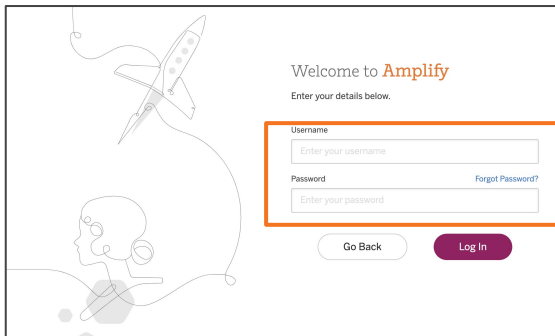
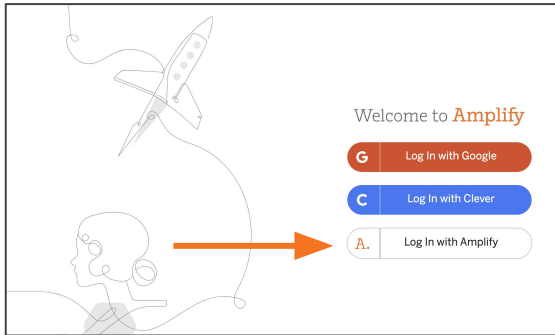
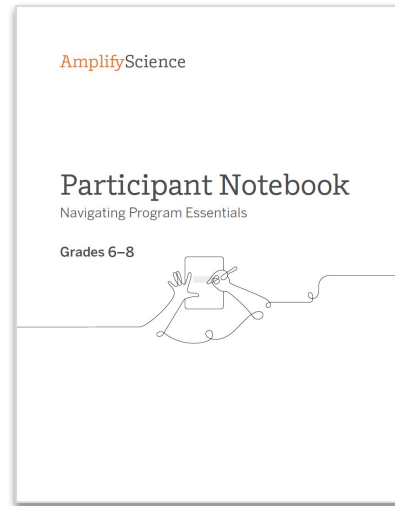


Welcome to Amplify Science!

Do Now: Login and open your digital participant packet



1. Go to **learning.amplify.com**
2. Select **Log in with Amplify**
3. Enter teacher demo account credentials
 - nycdoe_middle@tryamplify.net
 - Password: AmplifyNumber1
4. Explore as we wait to begin



Use two windows for today's webinar

Window #1

Meet - Etiwanda Grade 7 N x +

meet.google.com/hcs-dxpk-wrm?aut...

Miller Copy of Navigation Prop... x Amplify Curriculum x PM_Resource_Coherence_Flow... x

apps.learning.amplify.com/curriculum/#unit/8a31e095506df8a2015256a584b4544_californiaintegrated2019-2020#progress-build

Amplify Science

OPEN PRINTABLE PROGRESS BUILD

Progress Build 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.

Underneath the soil, vegetation, and water that we see on the surface of Earth is the outer layer of Earth's geosphere, the solid part of our rocky planet. This outer layer of Earth is covered entirely with hard, solid rock that is divided into sections called plates. And, these plates can move.

Progress Build Level 2: The plates move on top of a soft, solid layer of rock called the mantle. At plate boundaries where the plates are moving away from each other, rock rises from the mantle and hardens, adding new solid rock to the edges of the plates. At plate boundaries where plates are moving toward each other, one plate moves underneath the other and sinks into the mantle.

Underneath the soil, vegetation, and water that we see on the surface of Earth is the outer layer of Earth's geosphere, the solid part of our rocky

Getting Ready to Teach

Materials and Preparation

Flexension Compilation

Investigation Notebook

NGSS Information for Parents and Guardians

Print Materials (11" x 17")

Print Materials (8.5" x 11")

Offline Preparation

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

Offline Guide

Window #2

Amplify Curriculum

apps.learning.amplify.com/curriculu...

Amplify Science CALIFORNIA

Plate Motion > Chapter 1 > Lesson 1.2

Lesson 1.2:
Using Fossils to Understand Earth

Lesson Brief (4 Activities)

1 WARM-UP Warm-Up

TEACHER Why Geologists Value Fossils

2 TEACHER-LED DISCUSSION Introducing Mesos

RESET LESSON

GENERATE PRINTABLE LESSON

Lesson Brief

Digital Resources

Overview

Materials & Preparation

Differentiation

Español rds

All Projections

Completed Scientific Argumentation Wall Diagram

Video: Meet a Paleontologist

The Ancient Mesosaurus

Amplify Science

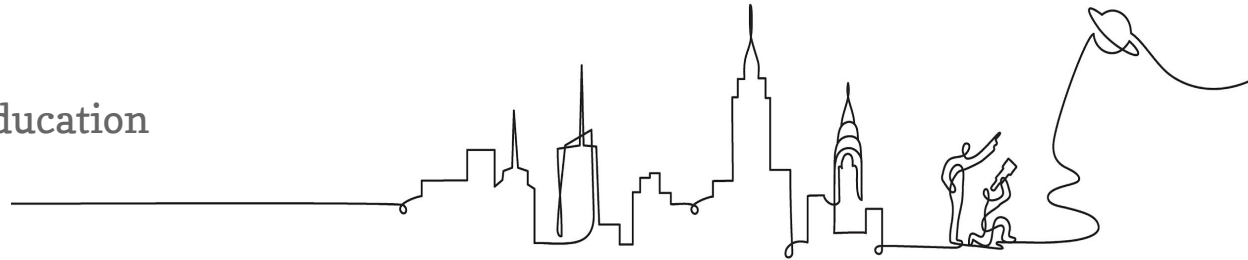
New York City

Introduction to Amplify Science NYC Summer Institute, Day 2

Grade 8: Geology on Mars & Earth, Moon and Sun

New York City Department of Education
July 22, 2020

Presented by



Remote Professional Learning Norms



Orient yourself to the platform

- *“Where’s the chat box? Where’s the mute button?”*



Mute your microphone unless sharing with the group



Use the chat box for posting questions or responses



Have a note-catcher

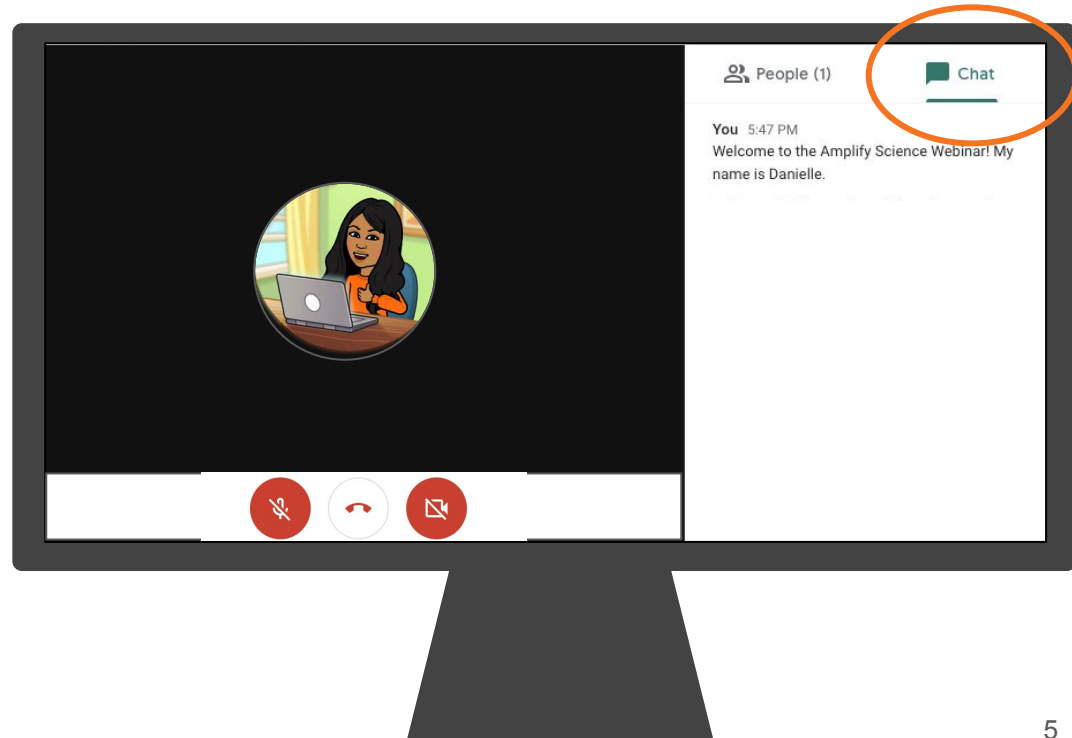


Engage at your comfort level - chat, ask questions, discuss.

