

Amplify Science CALIFORNIA

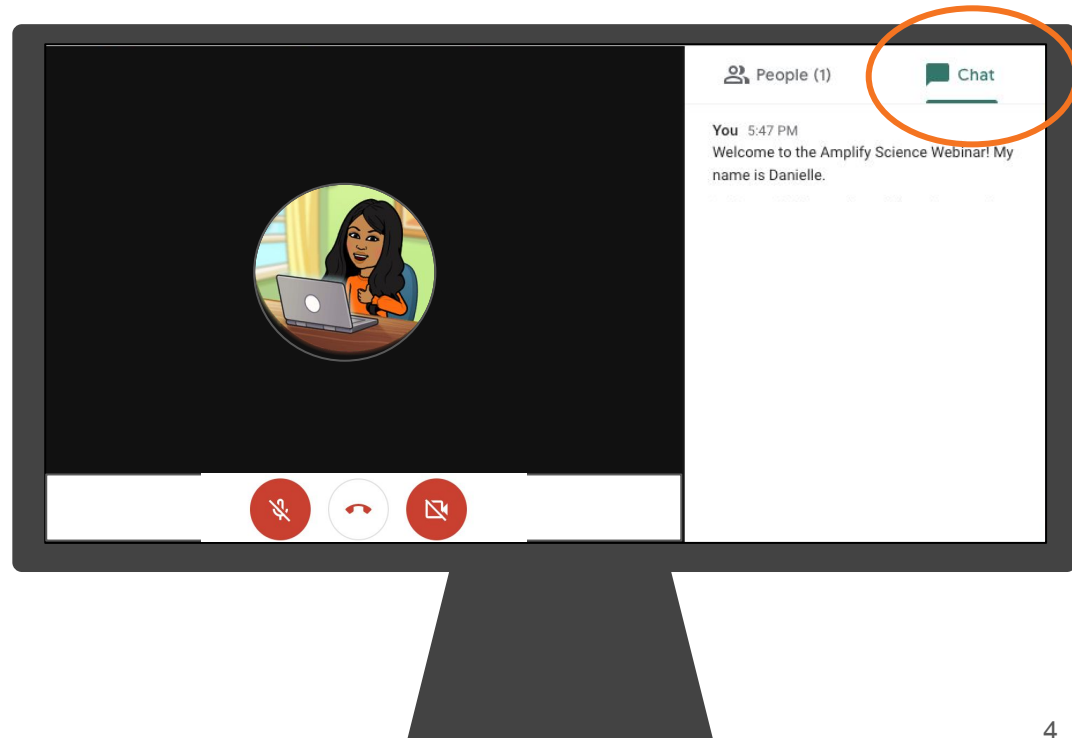
Navigating Program Essentials Grade 1



Introductions!

Who do we have in the room today?

- **Question 1:** Which aspects of adopting a new science curriculum are you most excited or hopeful about?
- **Question 2:** What about adopting a new science curriculum to do you feel most hesitant about?

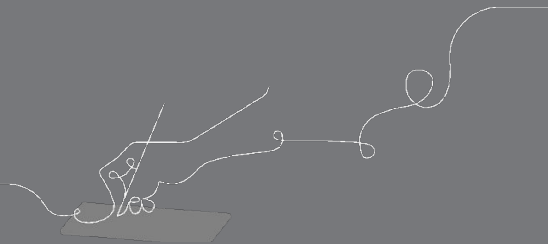


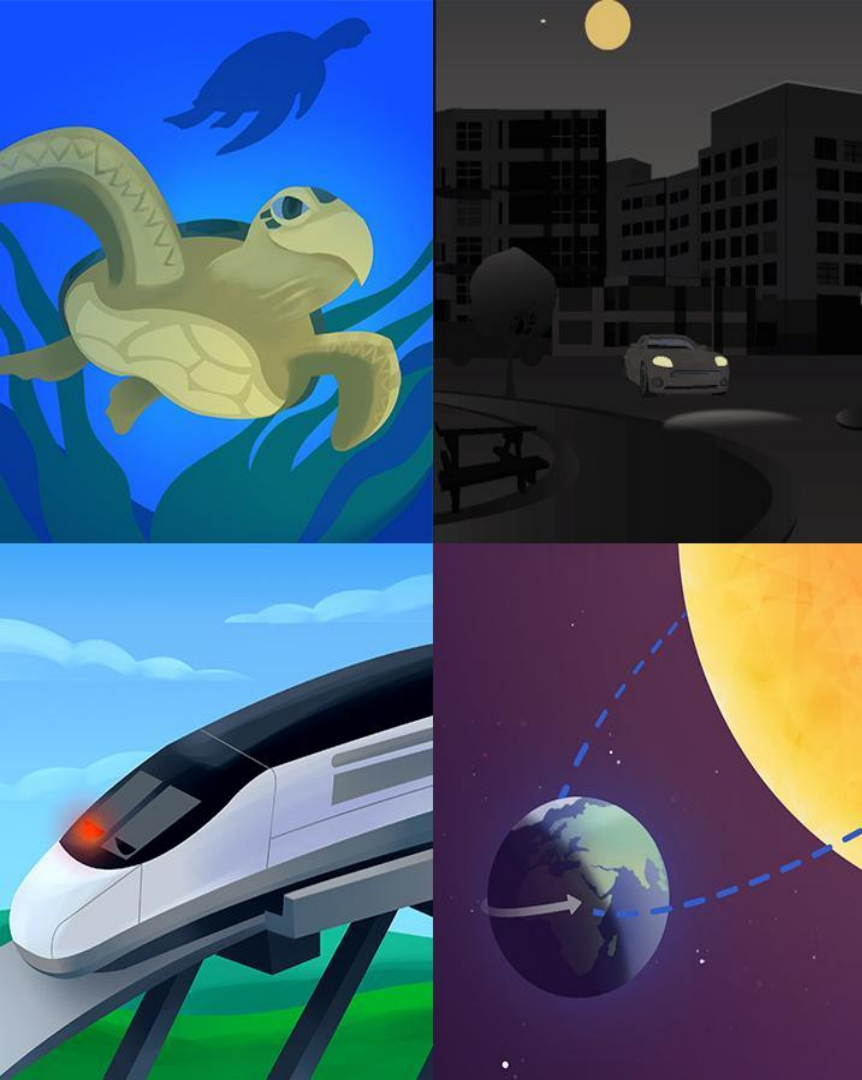
Objectives

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

- Navigate the Amplify Science curriculum
- Navigate the Program Hub

e





Plan for the day

- Introducing Amplify Science
- Navigation Essentials
- Assessments
- Remote & Hybrid Learning Resources
- Reflection and closing

Remote Professional Learning Norms



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



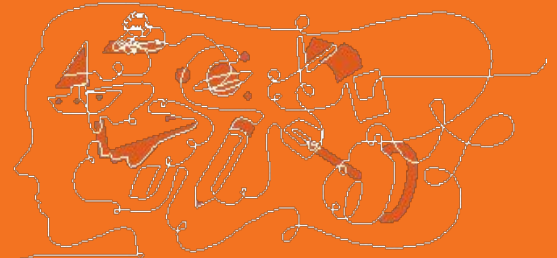
Engage at your comfort level - chat, ask questions, discuss, share!



Plan for the day

- **Introducing Amplify Science**
- Navigation Essentials
- Assessments
- Remote & Hybrid Learning Resources
- Reflection and closing

What is Amplify Science?



AmplifyScience

A new phenomena-based
core curriculum for grades K-8



THE LAWRENCE
HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

Amplify.

Year at a Glance: Grade 1

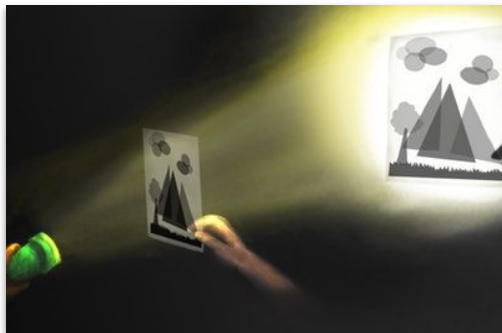


Animal and Plant Defenses

Domain: Life Science

Unit type: Modeling

Student role: Marine scientists



Light and Sound

Domains: Physical Science,
Engineering Design

Unit type: Engineering
design

Student role: Light and
sound engineers



Spinning Earth

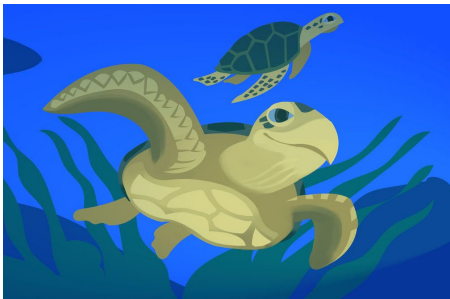
Domain: Earth and Space
Science

Unit type: Investigation

Student role: Sky scientists

Unit at a Glance: Animal and Plant Defenses

Modeling Unit



Animal and Plant Defenses

20 lessons

45 minutes each

2 assessment days

Domain: Life Science

Unit type: Modeling

Student role: Marine scientists

Phenomenon: Spruce the Sea Turtle lives in an aquarium and will soon be released back into the ocean, where she will survive despite ocean predators.

We're aquarium scientists.

How can Spruce the sea
turtle survive in the
ocean after an aquarium
releases it?

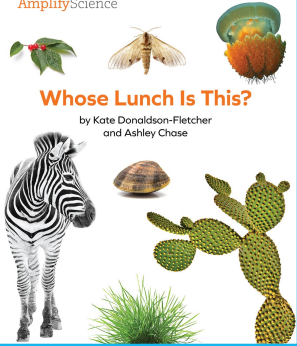
Grade 1



Animal and Plant Defenses

AmplifyScience

Whose Lunch Is This?

by Kate Donaldson-Fletcher
and Ashley Chase

Whose lunch is this?



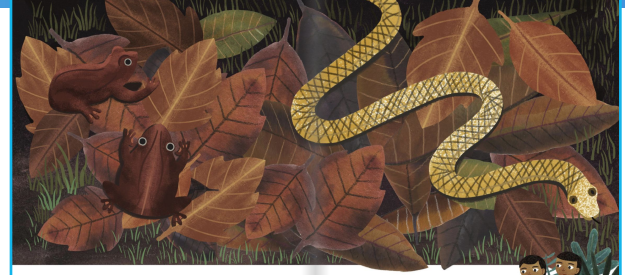
AmplifyScience

Spikes, Spines, and Shells: A Handbook of Defenses

by Chloé Delafeld



Reference Book



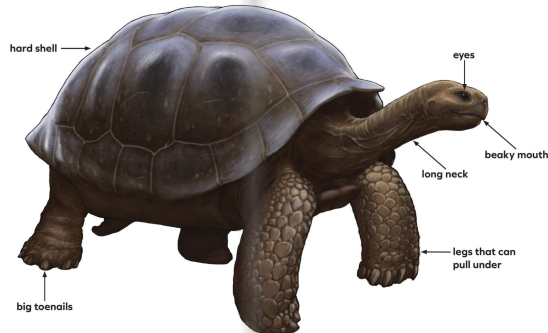
Luz saw two frogs in the leaves. Would the snake eat the frogs? The snake did not see the frogs and kept going.

4

Look, the frogs are brown. The frogs are shaped like leaves.

5

Tortoise Parts



Some parents **defend** their offspring. They keep their offspring safe.



When the offspring grow up, they defend themselves.

A zebra can be a lion's lunch! Lions are **predators**. That means they eat other animals. Lions have sharp teeth and claws. These body **structures** help lions catch animals to eat. Lions need to eat animals. That's the only way lions can survive.

