Amplify.

Welcome to Amplify Science!

This site contains supporting resources designed for the Los Angeles Unified School District Amplify Science adoption for grades TK-8.

All LAUSD schools have access to Amplify Science resources at this time.

Click here for Remote Learning Resources for Amplify Science

Click here to go back to the LAUSD homepage.

Click the button below to preview the digital Teacher's Guide, and check back for exciting updates to this site!



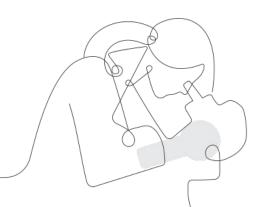


https://amplify.com/lausd-science/

Amplify Science

Navigating Program Essentials

Grades 7



LAUSD 1/16/21

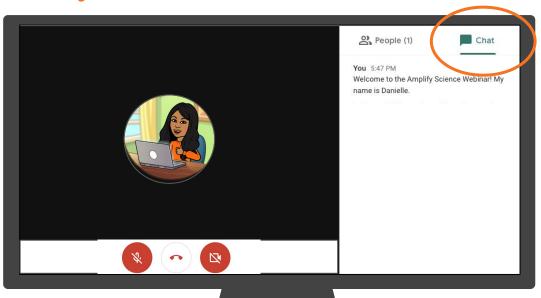
Presented by Your Name

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

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?



Overarching goals

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

- Navigate the Amplify Science curriculum.
- Understand the program's phenomenon-based approach.
- Navigate the Remote Learning Resources-Program Hub

















Plan for the day

- What is Amplify Science?
- Navigation essentials
- Teaching a phenomenon-based lesson
- Assessments
- Remote Learning Resources
- Closing and reflection

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

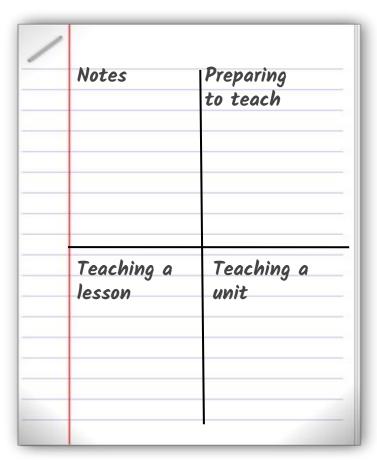


Make sure you have a note-catcher present



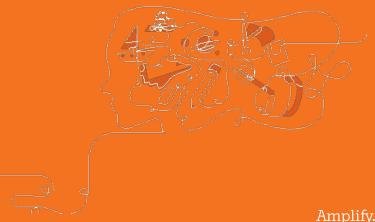
Be an active participant - chat, ask questions, discuss, share!

Capturing key takeaways!





What is Amplify Science?



AmplifyScience

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









Amplify.

Middle school course curriculum structure

Integrated model*

Grade 6

- Launch: Microbiome
- Metabolism
- Engineering Internship: Metabolism
- · Traits and Reproduction
- · Thermal Energy
- Ocean, Atmosphere, and Climate
- Weather Patterns
- Earth's Changing Climate
- Engineering Internship: Earth's Changing Climate

Grade 7

- Launch: Geology on Mars
- Plate Motion
- Engineering Internship:
 Plate Motion
- · Rock Transformations
- Phase Change
- Engineering Internship:
 Phase Change
- · Chemical Reactions
- · Populations and Resources
- Matter and Energy in Ecosystems

Grade 8

- Launch: Harnessing Human Energy
- Force and Motion
- Engineering Internship:
 Force and Motion
- Magnetic Fields
- Light Waves
- Earth, Moon, and Sun
- Natural Selection
- Engineering Internship:
 Natural Selection
- · Evolutionary History

Launch units

- First unit
- 11 lessons

Core units

- Majority of units
- 19 lessons

AmplifyScience





*These are the prioritized units for 7th grade.

