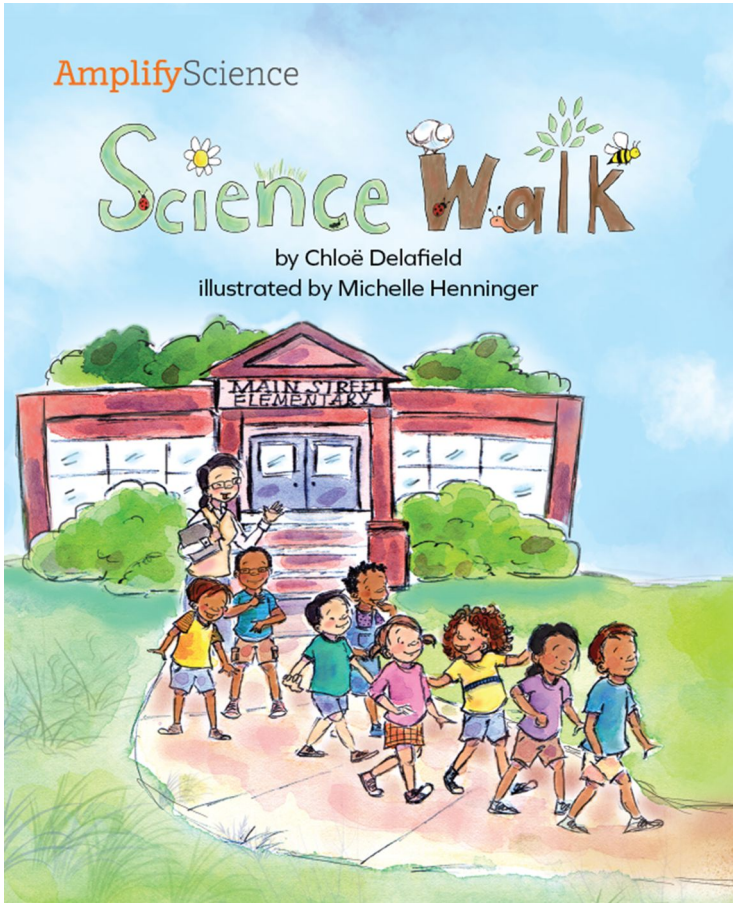
Find someone to read out loud to you.

You can access a digital version of the book here or watch a video read-aloud at tinyurl.com/AMPNPA-01.

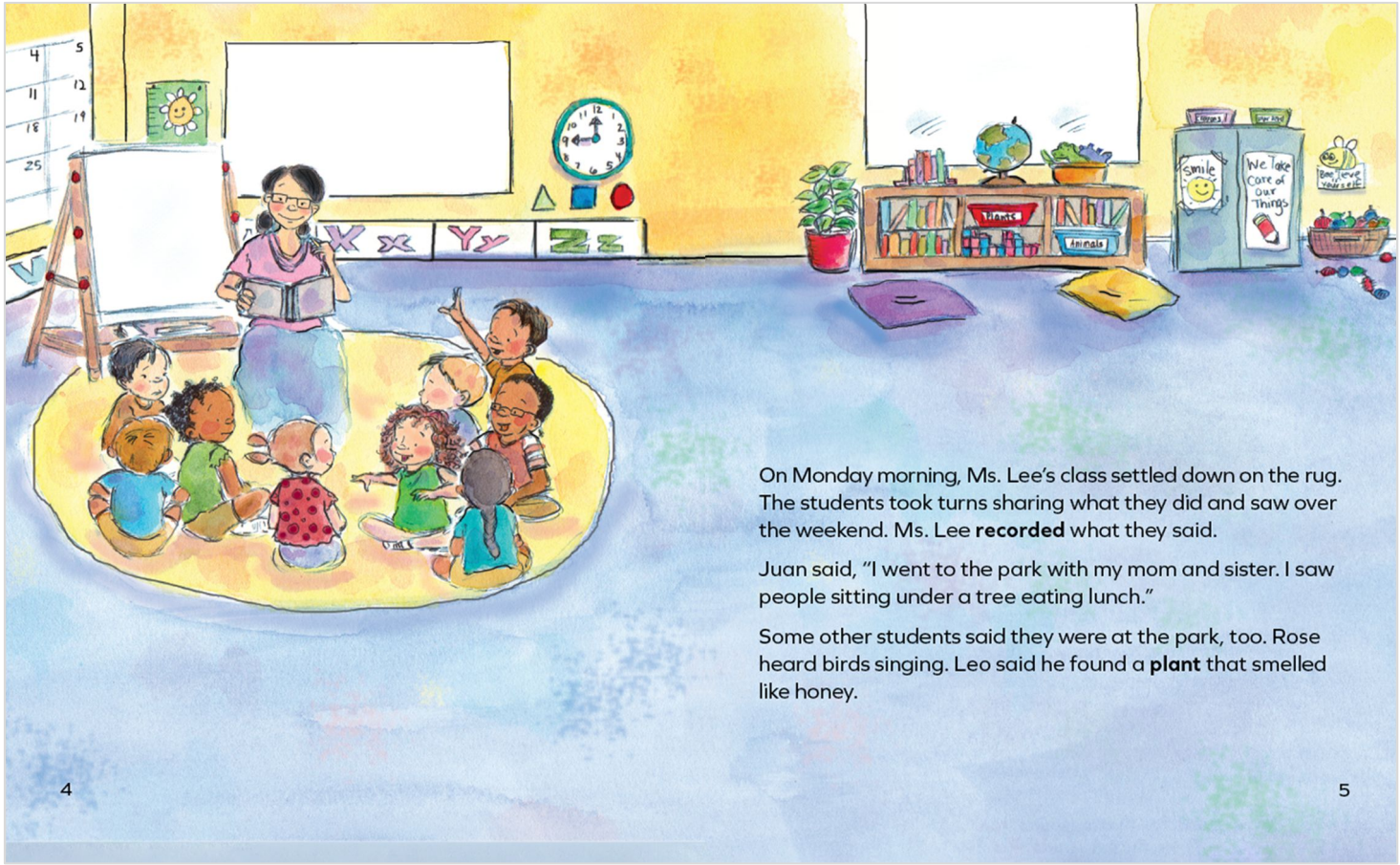
An important way that readers learn from a book is to **set a purpose** before reading.

When you set a purpose, you **decide what you want to figure out** when reading something.

As you read, you can make sure that you figure out what you want to figure out.