22 Lessons

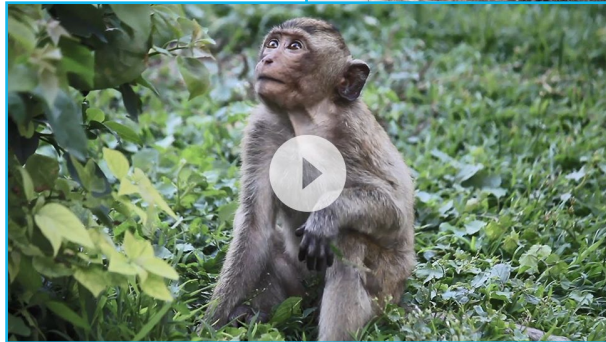
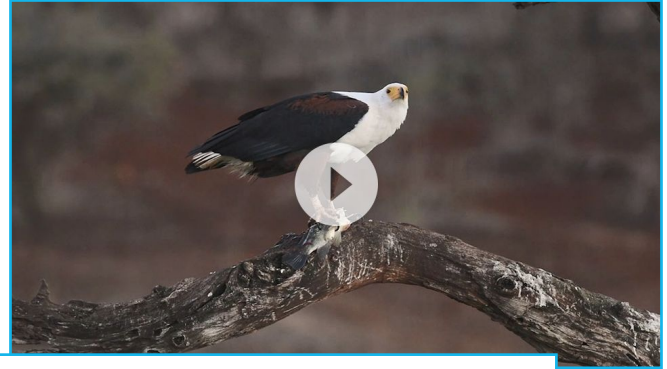
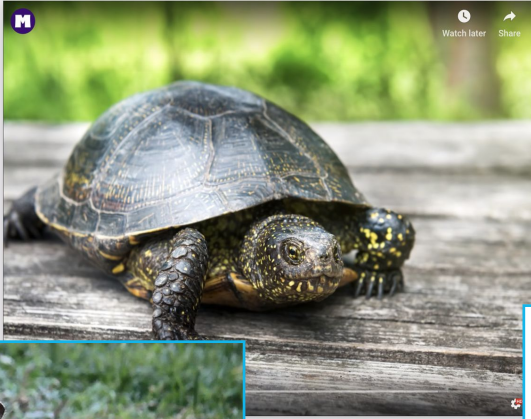
Animal and Plant Defenses

MYSTERYscience

Order

Ask Anything

Lauren



Observing Structures We Use to Eat



1.

Partner A eats a carrot.
Partner B observes.



2.

Partners switch.



3.

Partner B eats a carrot.
Partner A observes.

Animal and Plant Defenses

00:00 05:19

Hedgehogs



What Are They?

Hedgehogs are small animals that live in the forest. They eat worms, insects, eggs, berries, and roots.

What Is Their Defense?

Hedgehogs are covered with **spines**. Hedgehogs can roll up so only their spines are showing. When a hedgehog sees, hears, or smells a **predator**, it rolls into a ball.



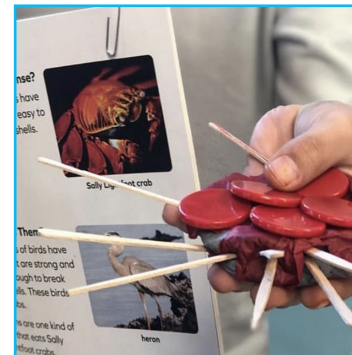
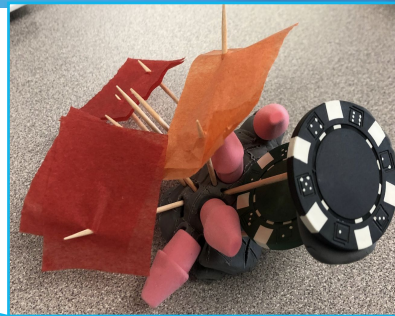
hedgehog rolling into a ball

What Eats Them?

Badgers can eat hedgehogs. Badgers have sharp teeth and big claws that can get past a hedgehog's spiky **defense**.



badger



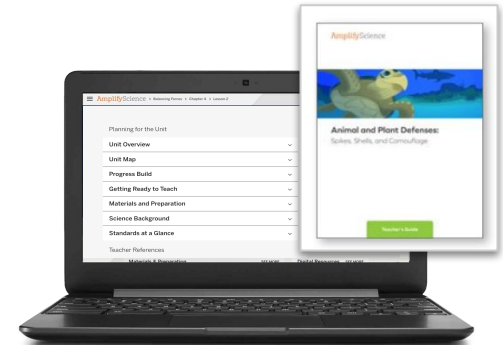
Elementary school components



Hands-on materials



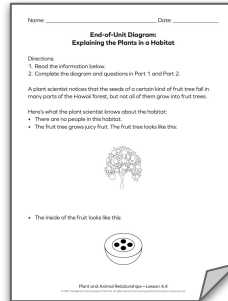
Student books



Teacher's Guide (Digital + Print)



Investigation Notebooks



Assessments




Classroom Slides


Classroom Slides

Each lesson will have a downloadable and editable PowerPoint file to help guide teachers and their students through the lesson.


61




62




63




64




65



66

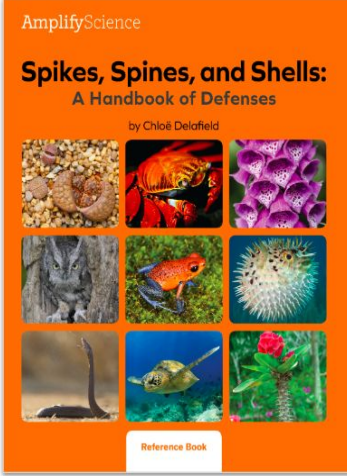


67



Lesson 2.3: Introducing Modeling

Activity 1




AmplifyScience

Spikes, Spines, and Shells:
A Handbook of Defenses


by Choiël Delafeld


Reference Book



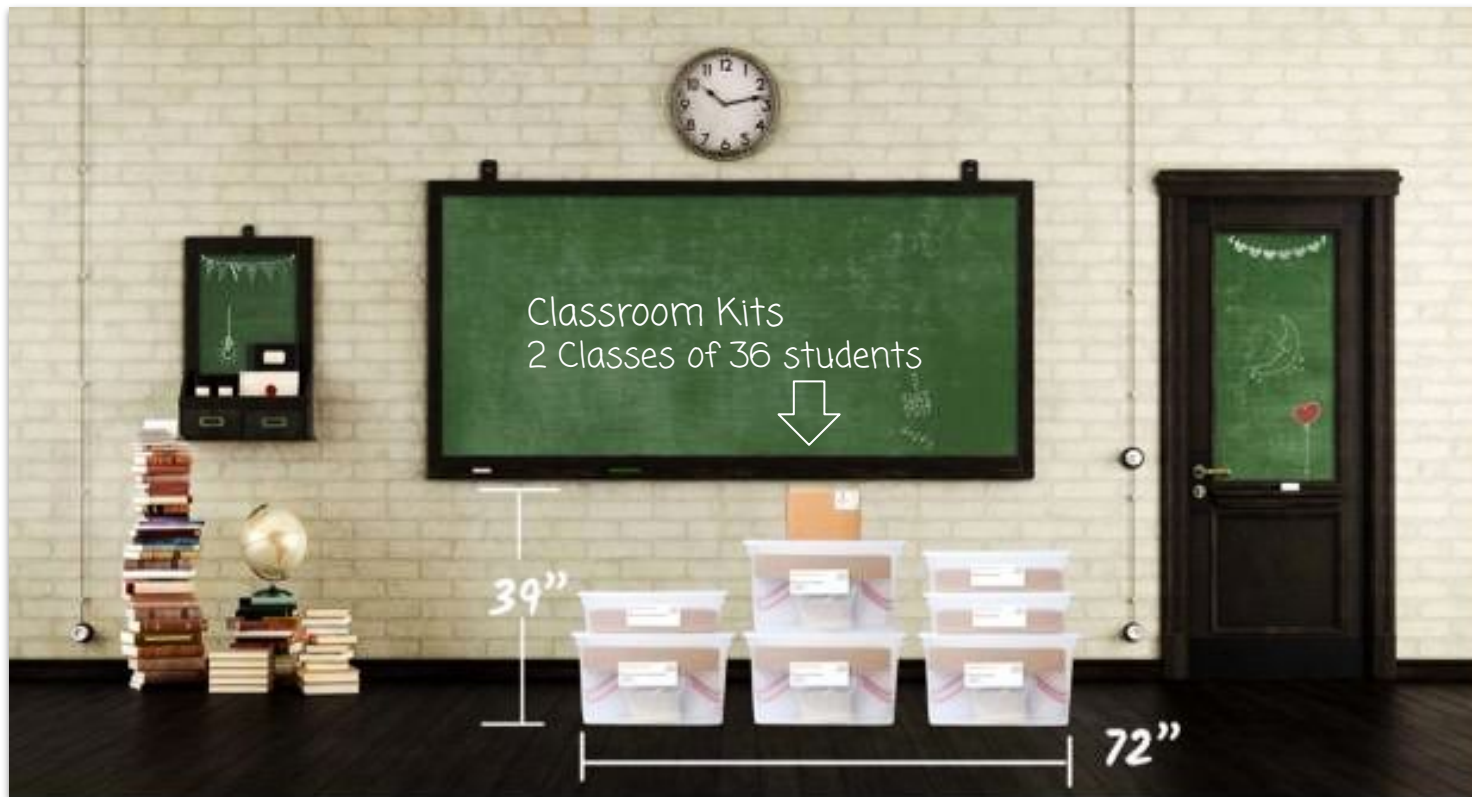
Look through the book and **visualize** how animals and plants use their **structures** to keep from being eaten.

Amplify.

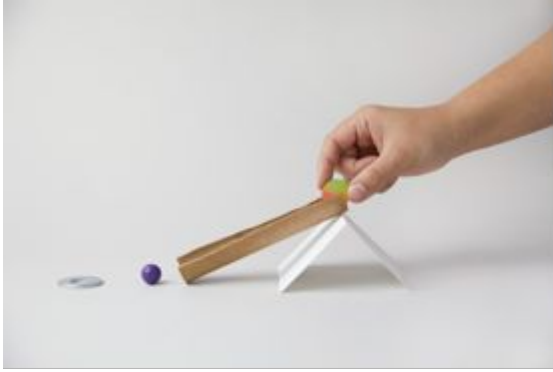
 **Teacher action:**
Distribute one copy of the book to each pair of students and have partners begin browsing. Circulate and observe as partners browse and discuss the images in the book. Then, call on volunteers to share.

 **Teacher action:**
Collect the books.

Classroom Kits



Hands On Learning Materials



Classroom Wall Print Materials

Unit Question

How do animals and plants survive?

Chapter 1 Question How does Spruce the sea turtle do what she needs to do to survive?

Key Concepts

Key Concept: Many animals use their sharp structures to make animals and plants easier to eat.

Vocabulary

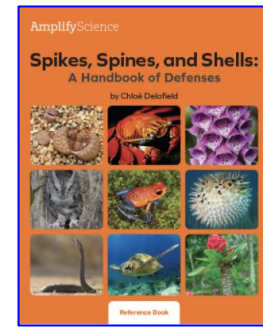
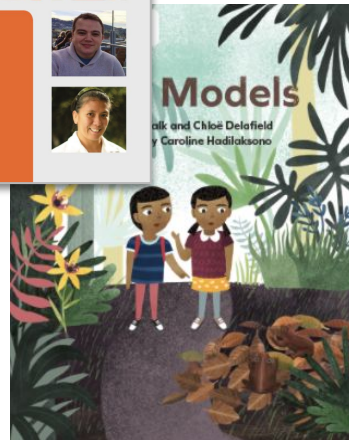
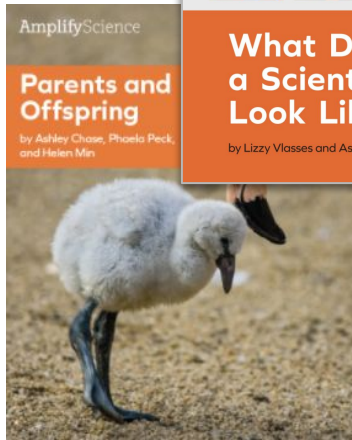
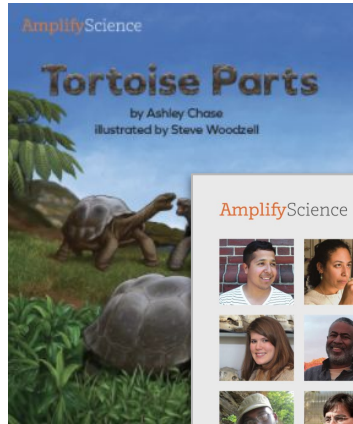
environment

survive

sense

scientist

Literacy Integration



Introduction

Animals and plants have **defenses**. A defense is something that helps an animal or plant **survive**, or stay alive. Animals and plants **defend** themselves in different ways.

In this book you will learn about four kinds of defenses: **camouflage**, shells and **armor**, spikes and **spines**, and **poison** and **venom**. Many kinds of plants and animals have more than one defense.