Course curriculum structure

Integrated model*

Grade 6

- Launch:
 Microbiome
- Metabolism
- Engineering Internship: Metabolism
- · Traits and Reproduction
- Thermal Energy
- Ocean, Atmosphere, and Climate
- Weather Patterns
- · Earth's Changing Climate
- Engineering Internship: Earth's Changing Climate

Grade 7

- Launch: Geology on Mars
- Plate Motion
- Engineering Internship: Plate Motion
- Rock Transformations
- Phase Change
- Engineering Internship:
 Phase Change
- · Chemical Reactions
- · Populations and Resources
- Matter and Energy in Ecosystems

Grade 8

- Launch: Harnessing Human Energy
- · Force and Motion
- Engineering Internship:
 Force and Motion
- Magnetic Fields
- Light Waves
- · Earth, Moon, and Sun
- Natural Selection
- Engineering Internship: Natural Selection
- · Evolutionary History

Key takeaways:

- 9 units per grade level
- 145 lessons total.
- Lessons are 45 minutes long





Middle school components



Hands-on materials



Student Investigation Notebooks



Student Articles



Assessments



Digital Simulations



Teacher's Guide (Digital + Print)

Coming Soon for Back to School!

Classroom Slides

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



Classroom Kits



Amplify.

Hands On Learning Materials









Amplify.

Classroom Wall Print Materials

Unit Question

How do the trillions of cells in the human body get what they need to function, and what do the cells do with the things they absorb?

Chapter 1 Question

Why does Elisa feel tired all the time?

Key Concepts

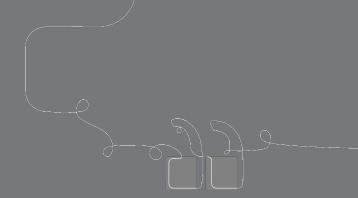
1. A functioning human body has molecules from food (glucose and amino acids) and molecules from air(oxygen) in its cells.

Vocabulary

metabolism

molecule

amino acid



Questions?















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- Closing and Reflection

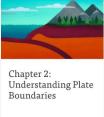
Amplify.

Unit Structure





Plate Motion











4 Lessons

Chapter 1:

Outer Layer

Introducing Earth's









READING Rereading "A Continental Puzzle"



HANDS-ON Reconstructing Gondwanaland



HOMEWORK Homework

Unit Guide Resources

Planning for the Unit	Printable Resources
Unit Overview	V Article Compilation
Unit Map	
Progress Build	Copymaster Compilation
Getting Ready to Teach	Flextension Compilation
Materials and Preparation	☐ Investigation Notebook
Science Background	MGSS Information for Parents a Guardians
Standards at a Glance	Print Materials (8.5" x 11")
Teacher References	Print Materials (11" x 17")
Lesson Overview Compilation	V Offline Preparation
Standards and Goals	Teaching without reliable classroor internet? Prepare unit and lesson
3-D Statements	materials for offline access.
Assessment System	✓ Offline Guide
Embedded Formative Assessments	·
Articles in This Unit	·
Apps in This Unit	<u> </u>
Flextensions in This Unit	~

Unit Guide resources

Amplify Science

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

CONTROL DO	CALIFORNIA STATE STATE OF AN AND STATE AND STATE OF THE S	
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 NGSS Standards (Performance Expectations, Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts), Common Core State Standards for Englis 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) standards 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	
Articles 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 6-8)	
Flextensions in This Unit	Summarizes information about the Hands-On Flextension lesson(s) in the unit	
Printable resources		
Coherence Flowcharts	Visual representation of the storyline of the unit	
Copymaster Compilation	Compilation of all copymasters for the teacher to print and copy throughout the unit	
Flextension Compilation	Compilation of all copymasters for Hands-on Flextension lessons throughout the unit	
Investigation Notebook	Digital version of the Investigation Notebook, for copying and projecting	
Multi-Language Glossary	Unit vocabulary words in 10 languages	
NGSS Information for Parents and Guardians	Information for parents about the NGSS and the shifts for teaching and learning	
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 Chapter Questions and Key Concepts provided in the kit	

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4 Easy Steps for lesson preparation

