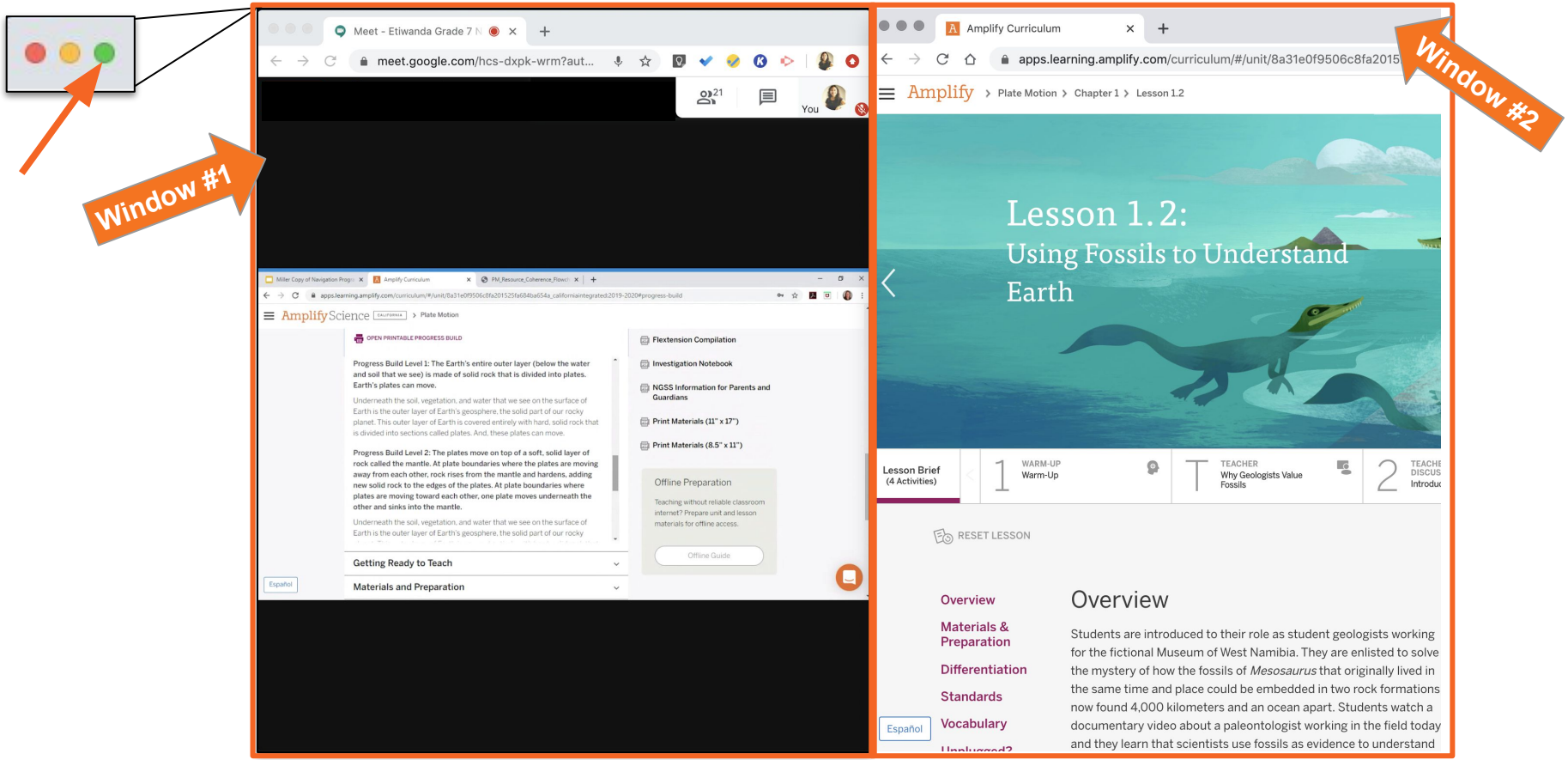
Amplify Science
CALIFORNIA

Navigating Program Essentials

Grade 3

School/District Name
Date
Presented by Your Name

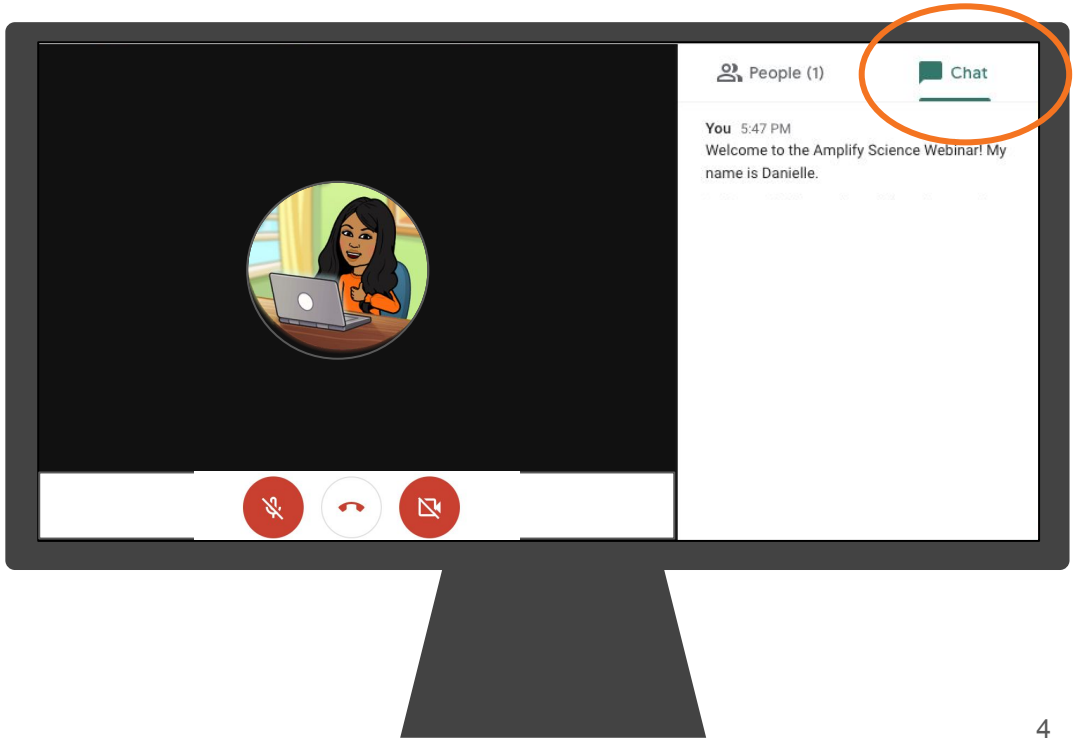
Use two windows for today's webinar



Introductions!

Who do we have in the room today?

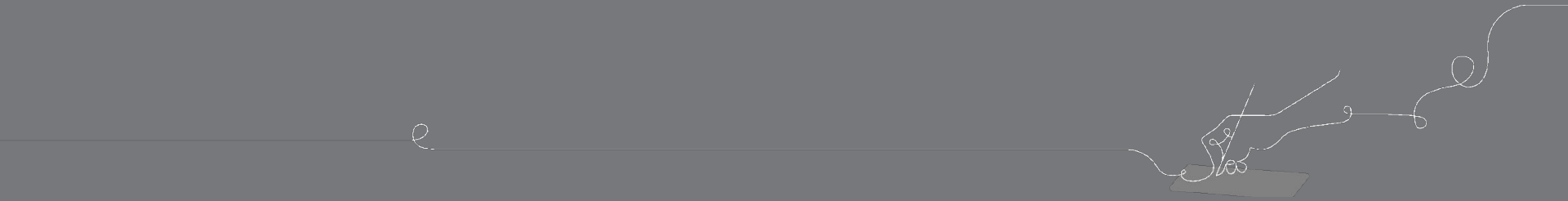
- **Question 1:** Which aspects of adopting a new science curriculum are you most excited or hopeful about?
- **Question 2:** What about adopting a new science curriculum to do you feel most hesitant about?

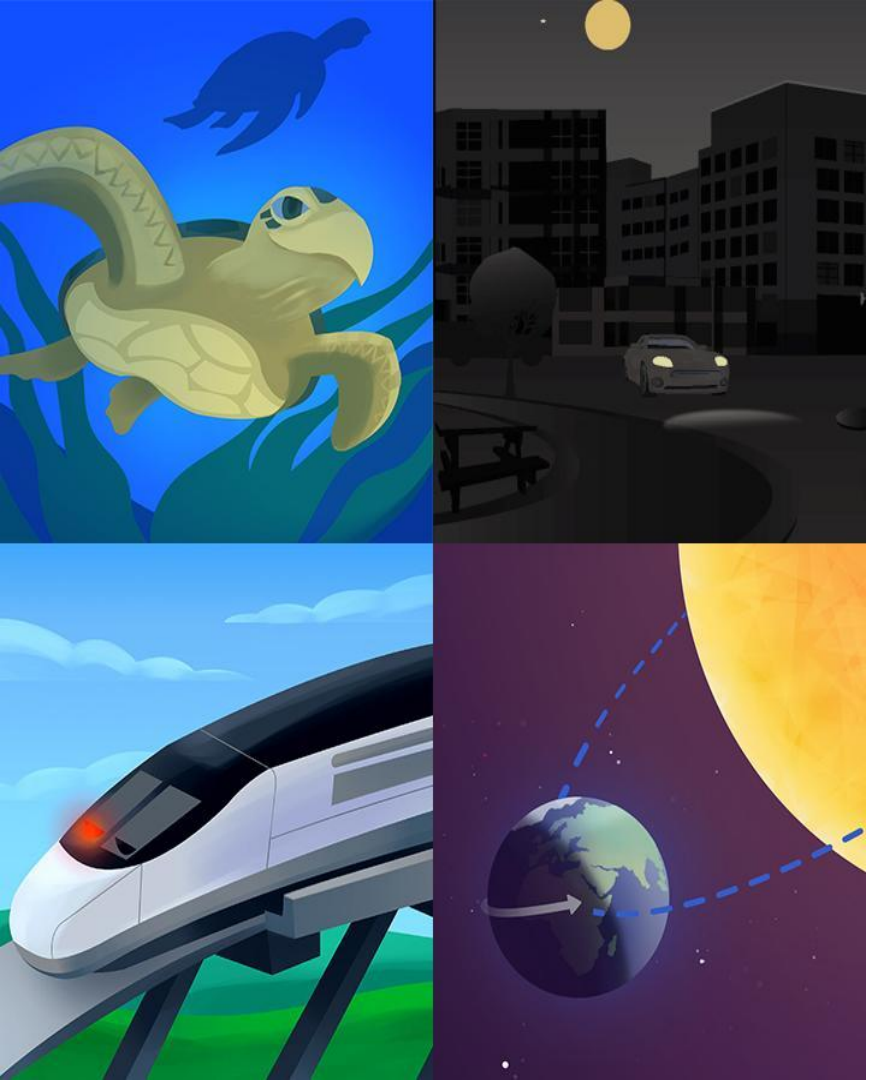


Objectives

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

- Navigate the Amplify Science curriculum.
- Navigate the Program Hub





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

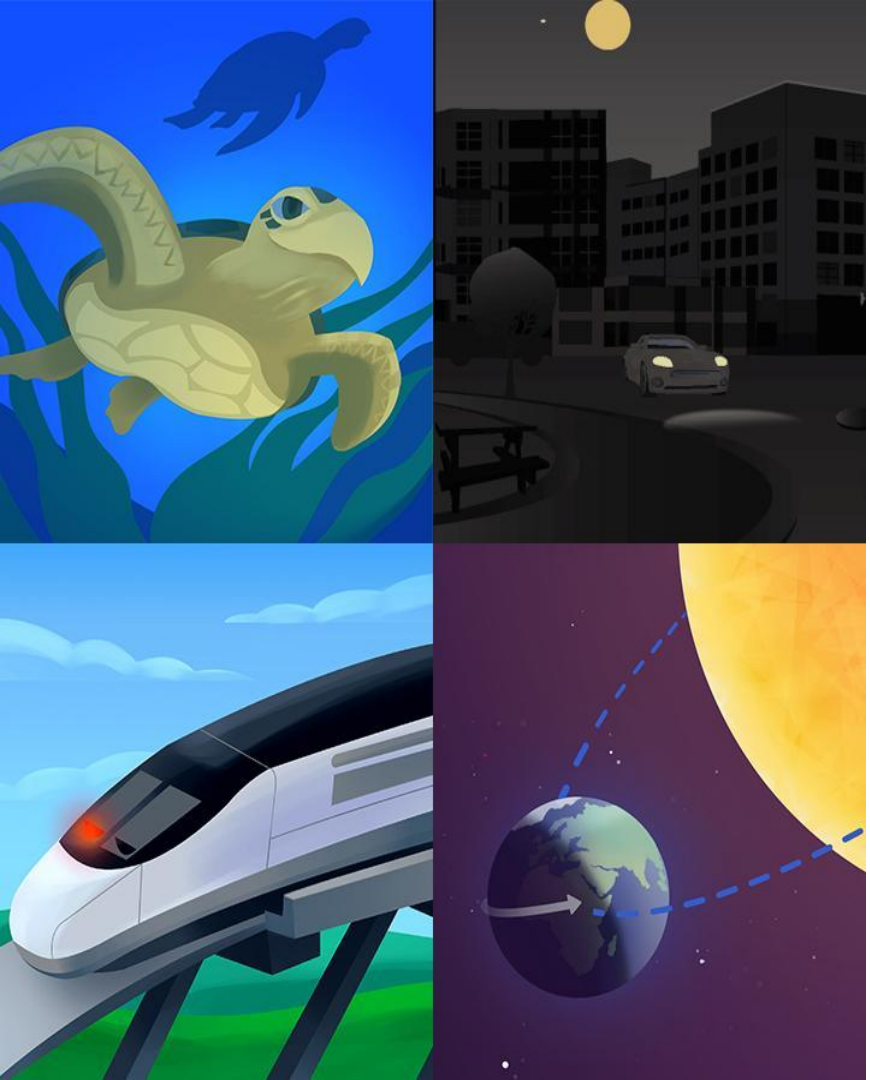
- *"Where's the chat box? What are these squares at the top of my screen?, where's the mute button?"*

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

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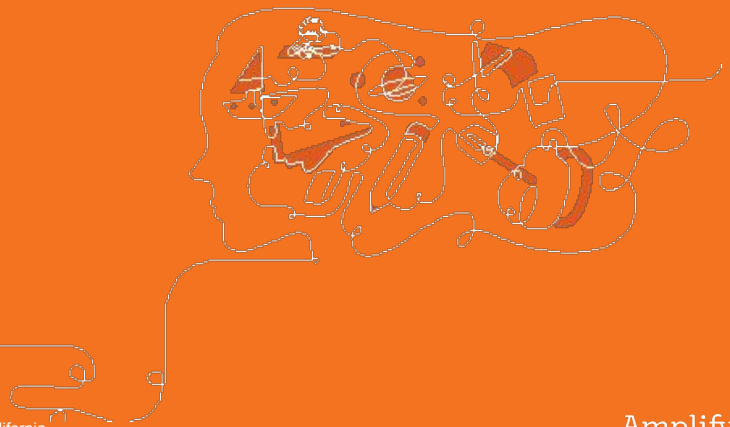
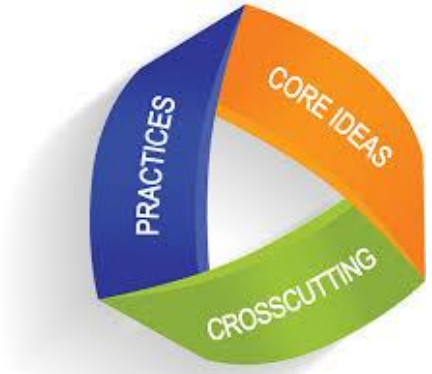
What is Amplify Science?



AmplifyScience

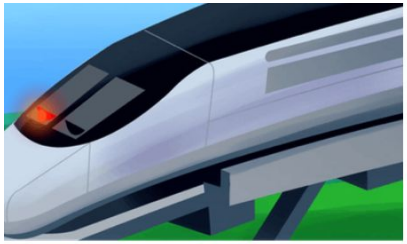
A new phenomena-based
core curriculum for grades K-8



THE LAWRENCE
HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

Amplify.

Year at a Glance: Grade 3



Balancing Forces

Domain: Physical Science

Unit type: Modeling

Student role: Engineers

Phenomenon: The town of Faraday is getting a new train that floats above its tracks.

Inheritance and Traits

Domain: Life Science

Unit type: Investigation

Student role: Wildlife biologists

Phenomenon: An adopted wolf in Graystone National Park ("Wolf 44") has some traits that appear similar to one wolf pack in the park and other traits that appear to be similar to a different wolf pack.

Environments and Survival

Domains: Life Science, Engineering Design

Unit type: Engineering design

Student role: Biomimicry engineers

Phenomenon: Over the last 10 years, a population of grove snails has changed: The number of grove snails with yellow shells has decreased, while the number of snails with banded shells has increased.

Weather and Climate

Domains: Earth and Space Science, Engineering Design

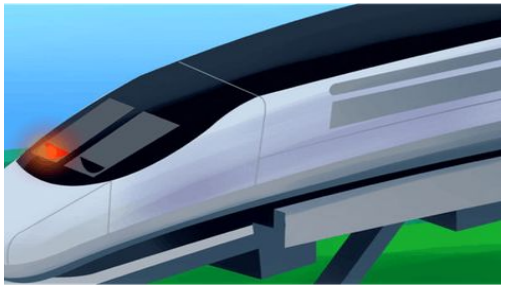
Unit type: Argumentation

Student role: Meteorologists

Phenomenon: Three different islands, each a contender for becoming an Orangutan reserve, experience different weather patterns.

Unit at a Glance: Balancing Forces

Modeling Unit



Balancing Forces

20 lessons
60 minutes each
2 assessment days

Domain: Physical Science

Unit type: Modeling

Student role: Engineers

Phenomenon: The town of Faraday is getting a new train that floats above its tracks.