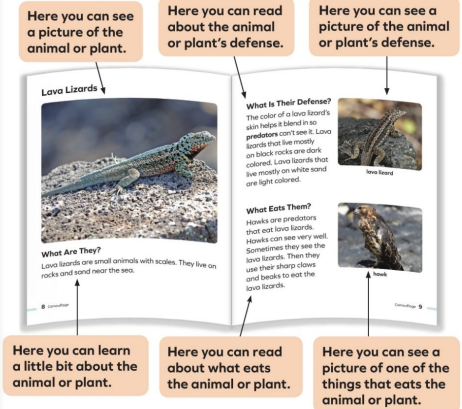
lizard trying to eat a spiky cactus



bird trying to eat a turtle

What's in This Book

This page shows an example of what is in this book. Each animal or plant in the book has two pages that tell you about it.



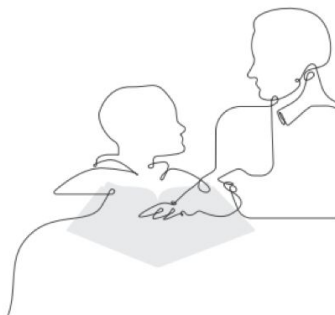
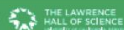
Content connections

Amplify Science CALIFORNIA

Grades K–5

Amplify Science and Benchmark Advance crosswalk

authored by



Grade K

Benchmark unit 10

Amplify Science

Unit title

The Power of Electricity: Where Do Scientific Discoveries Lead Us?

Energy Conversions: Blackout in Ergstown

Students play the role of systems engineers for Ergstown, a fictional town that experiences frequent blackouts. They explore reasons why an electrical system can fail, choose new energy sources and energy converters for the town, and use evidence to explain why their choices will make the town's electrical system more reliable.

Next Generation Science Standards

4-PS3-2: Energy can be Transferred
4-PS3-4: Design an Energy Converter
4-ESS3-1: Energy and Fuels

4-PS3-1: Relationship Between Speed and Energy
4-PS3-2: Energy can be Transferred
4-PS3-3: Collisions
4-PS3-4: Design an Energy Converter
4-ESS3-1: Energy and Fuels
3-5-ETS1-1: Defining the Problem
3-5-ETS1-2: Developing Possible Solutions
Crosscutting Concepts: Systems and Systems Models; Energy and Matter; Structure and Function; Cause and Effect

ELA reading standards

- **Reading Informational Text:** RI.4.1; RI.4.2; RI.4.6; RI.4.7; RI.4.8; RI.4.9; RI.4.10
- **Writing:** W.4.1; W.4.1A; W.4.1B; W.4.1C; W.4.1D; W.4.4; W.4.5; W.4.6; W.4.7; W.4.8; W.4.9B; W.4.10
- **Speaking and Listening:** SL.4.1; SL.4.2; SL.4.3; SL.4.4; SL.4.5; SL.4.6
- **Language:** L.4.4.A; L.4.4.C; L.4.6

- **Reading Informational Text:** RI.4.1; 4.2; 4.3; 4.4; 4.6; 4.7; 4.10
- **Writing:** W.4.1; 4.2; 4.4; 4.8; 4.9; 4.10
- **Speaking and Listening:** SL.4.1; 4.4; 4.6
- **Language:** L.4.6

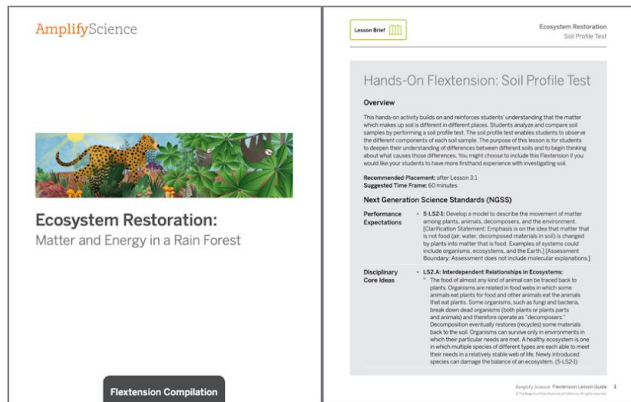
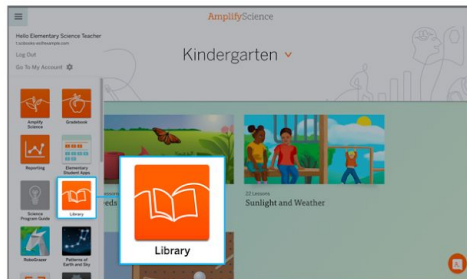
Math standards

- **Math Practices:** MP.1; 2; 4; 5
- **Math Content:** 4.OA.3; 4.NBT.2; 4.NBT.4; 4.MD.5.A; 4.MD.6

Foundational reading standards

- RF.4.3.A

Amplify Science: Additional Resources



Hands-on Flexextensions

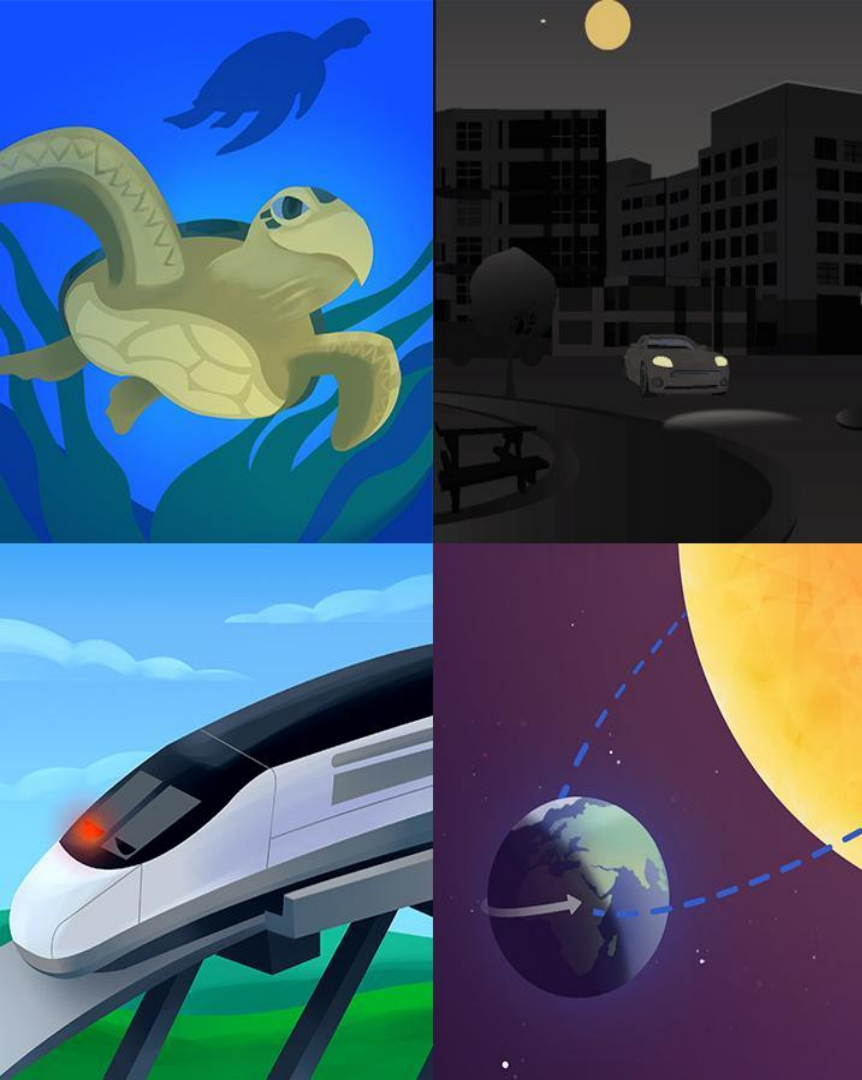


New digital K–5
Student Books

MYSTERY
science



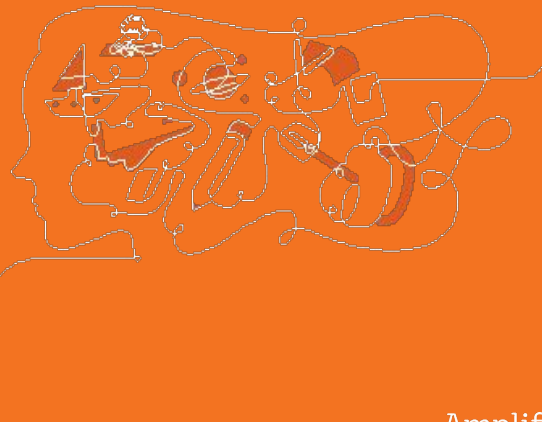
Questions?



Plan for the day

- Introducing Amplify Science
- **Navigation Essentials**
- Assessments
- Remote & Hybrid Learning Resources
- Reflection and closing

Navigation Essentials



Schoology Apps

You should have these 2 apps in schoology



1. **ES School Student Edition** - downloading this app pushes the content to students (**students DO NOT need to download anything**)



2. **Teacher Edition** - downloading this app gives full teacher access - **this is the app that teachers will ACTUALLY USE**

Schoology Apps

To join Amplify ES Group:

W4PK-W466-63F5B

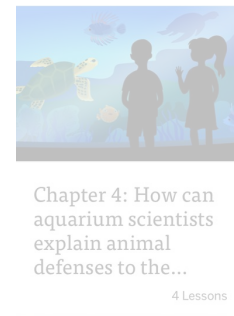
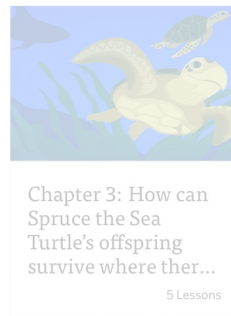
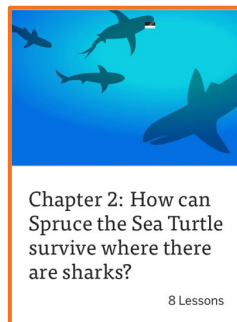
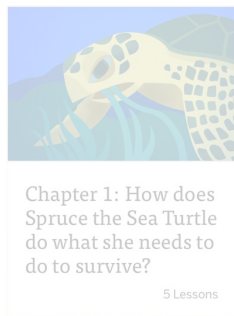


Unit

Unit Structure



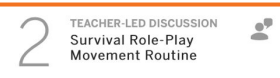
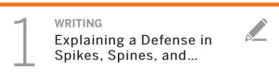
Chapters



Lessons



Activities



Lesson 1.2: Tortoise Parts

Lesson Brief
(3 Activities)

1 READING
Reading: Tortoise Parts

2 HANDS-ON
Observing Structures Used
to Eat

3 TEACHER-LED
DISCUSSION
Discussing Observations
and Structures

RESET LESSON

GENERATE PRINTABLE LESSON GUIDE

Step 2

Overview

Materials &
Preparation

Step 4

Differentiation
Standards
Vocabulary

Overview

Step 3

Learn about how animals use the structures of their bodies to help meet their survival needs. The teacher introduces the visualizing strategy and leads a Shared Reading of *Tortoise Parts* to provide students with examples of how an animal uses its structures to do what it needs to do to survive. Partners observe each other eating carrots to gather evidence of how another animal, a human, uses its structures to get and eat food. Students share these observations with the class and make connections to how the tortoise uses its structures in *Tortoise Parts*. The teacher introduces the What Scientists Do chart as a place to record how students work as scientists throughout the unit. The purpose of this lesson is to lay

Step 1

Digital Resources

Classroom Slides 1.2 | PowerPoint

What Scientists Do Chart—Completed

4 Steps for Preparing to Teach

Step 1:

Download Classroom Slides

Step 2:

Read the Lesson Overview

Step 3:

Read the Materials and Preparation section

Step 4:

Read the Differentiation

Chapter 1: How does Spruce the Sea Turtle do what she needs to do to survive?



Investigation Question:
What do animals and plants need to do to survive?



Multiple sources of evidence



Which living things
survived in Round 1 of
the game?

Students are introduced to the unit phenomenon.



Unit Question

How do animals and plants survive?

Chapter 1 Question

How does Spruce the Sea Turtle do what she needs to do to survive?

scientist

Students engage in the Pre-Unit Assessment Conversation.



Students play the Survival Game.

Investigation Question:

What do animals and plants need to do to survive?

survive

To survive, animals and plants need to get
water, air, and food.



Key Concept

To survive, animals and plants need to get
water, air, and food.

Classroom Wall

Unit Question

How do animals and plants survive?

Chapter 1 Question How does Spruce the sea turtle do what she needs to do to survive?

Key Concepts

Key Concept: To survive, animals need to get air, water, and food.