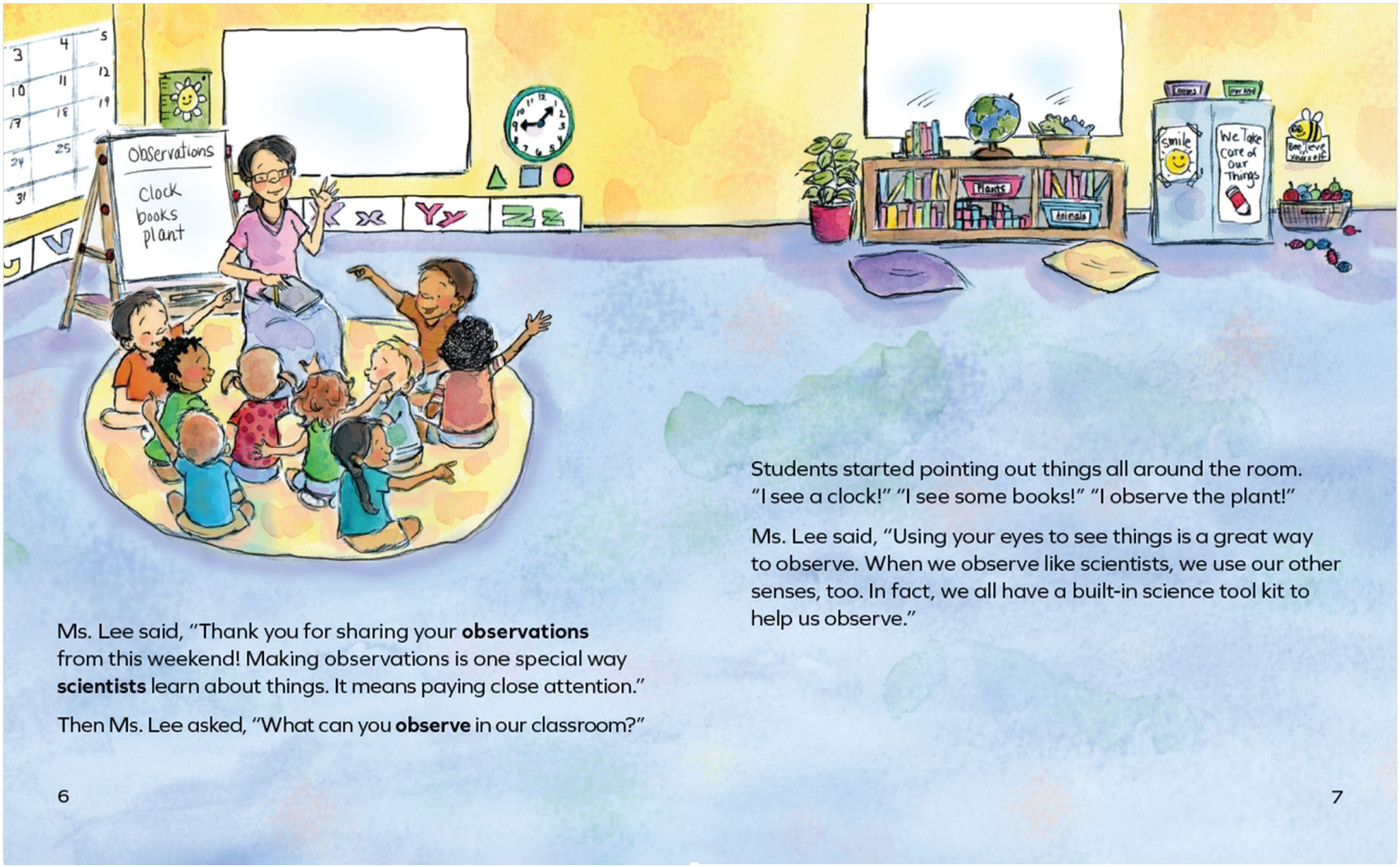
Our **purpose for reading** is to find out what the scientists in this book did to learn about a place near their school.



On Monday morning, Ms. Lee's class settled down on the rug. The students took turns sharing what they did and saw over the weekend. Ms. Lee **recorded** what they said.

Juan said, "I went to the park with my mom and sister. I saw people sitting under a tree eating lunch."

Some other students said they were at the park, too. Rose heard birds singing. Leo said he found a **plant** that smelled like honey.

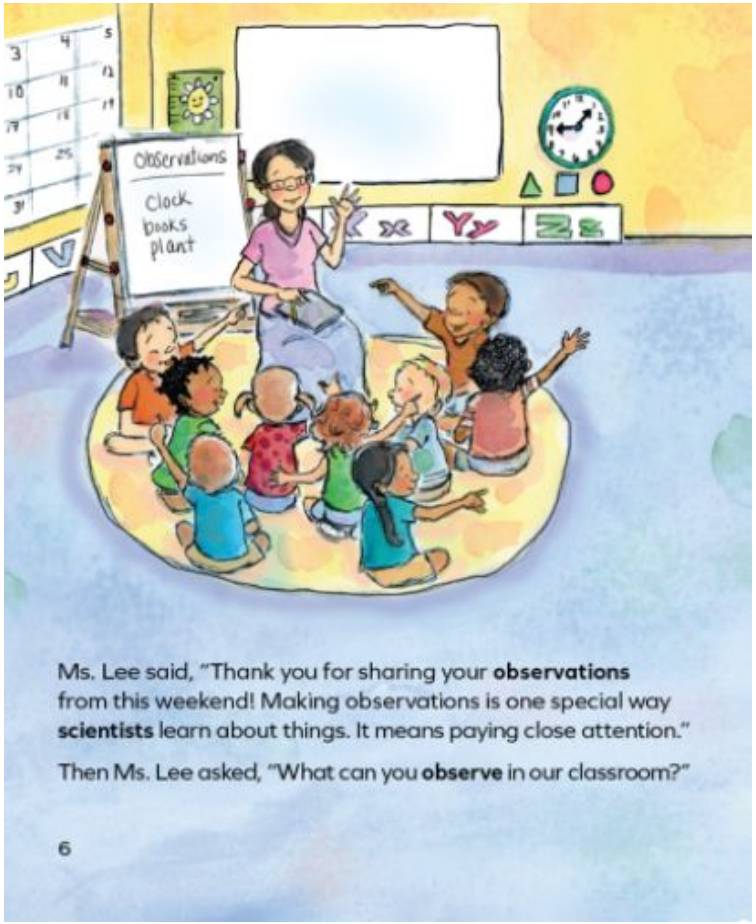


Ms. Lee said, "Thank you for sharing your **observations** from this weekend! Making observations is one special way **scientists** learn about things. It means paying close attention."

Then Ms. Lee asked, "What can you **observe** in our classroom?"

Students started pointing out things all around the room. "I see a clock!" "I see some books!" "I observe the plant!"

Ms. Lee said, "Using your eyes to see things is a great way to observe. When we observe like scientists, we use our other senses, too. In fact, we all have a built-in science tool kit to help us observe."



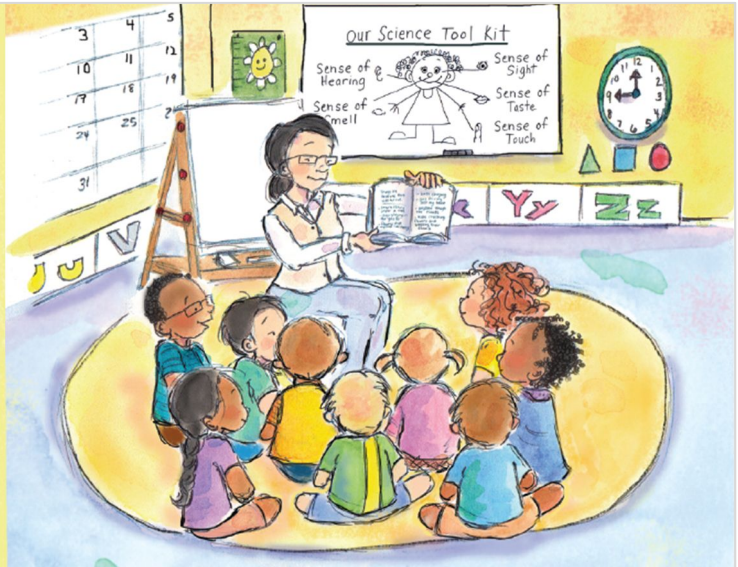
Ms. Lee told her class that scientists can **observe** something with their eyes and with other **senses**, too.