I’m a civil engineer.

The town of Faraday is getting a new train that floats above the tracks.

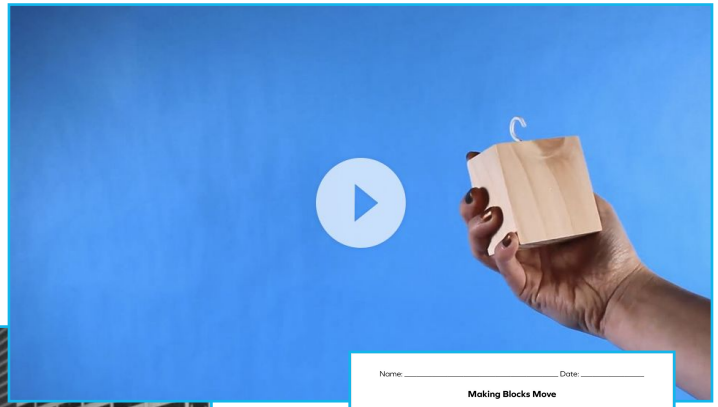
How is it possible for a train to float?

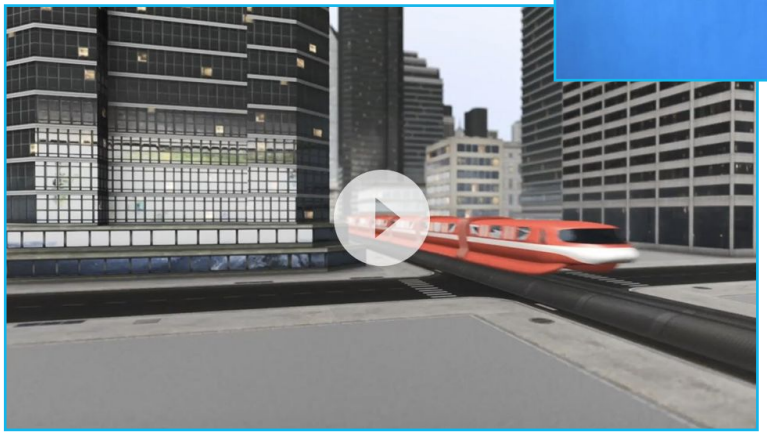
Grade 3

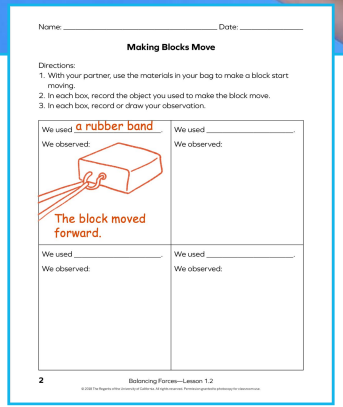
22 Lessons

Balancing Forces

The mayor has asked us to figure out a scientific explanation for HOW the new floating train works so she can share that information with the citizens of Faraday.







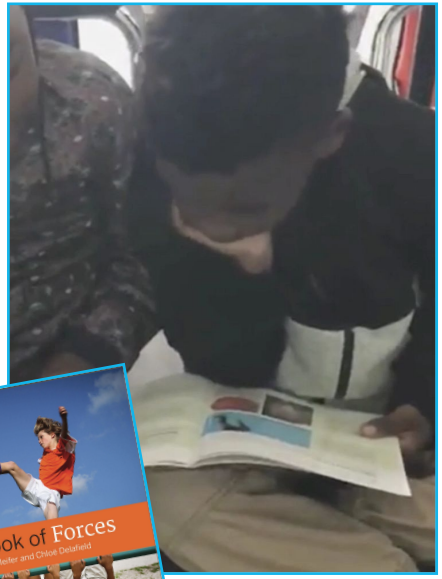
Name: _____ Date: _____

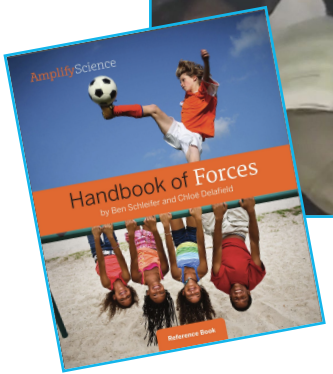
Making Blocks Move

Directions:
1. With your partner, use the materials in your bag to make a block start moving.
2. In each box, record the object you used to make the block move.
3. In each box, record or draw your observation.

We used a rubber band We observed: The block moved forward.	We used _____ We observed:
We used _____ We observed:	We used _____ We observed:

2 Balancing Forces—Lesson 1.2

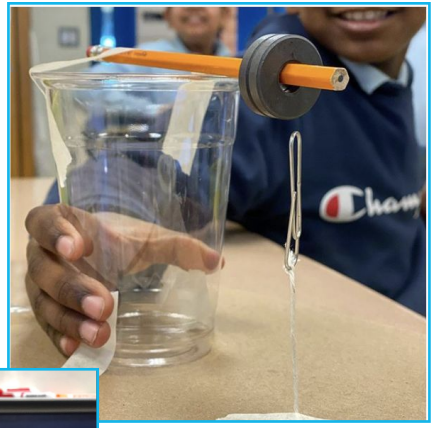


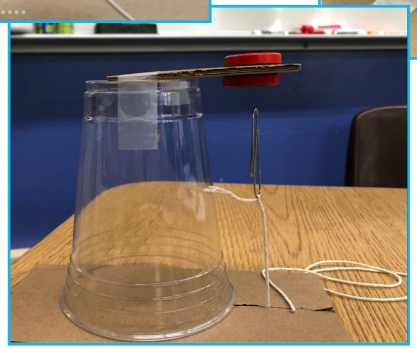


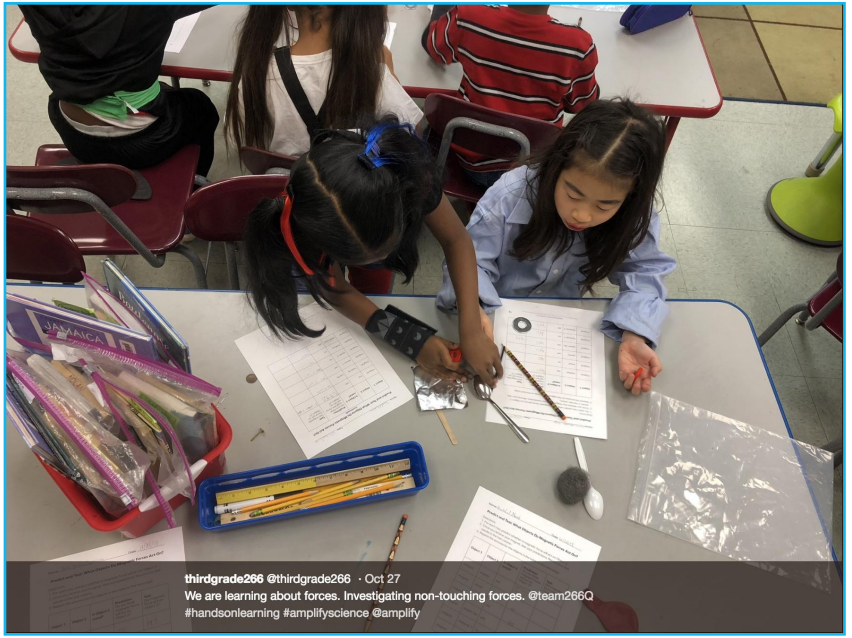
Amplify.

22 Lessons

Balancing Forces







Lesson 3.3: Observing Forces in Chain Reactions **Activity 1**

You will build a chain reaction, including at least one touching force, one magnetic force, and one example of the force of gravity.

Name: _____ Date: _____

Different Forces in a Chain Reaction

Directions:
1. Work with your partner to make a chain reaction.
2. Include at least one touching force, one magnetic force, and one example of the force of gravity.
3. Draw a diagram of your chain reaction.

4. Fill out the table for three of the forces in your chain reaction.

Object 1	Object 2	Evidence of a force	Type of force (circle one)
			Touching force Magnetic force Gravity
			Touching force Magnetic force Gravity
			Touching force Magnetic force Gravity

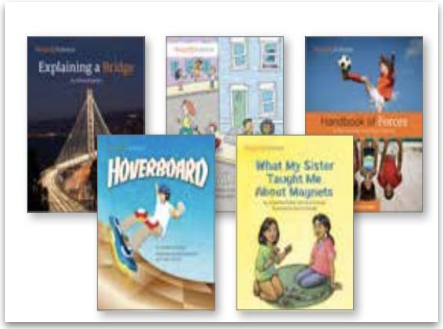
What **evidence** did you see of the **force of gravity**?

What are the two objects involved in this **force**?

The Page Turner

Elementary school components

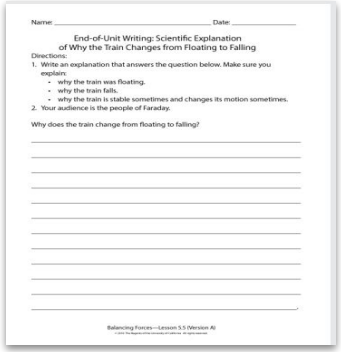
Hands-on materials



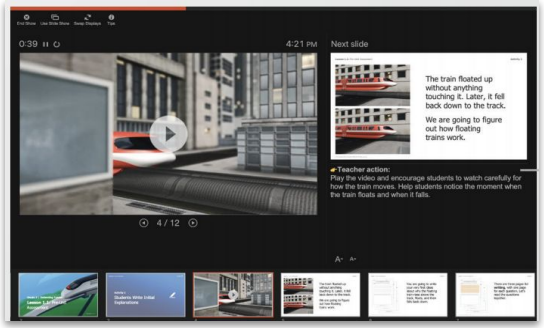
Student books

Teacher's Guide (Digital + Print)

Investigation Notebooks



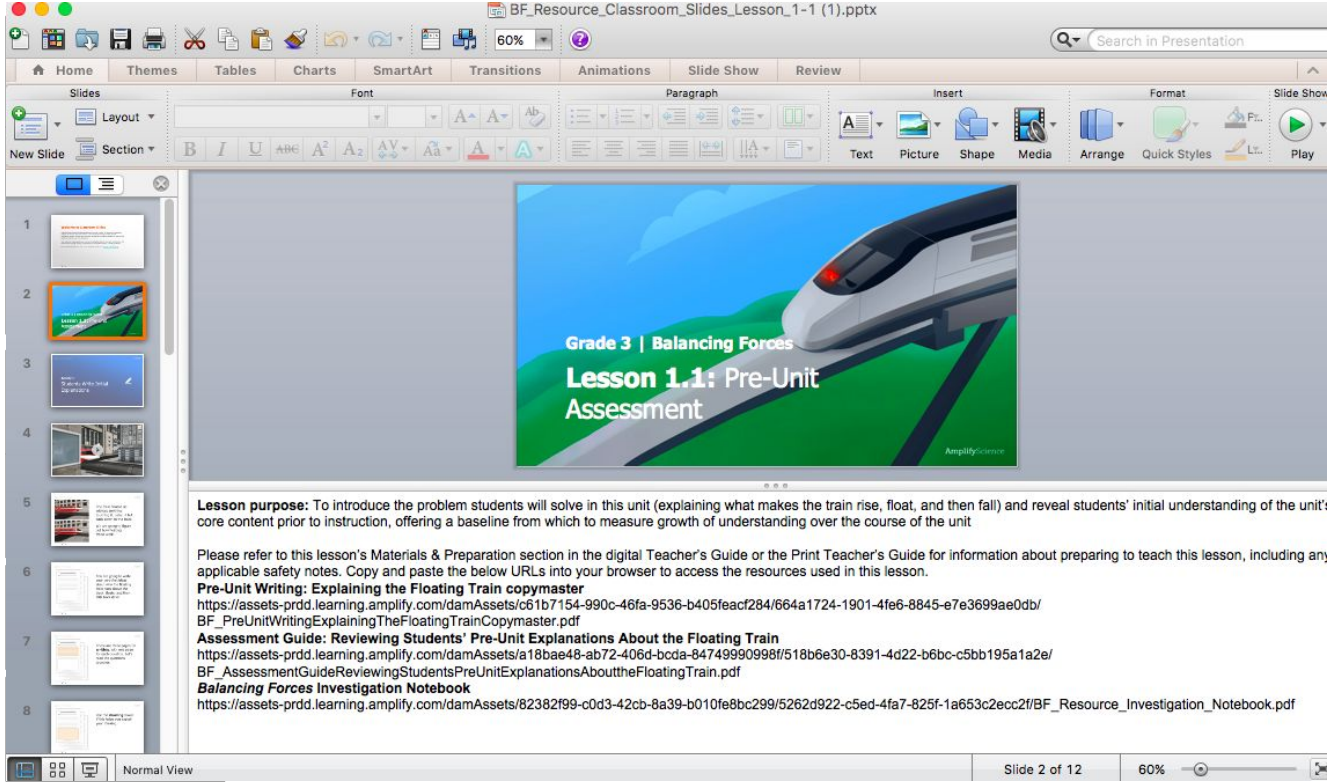
Assessments



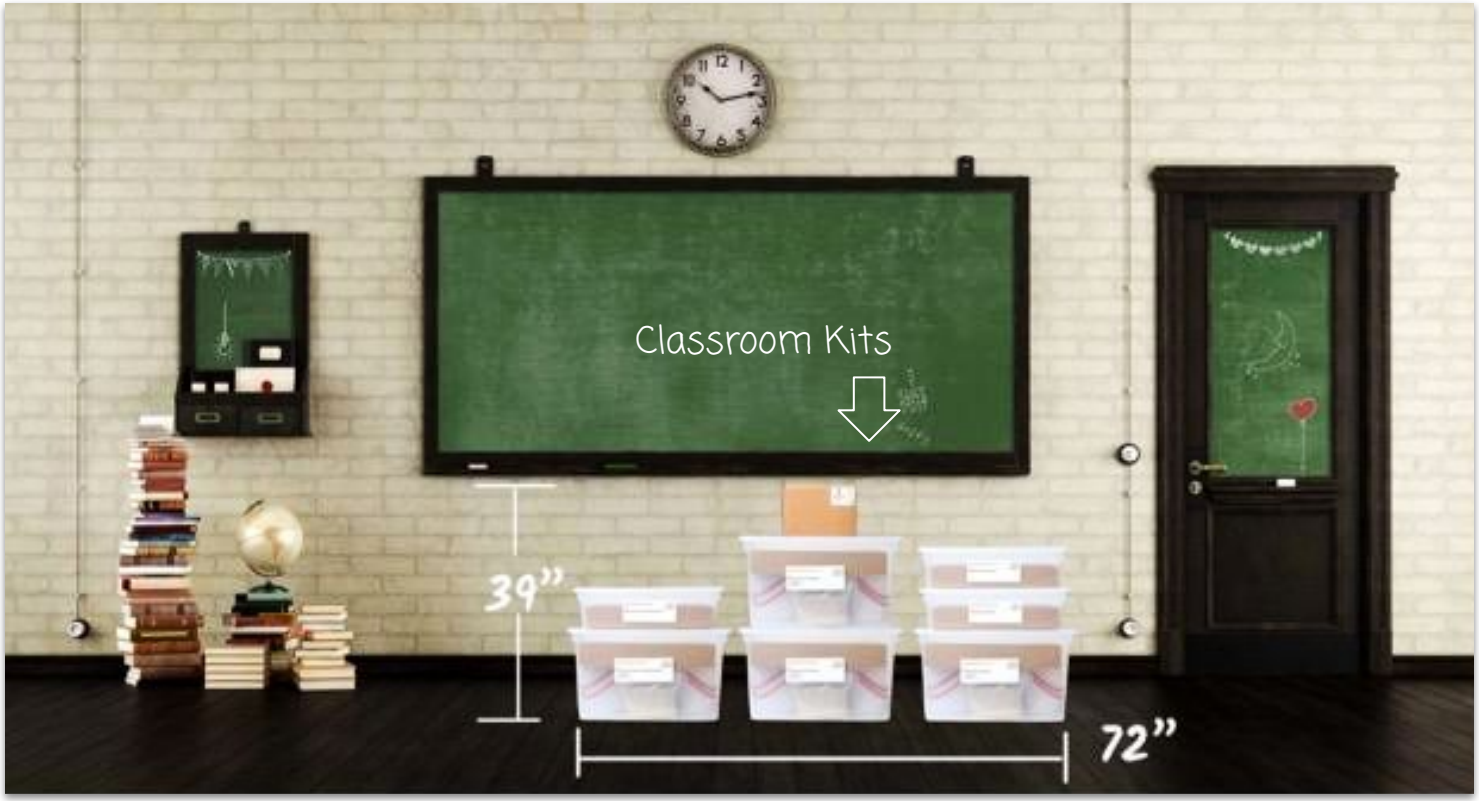
Classroom Slides

Classroom Slides

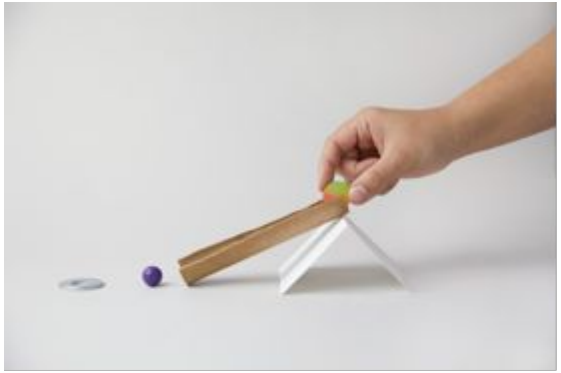
Each lesson will have a downloadable and editable PowerPoint file to help guide teachers and their students through the lesson.



Classroom Kits



Hands On Learning Materials



Classroom Wall Print Materials

Unit Question
What can make an object move or not move?

Chapter 1 Question
Why does the train rise?