Step 1: Download the slides

Step 2: Read the Overview

Step 3: Read the Materials and Preparation Section

Step 4: Read the Differentiation section

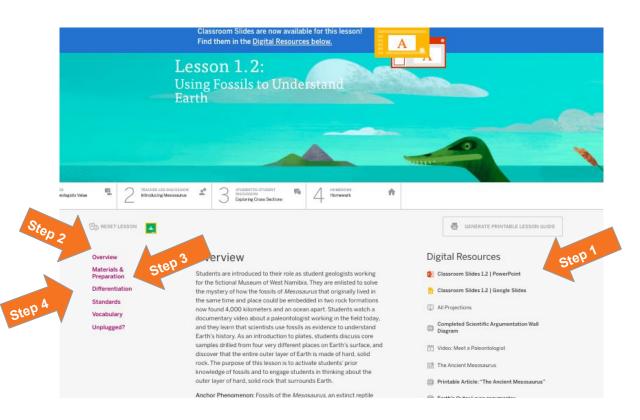
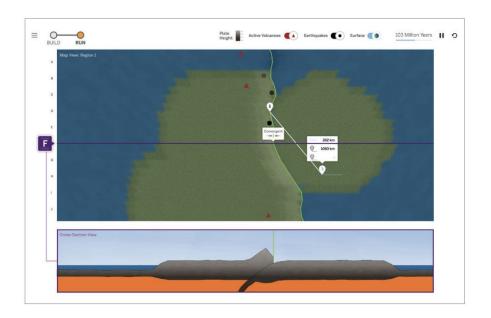


Plate Motion Sim



The Plate Motion sim is an interactive model that allows students to observe the interactions between plates and the mantle at different types of plate boundaries.

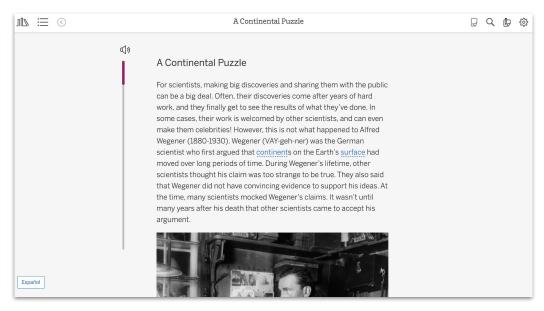


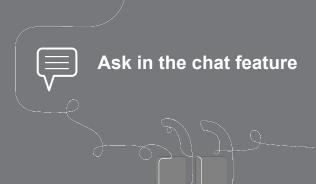
Library



Explore the Sim and the digital Library







Questions?

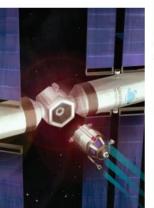
















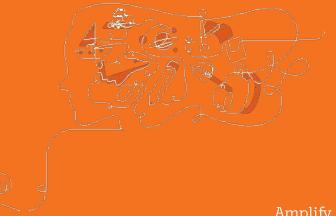
Plan for the day

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What is phenomenon-based instruction?



Phenomenon-based teaching





How can leading with a phenomenon impact student learning in your classroom?

Next Generation Science Standards

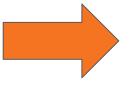
Think-Type-Discuss: How might learning be different? How might learning be different?

Topic-based	Phenomenon-based
What is the water cycle?	What caused the storms in this area to be severe?
What is an ecosystem?	Why are there suddenly so many moon jellies?
How does light energy interact with matter?	Why does Australia have an elevated skin cancer rate?

Comparing topics and phenomena

A shift in science instruction

from learning about (like a student)



to figuring out

(like a scientist)

Amplify Science

Anchoring phenomenon

- Complex and rich
- Drives learning through a whole unit
- Specific and observable
- Relatable at students' developmental level

















Activity 1 Warm-Up



Today, we will begin a new unit called *Plate Motion*.

We will start with a Warm-Up each day to get us thinking about science ideas. You can begin working on it independently as soon as you come in.



Warm-Up

Scientists look for fossils in rock all over the world. Fossils such as fossilized bones, footprints, or leaf prints are evidence of life from the past.





Sunfish fossil found in Wyoming, USA





Activity 2 Introducing Mesosaurus



Plate Motion: Lesson 1.2



Scientist in the field, working to uncover a fossil



Sunfish fossil found in Wyoming, USA



Leaf of an extinct fern found in Antarctica



What do you already know about **fossils**?

Fossils are like time capsules. Scientists use fossils to better understand what Earth was like when that fossil formed—thousands or even millions of years ago!

We'll watch a video about a real-life scientist who is investigating fossils to **tell the story of Earth's past**.

What kind of evidence does Dr. Wilson use in his research?

How does his research help us learn about the geologic history of Earth?

As the video plays, you should **listen for answers** to each of these questions.



What kind of **evidence** does Dr. Wilson use in his research?

How does his research help us learn about the **geologic history of Earth**?



Why are fossils of species that once lived together found in different locations on Earth now?