Culture Building

Share your answers in the chat.

- **Question 1:** What did you learn about yesterday that made you excited to teach Amplify Science?
- **Question 2:** What are you looking forward to learning more about today?



Overarching goals

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

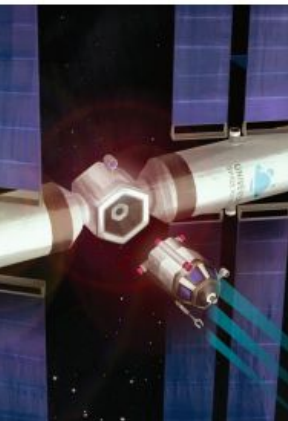
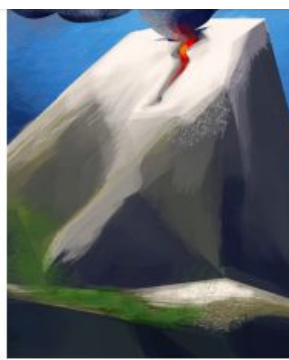
- Navigate the Amplify Science curriculum.
- Understand the program's multimodal approach and instructional materials.
- Apply program essentials to prepare to teach an Amplify Science unit.
- Make an informed decision about which of the Amplify Science Hybrid Learning Resources will best support your students.



Day 2 Objectives

By the end of the session you will be able to:

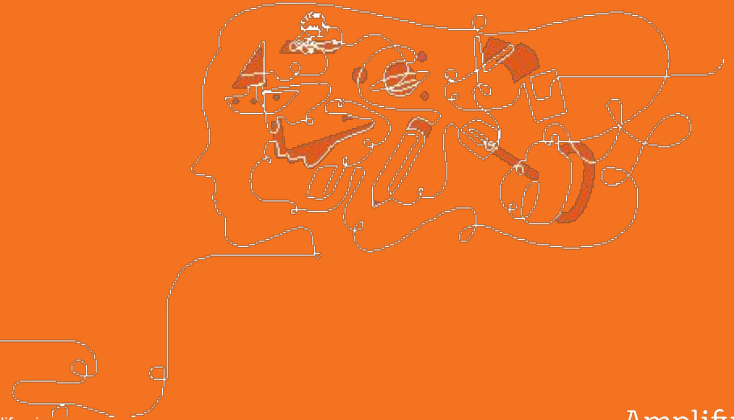
- Understand the purpose of Launch Units.
- Apply program essentials to prepare to teach an Amplify Science Launch Unit.
- Make an informed decision about which of the Amplify Science Hybrid Learning Resources will best support your students.



Plan for the day

- Experiencing the Launch Unit
- Launch Unit Components
- Planning to Teach
- Remote/Hybrid Resources
- Closing and reflection

Experiencing the Launch Unit



Middle School Curriculum New York City Edition

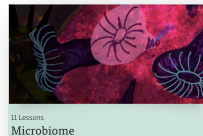
Grade 6

- Launch: Harnessing Human Energy
- Thermal Energy
- Populations and Resources
- Matter and Energy in Ecosystems
- Weather Patterns
- Ocean, Atmosphere, and Climate
- Earth's Changing Climate



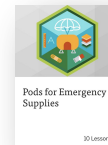
Grade 7

- Launch: Microbiome
- Metabolism
- Phase Change
- Chemical Reactions
- Plate Motion
- Engineering Internship: Plate Motion
- Rock Transformations
- Engineering Internship: Earth's Changing Climate



Grade 8

- Launch: Geology on Mars
- Earth, Moon, and Sun
- Force and Motion
- Engineering Internship: Force and Motion
- Magnetic Fields
- Light Waves
- Traits and Reproduction
- Natural Selection
- Evolutionary History



What is a launch unit?

- First unit of the year
- Interesting, immersive, and often surprising problem-context
- Introduces **practices** that are integral to science, such as:
 - **Argumentation**
 - **Reading**
 - **Writing**
 - **Talking about science ideas**
 - **Using models**
- Introduces **routines** such as:
 - **Active reading**
 - **Discourse routines**



Launch unit: Geology on Mars



Geology on Mars



Problem: The Universal Space Agency is investigating Mars for evidence that it was once habitable.

Role: Student Planetary Geologists

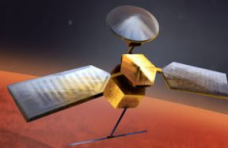
Students use models and analyze data to make an argument about whether water was involved in geologic processes that changed Mars' surface.

Unit Question

How can we search for evidence that other planets were once habitable?

11 Lessons

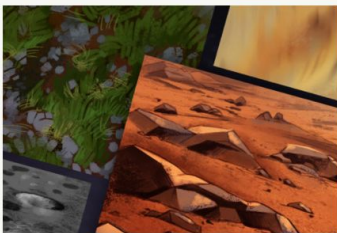
Geology on Mars



What's in This Unit?

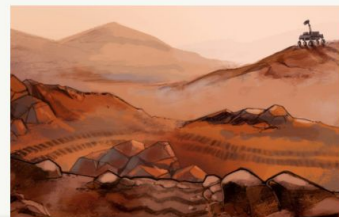
For thousands of years, people have looked up into the night sky and wondered if we are alone in the universe. As

[READ FULL OVERVIEW](#)



Chapter 1: Comparing Earth and Rocky Planets

3 Lessons



Chapter 1 Question

What geologic process could have formed the channel on Mars?

< Back to
Geology on Mars

Chapter 1: Comparing Earth and Rocky

To investigate habitability on Mars, students compare Mars and other rocky planets. They observe a channel shaped by geologic processes on Mars, comparing it to landforms on Earth.

[READ FULL OVERVIEW](#)

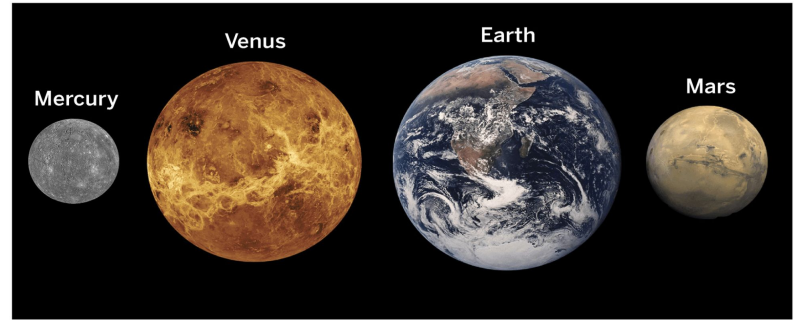
1

1.1: Comparing
Rocky Planets

2

1.2: Observing the
Surfaces of Mars and
Earth

The Four Rocky Planets



Classroom Wall

Unit Question

How can we search for evidence that other planets were once habitable?

Chapter 1 Question

What geologic process could have formed the channel on Mars?

Investigation Question

How does our understanding of Earth help us learn about other rocky planets?

Key Concepts


1. Earth, Mars and other rocky planets can be thought of as systems. These systems are made up of interacting spheres that can include the geosphere, atmosphere, hydrosphere, and biosphere.

Vocabulary

habitable

rocky planet

system



Geology on Mars

**Lesson 1.2: Observing the
Surfaces of Mars and Earth**

Preparing to Teach

Know the
unit's big
idea

Understand
how the
lesson will
flow

Prepare your
digital
device plan

Gather your
materials



Model Lesson

Lesson 1.2: Observing the Surfaces of Mars and Earth

Activity 1

Warm-Up



Each day, we will start with a **Warm-Up** activity to get us thinking about science ideas.



Warm-Up

In a moment, you will watch a video made by other students about the Earth system. A system is a set of interacting parts forming a complex whole.