Do you know any other ways that we can **learn** about things around us?

"As scientists, we make observations using our senses to touch, look, listen, and smell. That means fingers, eyes, ears, and noses are science tools!"

May raised her hand. "I thought there were five senses. You only said four."

Ms. Lee answered, "The other sense is taste. Sometimes scientists even taste things, but most of the time it's not safe to put things in your mouth."



The next day, Ms. Lee showed the students a science notebook. She told them that scientists often record their observations in notebooks. "I recorded your observations from the weekend. Today we will go on a science walk and observe like scientists do. I will record what you observe on the walk."

"As scientists, we make observations using our senses to touch, look, listen, and smell. That means fingers, eyes, ears, and noses are science tools!"

May raised her hand. "I thought there were five senses. You only said four."

Ms. Lee answered, "The other sense is taste. Sometimes scientists even taste things, but most of the time it's not safe to put things in your mouth."

8

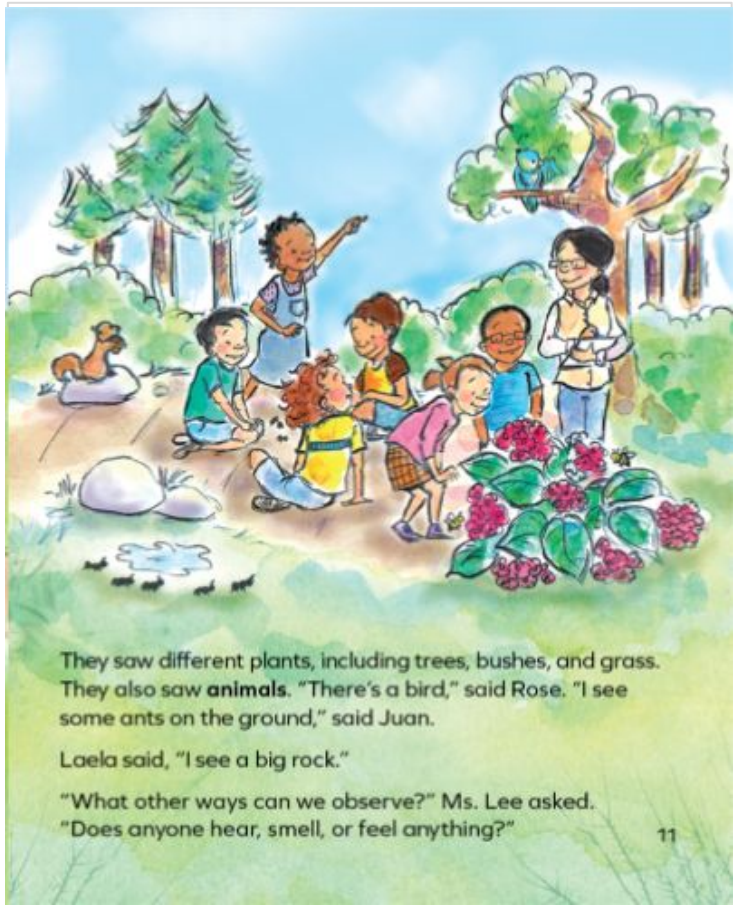
Point to the body parts you use for each of your senses.

It was a warm, sunny day, perfect for a science walk! The students walked along the sidewalk, stopping to make observations.

They saw different plants, including trees, bushes, and grass. They also saw **animals**. "There's a bird," said Rose. "I see some ants on the ground," said Juan.

Laela said, "I see a big rock."

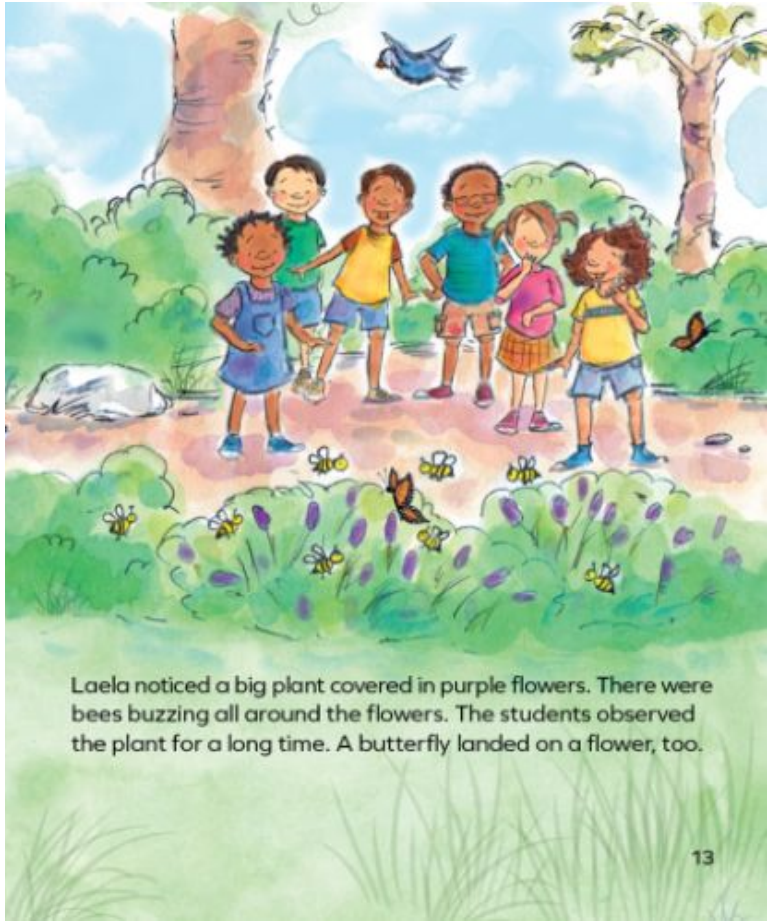
"What other ways can we observe?" Ms. Lee asked. "Does anyone hear, smell, or feel anything?"



What do you **notice** the students in this picture are doing that can help them **learn** about this place?

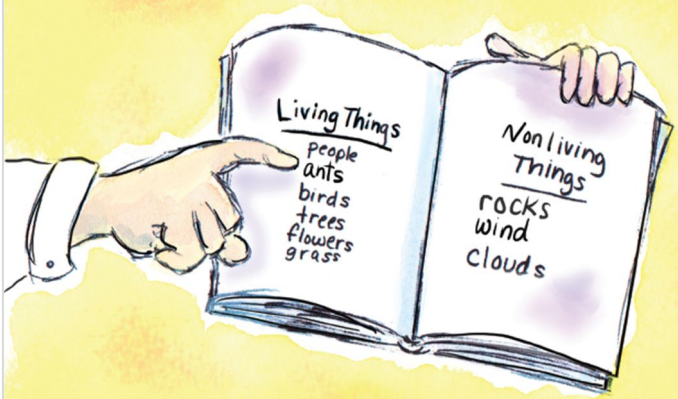
They heard birds chirping. They smelled sweet flowers. They felt the wind on their faces. Ms. Lee recorded all of their observations.

Laela noticed a big plant covered in purple flowers. There were bees buzzing all around the flowers. The students observed the plant for a long time. A butterfly landed on a flower, too.



The students are learning many things about this place by their school.

What parts of their bodies are the students using as they **observe**?



When they got back to school, Ms. Lee showed the class the list she had made from their walk. "I sorted your observations by what is living and what is nonliving," she said. "Living things include people, ants, and birds. Nonliving things include rocks and wind."