To: Student Geologists

From: Dr. Bayard Moraga, Lead Curator, Museum of West Namibia

Subject: Mesosaurus Fossil



We are lucky to have a fossil specimen of *Mesosaurus* to display in our museum. The fossil remains of this organism were found in hard, solid rock near our museum in southwestern Africa.

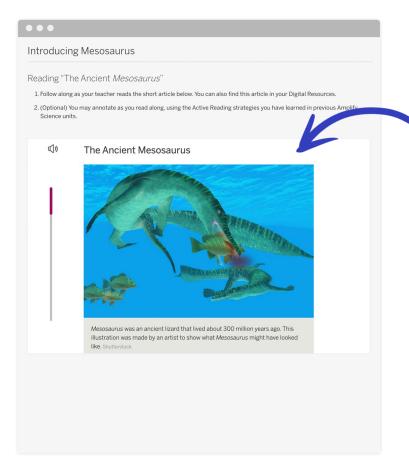
Fossils of *Mesosaurus* that originally lived at the same time and in the same place are also found thousands of kilometers away, across the Atlantic Ocean, on the eastern coast of South America.

This is puzzling because this ancient animal could not swim very far. Why are *Mesosaurus* fossils found in South America and Africa—continents that are now thousands of kilometers and an ocean apart?

We are building an exhibit to answer this question for our museum visitors, and we need your help to do so!



In this unit, you'll use your understanding of geology to explain what happened to the rock that the *Mesosaurus* fossils were found in and why the fossilized remains of these reptiles that once lived together are now found so far away from each other.



To begin, we'll **read** an article to learn more about what scientists already know about *Mesosaurus*.

I'll read the article out loud as you follow along.

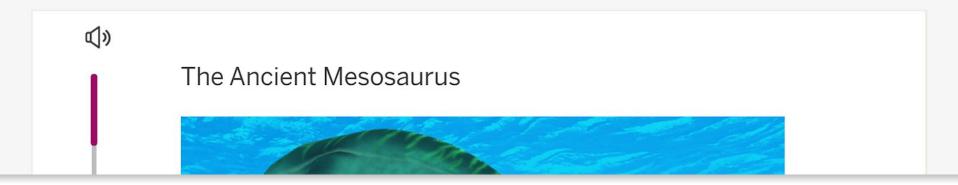




Introducing Mesosaurus

Reading "The Ancient Mesosaurus"

- 1. Follow along as your teacher reads the short article below. You can also find this article in your Digital Resources.
- 2. (Optional) You may annotate as you read along, using the Active Reading strategies you have learned in previous Amplify Science units.





Let's think like geologists and consider Dr. Moraga's question.



Why are *Mesosaurus* fossils found on continents that are now thousands of kilometers and an ocean apart?



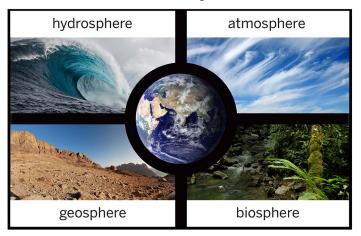
What is the land like where *Mesosaurus* fossils are found?



Activity 3 Exploring Cross Sections



The Earth System



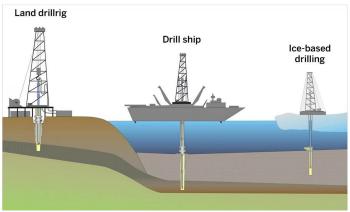
When Earth scientists think of Earth as a whole, they think of it as a system, a set of interacting parts forming a complex whole. The Earth system is made of parts called **spheres**.

We will investigate this question:

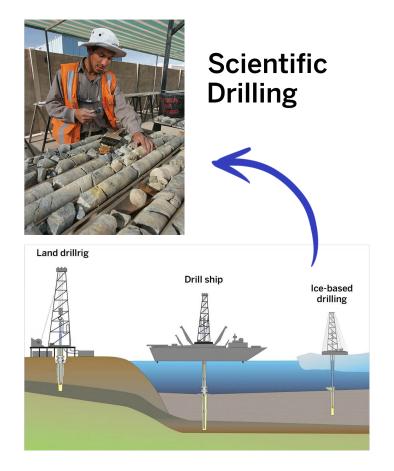
Investigation Question: What is the land like underneath Earth's surface?