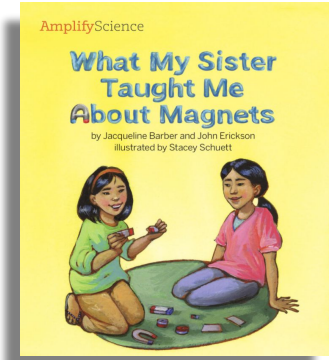
Key Concepts

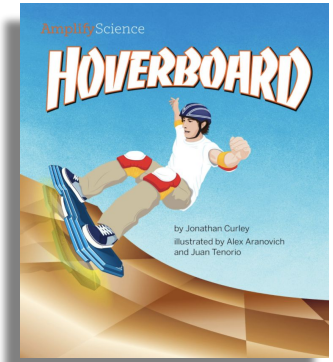
Key Concept: A force acts between two objects

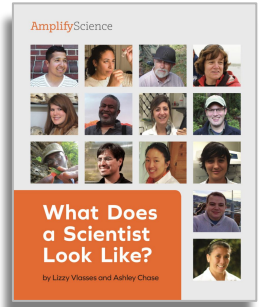
Vocabulary

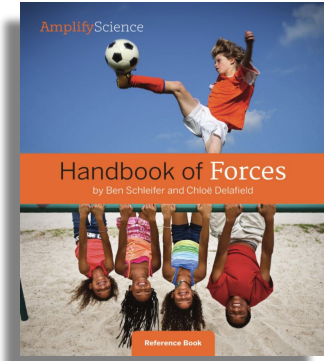
- evidence
- force
- investigation
- observation

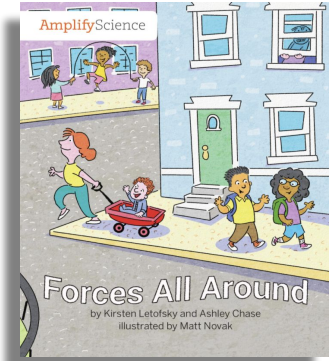
Literacy Integration

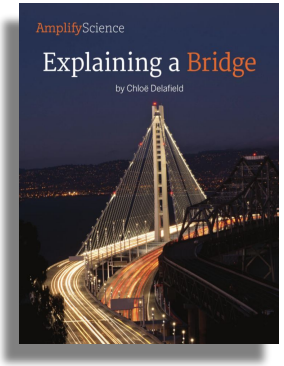


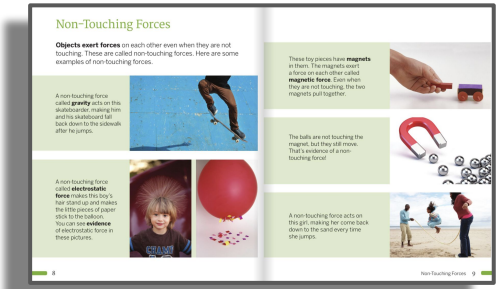


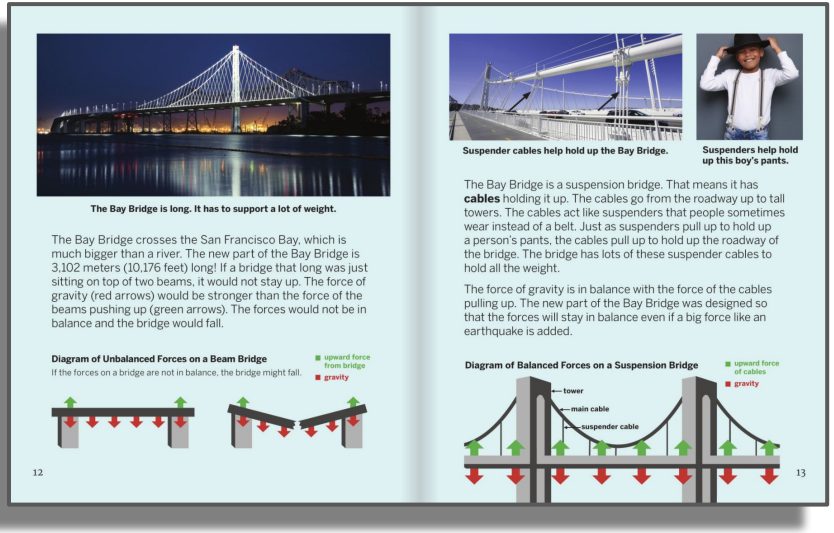












Amplify.

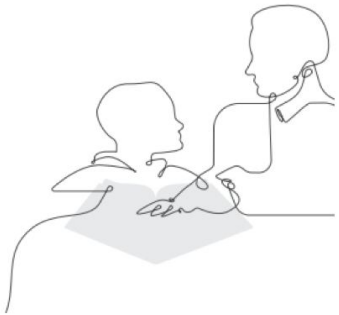
Content connections

Amplify Science CALIFORNIA

Grades K–5

Amplify Science and Benchmark Advance crosswalk

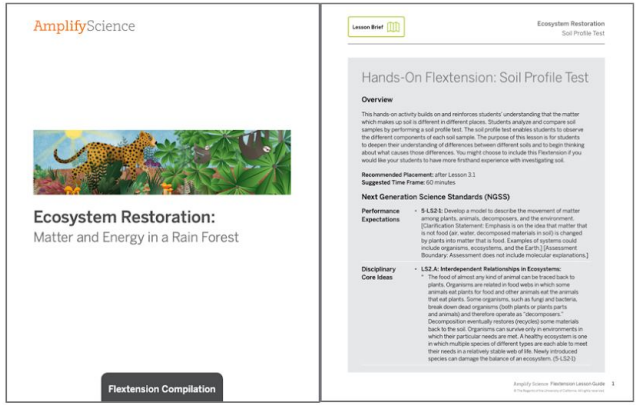
authored by THE LAWRENCE HALL OF SCIENCE



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.4.1.A; W.4.1.B; W.4.1.C; W.4.1.D; W.4.4; W.4.5; W.4.6; W.4.7; W.4.8; W.4.9.B; 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:** MP1; 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	

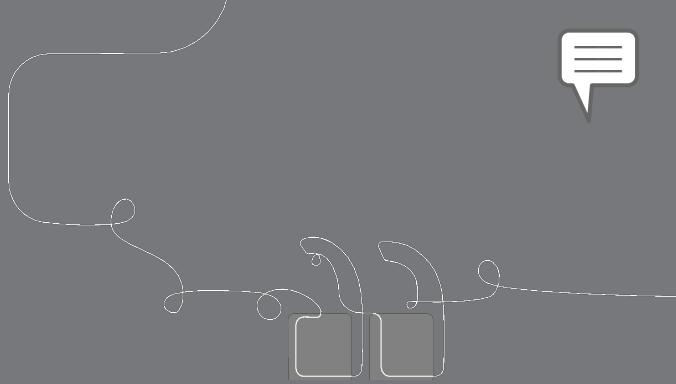
Amplify Science: Additional Resources



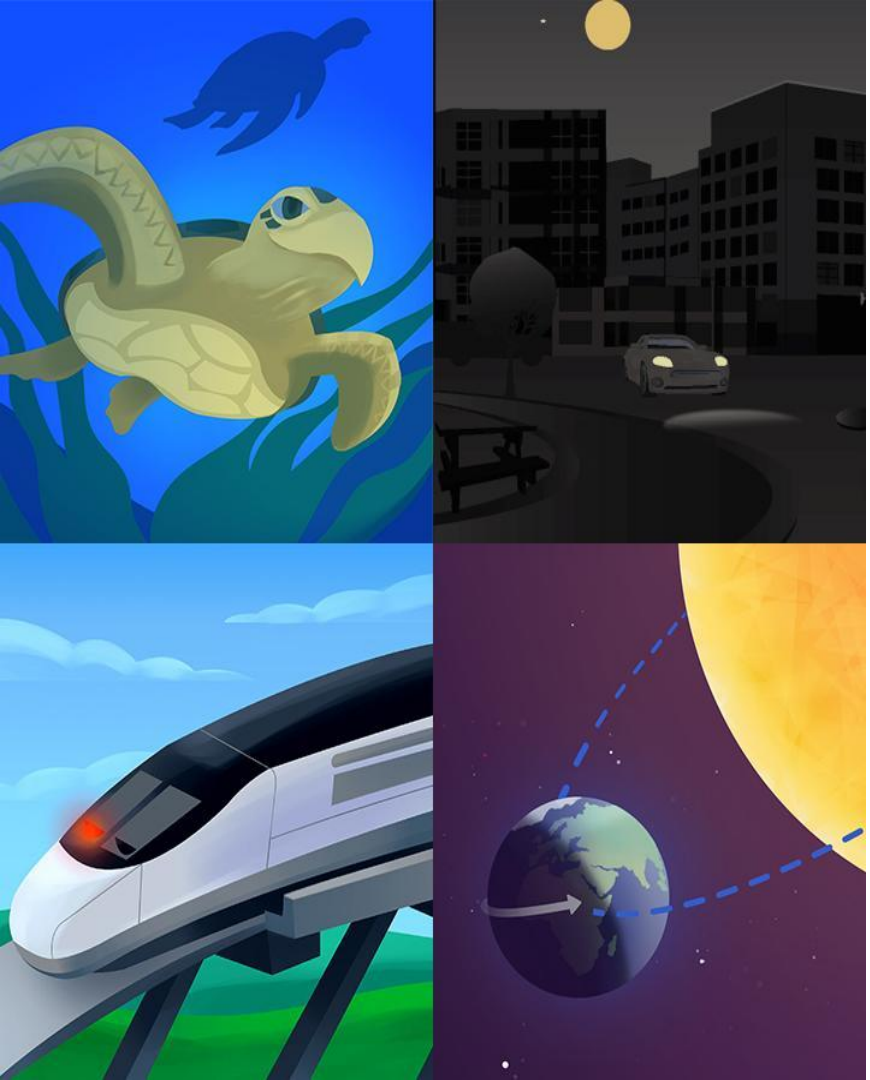
Hands-on Flextensions

New digital K–5 Student Books

MYSTERY science



Questions?



Plan for the day

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- **Navigation Essentials**
- Assessments
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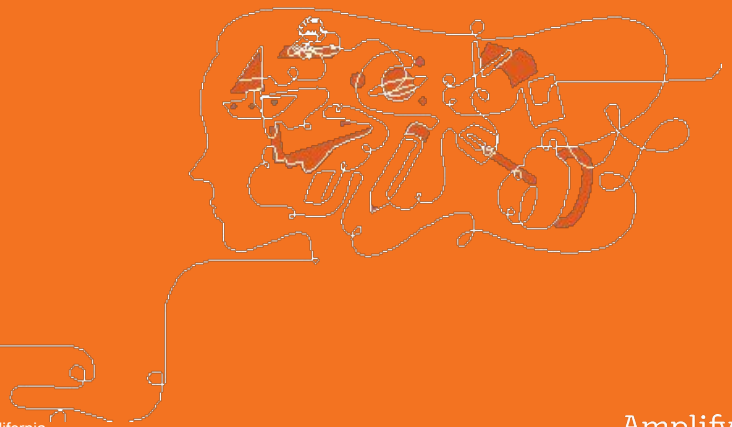
- Reflection and closing

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:

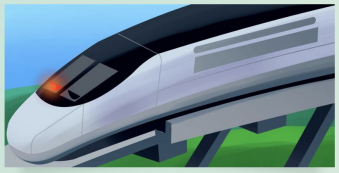
W4PK-W466-63F5B

Unit

Chapters

Lessons

Activities

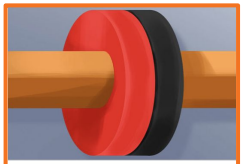


22 Lessons

Balancing Forces

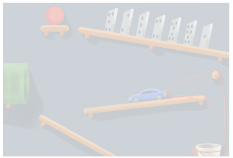
Chapter 1: Why does the train rise?

4 Lessons



Chapter 2: Why does the train rise without anything touching it?

5 Lessons



Chapter 3: Why does the train fall?

4 Lessons

Chapter 4: Why does the train float, even though gravity is acting on it?

4 Lessons

Chapter 5: Why does the train change from floating to falling?

5 Lessons

Lesson 2.1: Discovering Non-Touching Forces

Lesson 2.2: What Objects Do Magnetic Forces Act On?

Lesson 2.3: Investigating Ways Magnetic Force Moves Objects

Lesson 2.4: What My Sister Taught Me About Magnets

Lesson 2.5: Explaining Magnetic Force and the Train

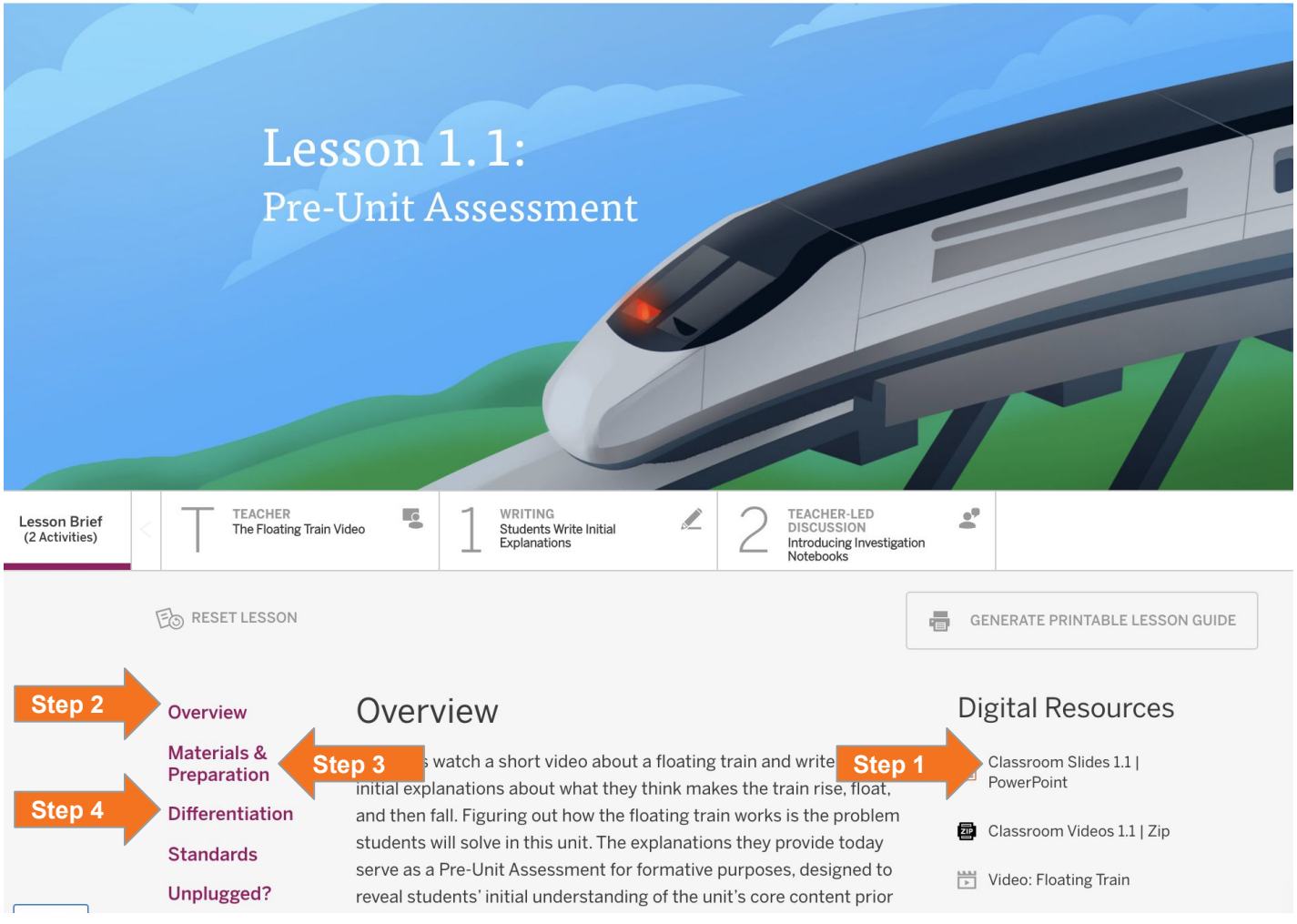
Lesson Brief (3 Activities)

1 HANDS-ON Investigating What Objects Magnetic Forces Act On

2 TEACHER-LED DISCUSSION Discussing What Objects Magnetic Forces Act On

3 READING Reading: Handbook of Forces

Amplify.



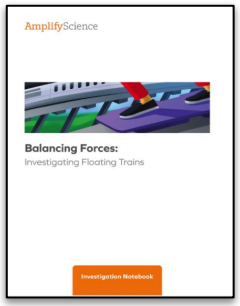
4 Steps for Preparing to Teach

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: Why does the train rise?

Investigation Question:
What makes an object start to move?

Multiple sources of evidence



Key Concept

A force acts between two objects.

Classroom Wall

Unit Question
What can make an object move or not move?

Chapter 1 Question
Why does the train rise?