Vocabulary

environment

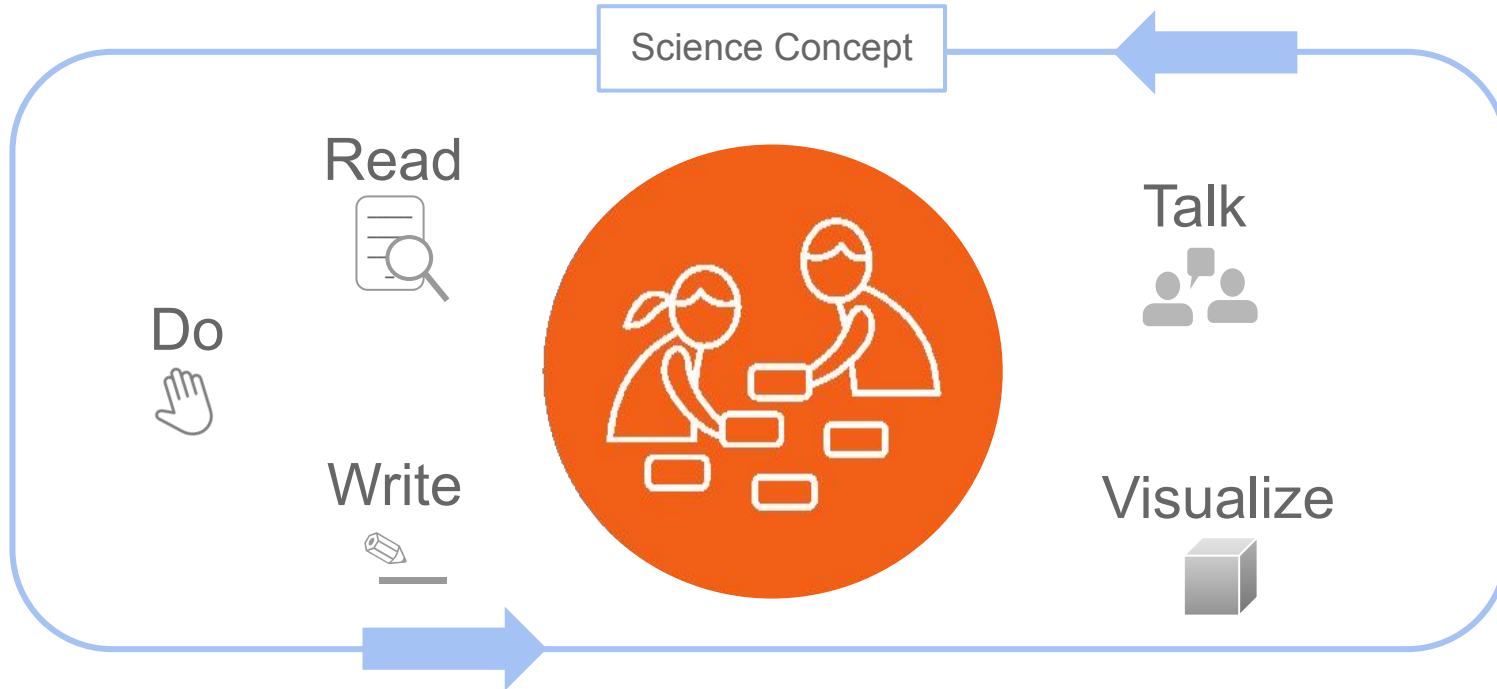
survive

sense

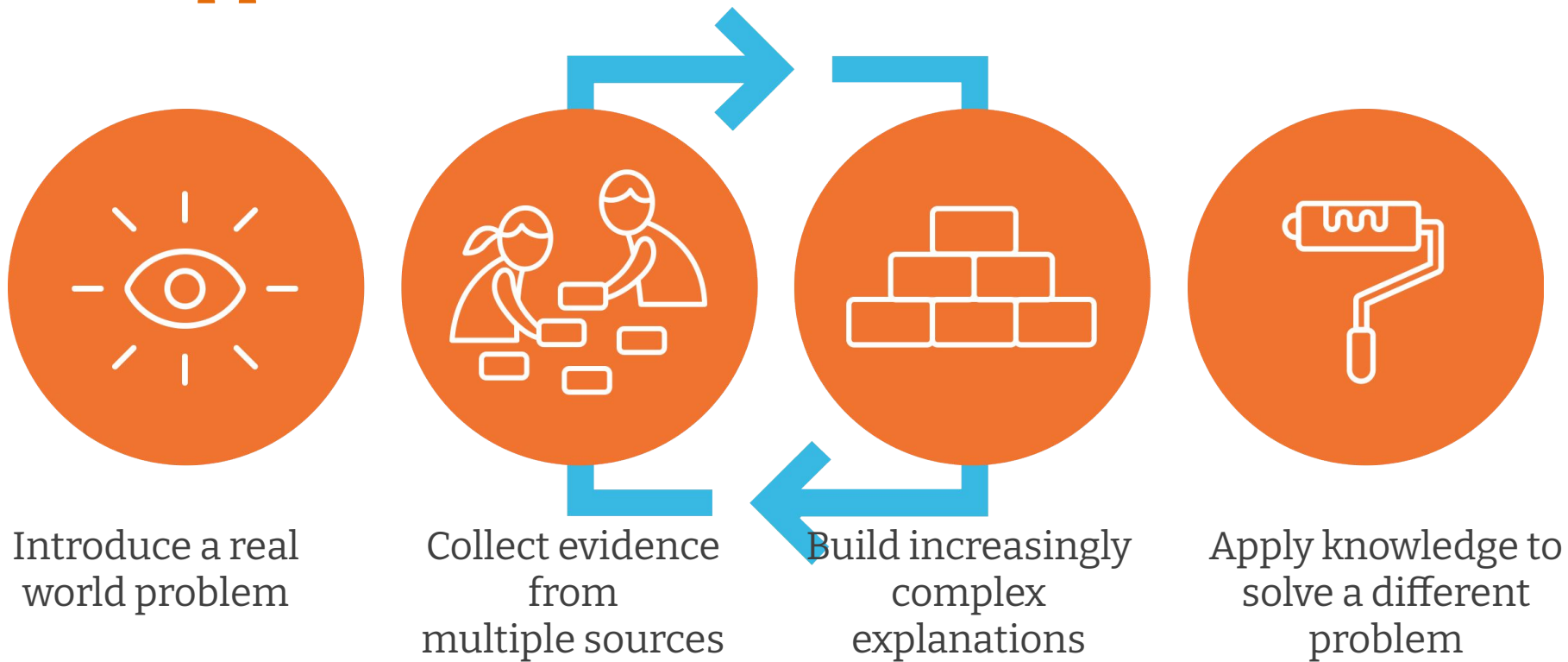
scientist

Multimodal learning

Gathering evidence from different sources



The approach



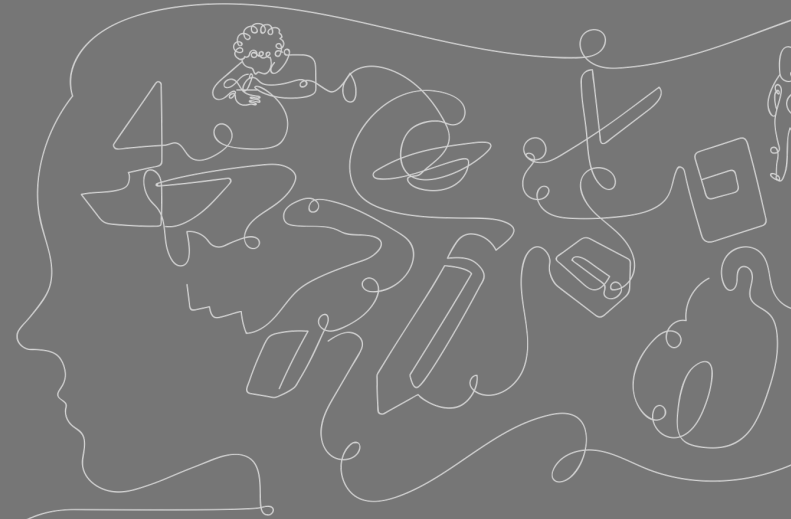


Questions?



Group Chat

How do you normally prepare to teach a lesson?



First Days of Teaching

Day 1	Day 2	Day 3	Day 4	Day 5
1.1: Pre-Unit Assessment Structures Prep: 15-45 min ----- 1: Introducing Spruce the Sea Turtle (10 min.) 2: Leading a Pre-Unit-Assessment Conversation (15 min.) 3: Playing the Survival Game (20 min.)	1.2: Tortoise Parts Prep: 20 min ----- 1: Reading: Tortoise Parts (20 min.) 2: Observing Structures Used to Eat (15 min.) 3: Discussing Observations and Structures (10 min.)	1.3: Animal and Plant Structures Prep: 15 min ----- 1: Describing Tortoise Structures (10 min.) 2: Observing Animal and Plant Structures (15 min.) 3: Describing Animal and Plant Structures (10 min.) 3: Structures in Spikes, Spines, and Shells (10 min.)	1.4: Surviving by Not Being Eaten Prep: 25 min ----- 1: Revisiting the Survival Game (15 min.) 2: Explaining Not Being Eaten (15 min.) 3: Writing About Survival (15 min.)	1.5: Explaining Sea Turtle Survival Prep: 15 min ----- 1: Gathering Evidence About Sea Turtle Structures (15 min.) 1: Explaining Use of Structures for Survival (10 min.) 2: Writing About Spruce's Survival (15 min.) 3: Reflecting on Being a Scientist (5 min.)

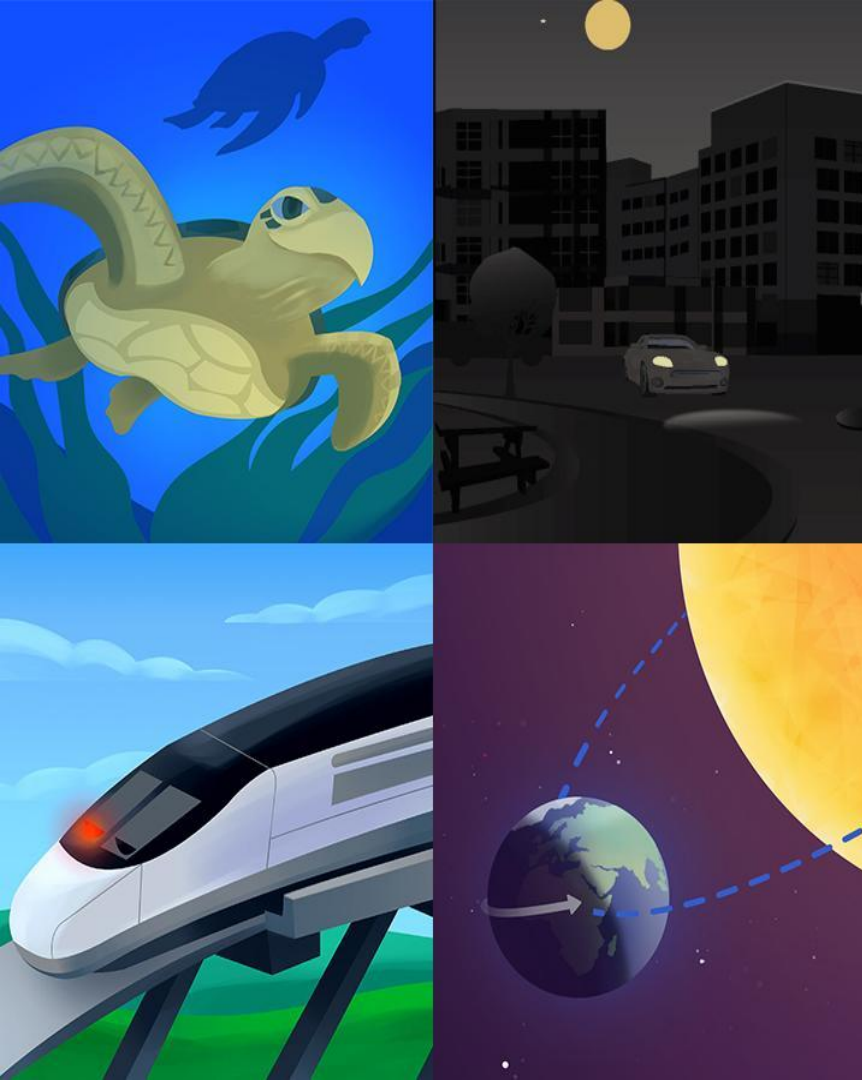
How are students thinking
and solving problems like a
scientist?

What might your students be
challenged by?





Questions?