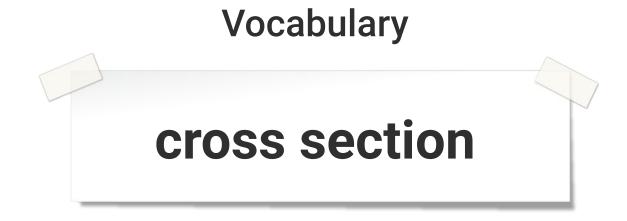
Scientific Drilling



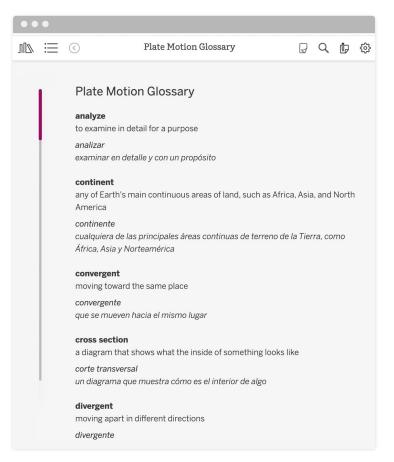
One way scientists learn more about **Earth's outer layer** is to use large drills to collect samples of the land below the surface.



A core sample is one way that scientists can learn about the interior of Earth. From these core samples, scientists can then make special visual representations called cross sections.



a diagram that shows what the inside of something looks like

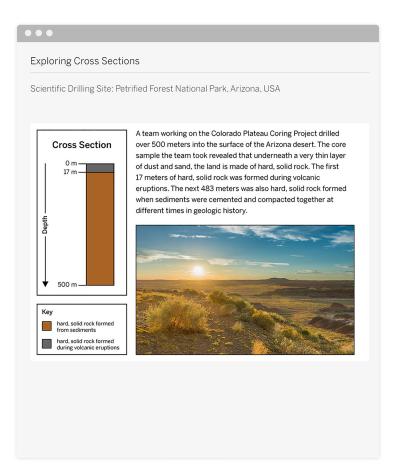


Throughout the unit, you can look up vocabulary words in the glossary to help you understand what they mean.

Scientific Drilling Sites

- Petrified Forest National Park, Arizona, USA
- Mauna Loa Volcano, Hawaii, USA
- Guadalupe Island, Mexico
- Ross Ice Shelf, Antarctica

To investigate Earth's outer layer, each of you will read and become an expert on one scientific drilling site.

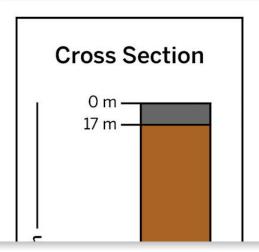


This is the information about the site in Arizona. Each group member will read about the core sample collected at one drilling site and then share what they learn with the group.

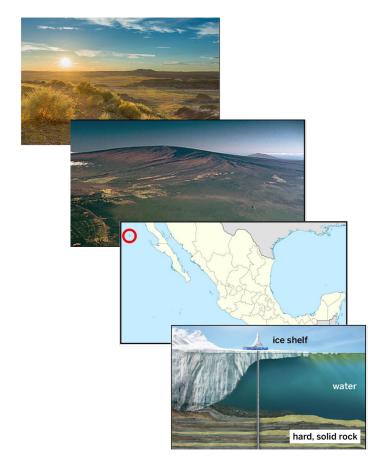


Exploring Cross Sections

Scientific Drilling Site: Petrified Forest National Park, Arizona, USA



A team working on the Colorado Plateau Coring Project drilled over 500 meters into the surface of the Arizona desert. The core sample the team took revealed that underneath a very thin layer of dust and sand, the land is made of hard, solid rock. The first 17 meters of hard, solid rock was formed during volcanic eruptions. The next 483 meters was also hard, solid rock formed when sediments were cemented and compacted together at different times in geologic history.





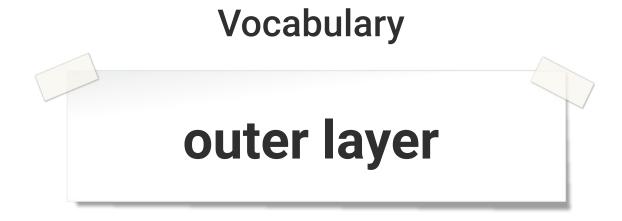
Share what you learned about your drilling site.

Make sure to share what you learned about **Earth's outer layer** from the cross sections.

Let's share our ideas about the Investigation Question.