The students made drawings of the living things they had observed. They worked hard to remember the details of what they had observed and recorded them in their drawings.

When they shared their drawings, the students had a lot of questions about what they had observed.

Leo went first. "I noticed that the bees were all going to the plant with the purple flowers. I wonder why the butterfly went there, too."

Juan wondered what the birds were doing when they were poking around in the dirt with their beaks.

"There are lots of ways to find the answers to our questions," Ms. Lee told the class. "Tomorrow we will read more and do our own **investigation** so we can learn more about butterflies and birds."

Our **purpose for reading** was to learn what this class of scientists did to help them learn about the place near their school.

What did you learn about **how scientists learn** about the world?

End of @Home Lesson

THE LAWRENCE HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

Amplify.

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@Home Lesson 1

Adapted from: Amplify Science *Needs of Plants and Animals* Lesson 1.1

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Suggestions for Online Synchronous Time

Online synchronous time

Online discussions: It's worthwhile to establish norms and routines for online discussions in science to ensure equity of voice, turn-taking, etc.

Digital tool demonstrations: You can share your screen and demonstrate, or invite your students to share their screen and think-aloud as they use a Simulation or other digital tool.

Interactive read-alouds: Screen share a digital book or article, and pause to ask questions and invite discussion as you would in the classroom.

Shared Writing: This is a great opportunity for a collaborative document that all your students can contribute to.

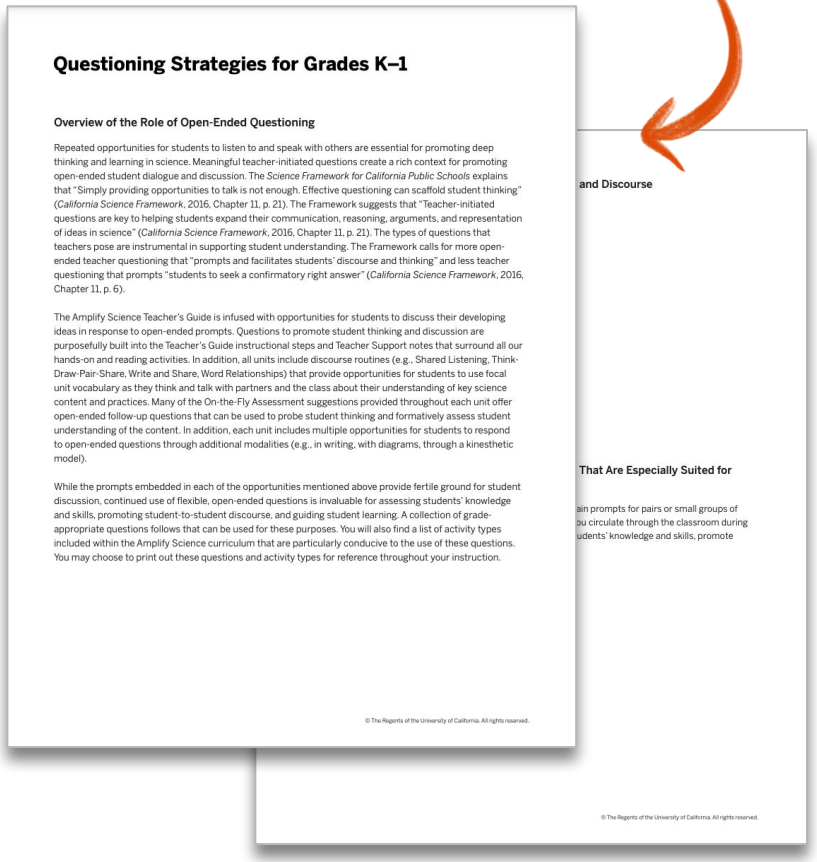
Co-constructed class charts: You can create digital charts, or create physical charts in your home with student input.

page 9

Questioning Strategies

- Questions to assess students' knowledge and skills
- Questions to promote student-to-student discourse
- Questions to guide student learning

Pages 10-11



Questioning Strategies for Grades K–1

Overview of the Role of Open-Ended Questioning

Repeated opportunities for students to listen to and speak with others are essential for promoting deep thinking and learning in science. Meaningful teacher-initiated questions create a rich context for promoting open-ended student dialogue and discussion. The *Science Framework for California Public Schools* explains that "Simply providing opportunities to talk is not enough. Effective questioning can scaffold student thinking" (*California Science Framework*, 2016, Chapter 11, p. 21). The Framework suggests that "Teacher-initiated questions are key to helping students expand their communication, reasoning, arguments, and representation of ideas in science" (*California Science Framework*, 2016, Chapter 11, p. 21). The types of questions that teachers pose are instrumental in supporting student understanding. The Framework calls for more open-ended teacher questioning that "prompts and facilitates students' discourse and thinking" and less teacher questioning that prompts "students to seek a confirmatory right answer" (*California Science Framework*, 2016, Chapter 11, p. 6).

The Amplify Science Teacher's Guide is infused with opportunities for students to discuss their developing ideas in response to open-ended prompts. Questions to promote student thinking and discussion are purposefully built into the Teacher's Guide instructional steps and Teacher Support notes that surround all our hands-on and reading activities. In addition, all units include discourse routines (e.g., Shared Listening, Think-Draw-Pair-Share, Write and Share, Word Relationships) that provide opportunities for students to use focal unit vocabulary as they think and talk with partners and the class about their understanding of key science content and practices. Many of the On-the-Fly Assessment suggestions provided throughout each unit offer open-ended follow-up questions that can be used to probe student thinking and formatively assess student understanding of the content. In addition, each unit includes multiple opportunities for students to respond to open-ended questions through additional modalities (e.g., in writing, with diagrams, through a kinesthetic model).

While the prompts embedded in each of the opportunities mentioned above provide fertile ground for student discussion, continued use of flexible, open-ended questions is invaluable for assessing students' knowledge and skills, promoting student-to-student discourse, and guiding student learning. A collection of grade-appropriate questions follows that can be used for these purposes. You will also find a list of activity types included within the Amplify Science curriculum that are particularly conducive to the use of these questions. You may choose to print out these questions and activity types for reference throughout your instruction.

and Discourse

That Are Especially Suited for

ain prompts for pairs or small groups of
ou circulate through the classroom during
udents' knowledge and skills, promote