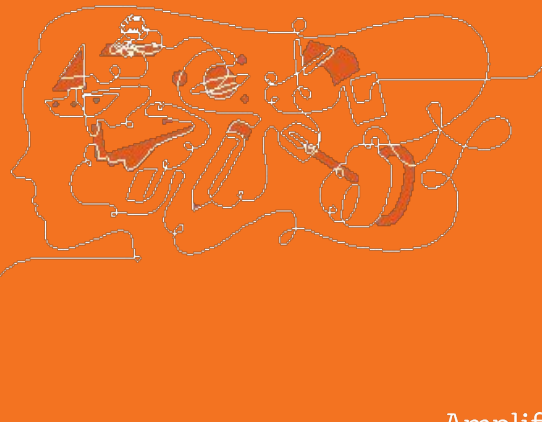
Plan for the day

- Introducing Amplify Science
- Navigation Essentials
- **Assessments**
- Remote & Hybrid Learning Resources
- Reflection and closing



Assessments

How do students show you
what they know?



Amplify Science Assessment System

Credible

- Assessments provide reliable information about student learning

Actionable

- Assessments provide actionable suggestions

Timely

- Assessments are embedded into instruction

Types of Assessments



Formative Assessments

Used to guide instruction

Pre-Unit

Designed to gauge students' initial understanding and pre-conceptions about core ideas in the unit.

On-the-Fly

Quick check for understanding designed to help monitor and support student progress throughout the unit.

Critical Juncture

Designed to occur at points in the unit in which it is especially important that students understand the content before continuing.



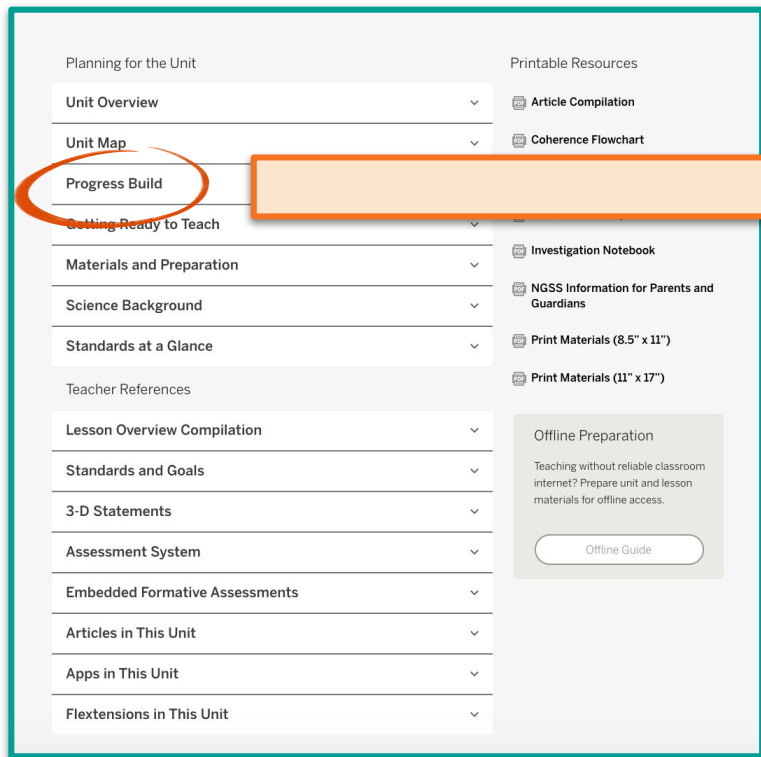
Summative Assessments

Used to measure student learning at the end of instruction

End-of-Unit

Final evaluation of students' understanding of core ideas in the unit.

Progress Build



The screenshot shows a web interface for 'Planning for the Unit'. On the left is a vertical menu with the following items: Unit Overview, Unit Map, Progress Build (circled in orange), Getting Ready to Teach, Materials and Preparation, Science Background, Standards at a Glance, Teacher References, Lesson Overview Compilation, Standards and Goals, 3-D Statements, Assessment System, Embedded Formative Assessments, Articles in This Unit, Apps in This Unit, and Flextensions in This Unit. On the right, under 'Printable Resources', are links for Article Compilation, Coherence Flowchart, Investigation Notebook, NGSS Information for Parents and Guardians, Print Materials (8.5" x 11"), and Print Materials (11" x 17"). Below these is an 'Offline Preparation' section with a description and an 'Offline Guide' button. A large orange arrow points from the 'Progress Build' link in the menu to the right-hand page.

Animal and Plant Defenses 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 *Animal and Plant Defenses: Spikes, Shells, and Camouflage* 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 *Animal and Plant Defenses* unit, students will learn to construct scientific explanations of why animals' and plants' offspring are able to survive in areas where there are animals that might eat them.

Prior Knowledge (preconceptions): It is assumed students know that animals and plants are living things and can die if they do not get what they need. Students are expected to begin the unit with some ideas about plants' and animals' basic needs, such as light, water, and food, but they will have the opportunity to learn about a more comprehensive set of needs.

Progress Build Level 1: Avoiding Being Eaten

To survive, animals and plants must not be eaten by animals that try to eat them for food.

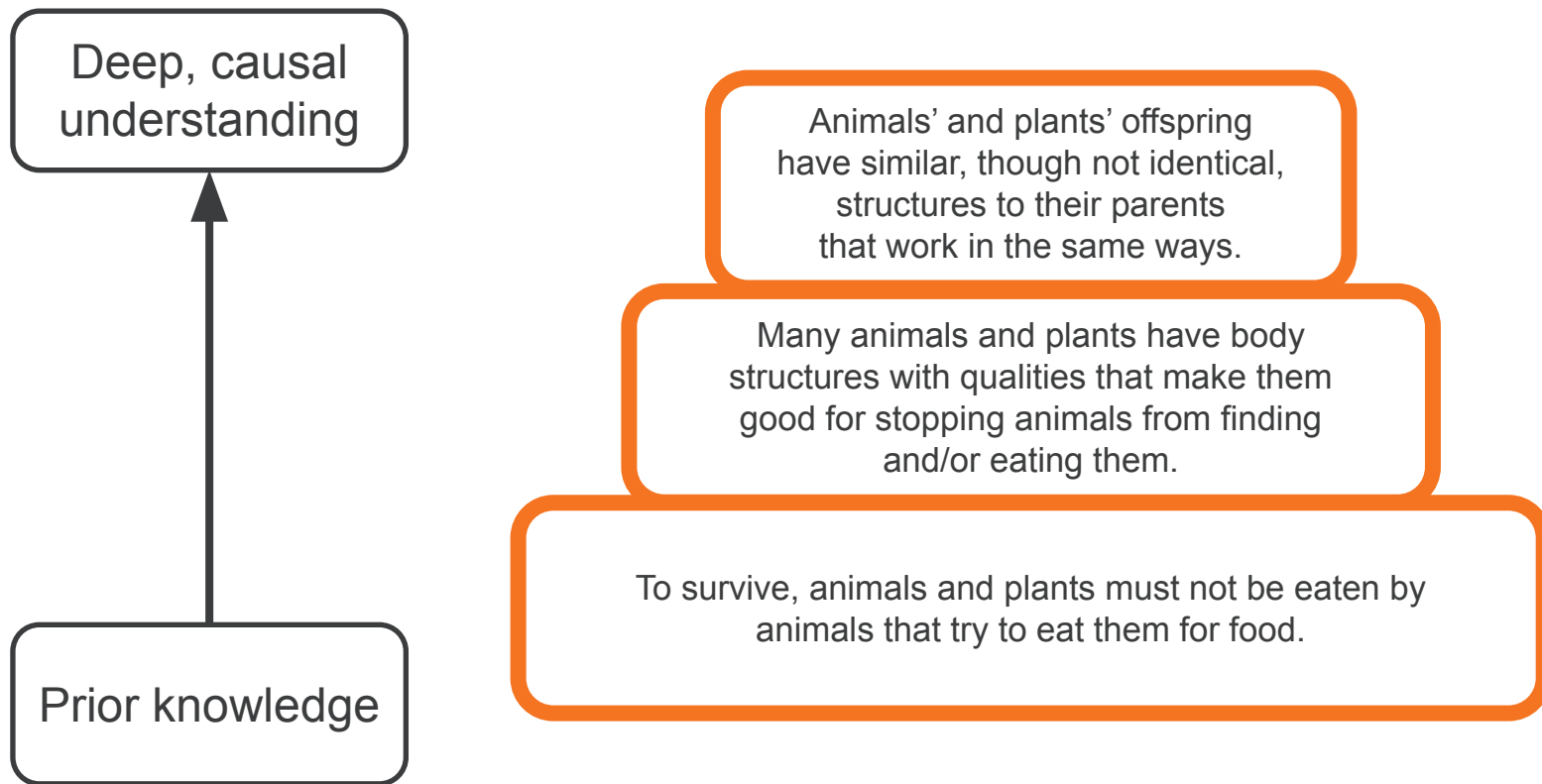
Progress Build Level 2: Structures for Defense

To survive, animals and plants must not be eaten by animals that try to eat them for food. **Many animals and plants have body structures with qualities that make them good for stopping animals from finding and/or eating them.**

Progress Build Level 3: Offspring's Structures

To survive, animals and plants must not be eaten by animals that try to eat them for food. Many animals and plants have body structures with qualities that make them good for stopping animals from finding and/or eating them. **Animals' and plants' offspring have similar, though not identical, structures to their parents that work in the same ways.**

Animal and Plant Defenses Progress Build



Assessment System



Deep, causal understanding

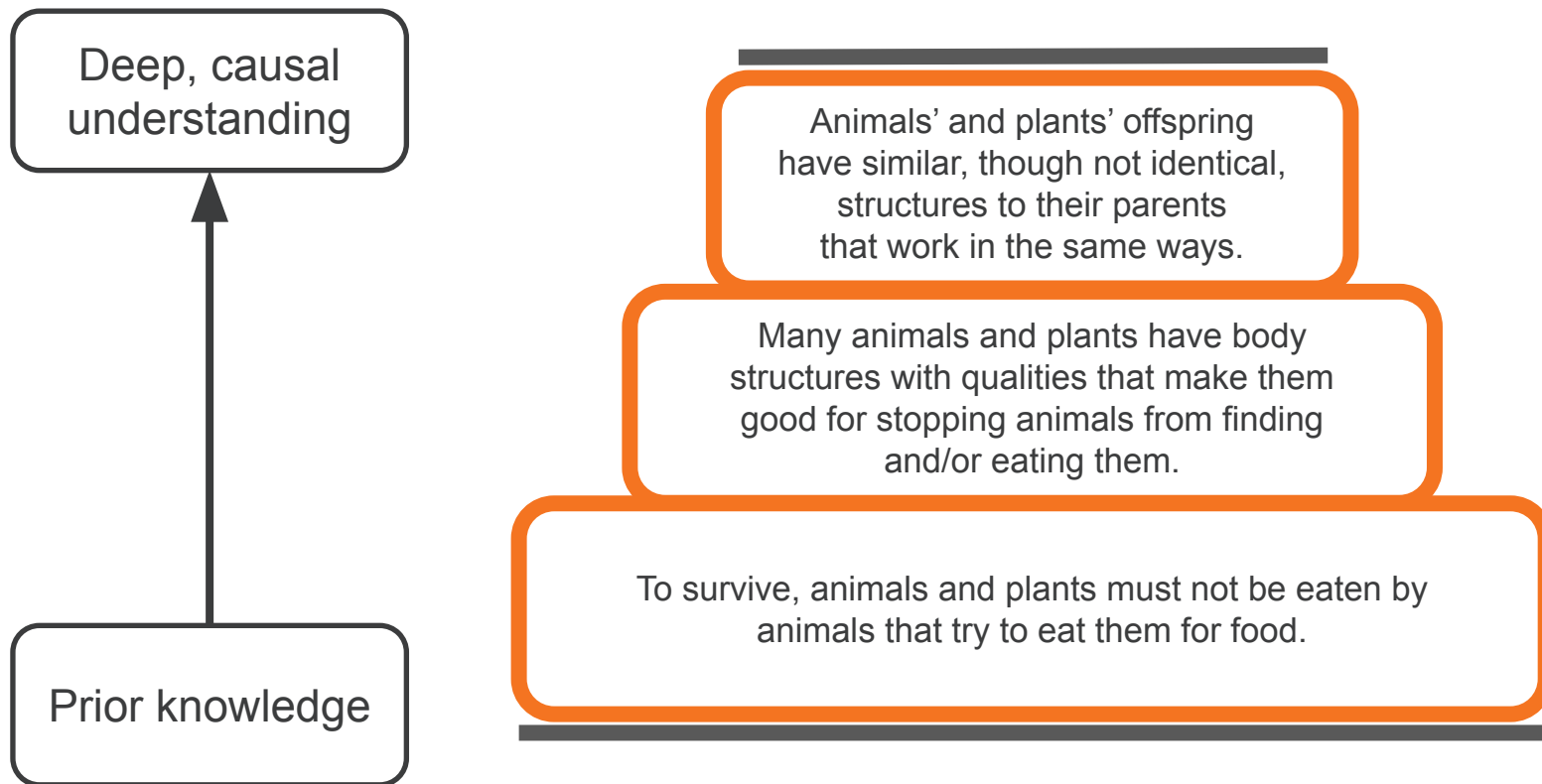
Prior knowledge

Animals' and plants' offspring have similar, though not identical, structures to their parents that work in the same ways.