What is the land like underneath Earth's surface?



Earth's outermost layer of hard, solid rock that is underneath the soil, vegetation, and water

Key Concept

1. Earth's outer layer is made of hard, solid rock.

Activity 4 Homework



Plate Motion: Lesson 1.2 Activity 4



For this activity, you will show what you've learned by using a pencil or highlighter to **shade** the regions where Earth's outer layer is made of hard, solid rock.





Homework

Earth's Outer Layer

You have been investigating the question What is the land like underneath Earth's surface?

Use the Earth's Outer Layer student sheet to show your thinking about this question. Show where Earth's outer layer is made of hard, solid rock by shading those regions.

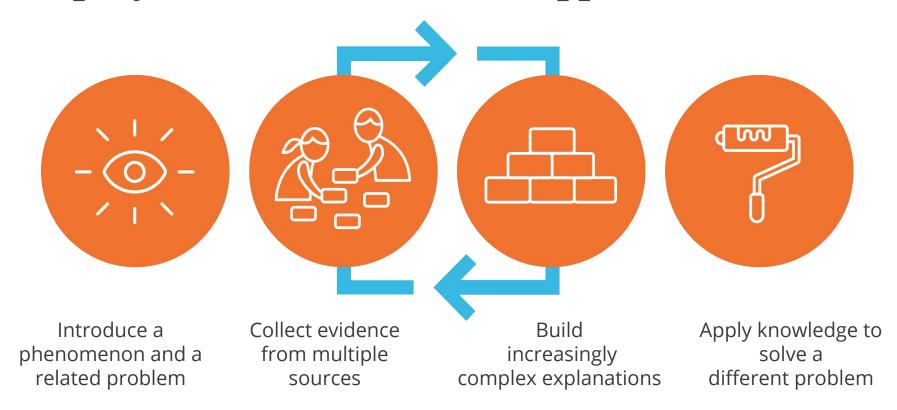
End of Lesson



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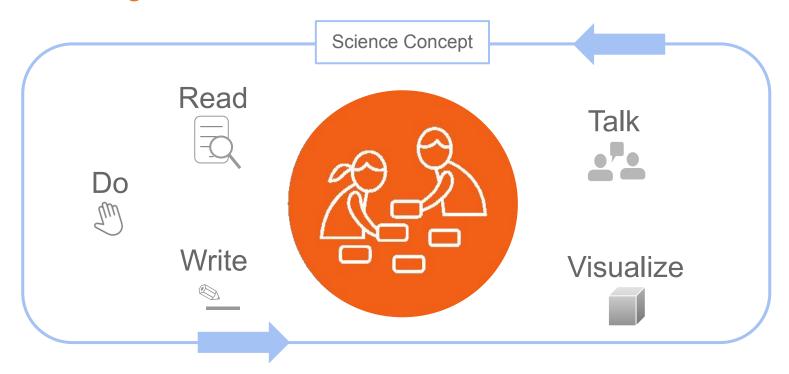
 $\label{published} \hbox{ Published and Distributed by Amplify.} \hbox{ www.amplify.com}$

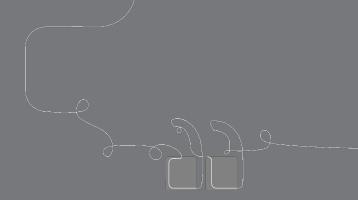
Amplify Science Instructional Approach



Multimodal learning

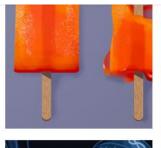
Gathering evidence from different sources





Questions?

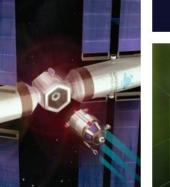
















Plan for the day

- What is Amplify Science?
- Navigation essentials
- Teaching a Lesson
- Assessments
- Remote Learning Resources
- Closing and Reflection

Assessments

Think to yourself: How do your students show you what they know?

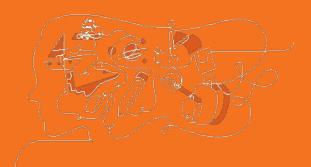


Plate Motion Progress Build

Deep, Causal Understanding

Level 3: Plates travel at a rate too slow to be experienced by humans but can travel great distances over time.

Level 2: The plates move on top of a soft, solid layer of rock called the mantle.

Level 1: The Earth's entire outer layer (below the water and soil that we see) is made of solid rock that is divided into plates. Earth's plates can move.