Key Concepts

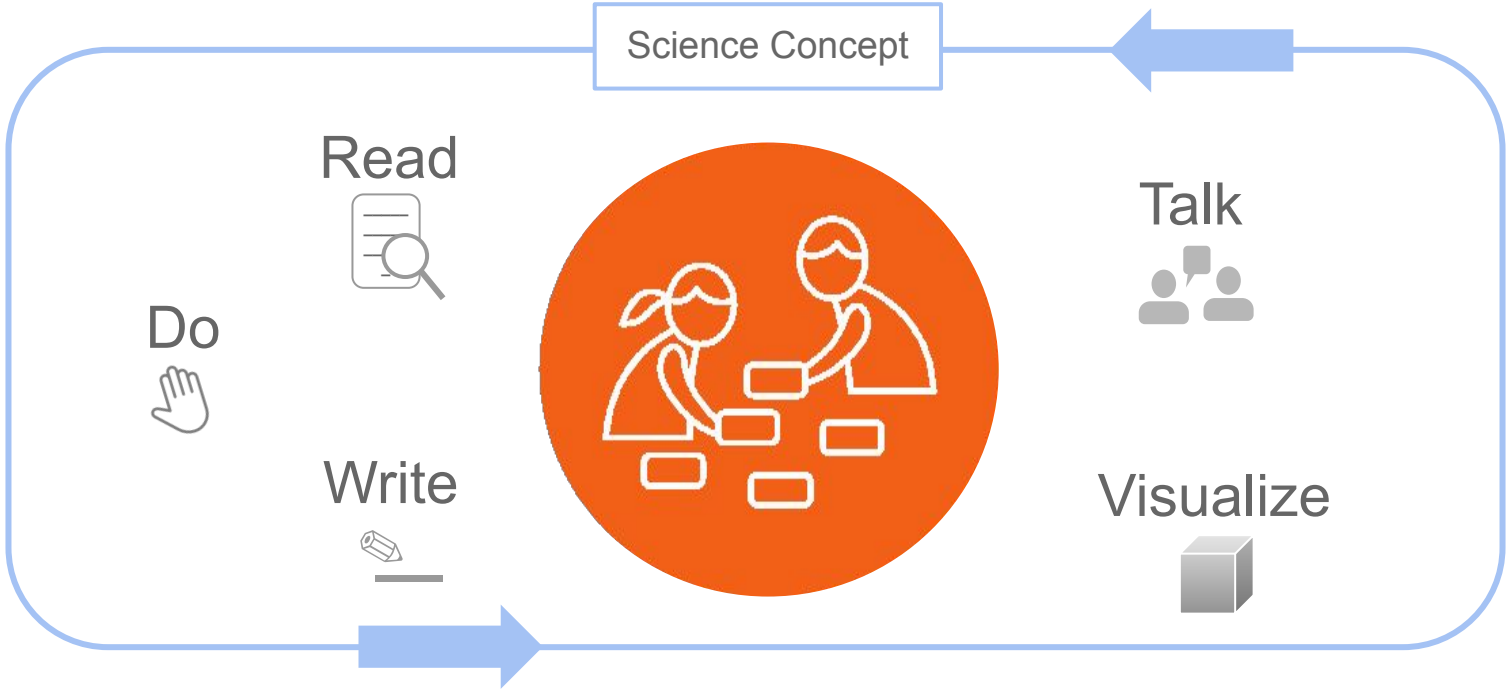
Key Concept: A force acts between two objects

Vocabulary

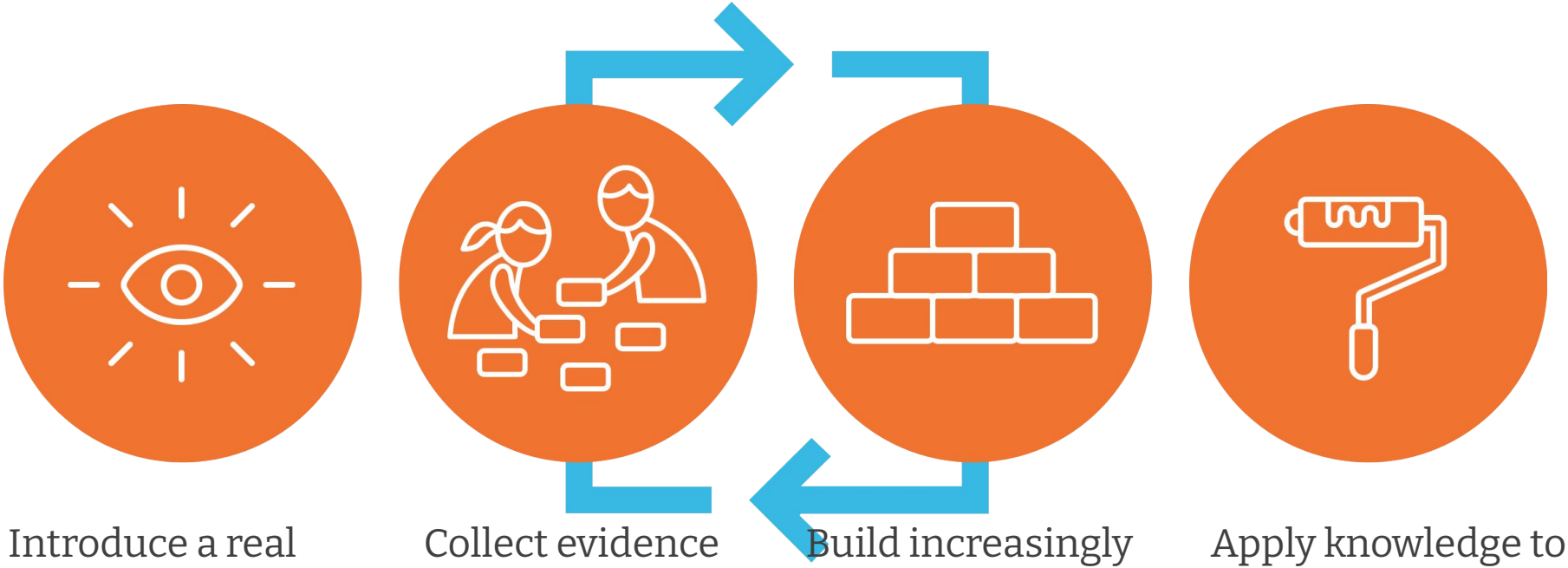
- evidence
- force
- investigation
- observation

Multimodal learning

Gathering evidence from different sources



The approach

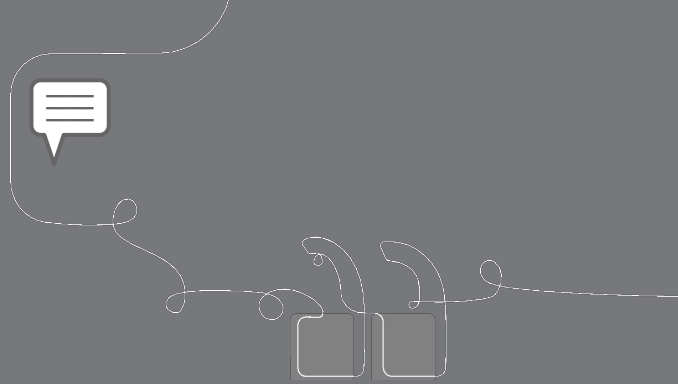


Introduce a real world problem

Collect evidence from multiple sources

Build increasingly complex explanations

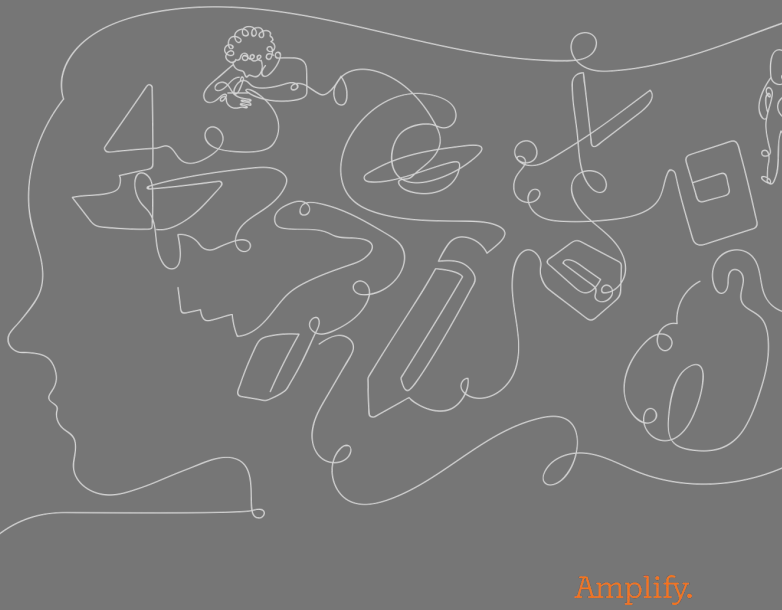
Apply knowledge to solve a different problem



Questions?

Group Chat

How do you normally prepare to teach a new lesson?

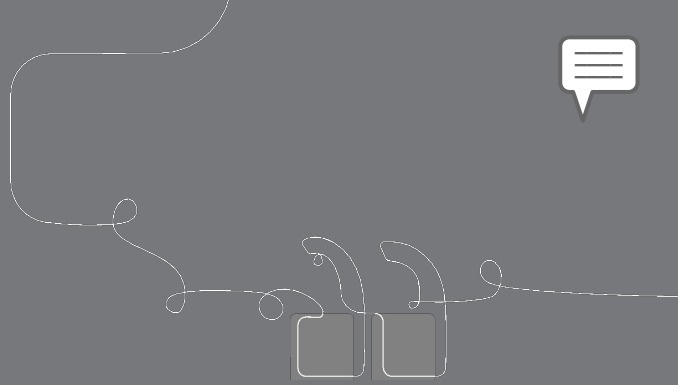


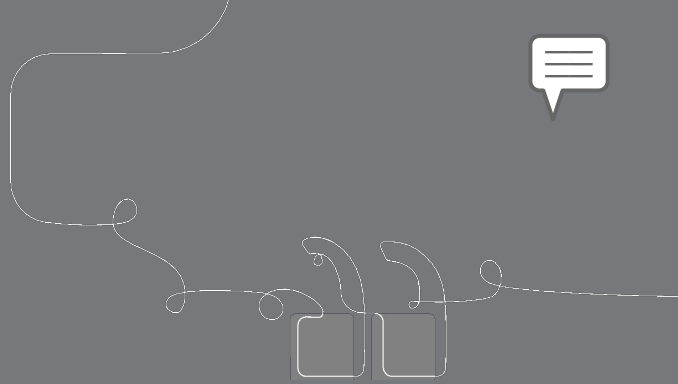
First Days of Teaching

Day 1	Day 2	Day 3	Day 4	Day 5
1.1: Pre-Unit Assessment Prep: 10 min --- 1. Students Write Initial Explanations (20 min.) 2: Introducing Investigation Notebooks (10 min.)	**1.2: Making an Object Move** Prep: 20-150 min --- 1: Discussing Initial Ideas (10 min.) 2: Making Blocks Move (20 min.) 3: Sharing Observations (20 min.)	**1.3: Forces All Around** Prep: 30 min --- 1: Setting a Purpose for Reading (5 min.) 2: Forces All Around (25 min.) 3: Sharing Observations and Drawing Conclusions (25 min.) 4: Introducing the Science Idea of Change (5 min.)	**1.4: Explaining Forces and the Train** Prep: 20 min --- 1: Creating Forces in Chain Reactions (15 min.) 2: Modeling How to Write a Scientific Explanation (10 min.) 3: Asking Questions About What Makes the Train Rise (10 min.) 4: Critical Juncture: Writing a Scientific Explanation (15 min.)	**2.1: Discovering Non-Touching Forces** Prep: 20 min --- 1: Investigating Non-Touching Forces (20 min.) 2: Making Sense of Magnet Observations (20 min.) 3: Diagramming Magnetic Forces (10 min.) 4: Activating Prior Knowledge about Magnets (10 min.)

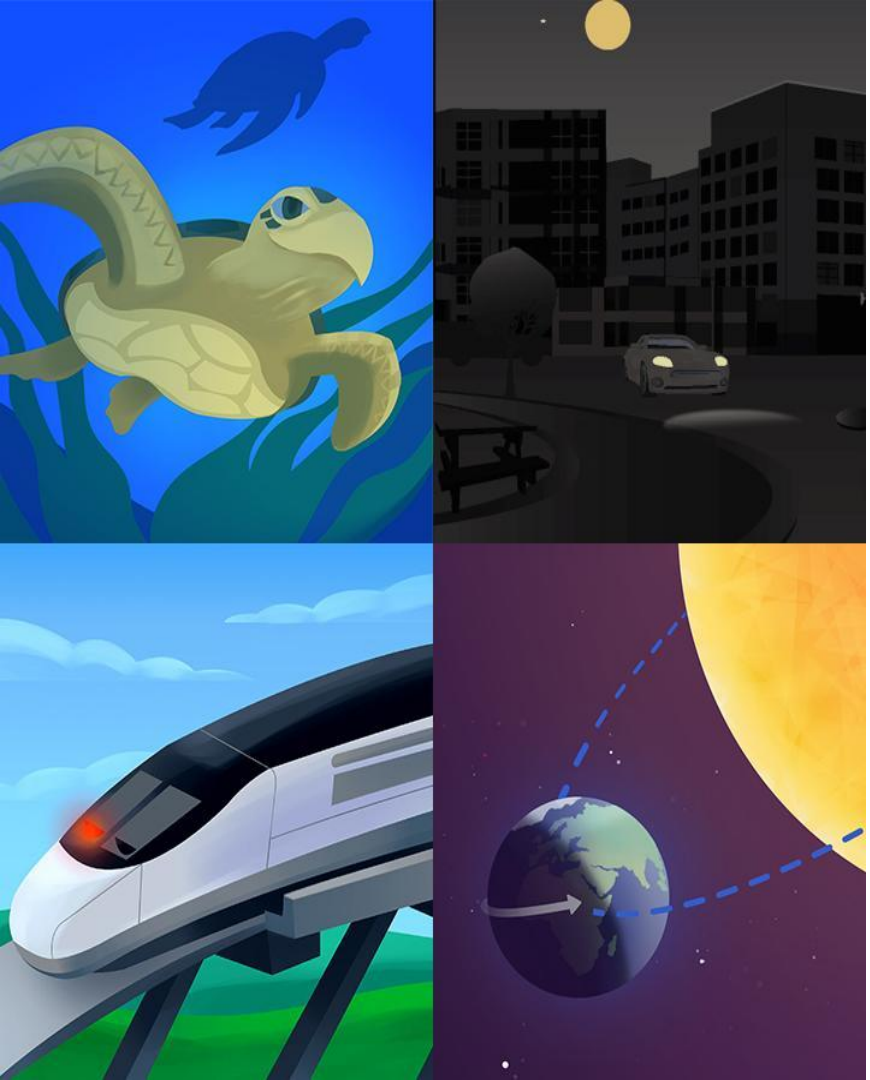
How are students thinking and solving problems like a scientist?

What might your students be challenged by?





Questions?

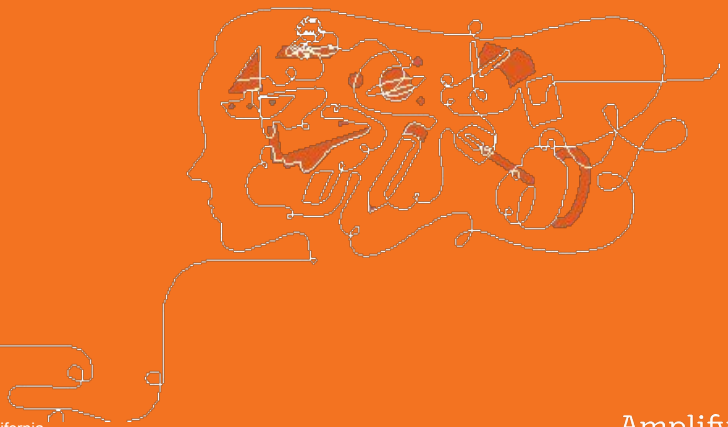


Plan for the day

- 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.

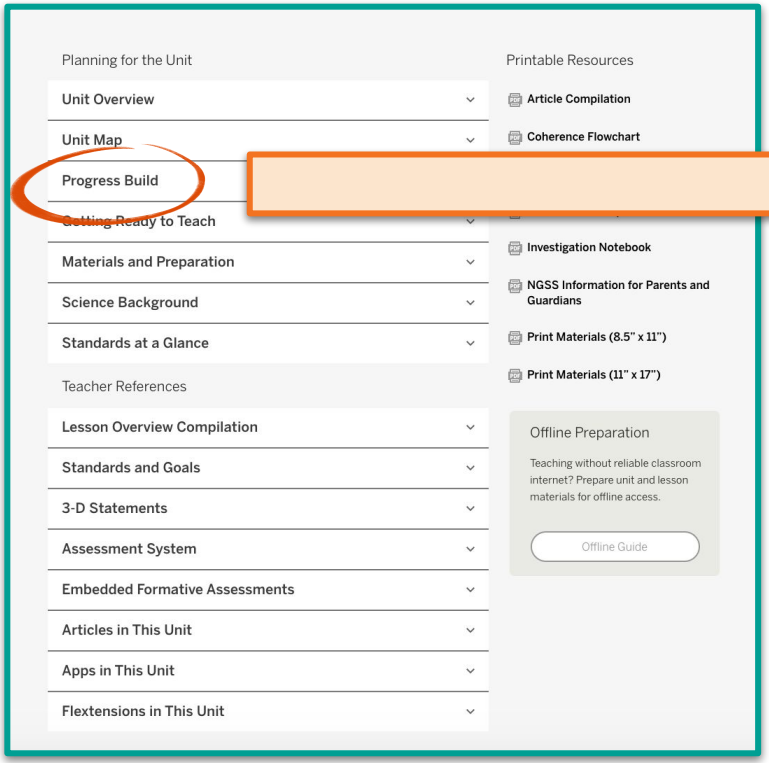
Critical Juncture
Designed to occur at points in the unit in which it is especially important that students understand the content before continuing.