What systems can you think of? List one or two examples of things that you think might be systems.



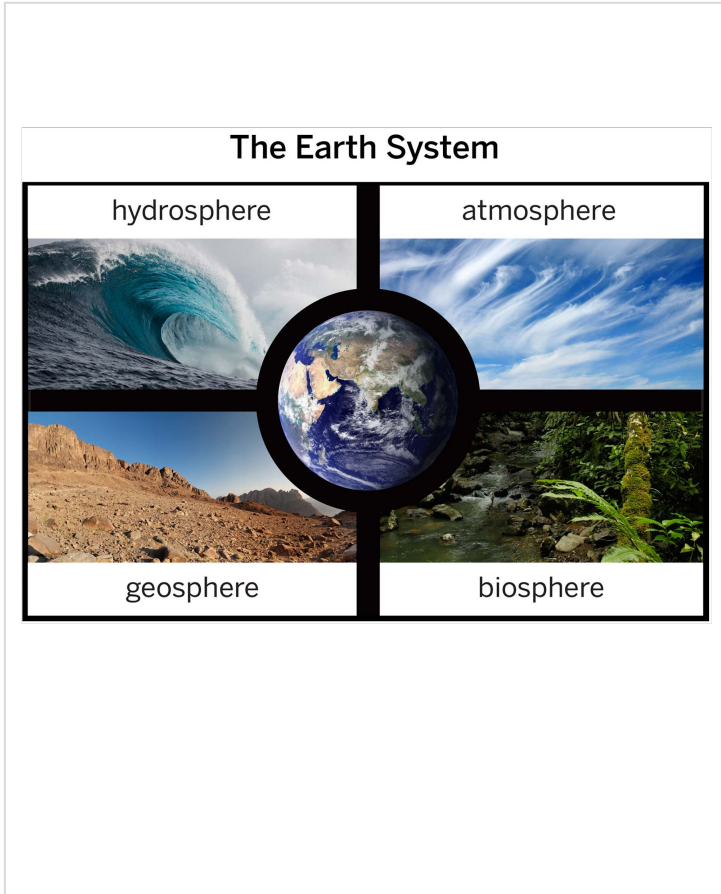
Activity 2

Exploring the Surface of Mars



Next, we'll watch a student-made video that was created for other students.

The video explains the answer to the question “How is Earth a **system**?”



What ideas and questions do you have about the **Earth system**?



Unit Question

How can we search for evidence that other planets were once habitable?

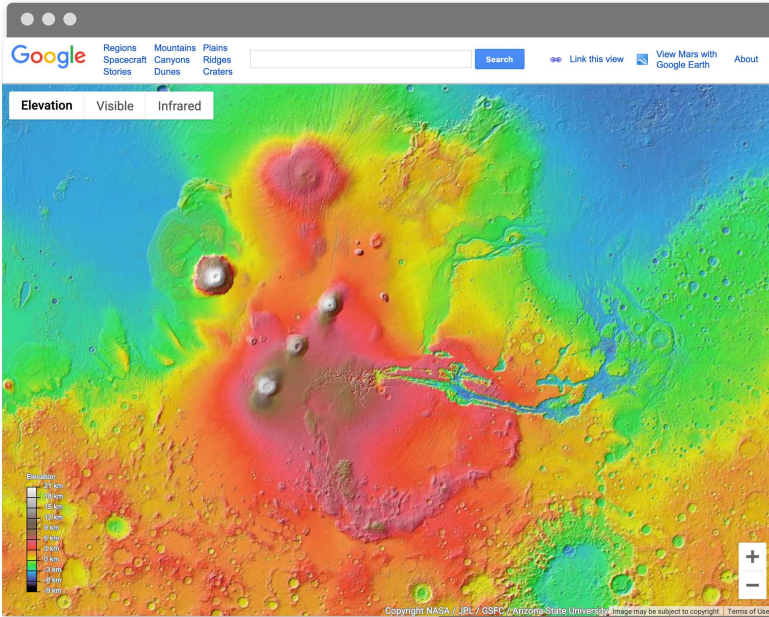
Scientists are investigating whether Mars has ever been habitable by looking for **evidence of past liquid water**. Mars is currently a dry planet with no large bodies of water.

Scientists have found water ice at the poles.

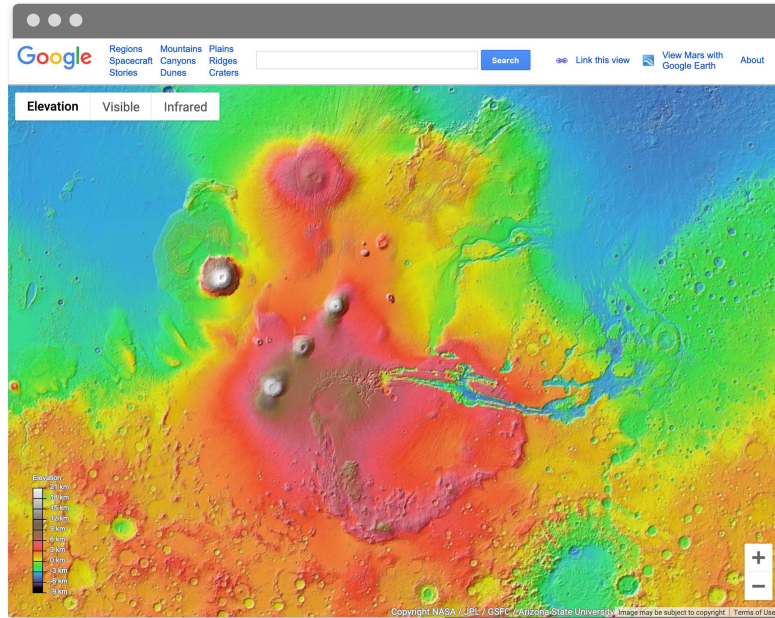
But Mars could have looked different in the past.

On Earth, **flowing water** shapes the land in particular ways. Planetary geologists are looking at **satellite images of Mars** for similar features. This can be used as evidence that liquid water once flowed on Mars.

We'll be examining images of Mars to look for **evidence of past liquid water**.



Satellites, landers, and rovers collect information about the surface of Mars. An interactive map called **Google Mars™** allows us to see the information that's been collected.



You'll use the **Elevation mode** in Google Mars™ to look for **landforms** such as mountains, plains, canyons, ridges, dunes, and craters.

Landforms are features that form on the surface of a planet.

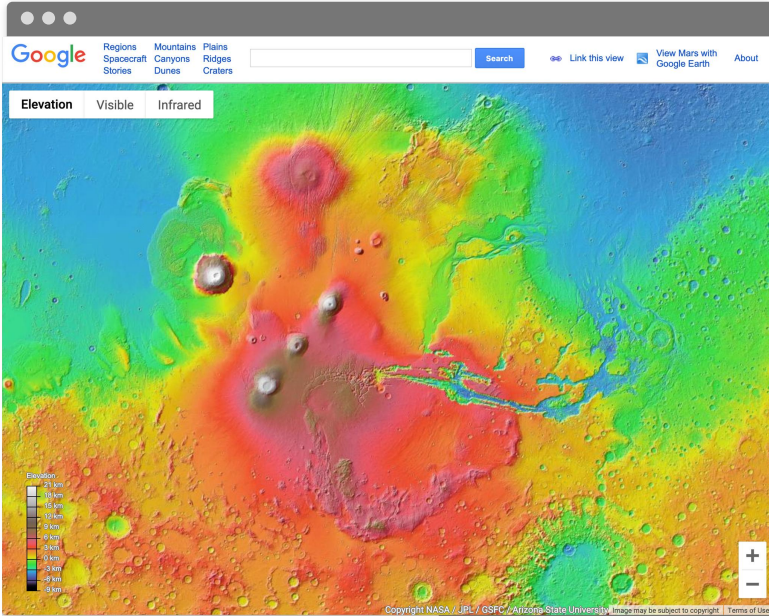
Remember that just because there are no bodies of liquid water on Mars now does not mean that they didn't exist on Mars in the past.