Prior Knowledge

Types of assessments



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.



Used to measure student learning at the end of instruction

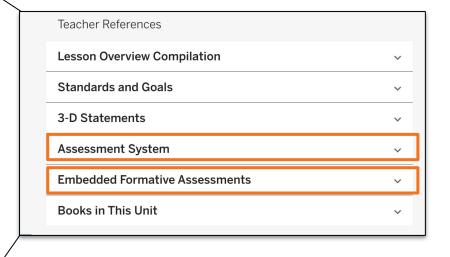
End-of-Unit

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

Locating assessment resources







Review an assessment

Part 1: Choose an Assessment Opportunity

1.Navigate to the Assessment System reference in the Unit Guideo

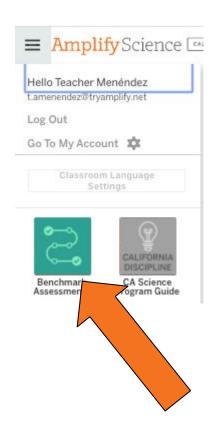


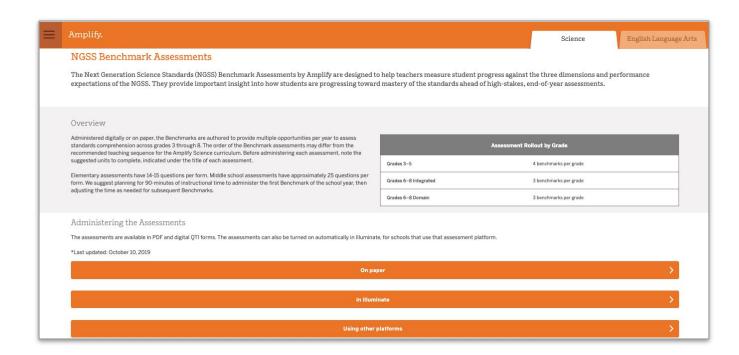
- **2.**Choose an 'Assessment opportunity' to preview. *i.e:* Pre-Unit, On-the-Fly, Critical Juncture, or End-of-Unit
- **3.**Navigate to the lesson and review the assessment

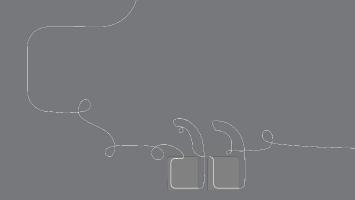
Part 2: Review the Assessment

- **4.** As you review the assessment, answer these questions:
 - **a.** What are students doing?
 - **b.** What would student performance tell me about student understanding?
 - **c.** How could I adjust instruction based on student performance?
 - **d.** How could I record student data?

Benchmark Assessments







Questions?















Plan for the day

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- Remote Learning Resources
- Closing and Reflection

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

 Digital or print-based versions of Amplify Science units condensed by about 50%

@Home Videos

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

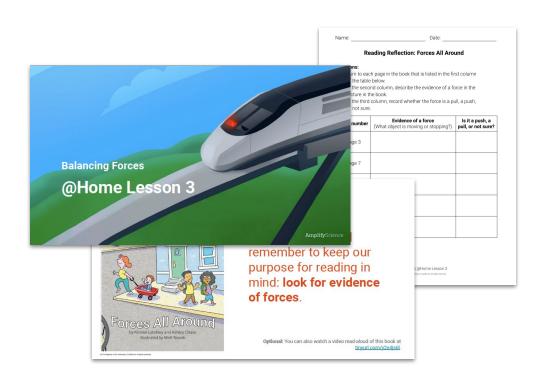




Strategically modified versions of Amplify Science units, highlighting key activities from the program



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



A shift in approach to respond to user feedback

Original approach: two different resources





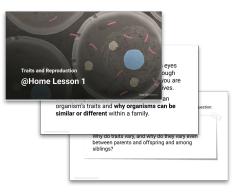
Print-based: @Home packets

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

33

A shift in approach to respond to user feedback





Print-based:

@Home packets

Digital:

@Home slides and
student sheets

Original approach: two different resources

- Force and Motion
- Geology on Mars
- Harnessing Human Energy
- Plate Motion
- Metabolism
- Microbiome