Hands-on Suggestions

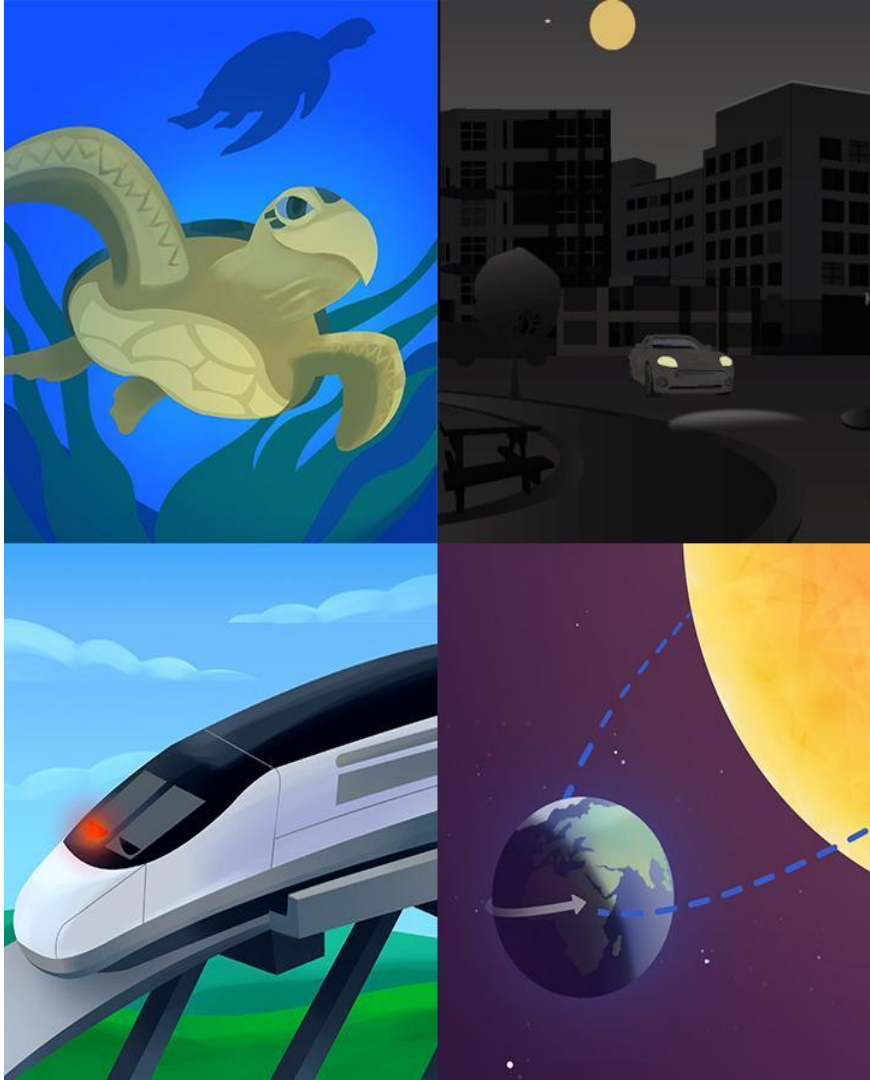
Grade K | **Unit:** Needs of Plants and Animals | Hands-On Investigation Video Playlist

Lesson	Activity	@Home Lesson	Activity Description	Suggested Modality	Reasoning	Teacher/Student Provided Materials	Consumable Materials	Non-Consumable Materials	LAUSD Replacement Materials
1.3	2	2	The class goes on a walk to make observations of living things that live in the place around their school.	hands-on	Students can go on a walk with their teacher if they are in class. Make sure to be socially distanced. If at home students can walk outside with a caregiver.				
1.4	3	3	Partners make observations using pictures of different animals eating different types of food.	hands-on	If the teacher is doing @Home Lesson 3, the slides take the students through the hands-on activity.If the teacher is using lesson 1.4, then stations can be set up, but students will have to be socially distanced from each other as they are observing in pairs at the stations.	Animal Eating Station cards in the kit.			
1.5	3	4	Partners are assigned an animal and explore various habitats to decide which habitat is best suited to their animal.	hands-on	Students can participate in this hands-on lesson while it is presented in the @Home Lesson 4. The students will not be in partners. They will be using the Student Sheet asssigned to them.	@Home Student Sheet for Lesson 4.			
1.7	2	5 & 6	Students set up an investigation to compare whether or not a garlic clove needs water to grow into a garlic plant.	watch video	***All*** students can observe and participate if using the video.				
2.1	1	7	The teacher shares a message from the children in Mariposa Grove. Students work with partners to plant radish seeds.	watch video	***All*** students can observe and participate if using the video.				
2.2	1	8	Students work with partners to sequence a series of plant growth pictures that were recorded by a scientist.	hands-on	Students can individually participate in this activity with the Student Sheets provided from @Home Lesson 8.	@Home Student Sheet for Lesson 8.			

Reflection

Jamboard

How would you teach this lesson?
How might you include suggestions for online synchronous time and/or questioning strategies?



I would prioritize the group discussion during synchronous or in-person learning time.

Planning for @Home Lesson 1

How would you teach this lesson?
How might you include suggestions for online synchronous time and/or questioning strategies?

Lesson planning with @Home Units

Day _____	Day _____
Minutes for science: _____	Minutes for science: _____

@Home Lesson 1

Adapted from: Amplify Science *Needs of Plants and Animals* Lesson 1.1

Key Activities

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Lesson planning with @Home Units

Day Monday	Day Tuesday
Minutes for science: 30	**Minutes for science:** 30
Lesson or part of lesson: @Home Lesson 1 slides 1-18 **Purpose or big idea:** Students will be scientists and figure out what changed in the Garden, and why the monarchs no longer live there.	**Lesson or part of lesson:** @Home Lesson 1 slides 19--35 **Purpose or big idea:** Students learn about setting a purpose for reading and listen to a read-aloud of Science Walk.
Students will... / **Teacher will...**	**Students will...** / **Teacher will...**
Additional notes:	**Additional notes:**

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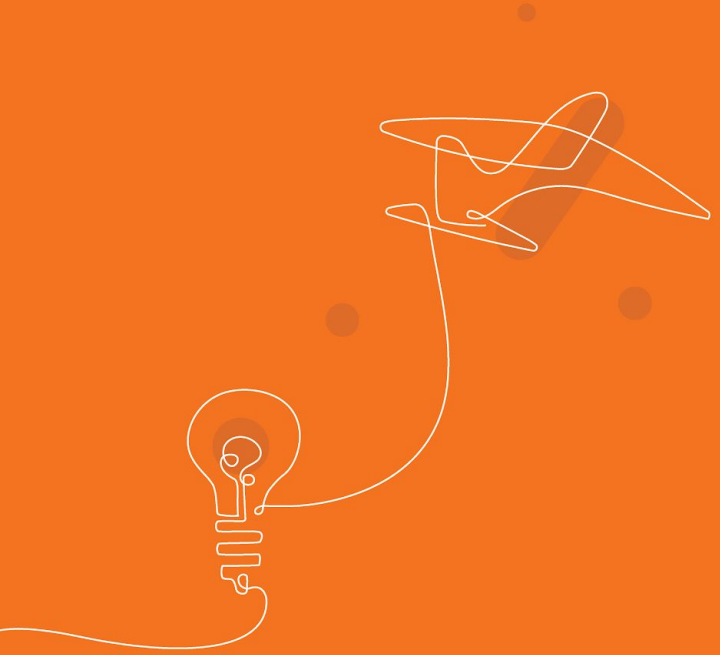
Students will... -Learn the problem, the role as scientists, the Chapter Question, and a new vocabulary word. -Discuss their initial ideas about what plants and animals need to live and grow. -Complete the student sheet. Students will draw and/or write about what plants and animals need to live and grow. **Teacher will...** -Introduce the unit problem, the role as scientists, the Chapter Question, and a new vocabulary word. - lead a discussion about initial ideas about how plants and animals get what they need to live and grow. -Introduce the student sheet where students will draw and/or write their ideas about how plants and animals get what they need to live and grow.	**Students will...** **Teacher will...**
Additional notes:	**Additional notes:**