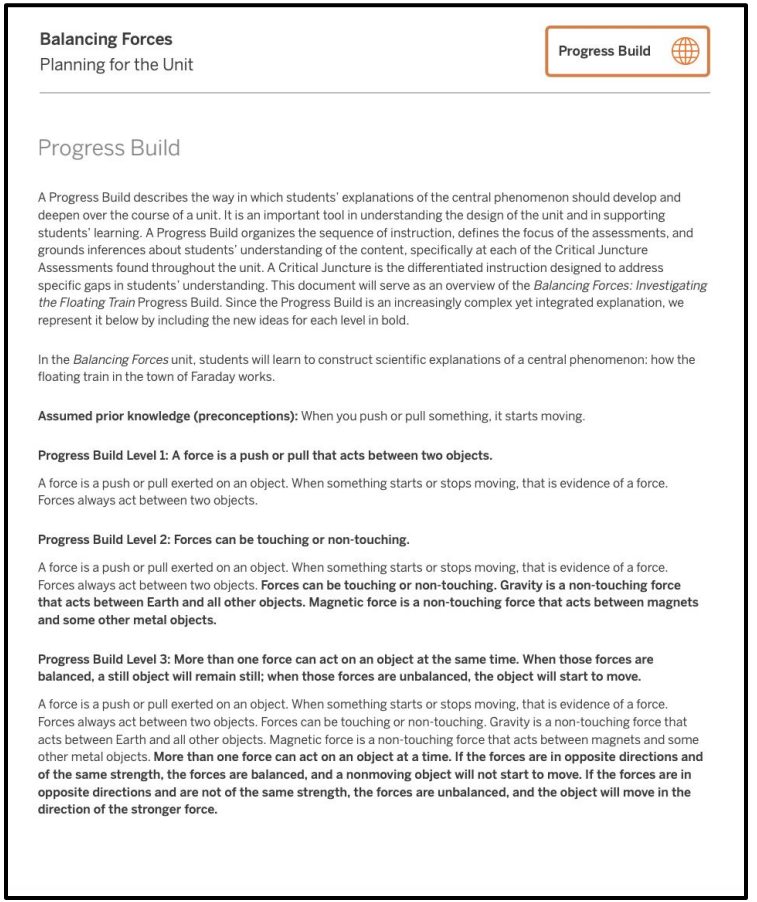
Summative Assessments

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





Balancing Forces
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 is the differentiated instruction designed to address specific gaps in students' understanding. This document will serve as an overview of the *Balancing Forces: Investigating the Floating Train* 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.

In the *Balancing Forces* unit, students will learn to construct scientific explanations of a central phenomenon: how the floating train in the town of Faraday works.

Assumed prior knowledge (preconceptions): When you push or pull something, it starts moving.

Progress Build Level 1: A force is a push or pull that acts between two objects.

A force is a push or pull exerted on an object. When something starts or stops moving, that is evidence of a force. Forces always act between two objects.

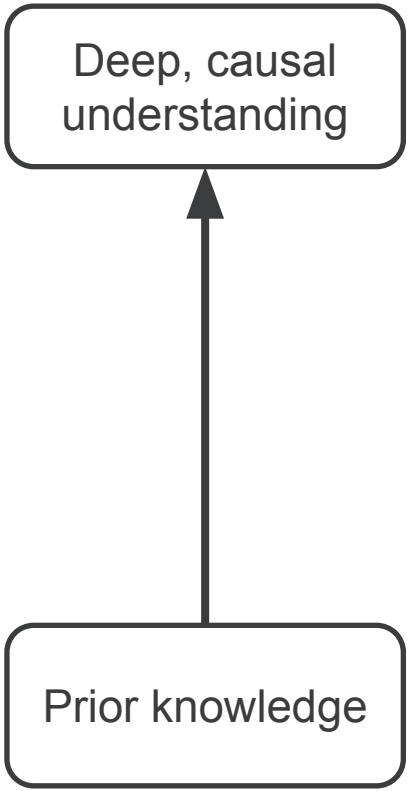
Progress Build Level 2: Forces can be touching or non-touching.

A force is a push or pull exerted on an object. When something starts or stops moving, that is evidence of a force. Forces always act between two objects. **Forces can be touching or non-touching. Gravity is a non-touching force that acts between Earth and all other objects. Magnetic force is a non-touching force that acts between magnets and some other metal objects.**

Progress Build Level 3: More than one force can act on an object at the same time. When those forces are balanced, a still object will remain still; when those forces are unbalanced, the object will start to move.

A force is a push or pull exerted on an object. When something starts or stops moving, that is evidence of a force. Forces always act between two objects. Forces can be touching or non-touching. Gravity is a non-touching force that acts between Earth and all other objects. Magnetic force is a non-touching force that acts between magnets and some other metal objects. **More than one force can act on an object at a time. If the forces are in opposite directions and of the same strength, the forces are balanced, and a nonmoving object will not start to move. If the forces are in opposite directions and are not of the same strength, the forces are unbalanced, and the object will move in the direction of the stronger force.**

Balancing Forces Progress Build

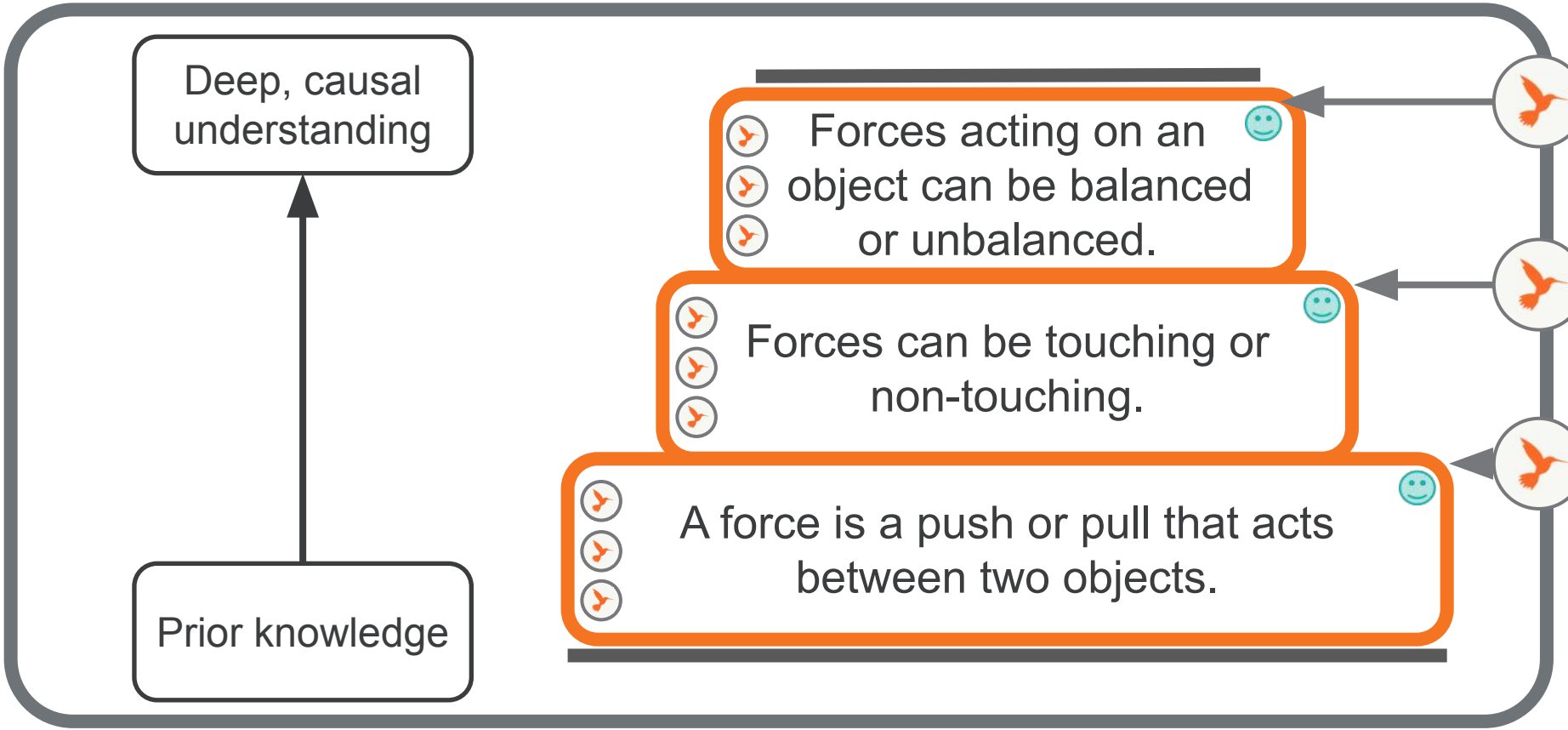


Forces acting on an object can be balanced or unbalanced.

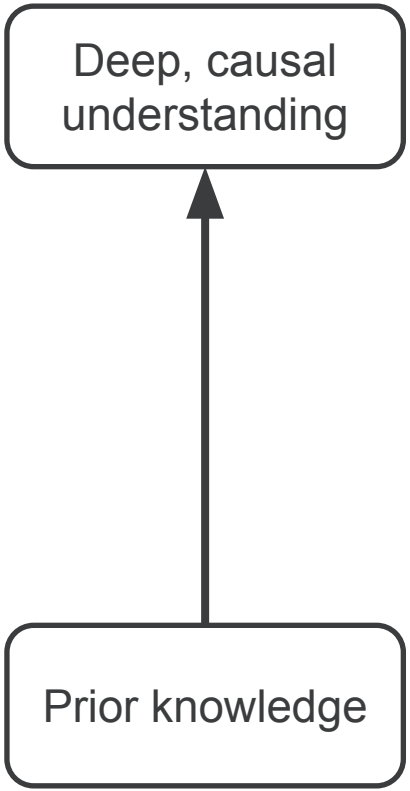
Forces can be touching or non-touching.

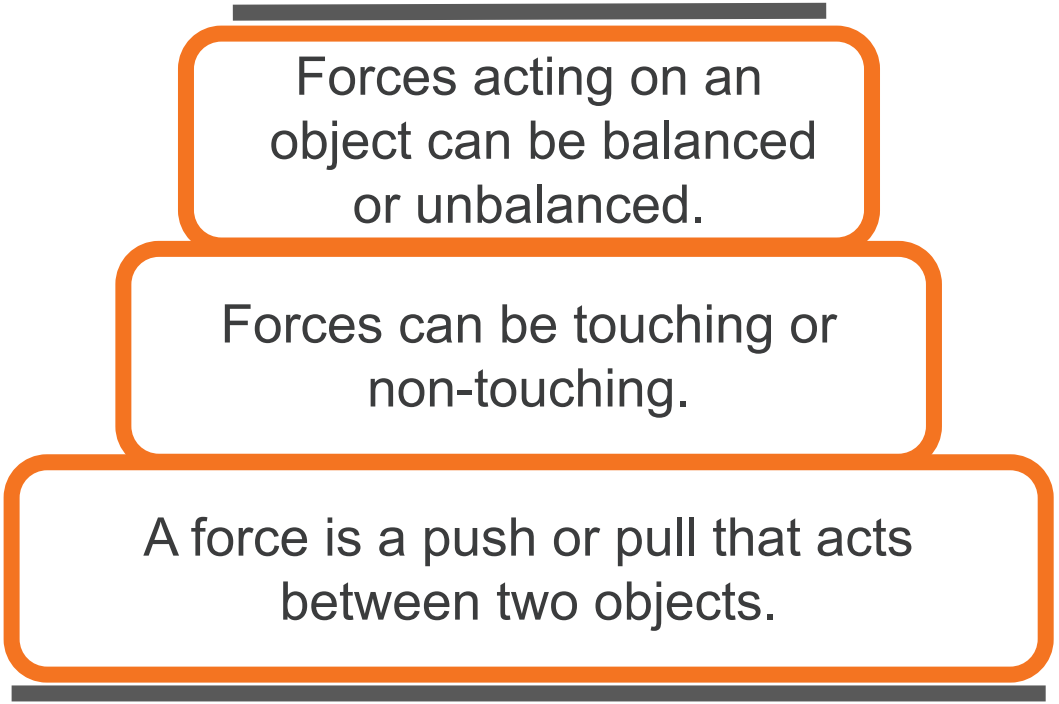
A force is a push or pull that acts between two objects.

Assessment System

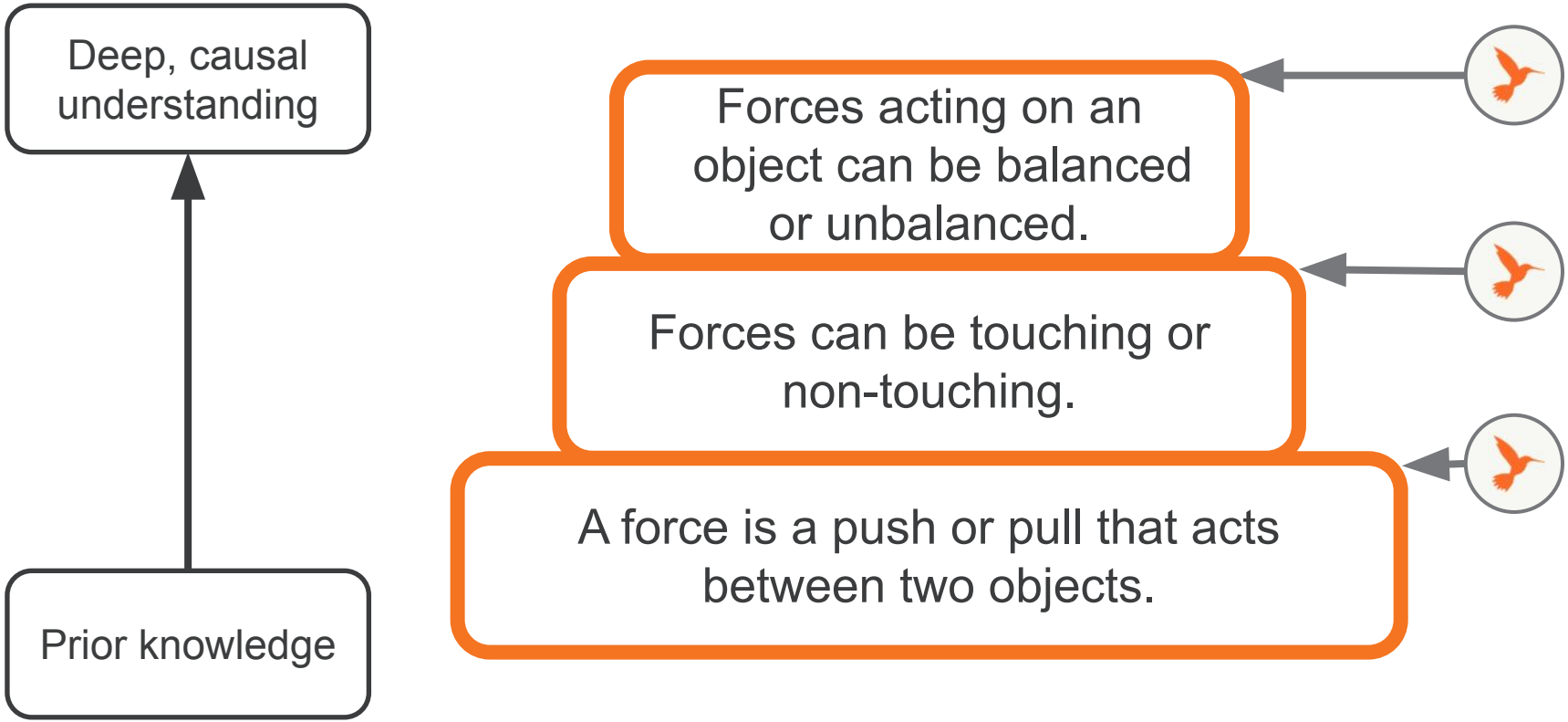


Pre- and End-of-Unit Assessments

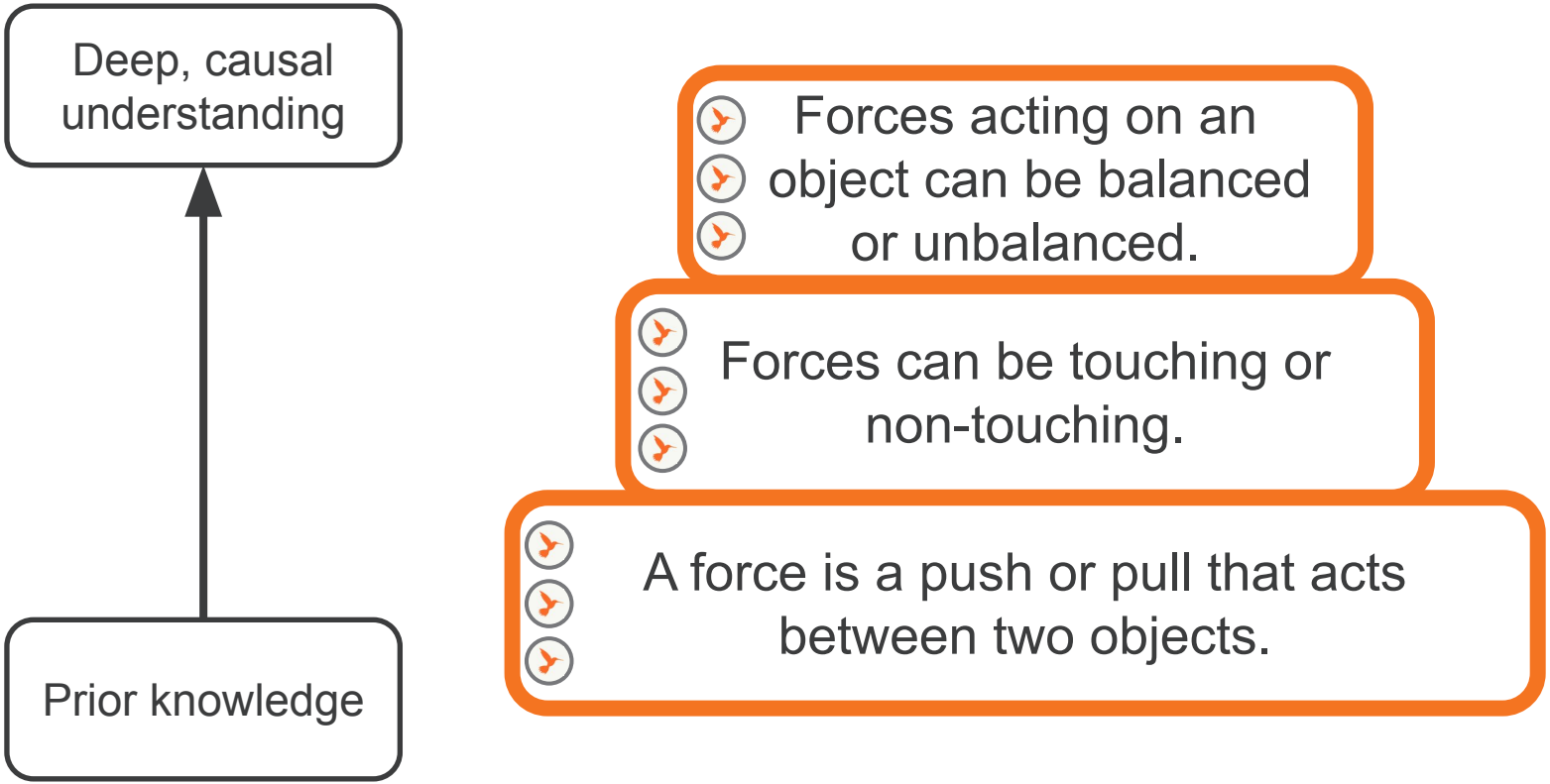




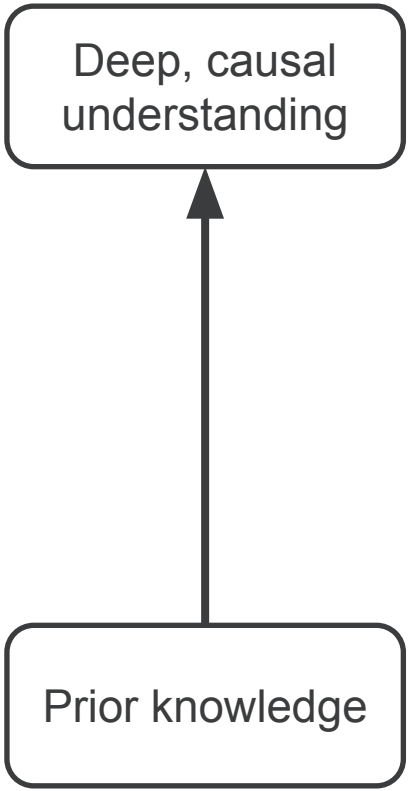
Critical Juncture Assessments



On-the-Fly Assessments



Self-Assessments (optional)