Scientists look for landforms that might have been formed by flowing water in the past.

But, even when scientists find a landform that looks like it could have been formed by flowing water, it is difficult to be certain.

On Mars, there are many volcanoes that have erupted in the past. **Flowing lava can change the shape of the land in ways that are similar to flowing water.**

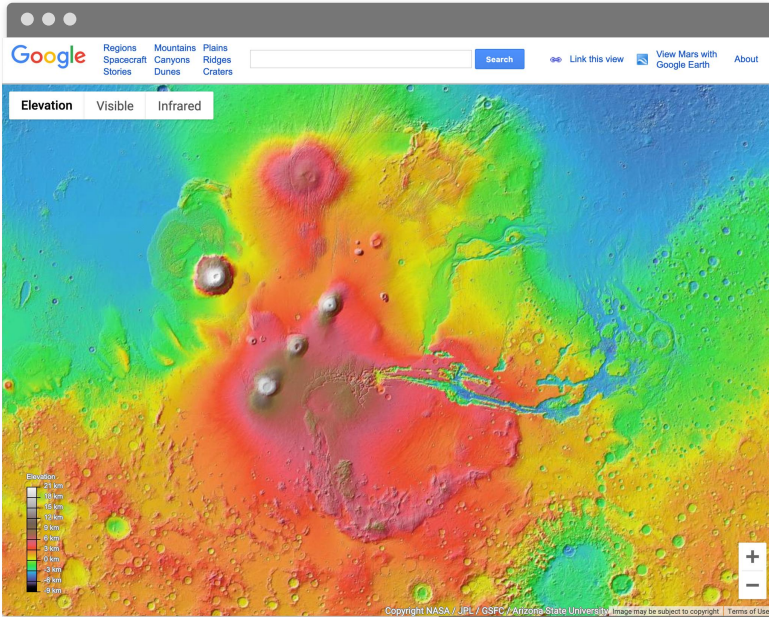
You'll use Google Mars™ to look for **landforms** that could have been formed by **flowing water** or **flowing lava**.



Exploring the Surface of Mars

Exploring Google Mars™

1. With your partner, use [Google Mars™](#) to explore landforms that could have been formed by flowing water or flowing lava.
2. Share what you find with your partner, using the following sentence starters.
 - I think this landform was formed by . . .
 - I think this because . . .



What kinds of landforms did you find while exploring Google Mars™?

Do you think they were formed by **flowing water** or **flowing lava**?

Vocabulary



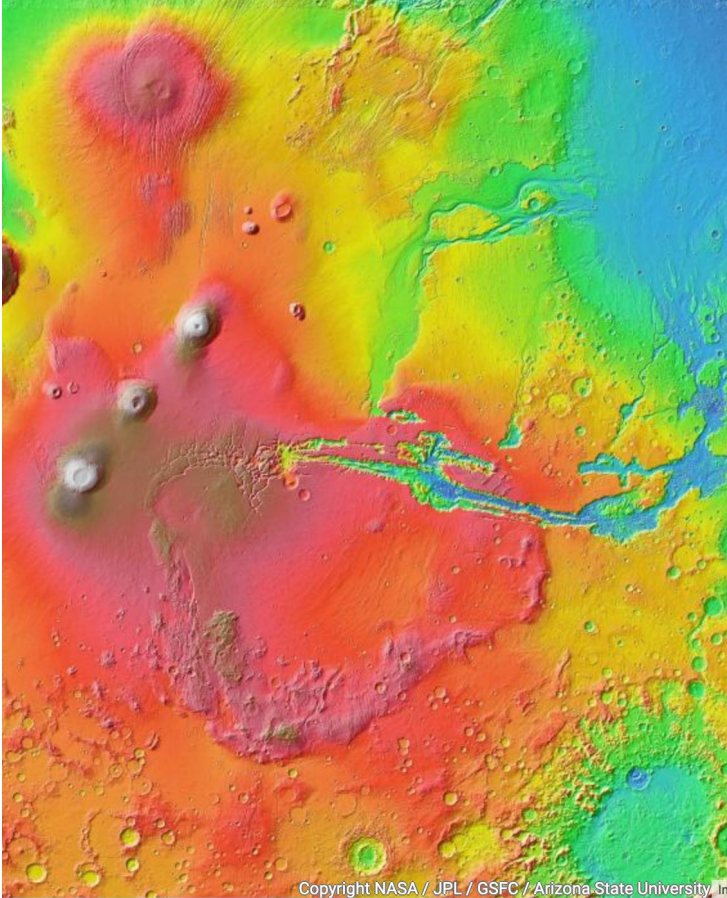
landform

a feature that forms on the surface of a planet, such as a mountain, channel, or sand dune

Activity 3

Introducing the Channel on Mars





We've been exploring landforms on Mars.

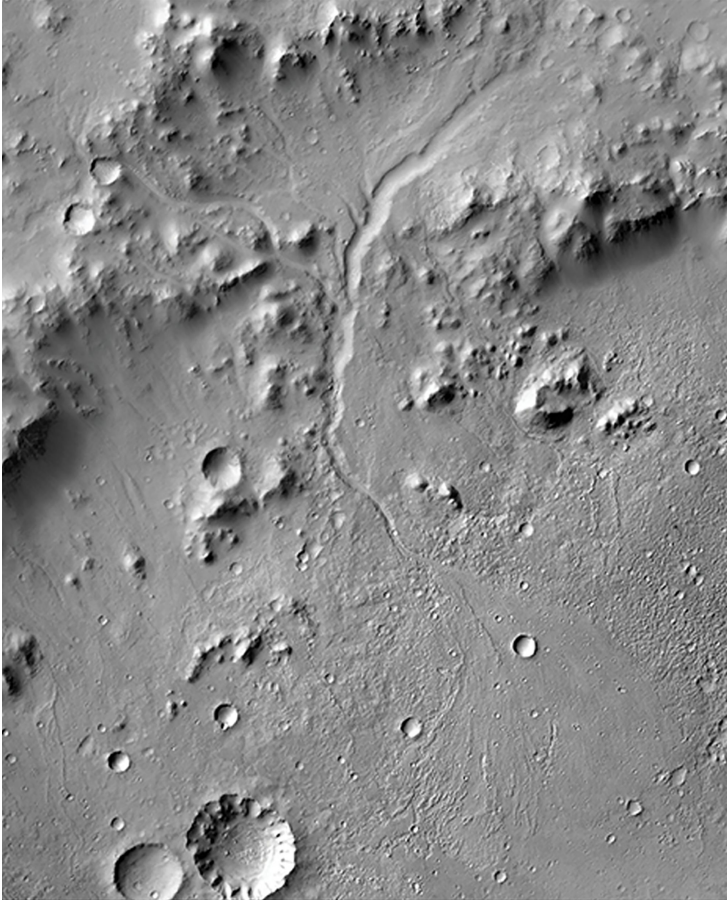
There's a specific landform we'll pay special attention to in this unit: a **channel**.

Vocabulary



channel

a long, narrow groove that forms where water, lava, or other liquid flows



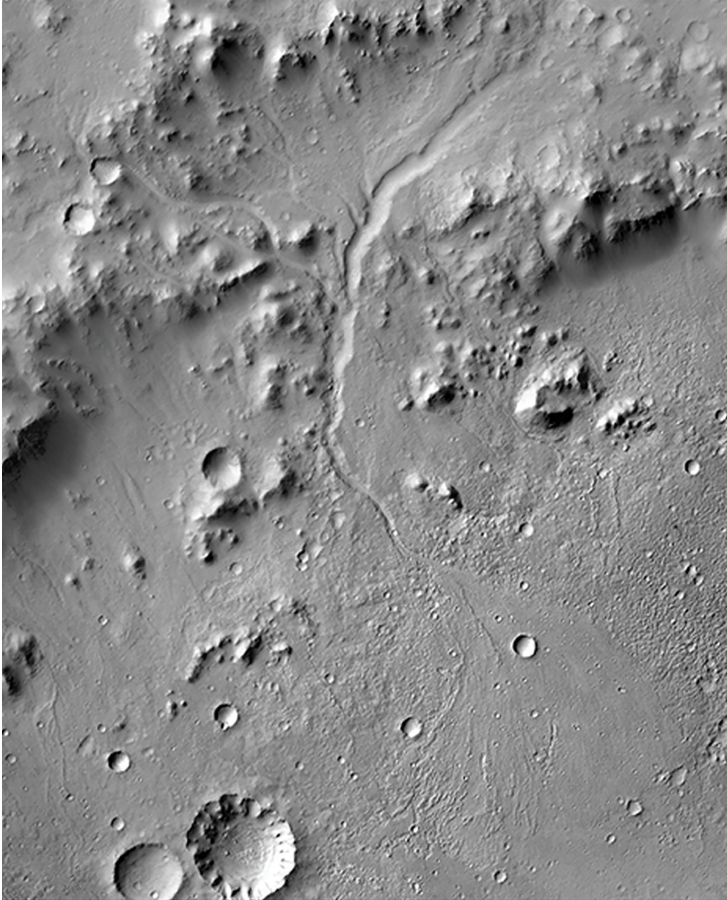
This is a **channel** that geologists found on the surface of Mars.