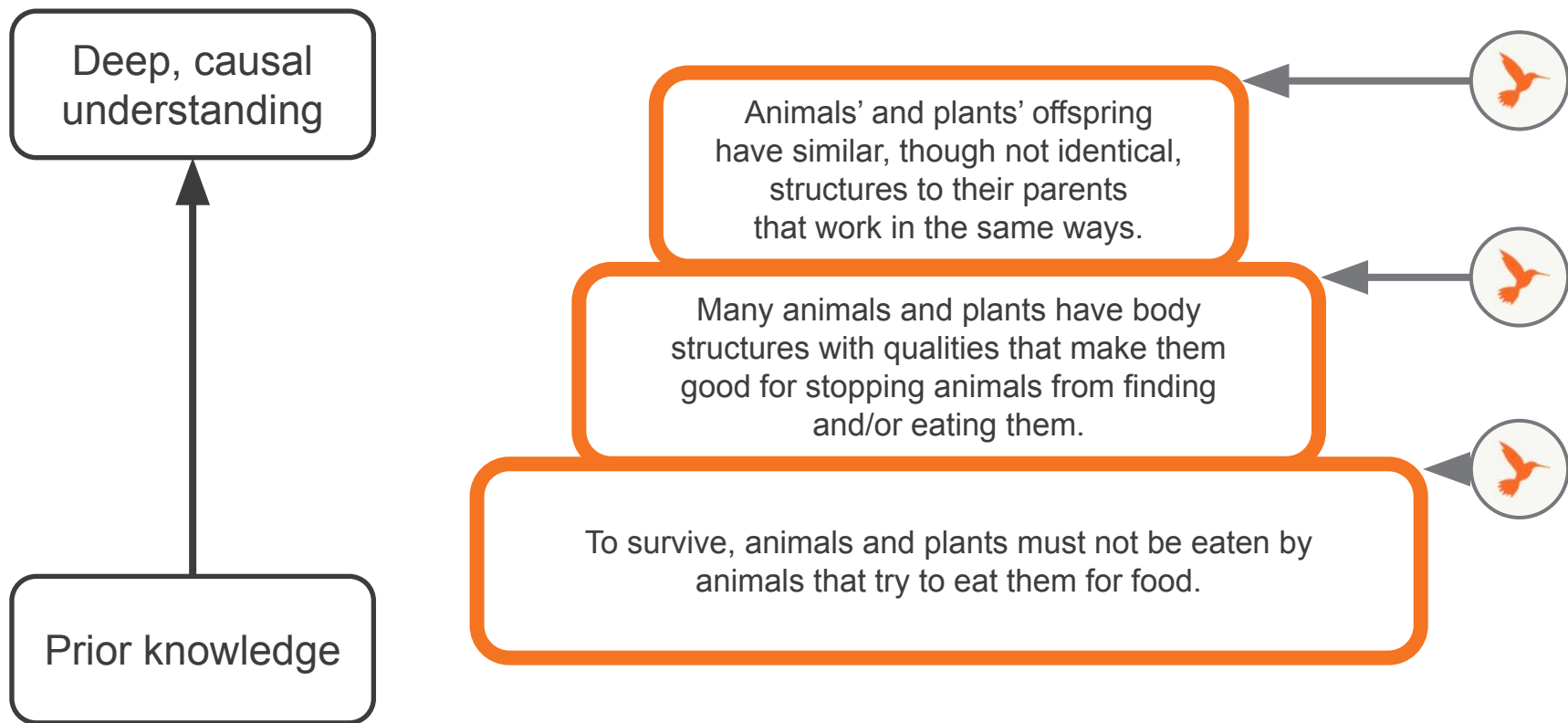
Many animals and plants have body structures with qualities that make them good for stopping animals from finding and/or eating them.

To survive, animals and plants must not be eaten by animals that try to eat them for food.

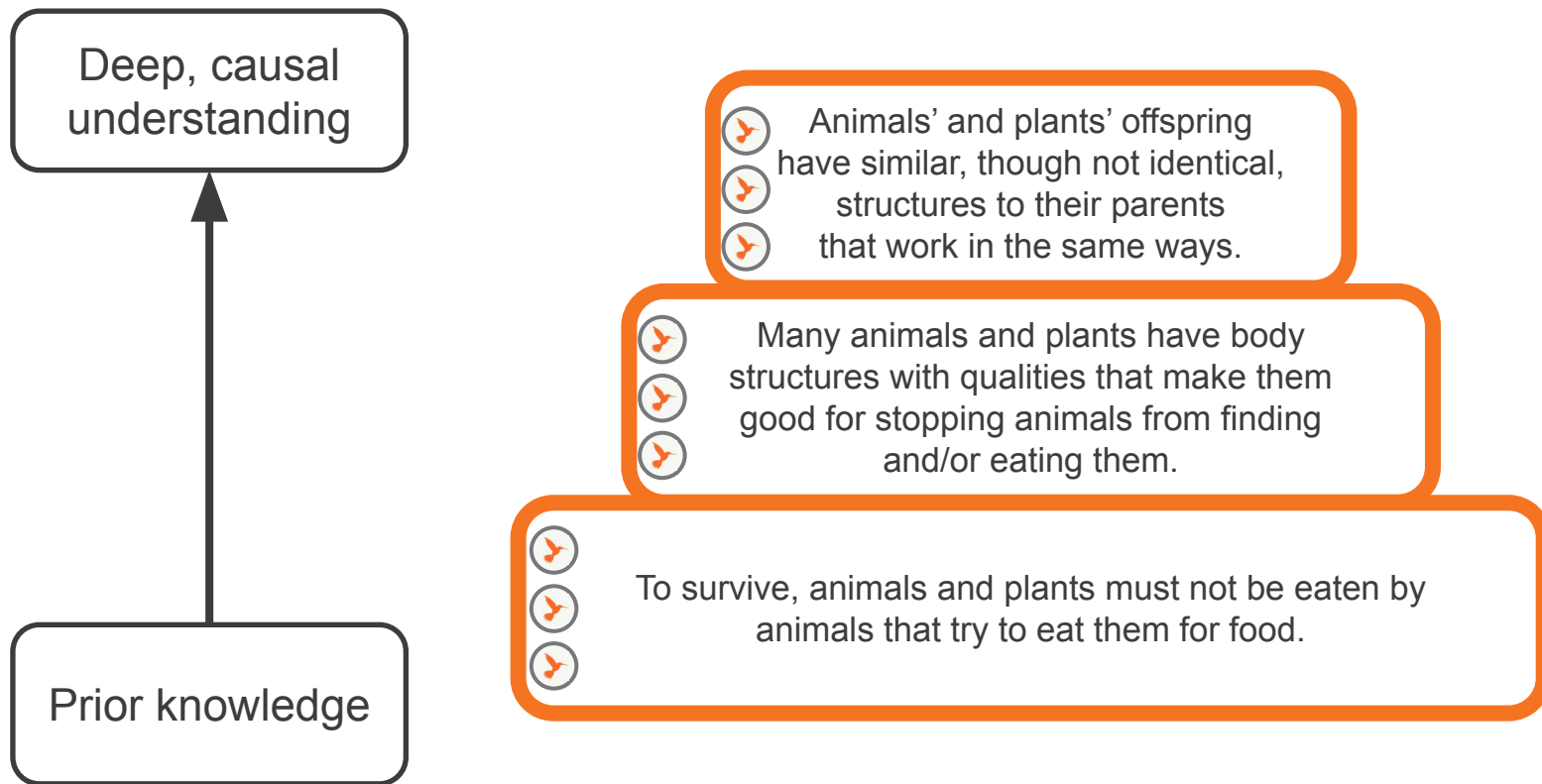
Pre- and End-of-Unit Assessments



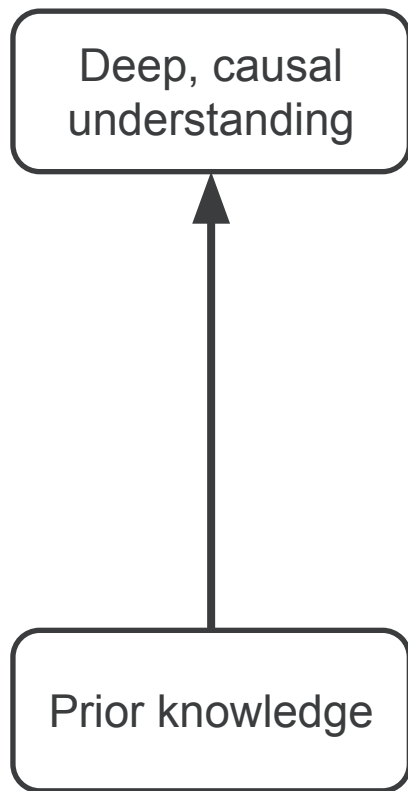
Critical Juncture Assessments



On-the-Fly Assessments



Self-Assessments

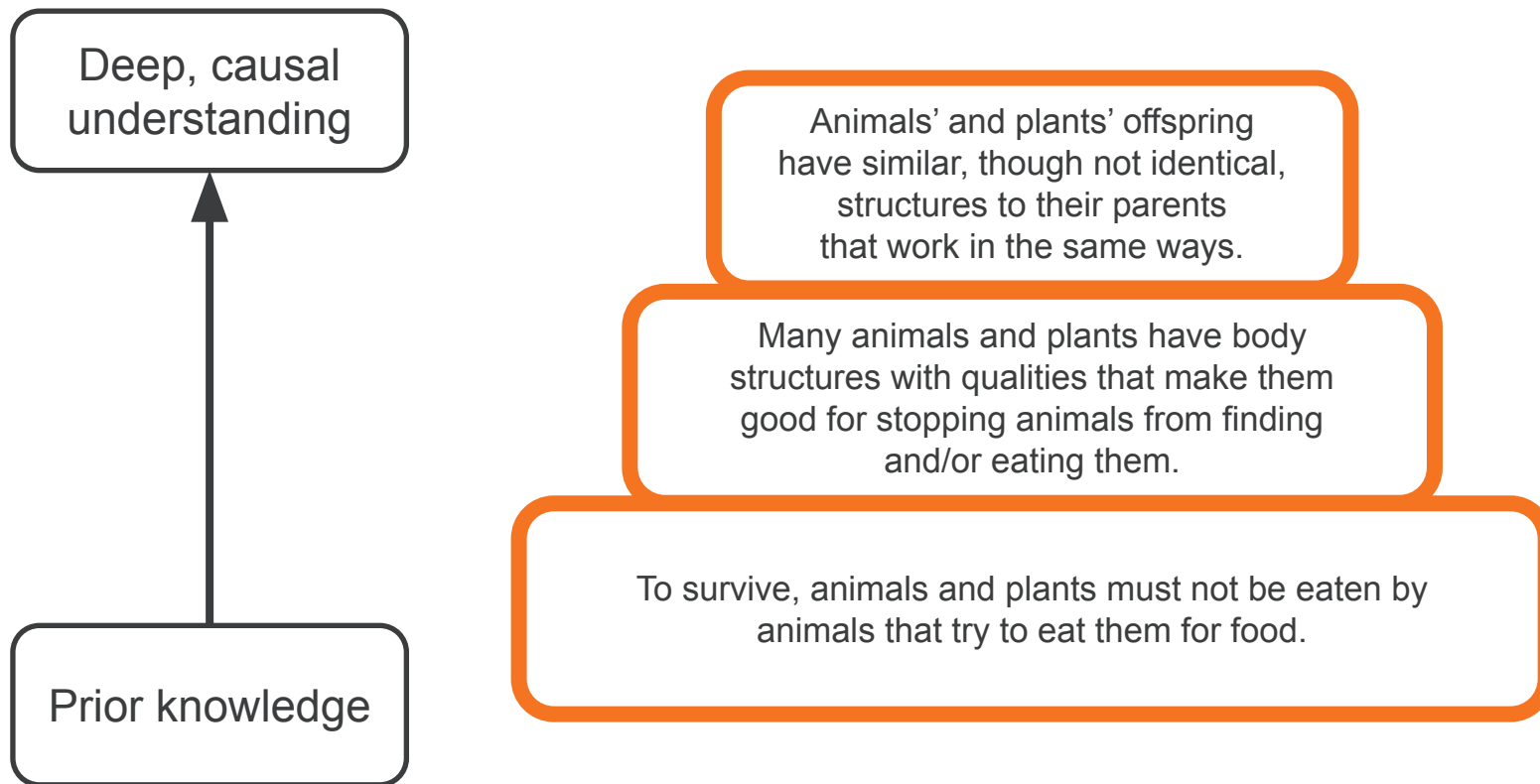


Animals' and plants' offspring have similar, though not identical, structures to their parents that work in the same ways. 😊

Many animals and plants have body structures with qualities that make them good for stopping animals from finding and/or eating them. 😊

To survive, animals and plants must not be eaten by animals that try to eat them for food. 😊

Investigation Assessment



Investigation Assessments



Grade	Unit Title
Kindergarten	Sunlight and Weather
First Grade	Light and Sound
Second Grade	Plant and Animal Relationships
Third Grade	Balancing Forces
Fourth Grade	Vision and Light
Fifth Grade	Patterns of Earth and Sky

Portfolio Assessment

Deep, causal understanding



Prior knowledge

Animals' and plants' offspring have similar, though not identical, structures to their parents that work in the same ways.