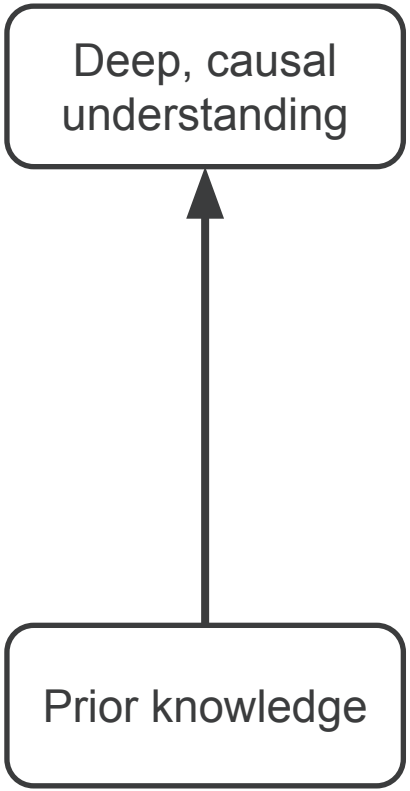


Forces acting on an object can be balanced or unbalanced.

Forces can be touching or non-touching.

A force is a push or pull that acts between two objects.

Investigation Assessment



Forces acting on an object can be balanced or unbalanced.

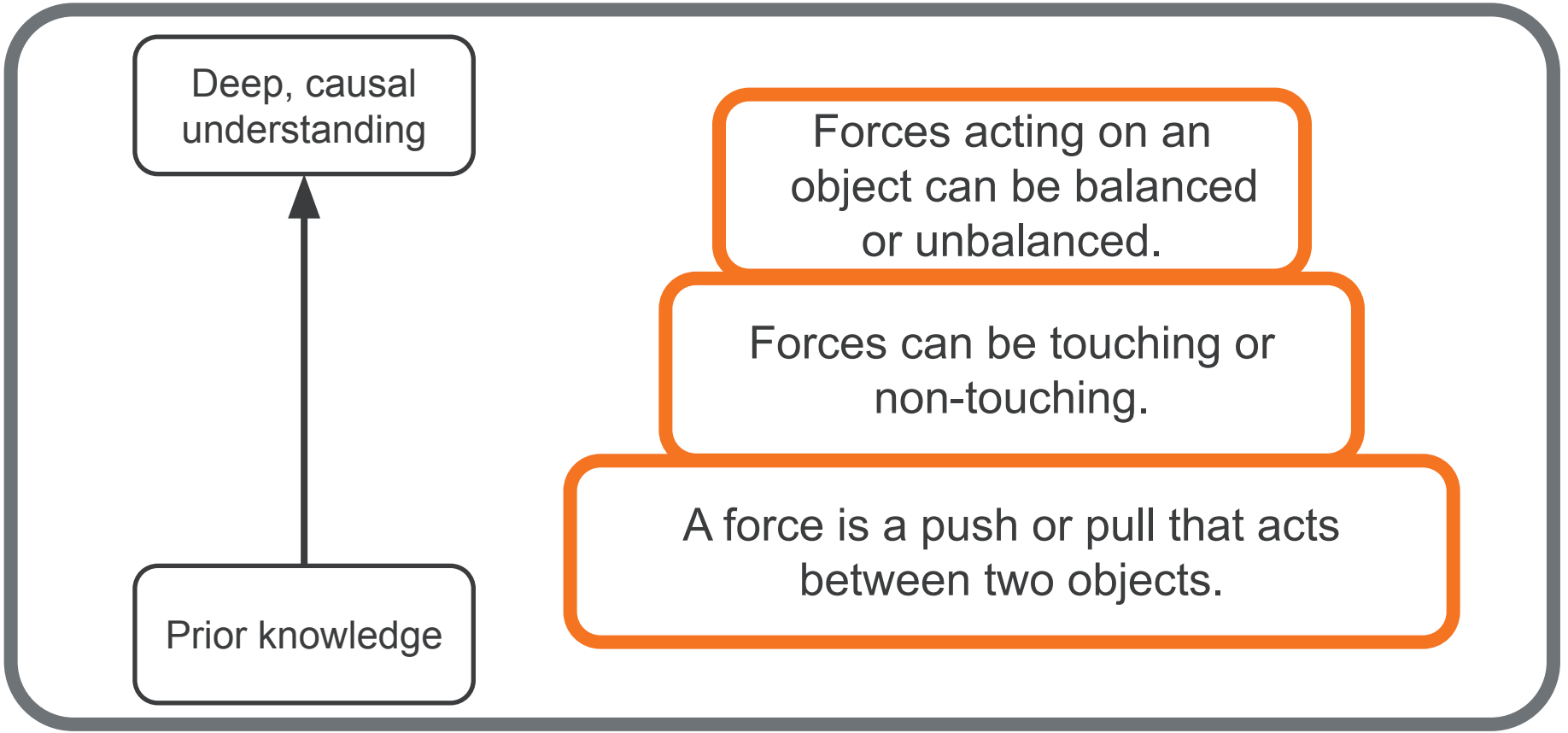
Forces can be touching or non-touching.

A force is a push or pull that acts between two objects.

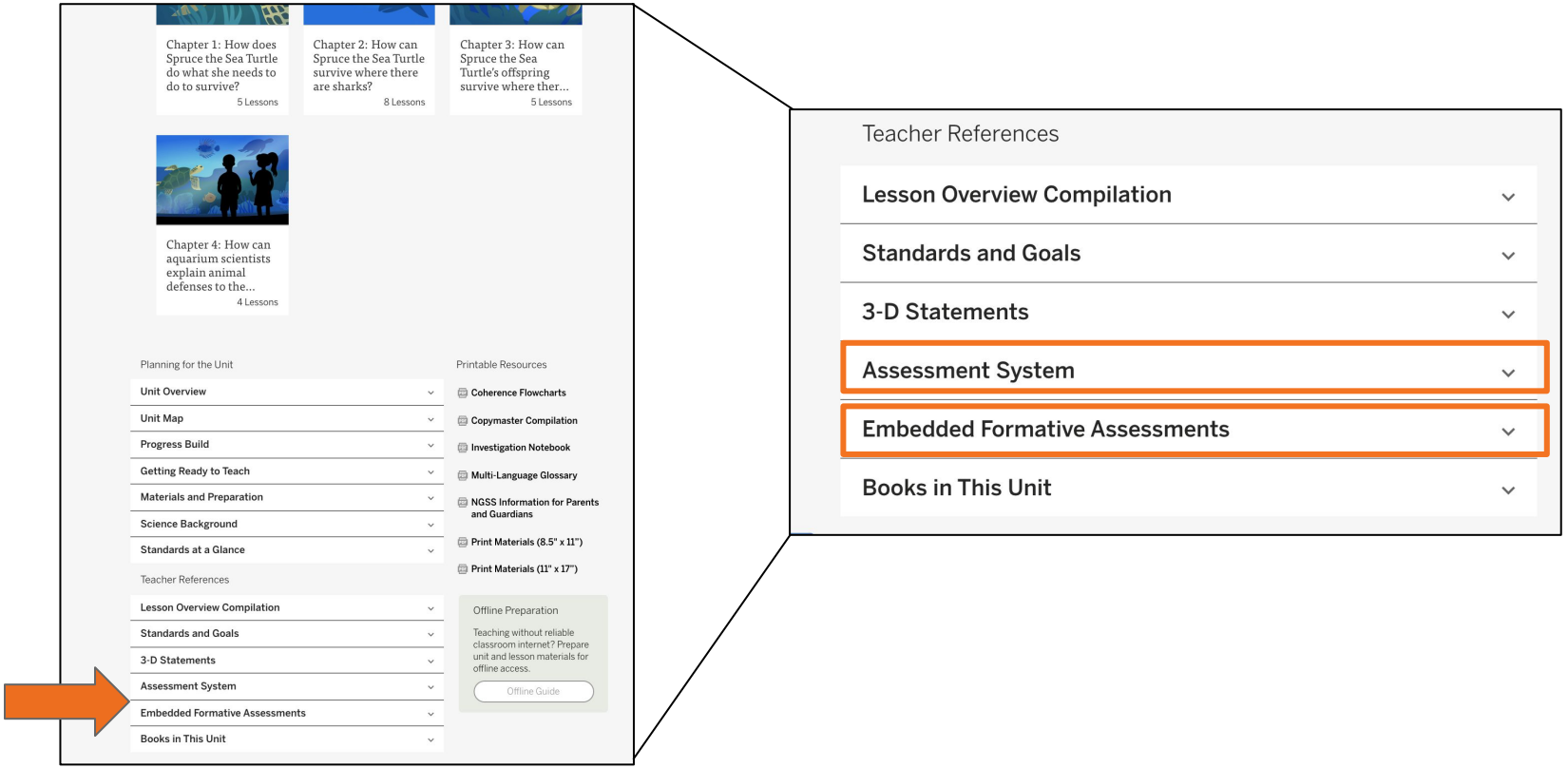
Investigation Assessments

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

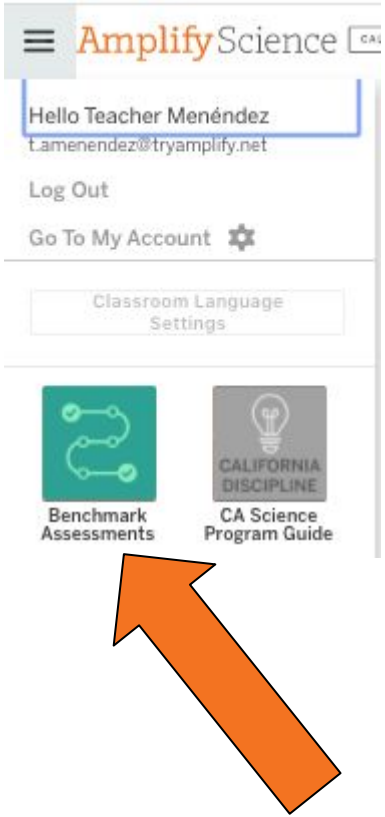


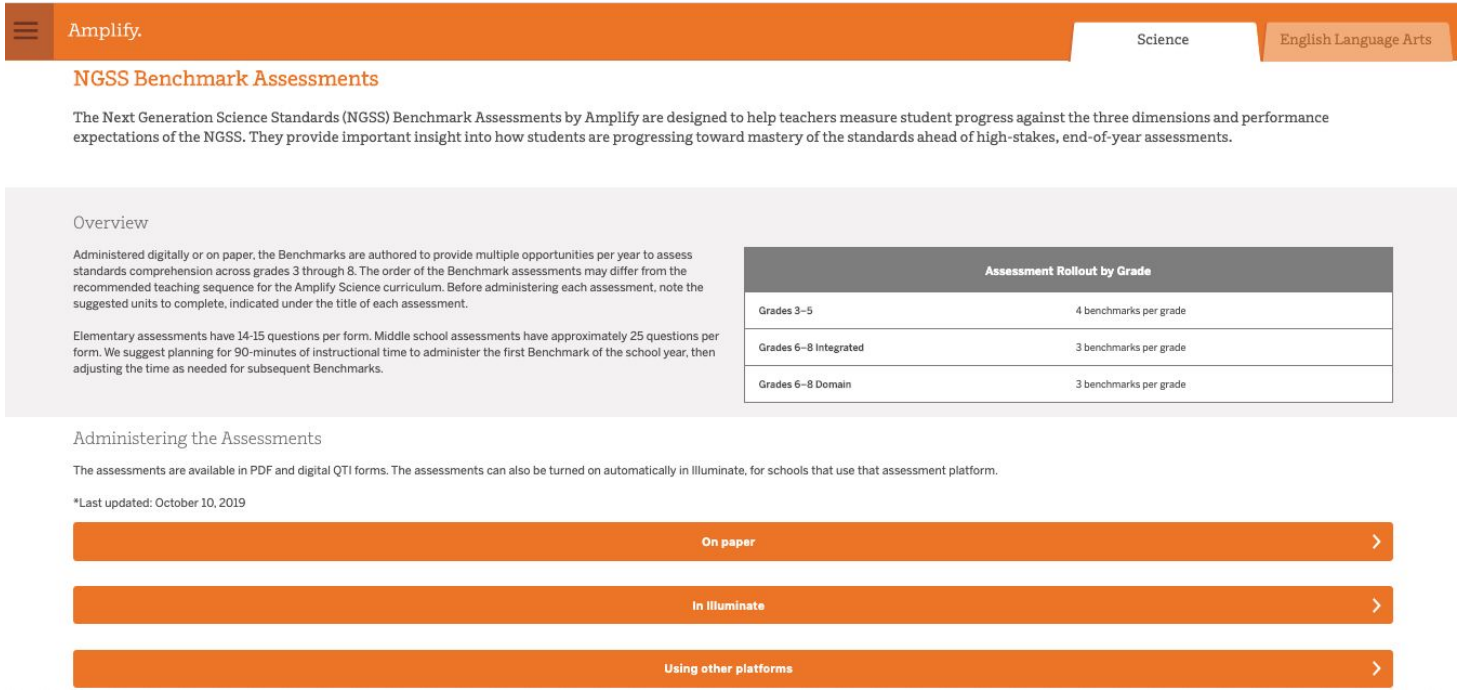
Locating Assessment Resources



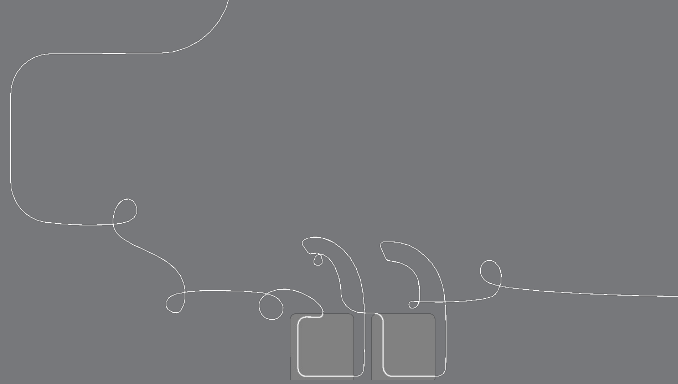
Amplify.