It could provide evidence that Mars once had flowing water—a key condition for life to exist.

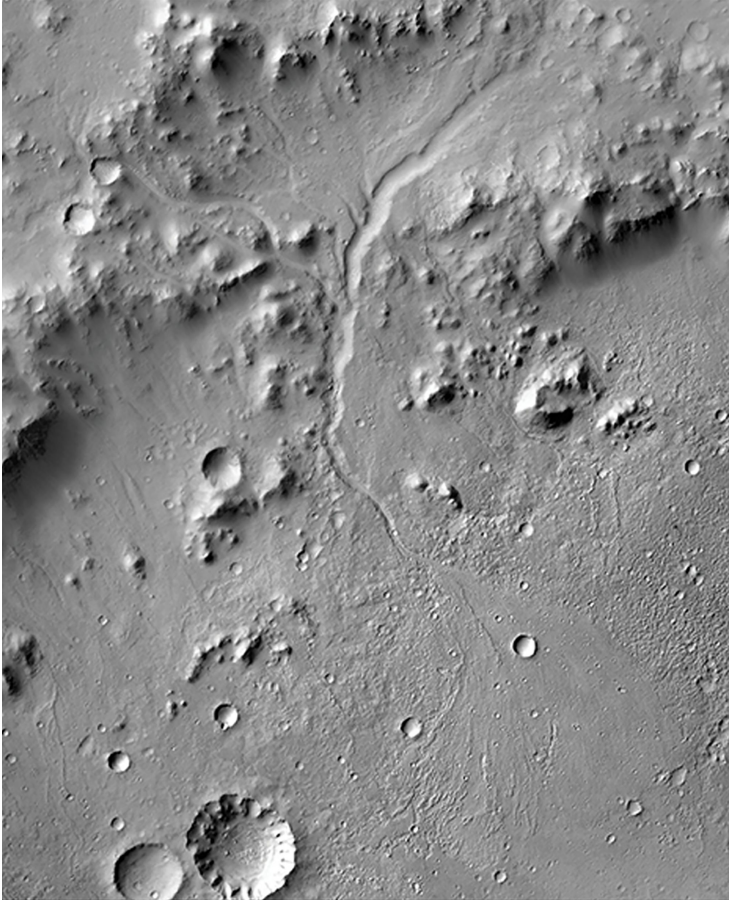


Chapter 1 Question

What geologic process could have formed the channel on Mars?



What are your **initial observations** of the channel on Mars?

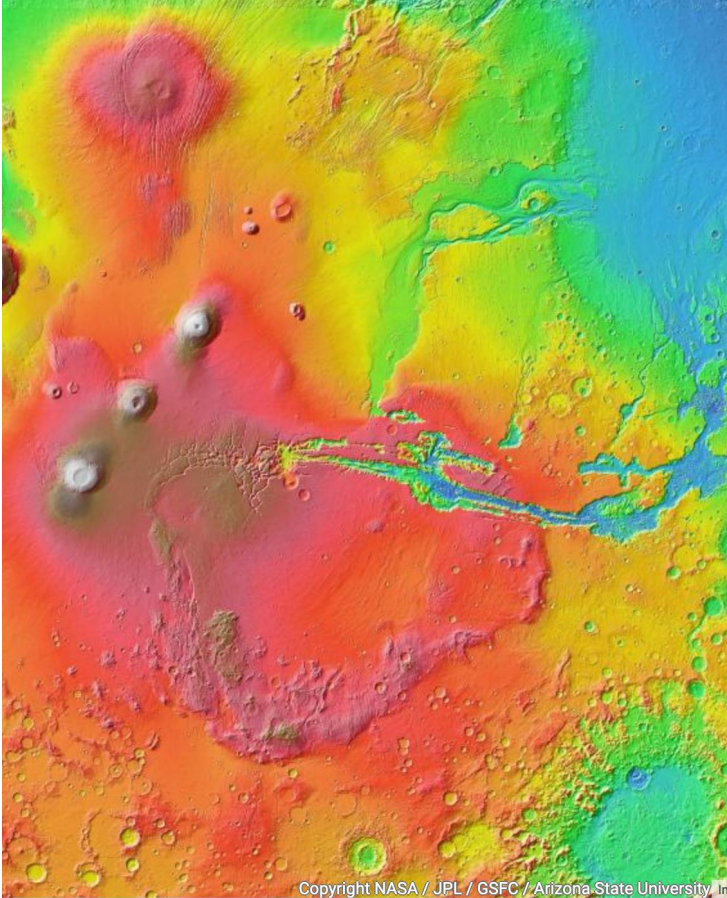


This landform was likely formed by flowing water or flowing lava. To help us figure out which, we'll learn more about what happens when **water and lava flow on Earth.**

Activity 4

Observing the Surface of Earth





In Google Mars™, we looked for landforms that could have been formed by flowing water or flowing lava. Flowing water and flowing lava are examples of **geologic processes**.

Vocabulary



geologic process

an event or series of events that causes changes in the geosphere, such as flowing water or flowing lava



Flowing Water

Orange River,
South Africa



Flowing Lava

Lava flow near
Kalapana, Hawaii,
United States

Now, we'll take a closer look at the **types of landforms** formed by flowing lava and flowing water on Earth. Here are two images that show flowing water and flowing lava up close.

Geologic Processes on Earth: Landform Formed by Flowing Water



Okavango River, Botswana, Africa

The hydrosphere covers over 70% of Earth's surface and can change the shape of Earth's geosphere in many ways. Flowing water can form many different types of landforms, including river channels.

Geologic Processes on Earth: Landform Formed by Flowing Lava



Lava flow, Hawaii, United States

Flowing lava from a volcanic eruption can change the shape of the geosphere by forming many different landforms. This landform was formed by flowing lava and is called a lava channel.

Geologic Process: Flowing Lava



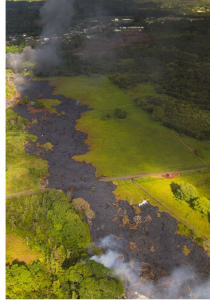
Hawaii, United States



Iwate Prefecture, Japan



Colima, Mexico



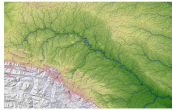
Hawaii, United States

Geology on Mars—Geologic Processes Cards—Lesson 1.2—AMR/ES/SG/DR/GDM
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Image credits (left to right): HVO/USGS; Ministry of Land, Infrastructure, Transport and Tourism of Japan; Tom Pfeiffer/volcanodiscovery.com; Andrew Hara/Getty Images

Geologic Process: Flowing Water



Okavango River, Botswana, Africa



Madre de Dios River, Amazon



River in the Altai Mountains, Russia



Orange River, South Africa

Geology on Mars—Geologic Processes Cards—Lesson 1.2—AMR/ES/SG/DR/GDM
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Image credits (left to right): Franz Lanting/Mint Images/Getty Images; NASA; Shutterstock; Richard du Toit/Gallo Images/Getty Images

You'll examine images of Earth taken by airplanes.