Many animals and plants have body structures with qualities that make them good for stopping animals from finding and/or eating them.

To survive, animals and plants must not be eaten by animals that try to eat them for food.

Locating Assessment Resources

The screenshot displays the Amplify curriculum interface. On the left, a sidebar lists various resources under the heading 'Teacher References'. An orange arrow points to the 'Assessment System' link. The main content area shows a grid of chapter cards for 'Spruce the Sea Turtle' and a list of printable resources. A callout box on the right provides a detailed view of the 'Teacher References' section, highlighting the 'Assessment System' and 'Embedded Formative Assessments' links with orange borders.

Teacher References

- Lesson Overview Compilation
- Standards and Goals
- 3-D Statements
- Assessment System**
- Embedded Formative Assessments**
- Books in This Unit

Chapter Cards:

- Chapter 1: How does Spruce the Sea Turtle do what she needs to do to survive? 5 Lessons
- Chapter 2: How can Spruce the Sea Turtle survive where there are sharks? 8 Lessons
- Chapter 3: How can Spruce the Sea Turtle's offspring survive where there are sharks? 5 Lessons
- Chapter 4: How can aquarium scientists explain animal defenses to the... 4 Lessons

Printable Resources:

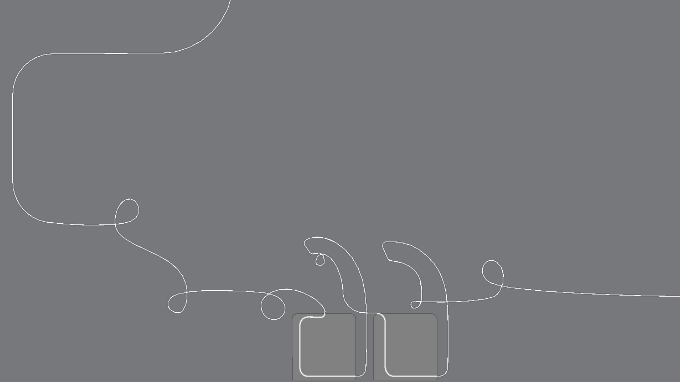
- Coherence Flowcharts
- Copymaster Compilation
- Investigation Notebook
- Multi-Language Glossary
- NCSS Information for Parents and Guardians
- Print Materials (8.5" x 11")
- Print Materials (11" x 17")

Offline Preparation:

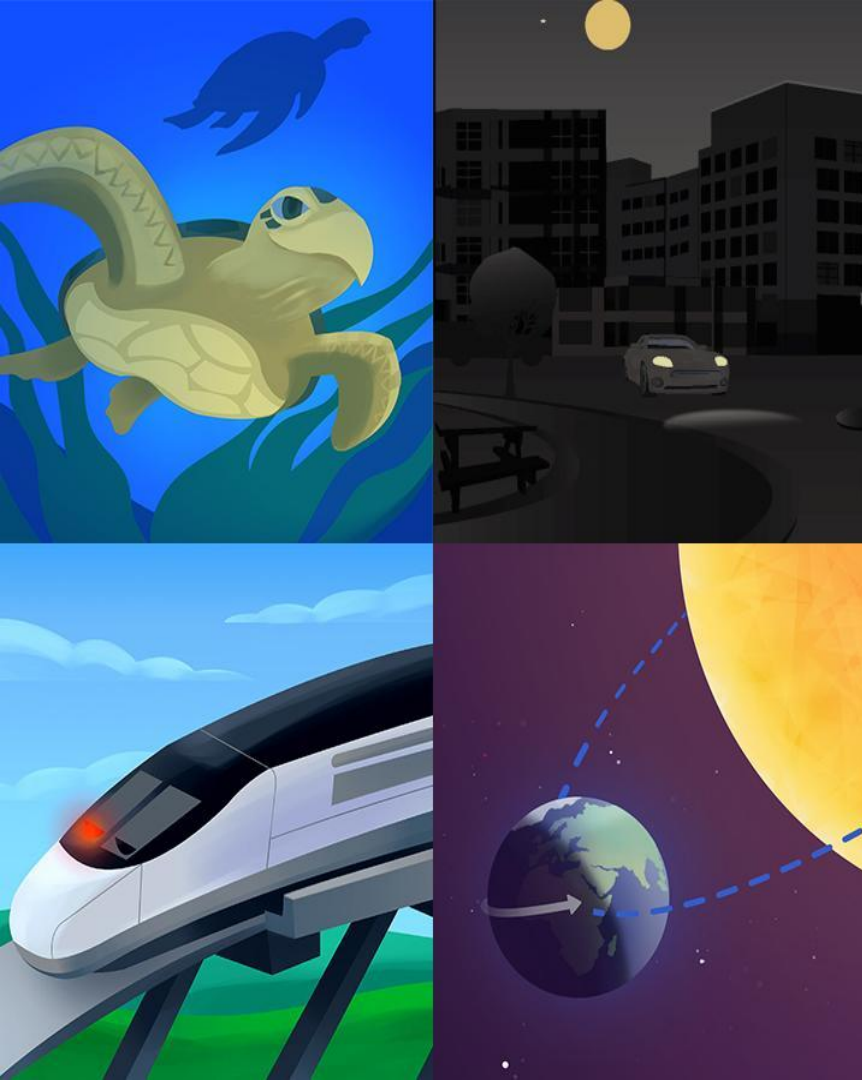
Teaching without reliable classroom internet? Prepare unit and lesson materials for offline access.

Offline Guide

Self-Assessment



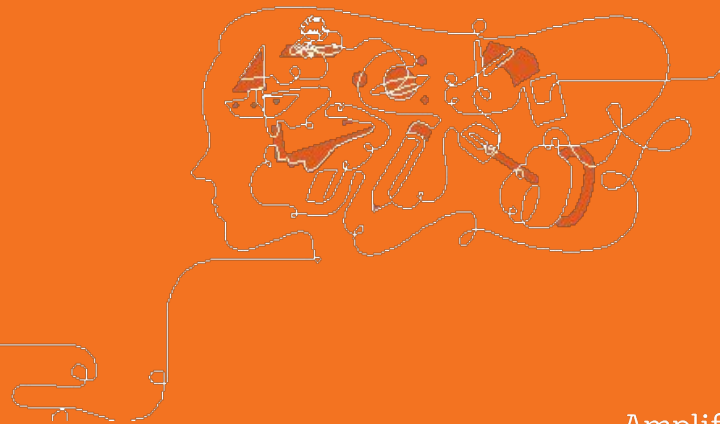
- Which questions have we answered?
- What new questions do you have?



Plan for the day

- Introducing Amplify Science
- Navigation Essentials
- Assessments
- **Remote & Hybrid Learning Resources**
- Reflection and closing

Remote/Hybrid Learning Resources



AmplifyScience@Home

A suite of new resources designed to make extended remote and hybrid learning easier for teachers and students.



AmplifyScience@Home

- Built for a variety of instructional formats
- Digital and print-based options
- No materials required
- Available in English and Spanish (student and family materials)
- Accessible on the Amplify Science Program Hub



AmplifyScience@Home

Two different options:

@Home Units

- Packet or slide deck versions of Amplify Science units condensed by about 50%

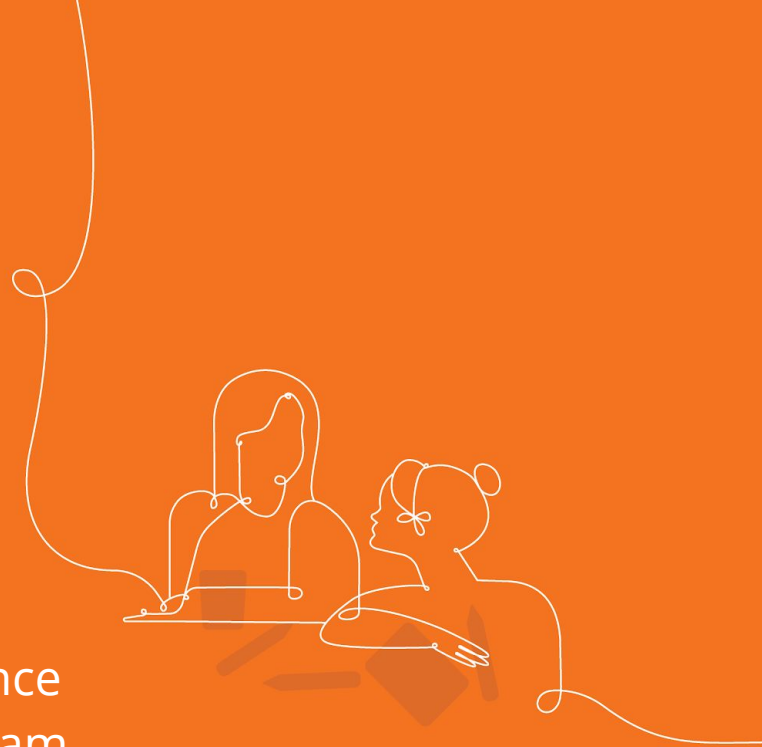
@Home Videos

- Video playlists of Amplify Science lessons, taught by real Amplify Science teachers



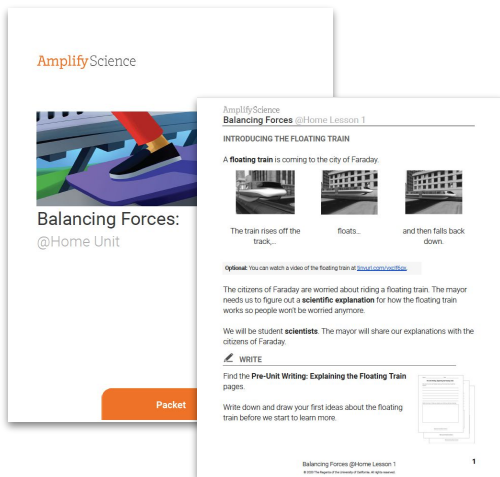
@Home Units

Strategically modified versions of Amplify Science units, highlighting key activities from the program