Benchmark Assessment Grades 3-5

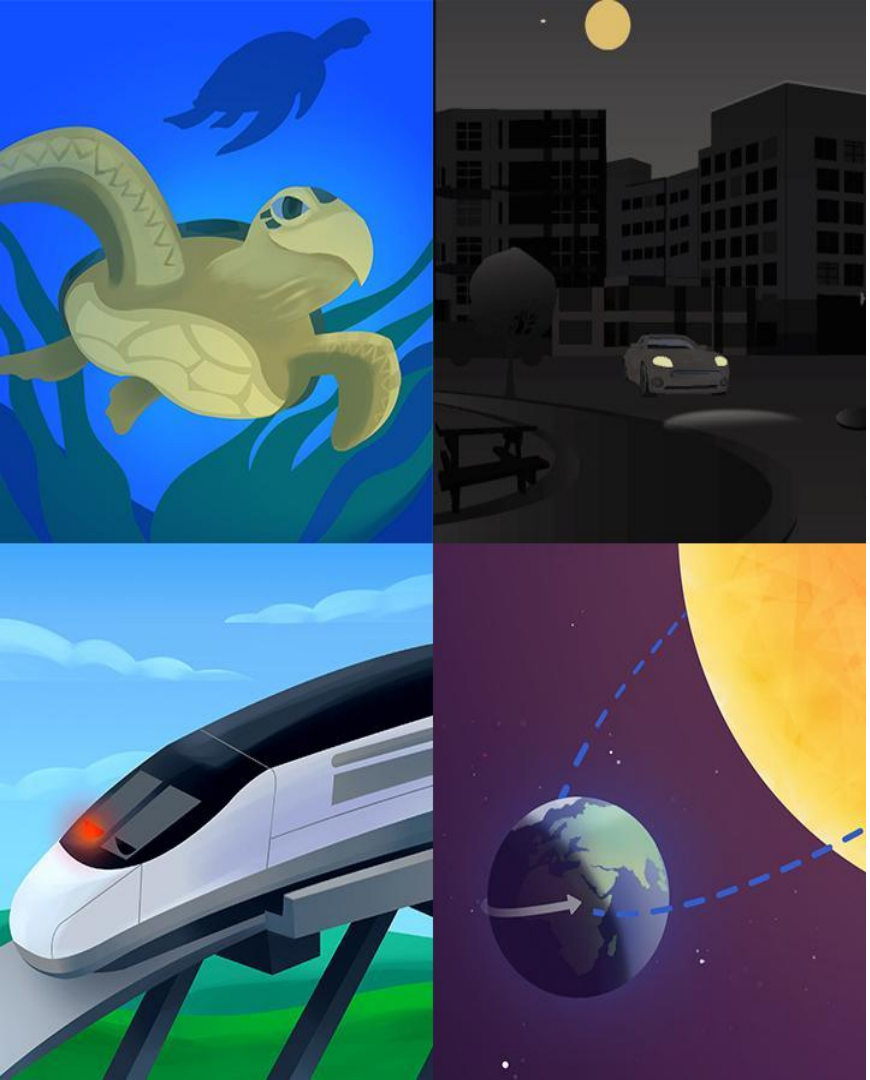




Self-Assessment



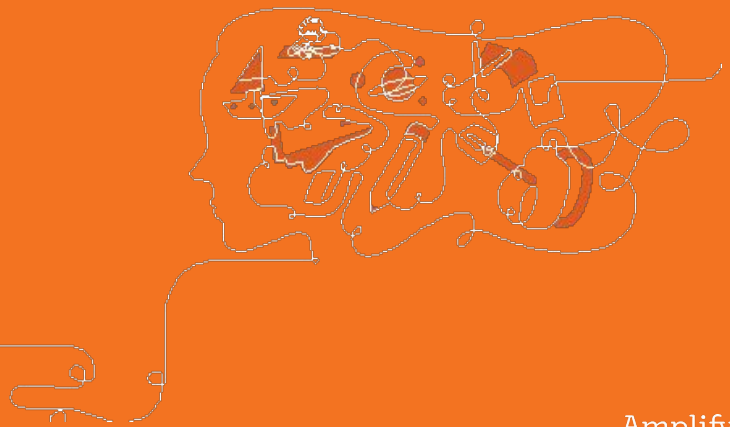
- Which questions have we answered?
- What new questions do you have?



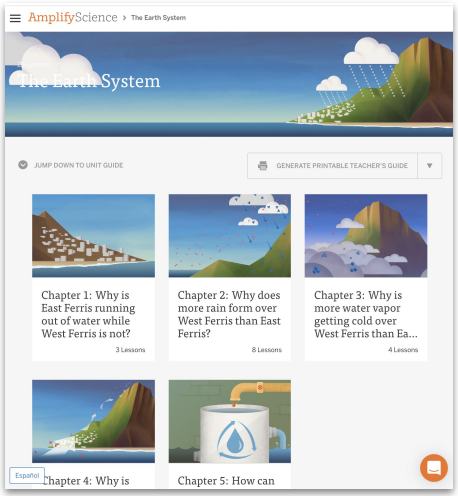
Plan for the day

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

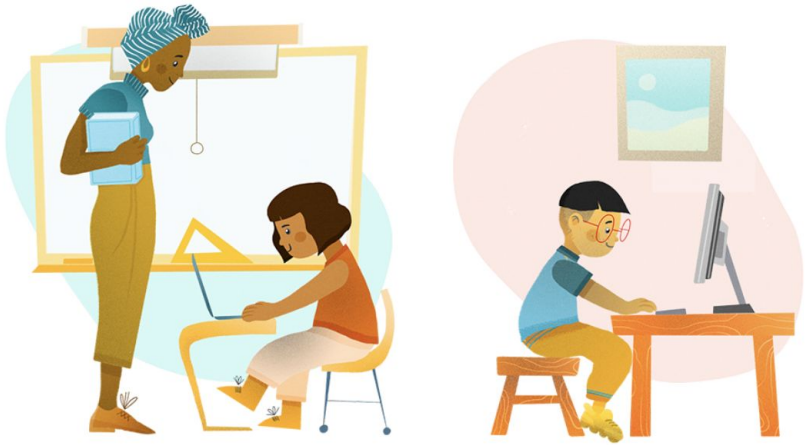
Remote/Hybrid Learning Resources



Back-to-school options



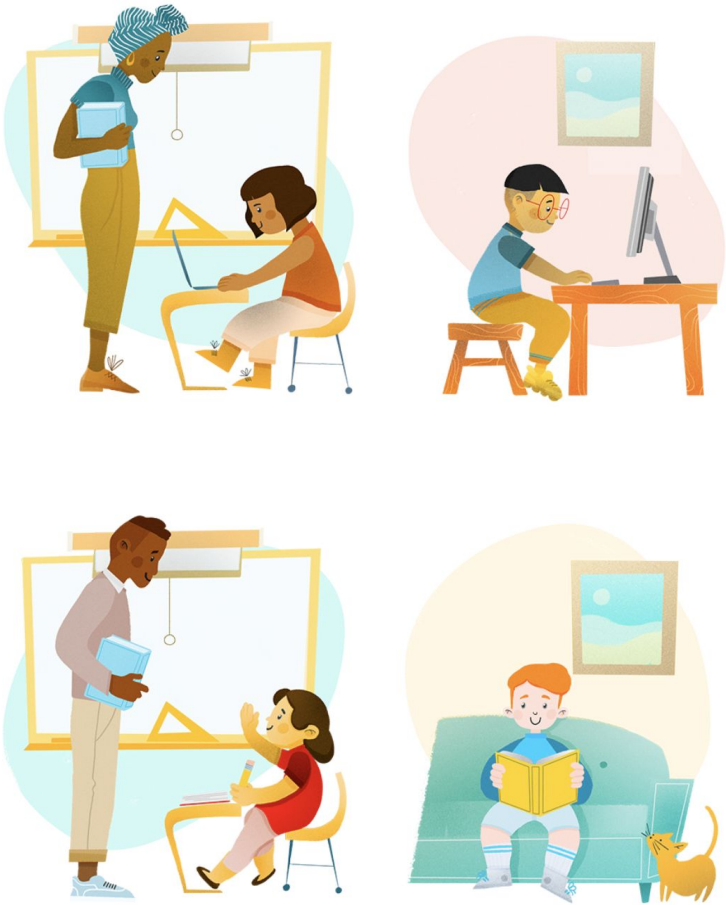
Original Amplify Science curriculum



Amplify Science@Home

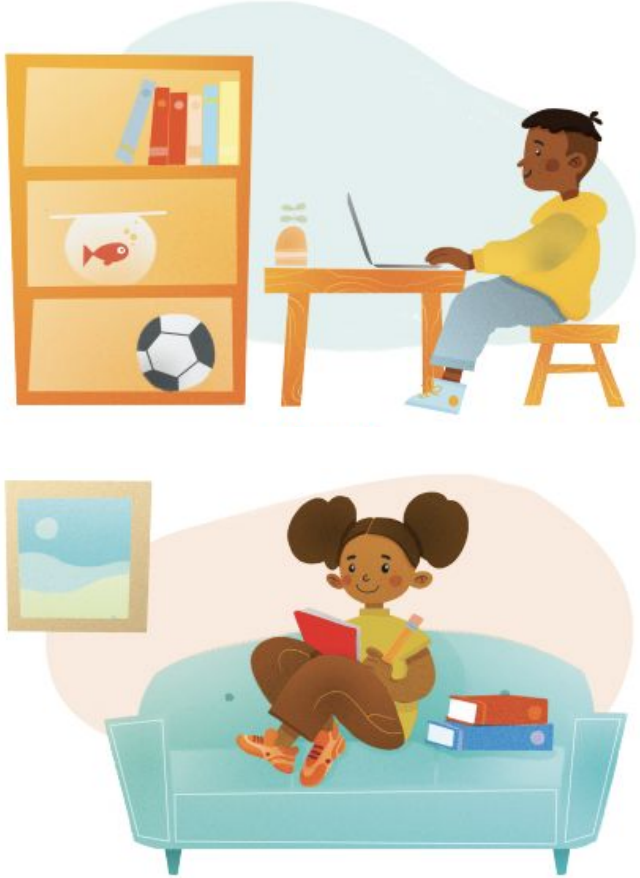
AmplifyScience@Home

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

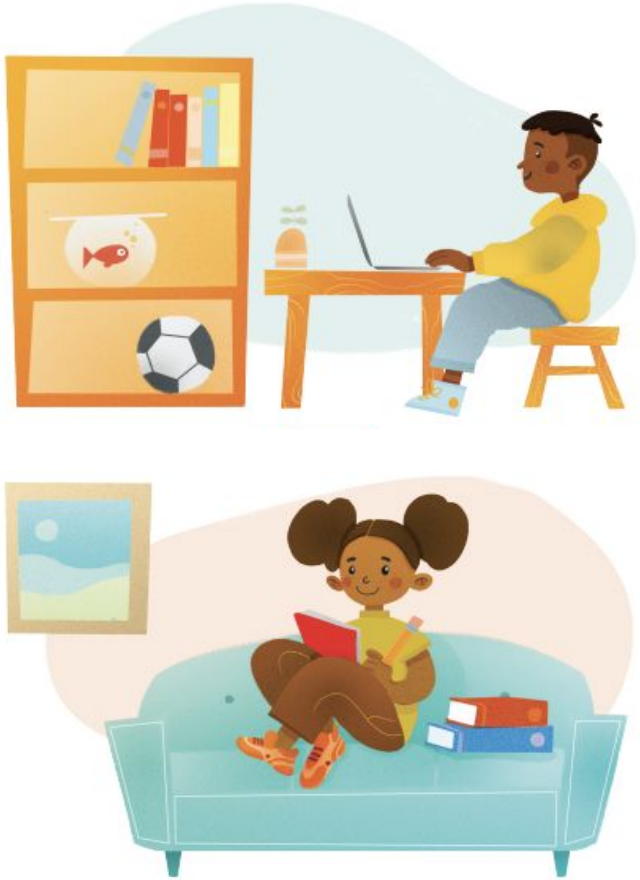
Two different options:

@Home Units

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

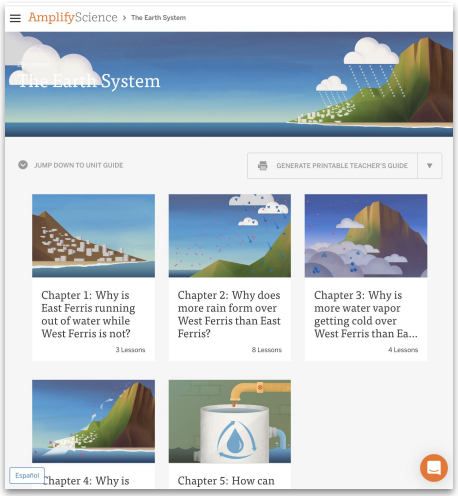
@Home Videos

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

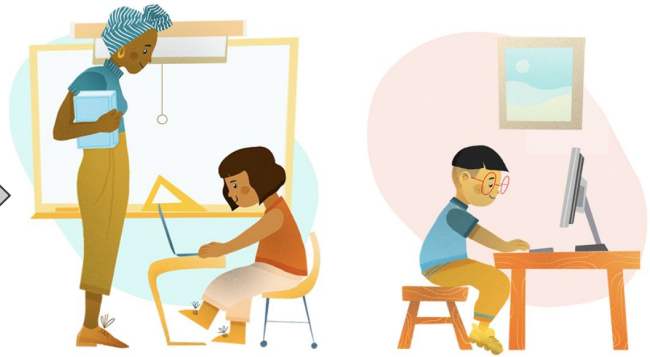


Back-to-school options

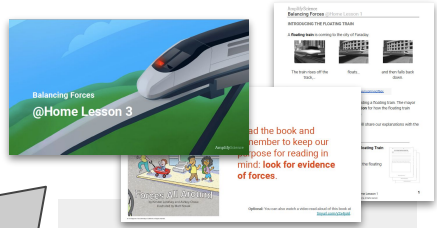
Related but unique resources



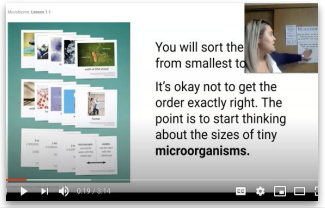
Original Amplify Science curriculum



Amplify Science@Home



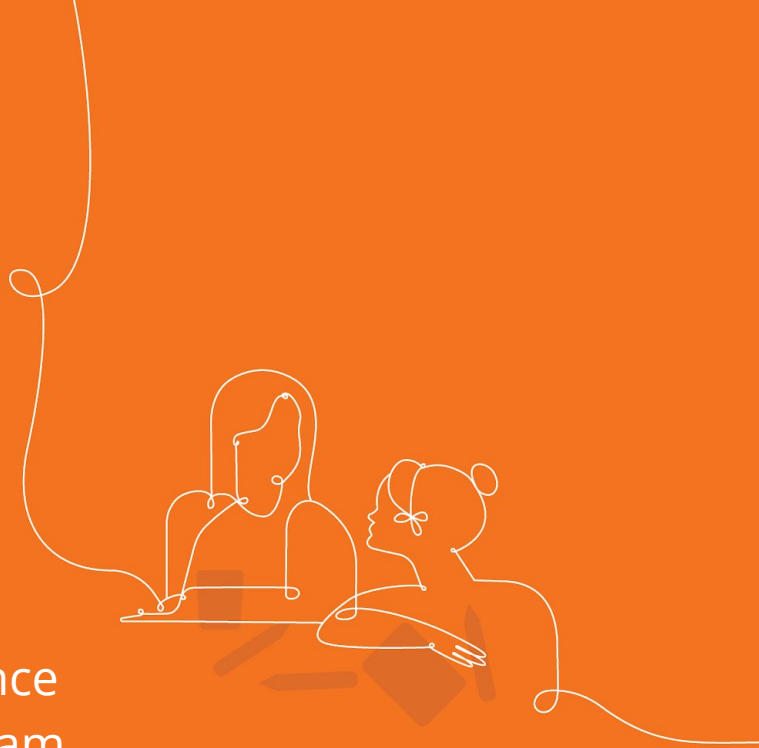
@Home Units



@Home Videos

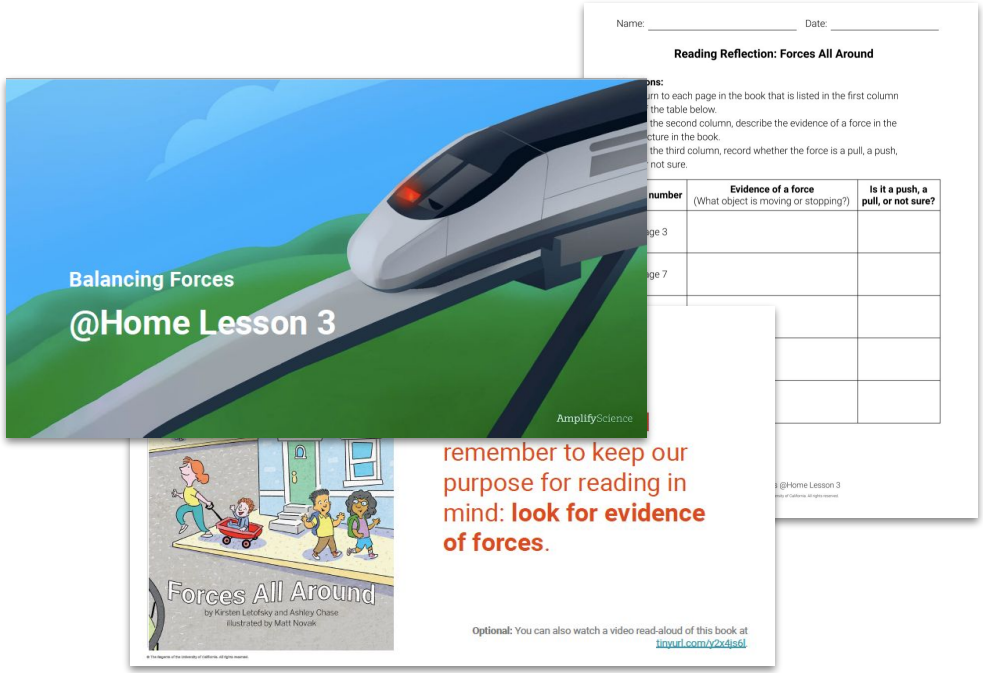
@Home Units

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



@Home Units

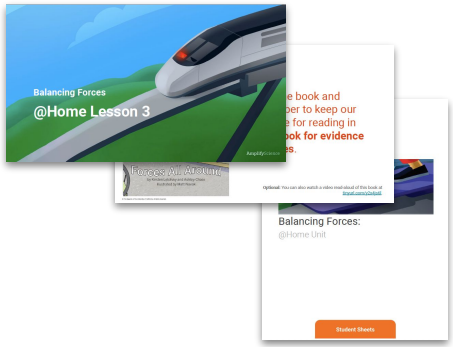
- Solution for **reduced instructional time**
- Print-based and tech-based access options
- Available in .pdf and Google Slides/Docs format



@Home Units

A shift in approach to respond to user feedback

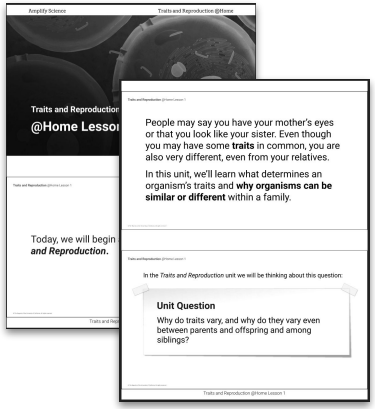
Original approach: two different resources