Scientists use these types of images to study how geologic processes **change Earth's geosphere** over time.

Observing the Surface of Earth

Observations of Landforms on Earth

1. With your partner, closely examine each of the landforms on the Geologic Processes Cards.
2. In the middle column of the table below, describe the shape of the landforms formed by each geologic process.
3. In the last column, record any other interesting observations or questions you have about the landforms.

Word Bank

straight	wide	branching	triangular
curved	narrow	merging	square
gnarled	spread out	loopy	circular

Geologic Process	Describe the shape of the landforms formed by this geologic process.	Record other observations or questions about the landforms formed by this geologic process.
Flowing water	Write here...	Write here...
Flowing lava	Write here...	Write here...

You will record observations about the **shape** of the landforms in this table.

You can also record other observations and questions you have.

Geologic process	Describe the shape of the landforms formed by this geologic process.	Record other observations or questions about the landforms formed by this geologic process.
Flowing water		
Flowing lava		

Word Bank

Straight
 Wide
 Branching
 Triangular
 Curved
 Narrow
 Merging
 Square
 Gnarled
 Spread out
 Loopy
 Circular



Observing the Surface of Earth

Observations of Landforms on Earth

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Geologic Process: Flowing Water



Okavango River, Botswana, Africa



Madre de Dios River, Amazon



River in the Altai Mountains, Russia



Orange River, South Africa

Geologic Process: Flowing Lava



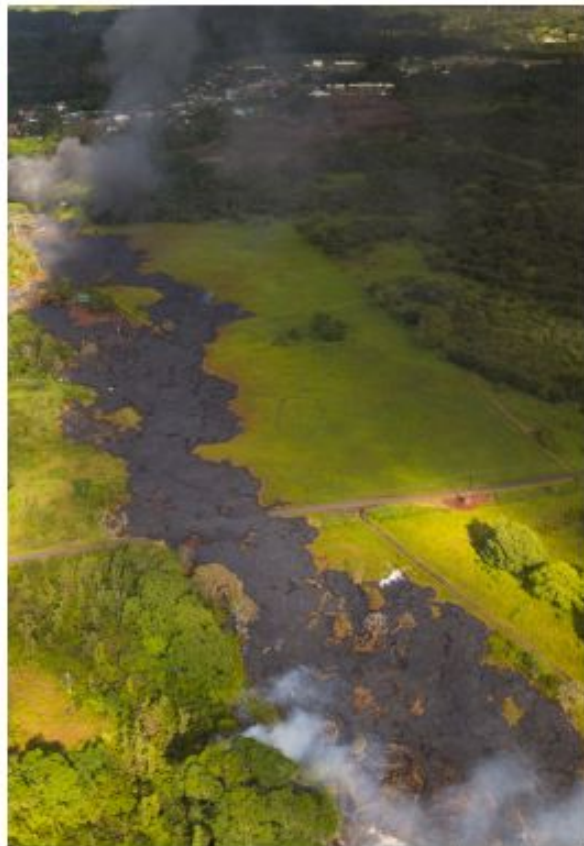
Hawaii, United States



Iwate Prefecture, Japan



Colima, Mexico



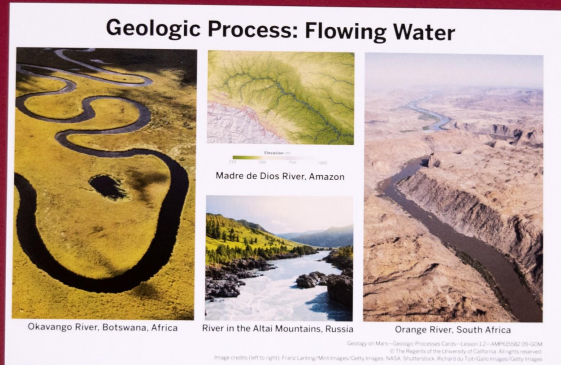
Hawaii, United States

Some geologic processes form landforms that look similar.



How are the shapes of the landforms in the images of **flowing water** similar?

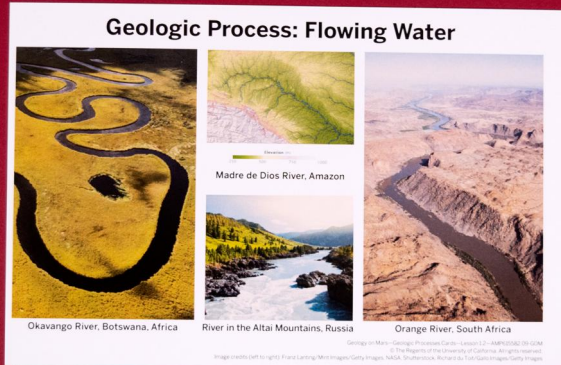
How are they different?





How are the shapes of the landforms in the images of **flowing lava** similar?

How are they different?



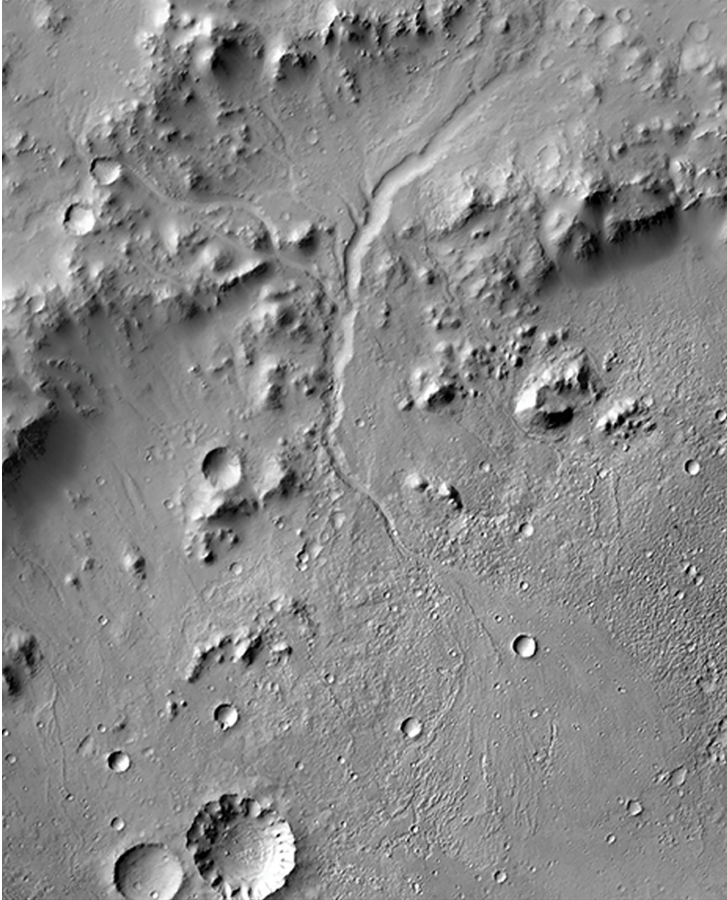
Key Concept

2. When landforms on different rocky planets look similar, it is evidence that they may have been formed by the same geologic process.