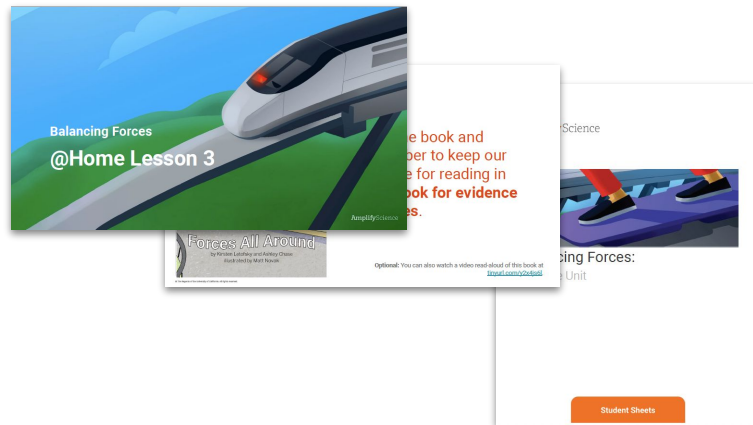


@Home Units

- Solution for **reduced instructional time**
- Two options for student access



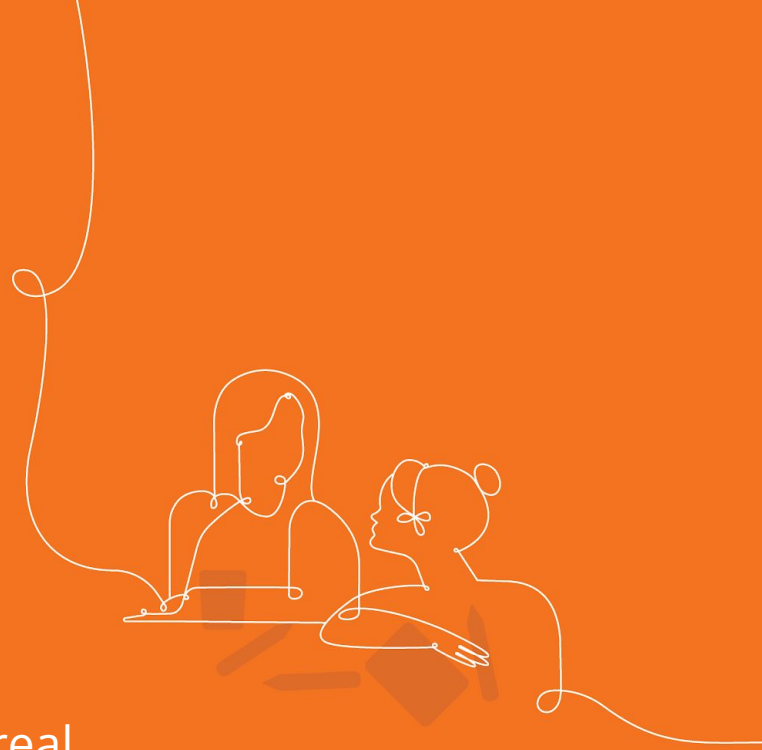
@Home Packets:
print-based



@Home Slides and Student
Sheets: tech-based

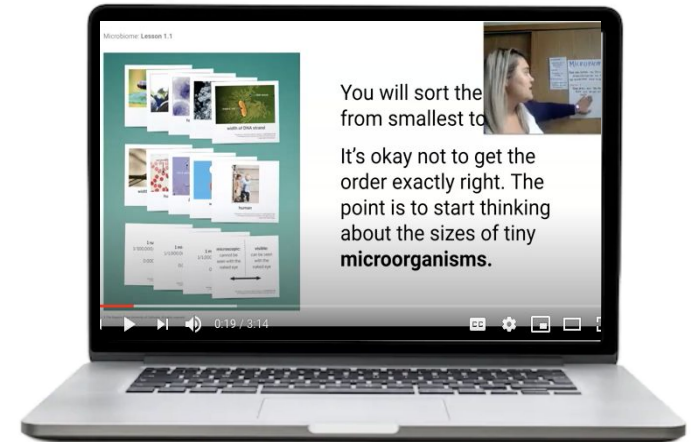
@Home Videos

Versions of original Amplify Science lessons adapted for remote learning and recorded by real Amplify Science teachers



@Home Videos

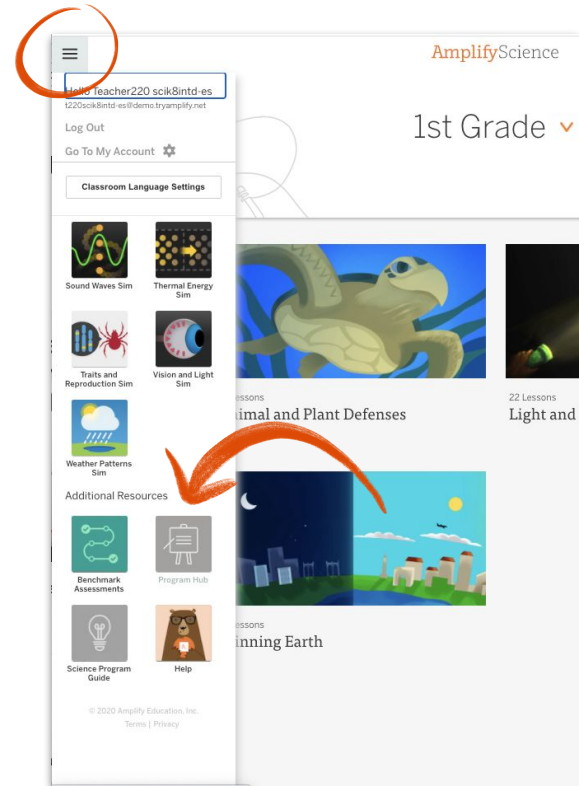
- Lesson playlists include **all activities** from original units
- Great option if have the **same amount of instructional time** as you typically would for science
- Requires **tech access** at home
- Can be used as models for **creating your own videos**



Accessing Amplify Science@Home

Amplify Science Program Hub

- New site containing Amplify Science@Home and additional PL resources
- Accessible via the Global Navigation menu

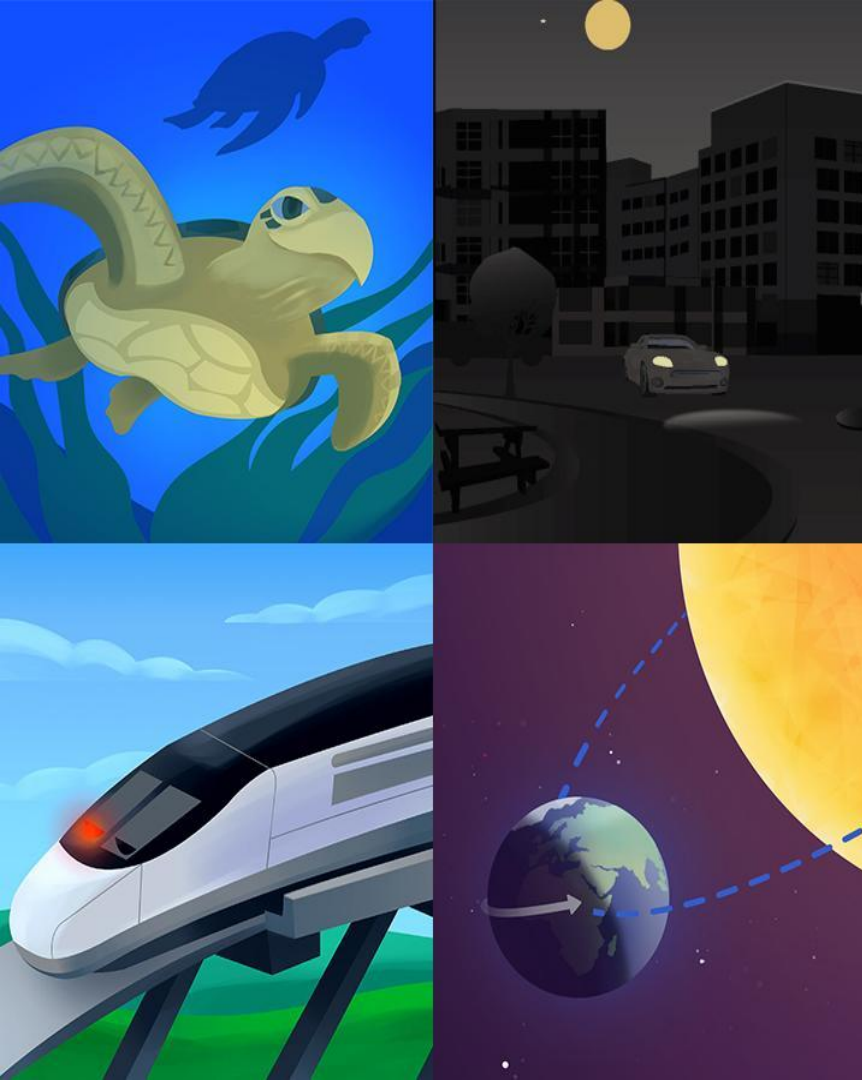


Which resource should I choose?

Use @Home Units if...	Use @Home Videos if...
<ul style="list-style-type: none">● You have reduced instructional time for science● You need a print-based solution for some or all of your students	<ul style="list-style-type: none">● You have about the same amount of instructional time for science
As you explore the resources, you may decide to use both!	



Questions?



Plan for the day

- Introducing Amplify Science
- Navigation Essentials
- Assessments
- Remote & Hybrid Learning Resources
- **Reflection and closing**

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



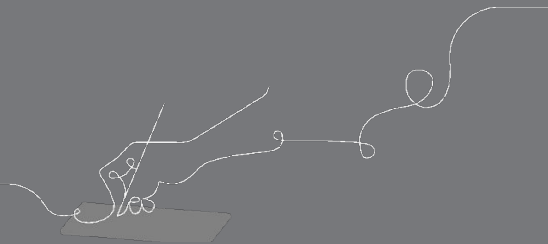
Questions?

Objectives

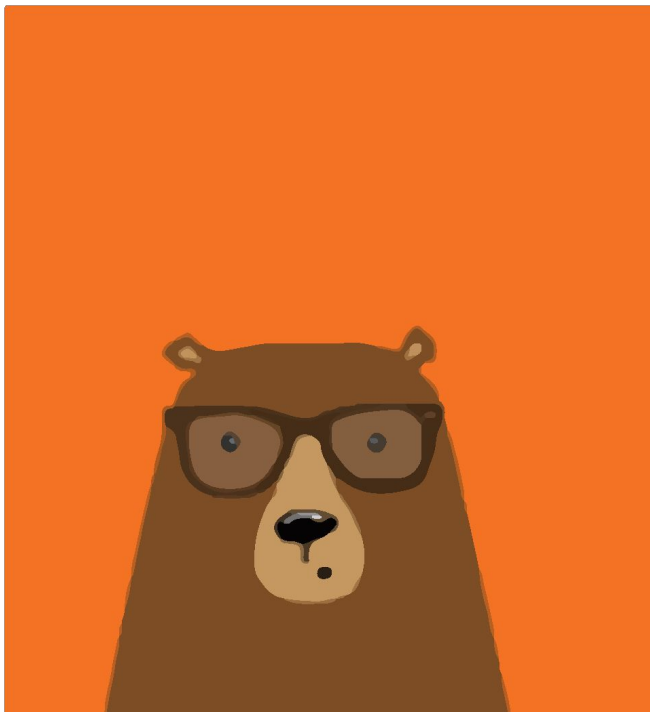
By the end of this workshop, you will be able to:

- Navigate the Amplify Science curriculum
- Navigate the Program Hub

e



LAUSD Amplify resources

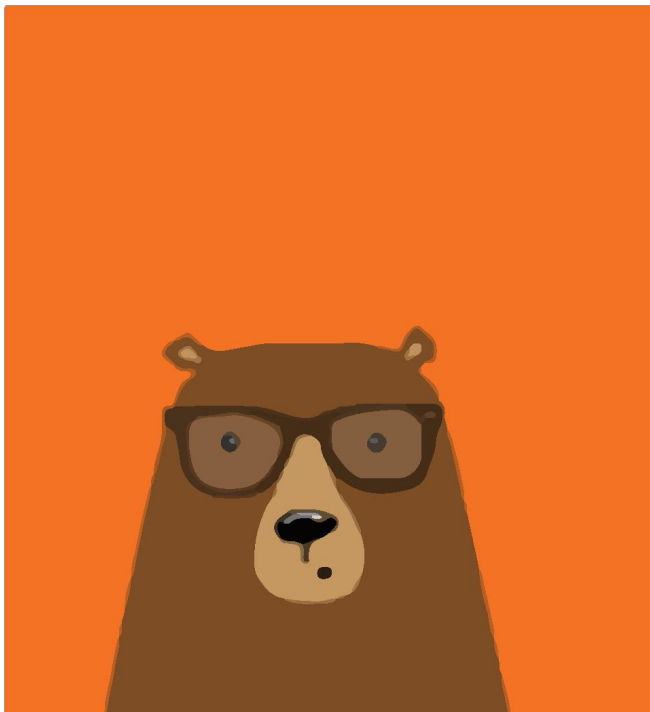


Amplify Science for LAUSD

Glean additional insight into the program's structure, intent, philosophies, supports, and flexibility. Review previous trainings and access materials from the trainings.

<https://amplify.com/lausd-science>

Additional Amplify resources



Program Guide

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

<https://my.amplify.com/programguide/content/national/welcome/science/>

Amplify Help

Find lots of advice and answers from the Amplify team.

my.amplify.com/help

Additional Amplify resources



Caregivers site

Provide your students' families information about Amplify Science and what students are learning

amplify.com/amplify-science-family-resource-intro/

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.