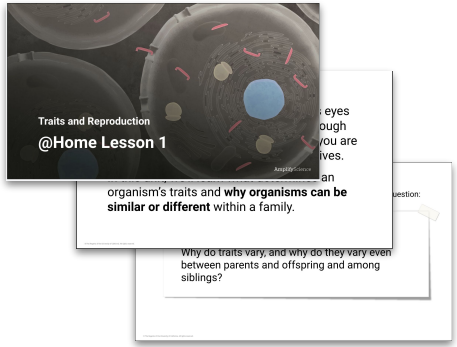


Print-based: @Home packets

Digital: @Home slides and student sheets

Updated approach: one resource, two formats





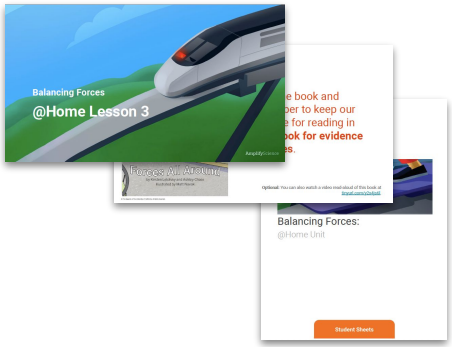
Print-based: PDFs of @Home Slides and student sheets

Digital: Google Slides @Home Slides and Google Doc student sheets

@Home Units

A shift in approach to respond to user feedback

Print-based:
@Home packets



Digital:
@Home slides and student sheets

Original approach: two different resources

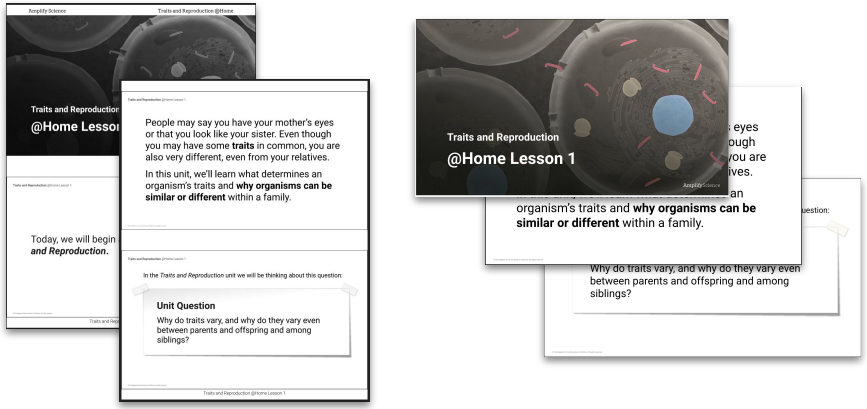
- Needs of Plants and Animals (K)
- Animal and Plant Defenses (1)
- Plant and Animal Relationships (2)
- Balancing Forces (3)
- Inheritance and Traits (3)
- Energy Conversions (4)
- Vision and Light (4)
- Patterns of Earth and Sky (5)
- Modeling Matter (5)

@Home Units

A shift in approach to respond to user feedback

All units released from November 4 onward (those not listed on previous slide) will follow the updated approach.

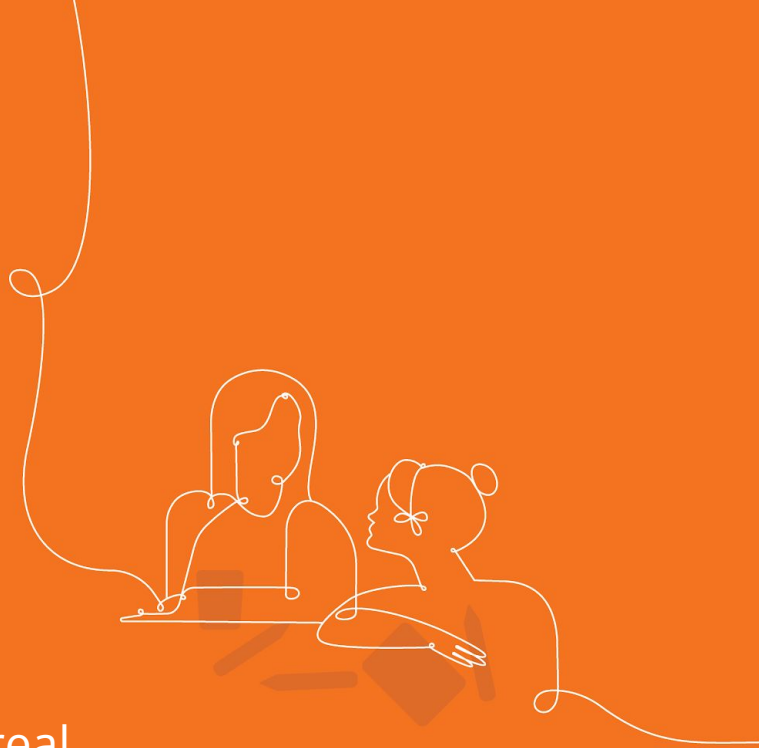
Updated approach: one resource, two formats



Print-based: PDFs of @Home Slides and student sheets

Digital: Google Slides @Home Slides and Google Doc student sheets

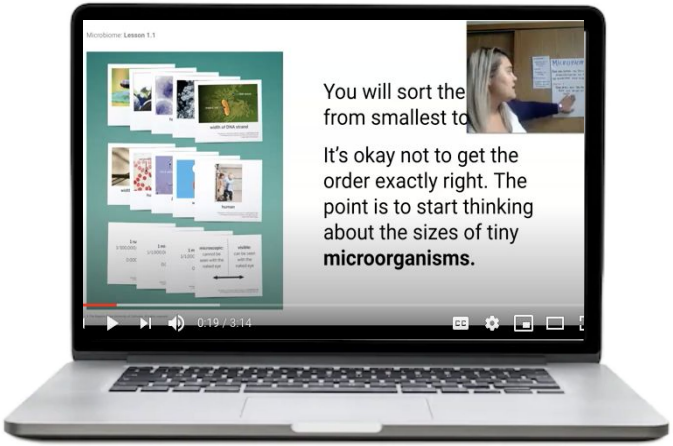
@Home Videos



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

@Home Videos

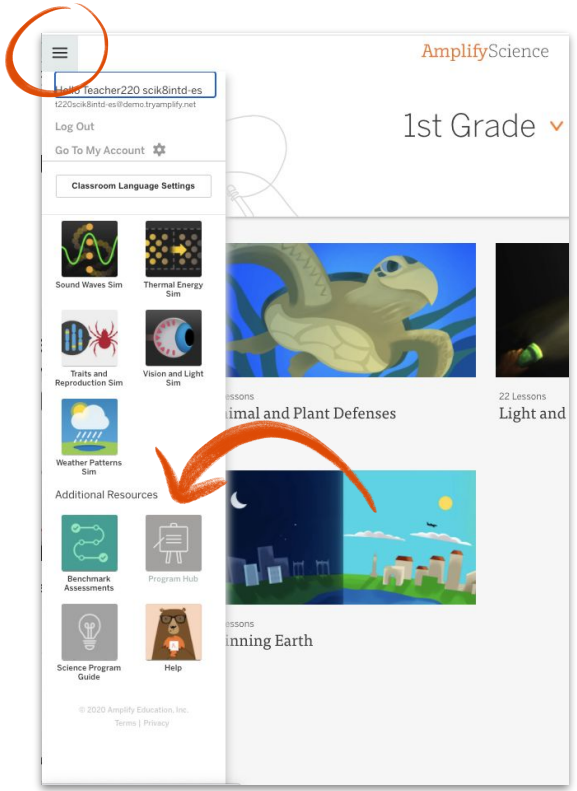
- Lesson playlists include **all activities** from original units
- Great option if have the **same amount of instructional time** as you typically would for science
- Requires **tech access** at home
- Can be used as models for **creating your own videos**



Accessing Amplify Science@Home

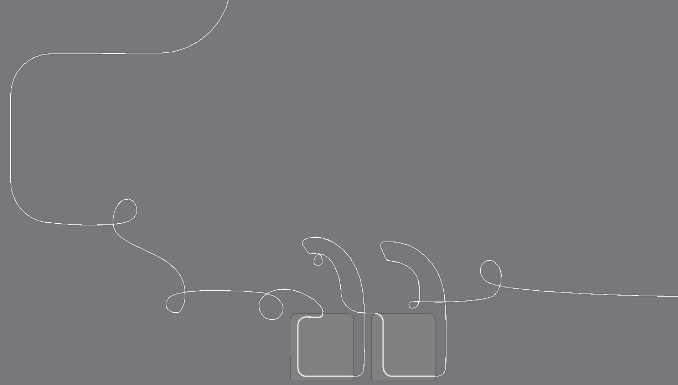
Amplify Science Program Hub

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

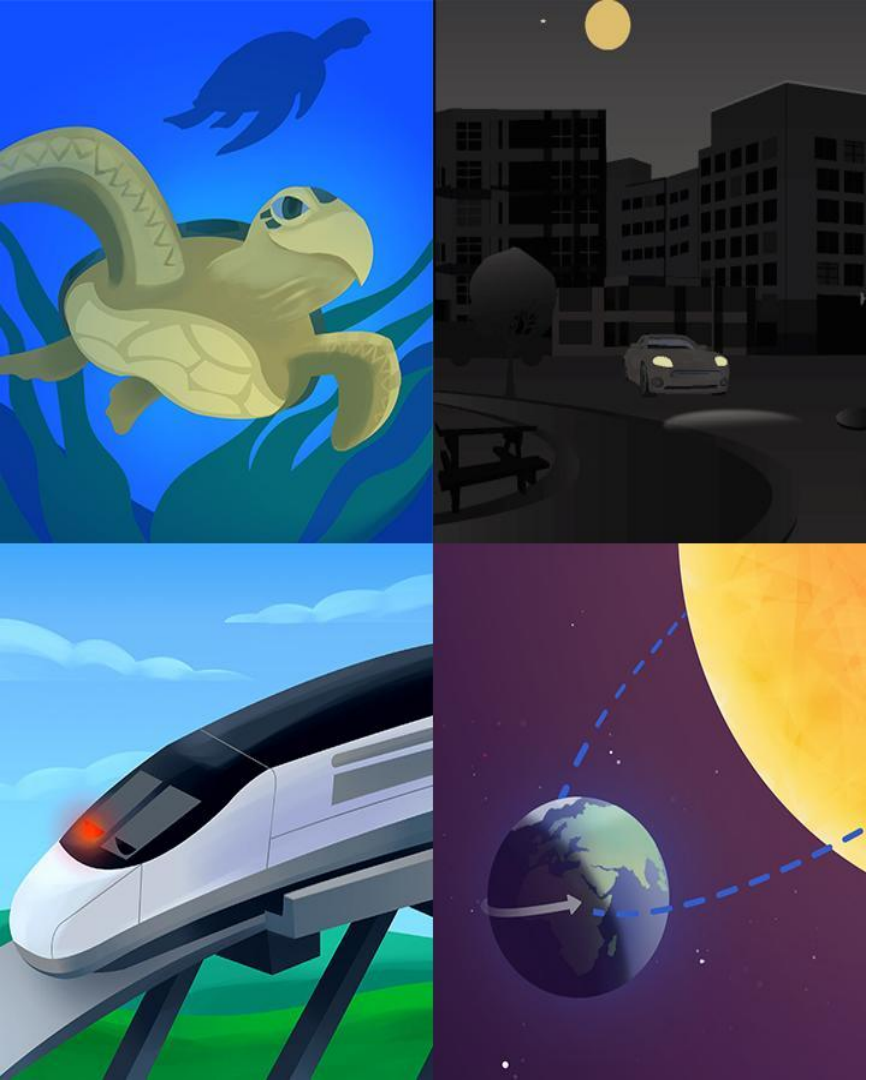


Which resource should I choose?

Use @Home Units if...	Use @Home Videos if...
• You have reduced instructional time for science • You need a print-based solution for some or all of your students	• You have about the same amount of instructional time for science



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

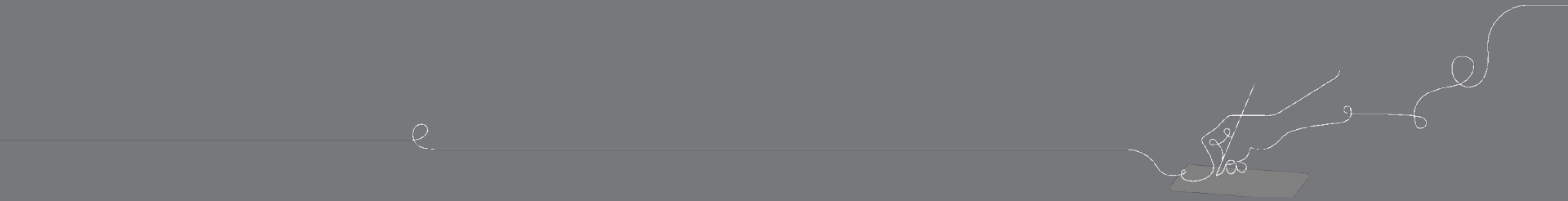
4 = Comfortable

5 = Extremely Comfortable

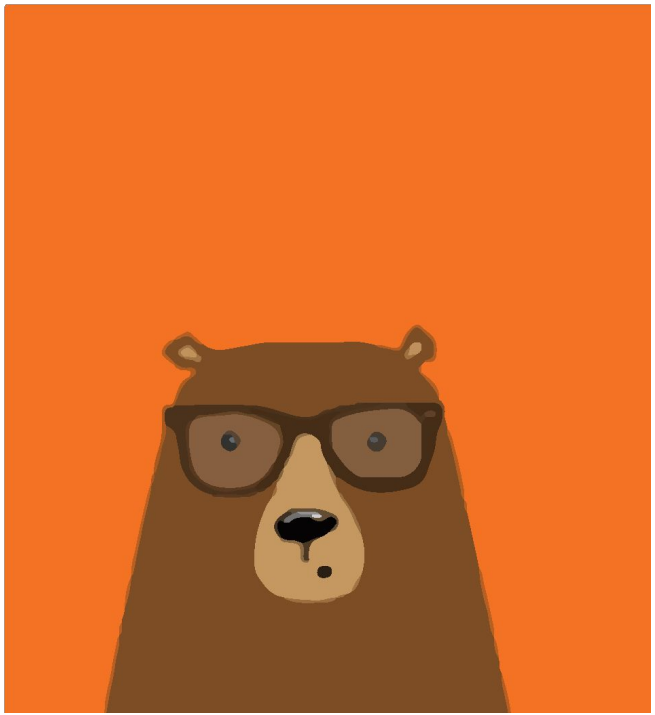
Objectives

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

- Navigate the Amplify Science curriculum.
- Navigate the Program Hub



LAUSD Amplify resources

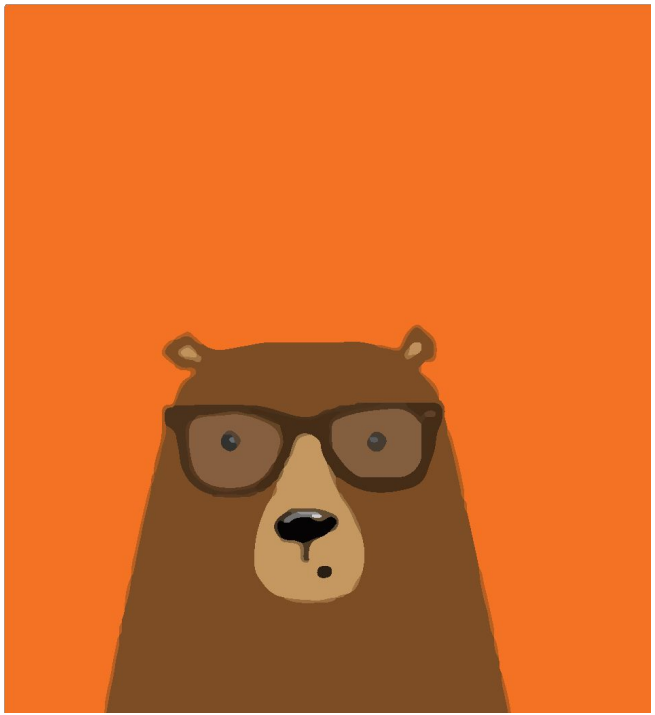


Amplify Science for LAUSD

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.

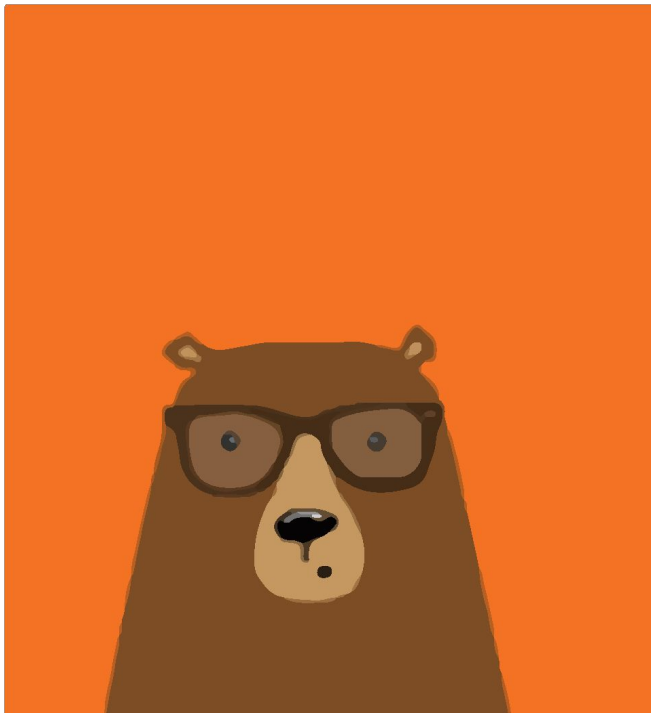
https://my.amplify.com/programguide/content/national/welcome/science/

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.