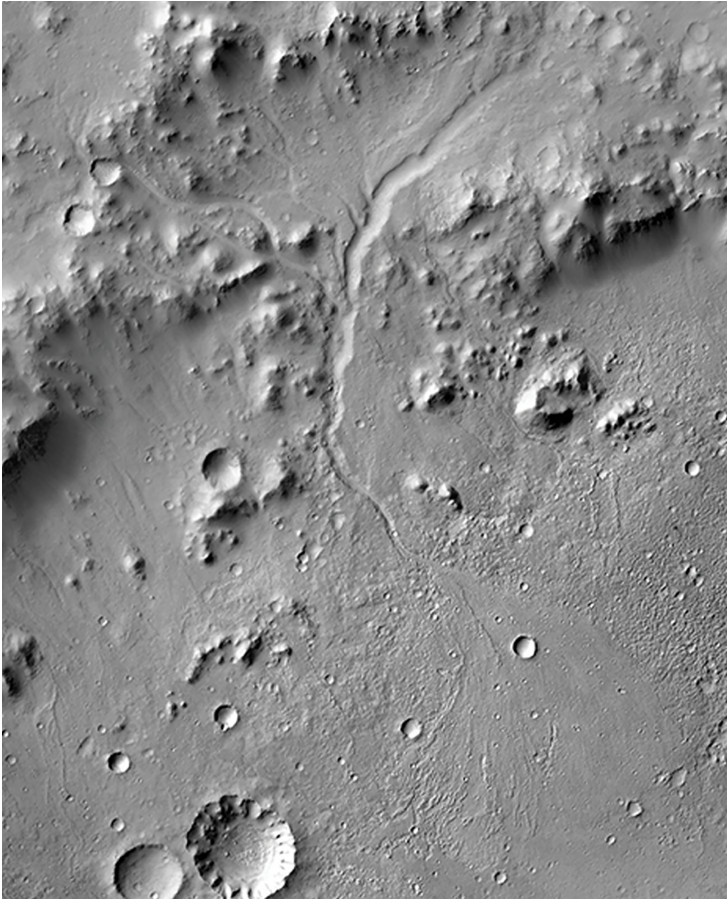


Chapter 1 Question

What geologic process could have formed the channel on Mars?



This landform was likely formed by **flowing water** or **flowing lava**. To help us figure out which, we'll learn more about what happens when water and lava flow on Earth.



Think about the processes that formed the landforms you just observed.



Does this channel on Mars look **similar** to any of the landforms you observed on Earth?

Based on the similarities between the channel on Mars and landforms that are formed by flowing lava and flowing water on Earth, **either geologic process could have caused the channel on Mars to form.**

We'll examine **more evidence** about these possible causes.

Activity 5

Family Homework Experience





For this activity, you will work to **find evidence of geologic processes.**

Then, you will record your observations and describe the evidence of a geologic process that you observed.

End of Lesson



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UNIVERSITY OF CALIFORNIA, BERKELEY

Amplify.

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Classroom Wall

Unit Question

How can we search for evidence that other planets were once habitable?

Chapter 1 Question

What geologic process could have formed the channel on Mars?

Investigation Question

How does our understanding of Earth help us learn about other rocky planets?

Key Concepts

1. Earth, Mars and other rocky planets can be thought of as systems. These systems are made up of interacting spheres that can include the geosphere, atmosphere, hydrosphere, and biosphere.

2. When landforms on different rocky planets look similar, it is evidence that they may have been formed by the same geologic process.

Vocabulary

habitable

rocky planet

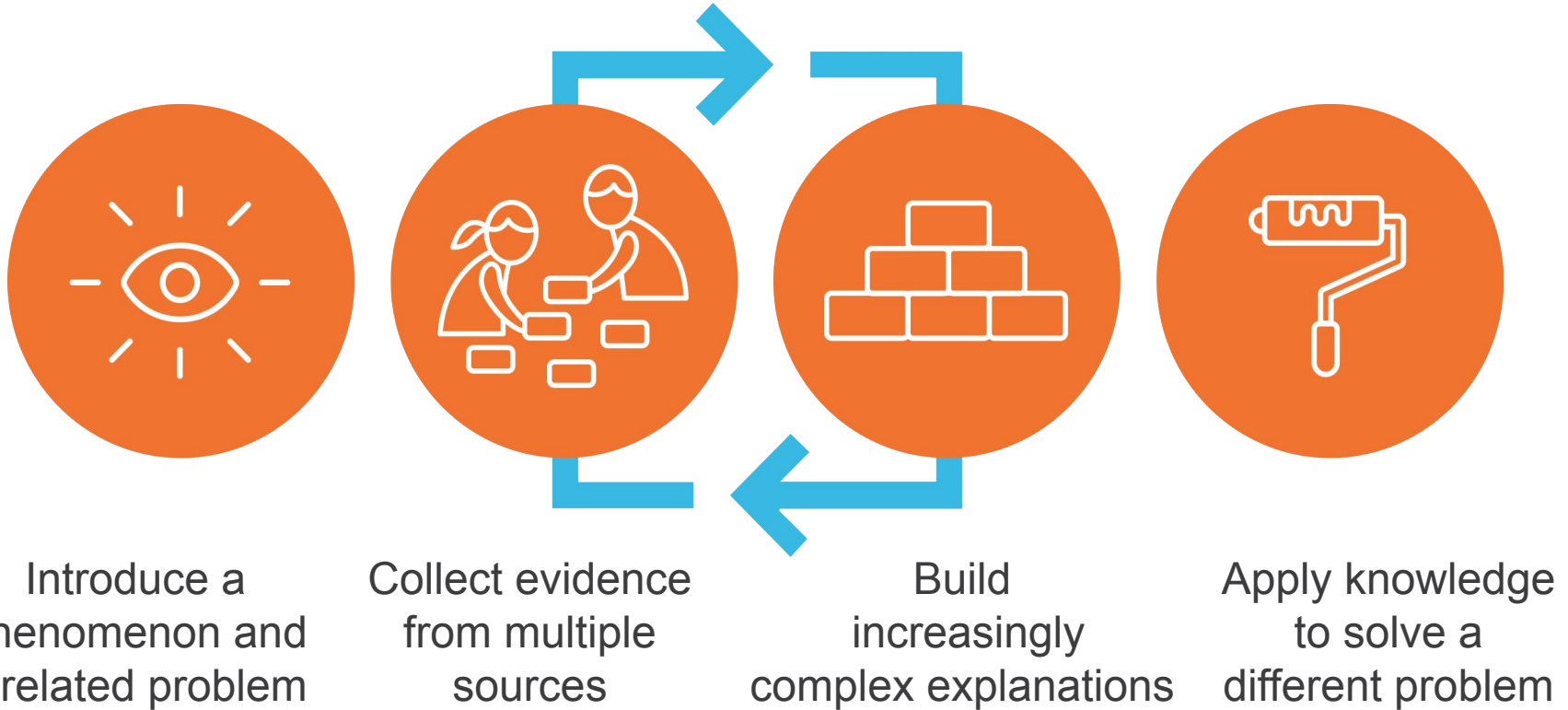
system

landform

channel

geologic process

What aspects of the Amplify Science Instructional Approach did you experience in the Launch Unit?



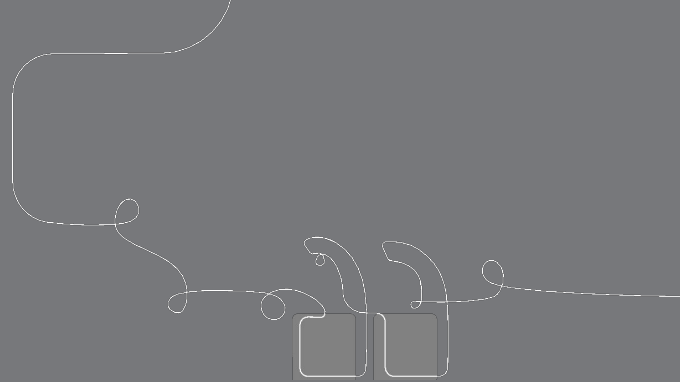
Lesson Reflection



Answer in the chat feature

How is a launch unit lesson similar/different from a core unit lesson?

What questions do you have?





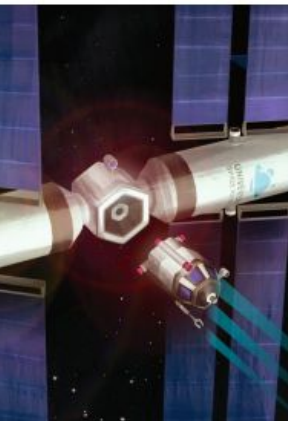
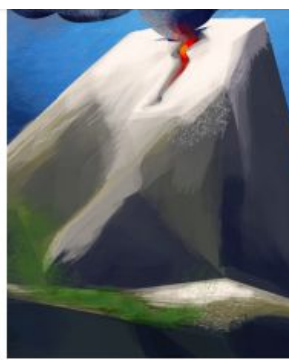
Ask in the chat feature



Questions?