Lesson planning with @Home Units

Day Monday	Day Tuesday
Minutes for science: 30	**Minutes for science:** 30
Lesson or part of lesson: @Home Lesson 1 slides 1-21 **Purpose or big idea:** Students will be scientists and figure out what changed in the Garden, and why the monarchs no longer live there.	**Lesson or part of lesson:** @Home Lesson 1 slides 22-32 **Purpose or big idea:** Students learn about setting a purpose for reading and listen to a read-aloud of Science Walk.
Students will... -Learn the problem, the role as scientists, the Chapter Question, and a new vocabulary word. -Discuss their initial ideas about what plants and animals need to live and grow. -Complete the student sheet. Students will draw and/or write about what plants and animals need to live and grow.. **Teacher will...** -introduce the unit problem, the role as scientists, the Chapter Question, and a new vocabulary word. - lead a discussion about initial ideas about how plants and animals get what they need to live and grow. -Introduce the student sheet where students will draw and/or write their ideas about how plants and animals get what they need to live and grow.	**Students will...** -discuss the content of what they learned in the previous lesson: • Chapter question • Vocab word-scientist -Listen to the read-aloud -learn the strategy of Setting the Purpose for Reading **Teacher will...** -review student role and problem. -review content of what plants and animals need to live and grow. -Teach the students to Set the Purpose for Reading a book called "Science Walk". -Teacher will read aloud to the students: "Science Walk".
Additional notes:	**Additional notes:**

Some students may have little prior knowledge about the relationship between plants and animals, specifically between butterflies and milkweed plants or about the butterfly life cycle. You might choose to bring in realia, such as models of eggs, caterpillars, pupae, and butterflies, to support students' understanding of the problem they will try to solve.



Collaborative Planning

Breakout groups

Page 13

Discussion prompts

Planning:

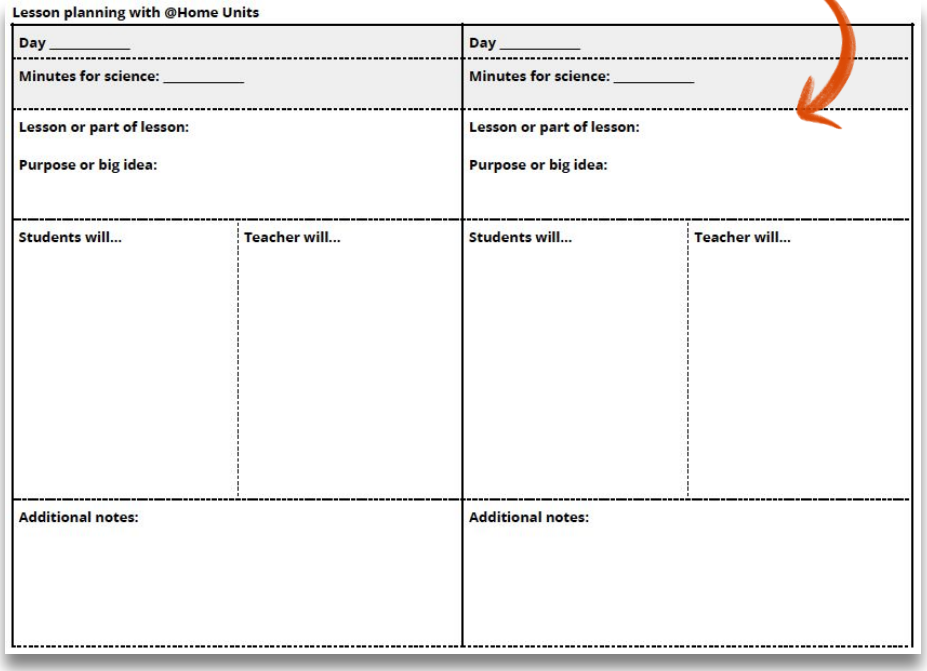
- Dig into the @Home Resources for your assigned lesson.

Student work:

- Discuss how you can collect evidence of student work

Differentiation:

- Consider how you might differentiate your lesson



Lesson planning with @Home Units

Day _____		Day _____	
Minutes for science: _____		Minutes for science: _____	
Lesson or part of lesson: Purpose or big idea:		Lesson or part of lesson: Purpose or big idea:	
Students will...	Teacher will...	Students will...	Teacher will...
Additional notes:		Additional notes:	

Breakout groups

Page 13

Please choose a person from your group to share out!

Planning:

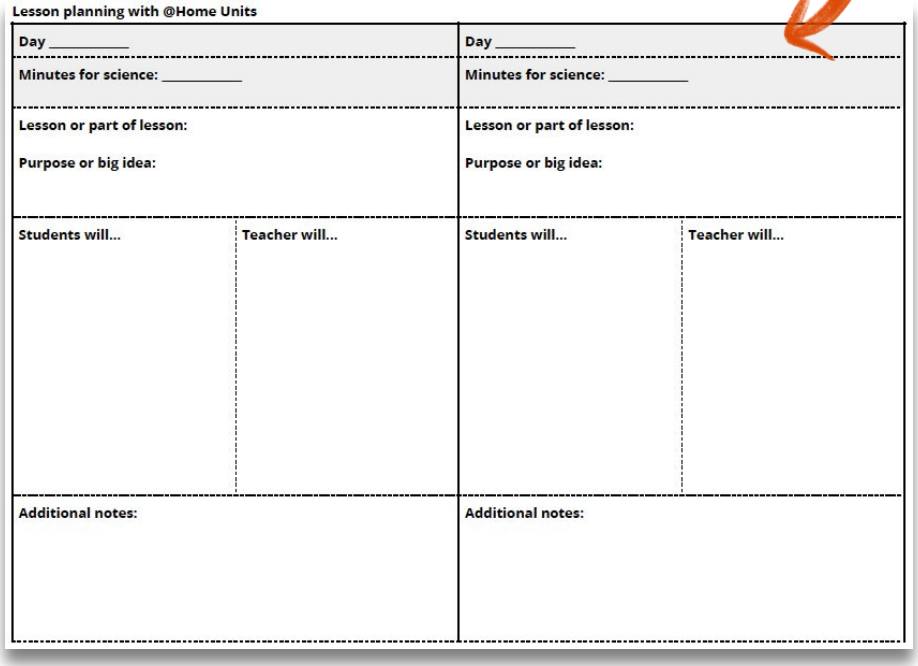
- What did you will prioritize for synchronous vs. asynchronous time?

Student work:

- How do you plan to collect evidence of student work?

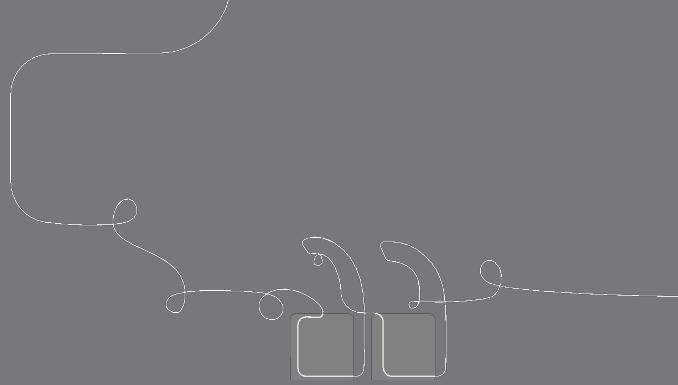
Differentiation:

- How do you plan to differentiate the lesson for diverse learners?