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





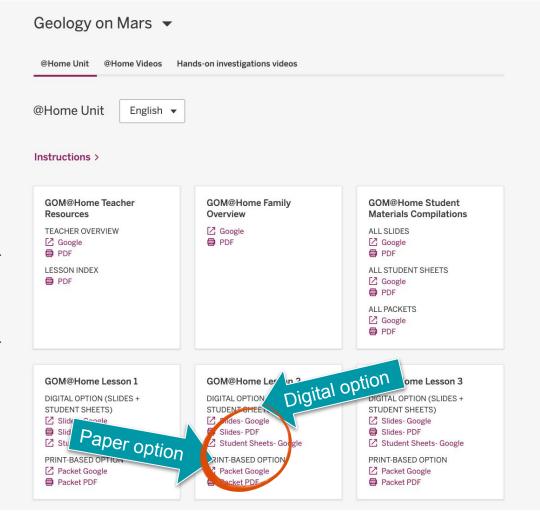
Print-based: PDFs of @Home Slides and student sheets Digital: Google Slides
@Home Slides and
Google Doc student
sheets

85

Amplify Science @Home Curriculum

You have access to the Geology on Mars @Home Unit as well as other Gr 7 units.

Geology on Mars @Home Unit has **9 lessons**. Each lesson is written to be **30 minutes** long.



@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

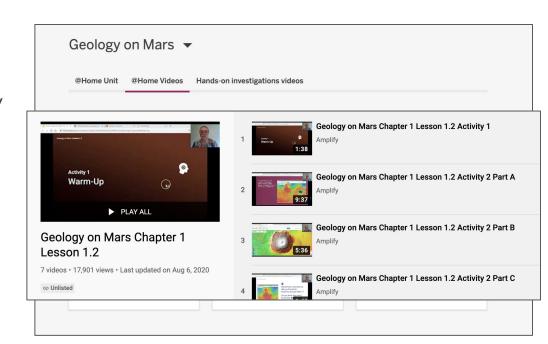




Amplify Science @Home Curriculum

You have access to the Geology on Mars @Home Videos.

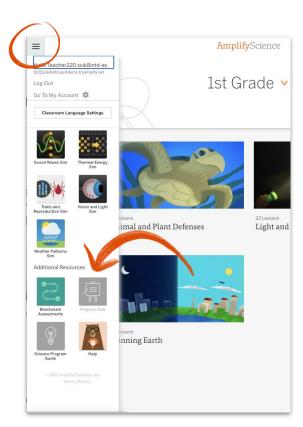
There are 9 @Home Videos for the Geology on Mars unit. The video playlists on YouTube teach the standard Amplify Science Lessons.

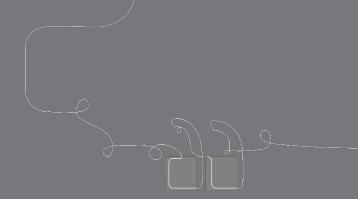


Accessing Amplify Science@Home

Amplify Science Program Hub

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





Questions?

















Plan for the day

- What is Amplify Science?
- Navigation essentials
- Teaching a Lesson
- Assessments
- Remote Learning Resources
- Closing and Reflection

Amplify.

Overarching goals

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

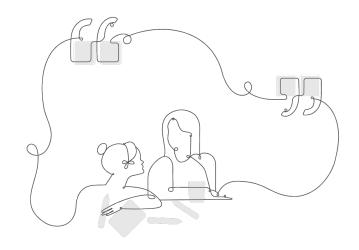
- Navigate the Amplify Science curriculum.
- Understand the program's phenomenon-based approach.
- Navigate the Remote Learning Resources Program Hub



Upcoming LAUSD Office Hours

Twice Monthly

- Thursday, 2/11 (3-4pm)
- Thursday, 2/25 (3-4pm)
- Thursday, 3/11 (3-4pm)
- Thursday, 3/25 (3-4pm)



http://bit.ly/LAUSDMSOfficeHours



Program Guide

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

my.amplify.com/programguide

Amplify Help

Find lots of advice and answers from the Amplify team.

my.amplify.com/help



Program Guide

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

http://amplify.com/science/california/review

Amplify Help

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my.amplify.com/help



Program Guide

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

https://my.amplify.com/programguide/content/louisiana/welcome/elementary-school/

Amplify Help

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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.

Please provide us feedback!

URL: https://www.surveymonkey.com/r/AmplifyLAUSDMS

Presenter names:

Date: xx