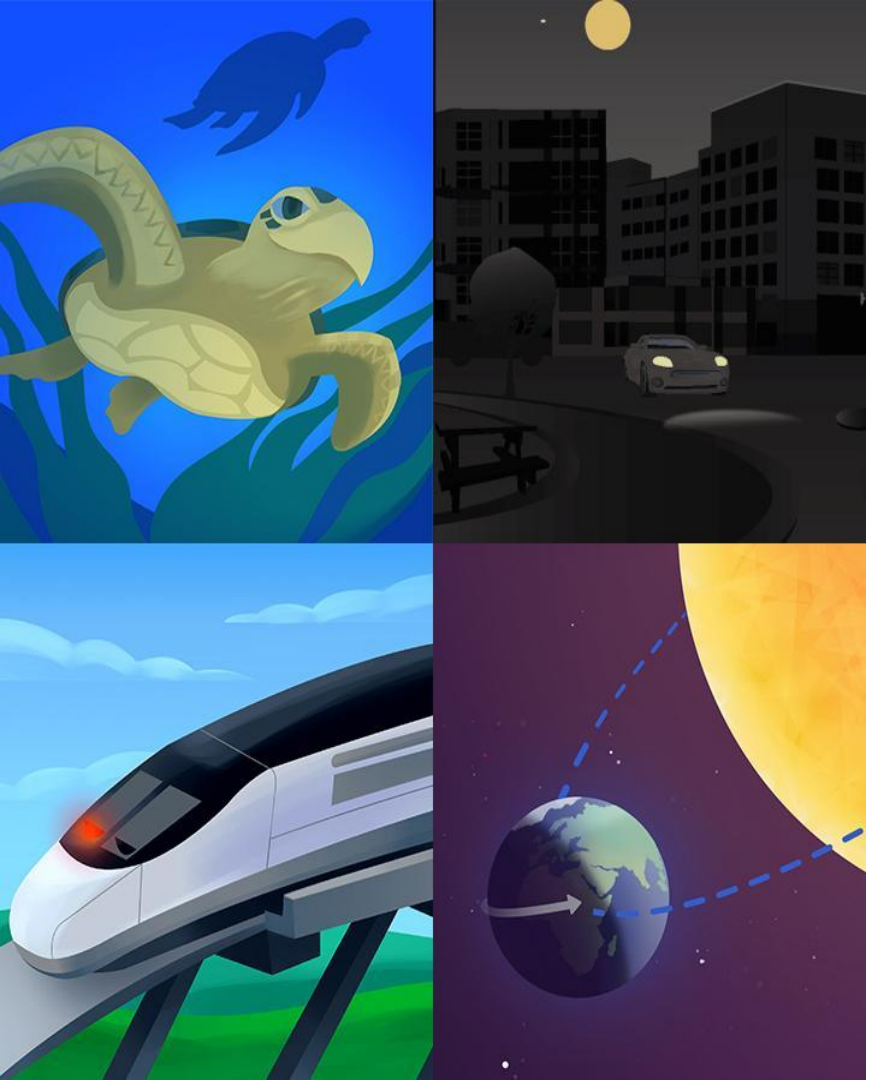


Lesson planning with @Home Units

Day _____		Day _____	
Minutes for science: _____		Minutes for science: _____	
Lesson or part of lesson: Purpose or big idea:		Lesson or part of lesson: Purpose or big idea:	
Students will...	Teacher will...	Students will...	Teacher will...
Additional notes:		Additional notes:	



Questions?



Plan for the day

- **Framing the day**
  - Remote learning reflection
  - Revisiting the Amplify Approach
- **Phenomenon at the unit level**
  - Navigation refresher (standard curriculum)
  - Storyline and science concepts
  - Unit internalization work time
- **Planning to teach**
  - Navigation refresher (@Home resources)
  - Lesson walkthrough
  - Collaborative planning time
- **Closing**
  - Reflection & survey

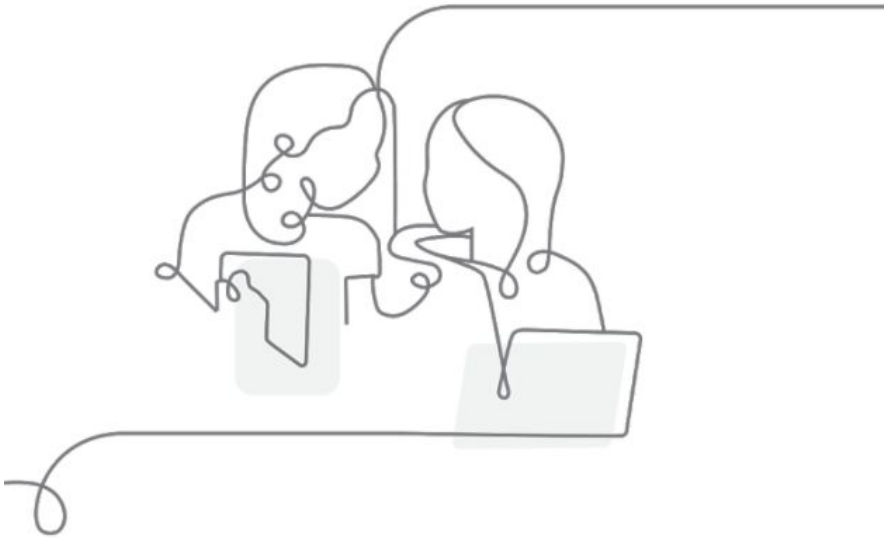
Head or hands reflection

Reflect independently, then volunteer to share

Based on our work today with the unit storyline and the role of evidence sources....

Head: What will you keep in mind while you plan?

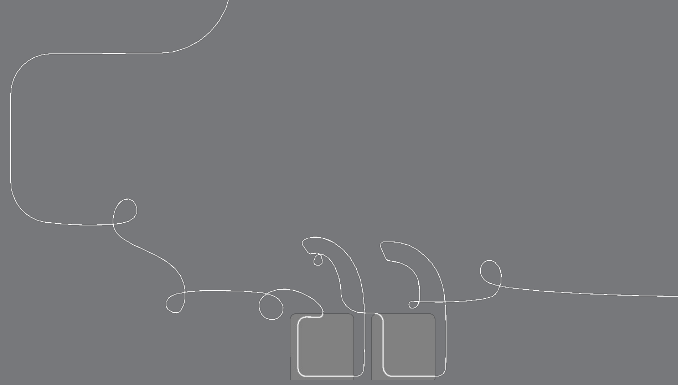
Hands: What will you do when you're teaching?



During this workshop did we meet our objectives?

Do you feel able to…

- Describe how students' conceptual understanding builds through the unit?
- Explain how students figure out the phenomenon throughout the unit?
- Make a plan for implementing Amplify Science within your class schedule and instructional format?



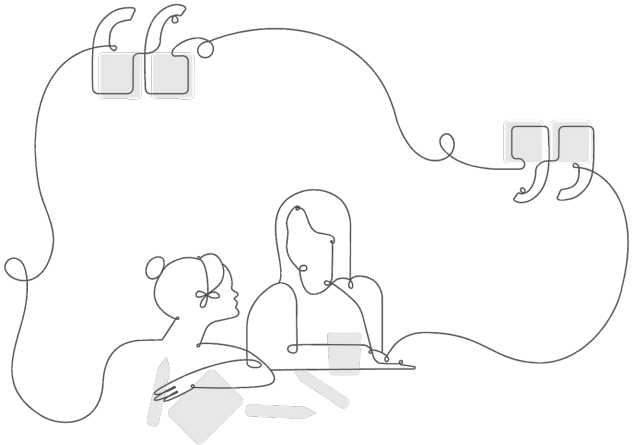
Final questions?

Upcoming LAUSD Office Hours

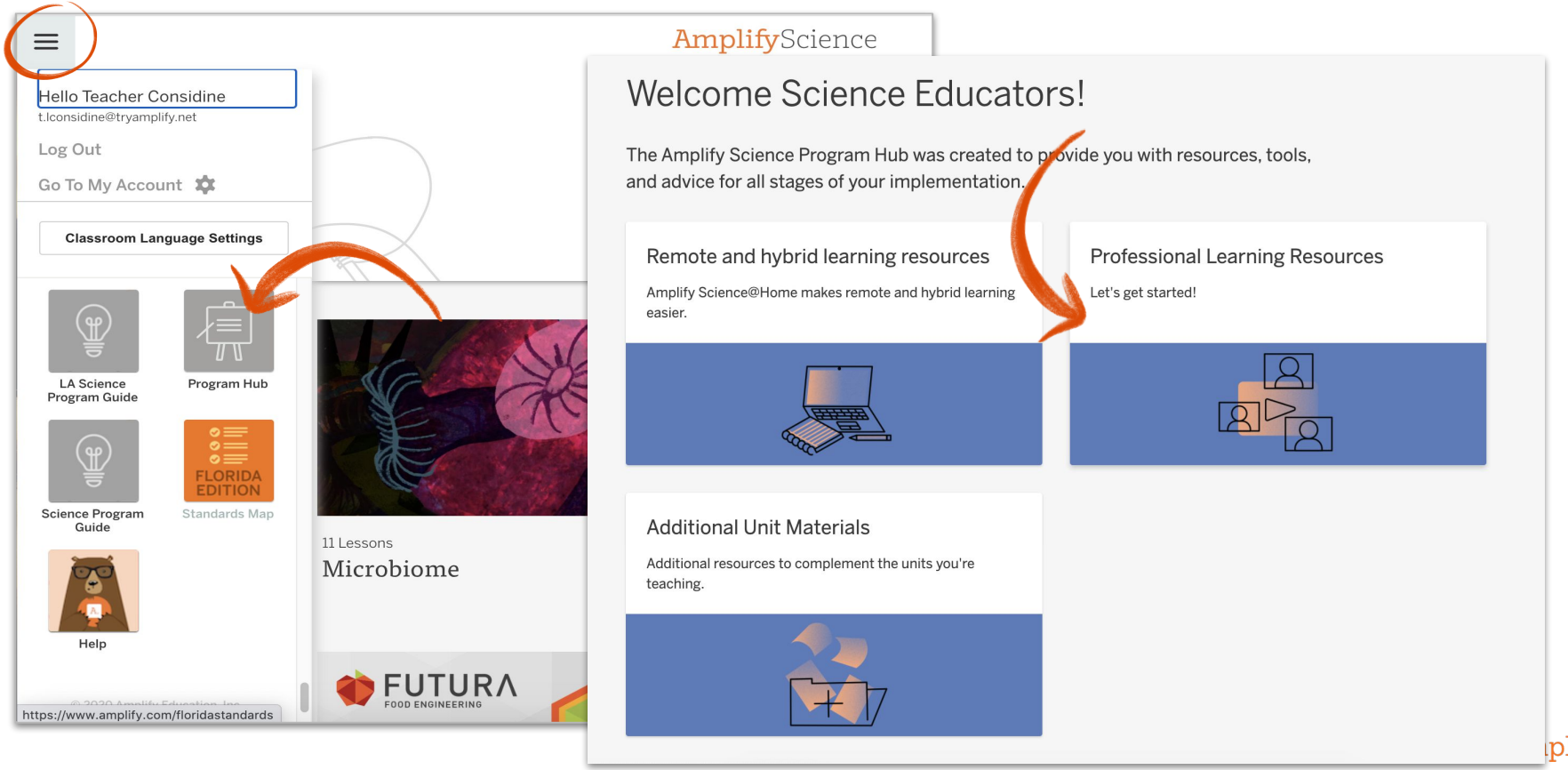
Twice Monthly on Thursdays, 4:30-5:30pm:

- May 13
- May 27

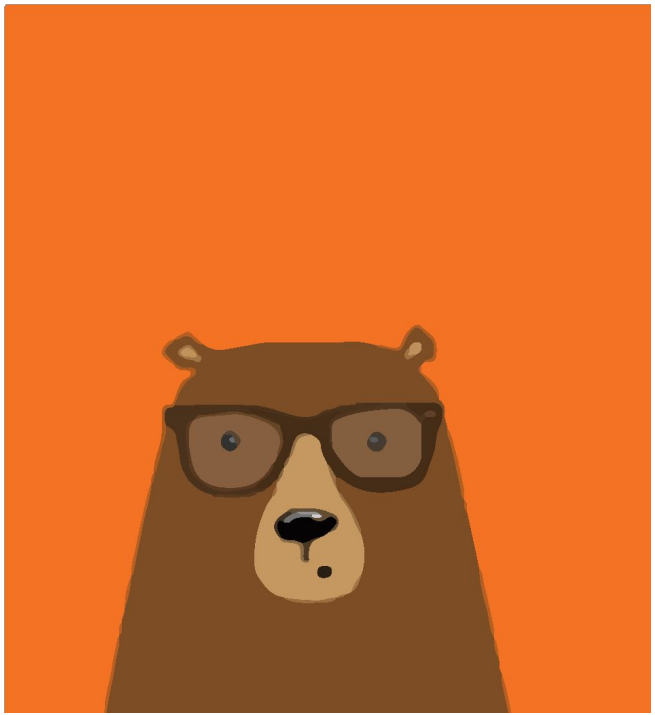
http://bit.ly/TK-6OfficeHours



Program Hub: Self Study Resources



Additional Amplify resources



Program Guide

Glean additional insight into the program's structure, intent, philosophies, supports, and flexibility.

https://cascience.wpengine.com/content/welcome-k-8/integrated-model/

Amplify Help

Find lots of advice and answers from the Amplify team.

my.amplify.com/help

Additional Amplify Support

Customer Care

Seek information specific to enrollment and rosters, technical support, materials and kits, and teaching support, weekdays 7AM-7PM EST.

scihelp@amplify.com

800-823-1969

Amplify Chat

When contacting the customer care team:

- Identify yourself as an Amplify Science user.
- Note the unit you are teaching.
- Note the type of device you are using (Chromebook, iPad, Windows, laptop).
- Note the web browser you are using (Chrome or Safari).
- Include a screenshot of the problem, if possible.
- Copy your district or site IT contact on emails.

Creating Assignments in Schoology

- Click Add Materials.
- Select Add Assignment.
- Fill out the Create Assignment form.
- Options. Use Options to turn on/off the following features: Use Individually Assign to only display the assignment to a specific member of the course or a grading group.
- Click Create to complete

LAUSD Shared Logins

AmplifyScience

Go to: my.amplify.com

A. Log In with Amplify

District Shared Logins		
Grade	**Username**	**Password**
Kindergarten	LAUSDscienceK	LAUSD1234
1	LAUSDscience1	LAUSD1234
2	LAUSDscience2	LAUSD1234
3	LAUSDscience3	LAUSD1234
4	LAUSDscience4	LAUSD1234
5	LAUSDscience5	LAUSD1234
6	LAUSDscience6	LAUSD1234
7	LAUSDscience7	LAUSD1234
8	LAUSDscience8	LAUSD1234