5 min break



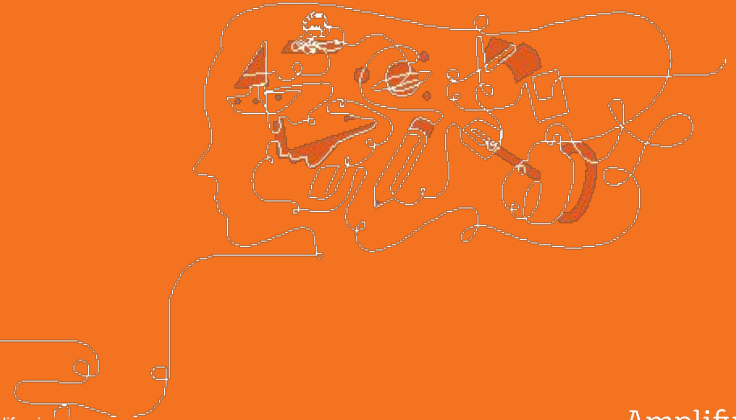


Plan for the day

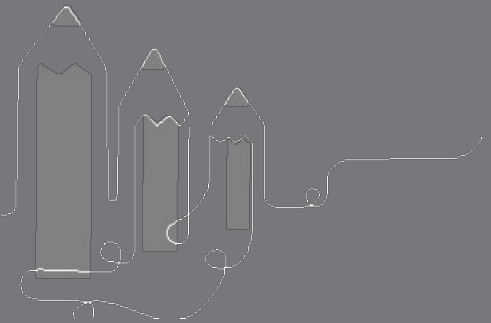
✓ Experiencing the Launch Unit

- Launch Unit Components
- Planning to Teach
- Remote/Hybrid Resources
- Closing and reflection

Launch Unit Components

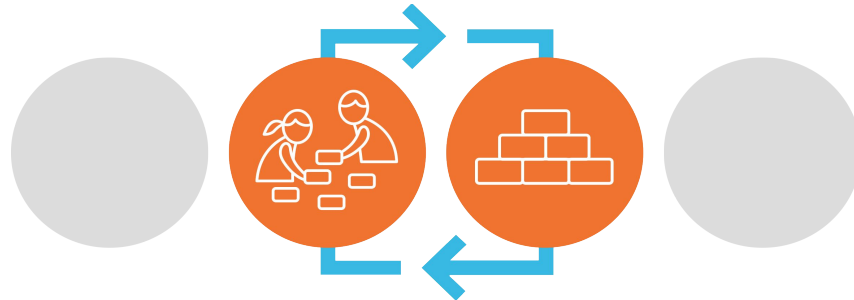


Argumentation in Amplify Science



Goals for argumentation in Amplify Science

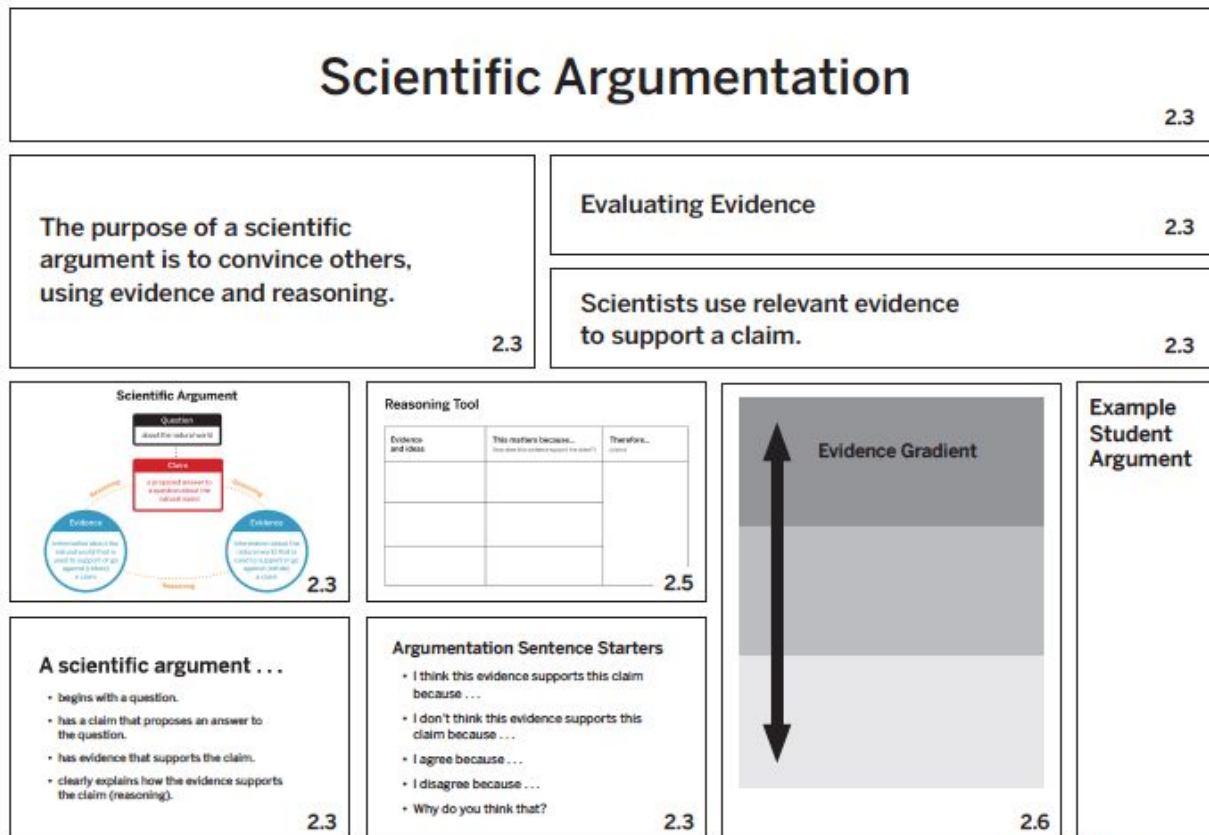
- To provide students an authentic opportunity to engage in the practice of argumentation
- To make clear to students the purpose of argumentation and the role it plays in building and communicating scientific knowledge
- To help students build their own knowledge through argumentation



Specific goals for argumentation in launch units

- Introduce the **practice of argumentation** in science
- Introduce **tools** that will be used throughout the year to support students in getting better at specific aspects of oral and written argumentation:
 - **Card sorts**
 - **Evidence gradient**
 - **Reasoning tool**

Completed Scientific Argumentation Wall Diagram



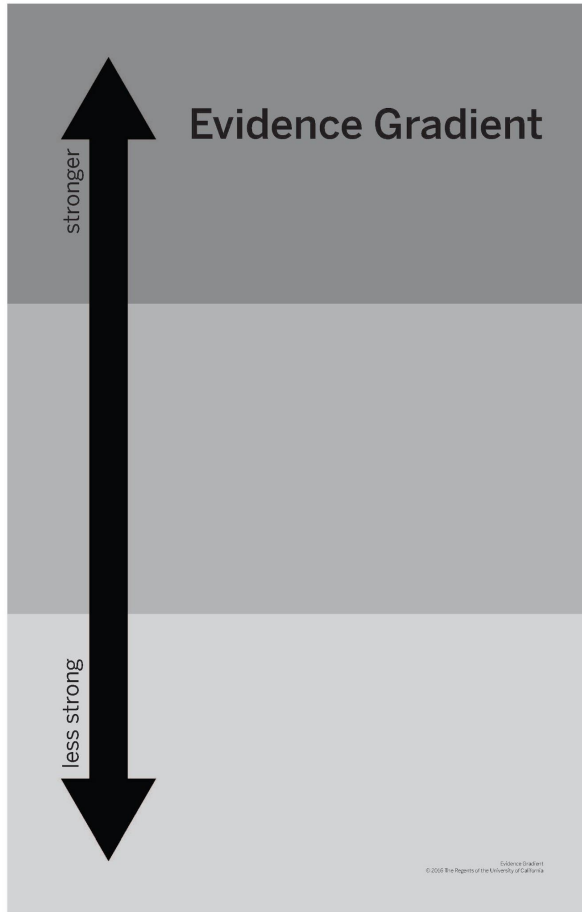
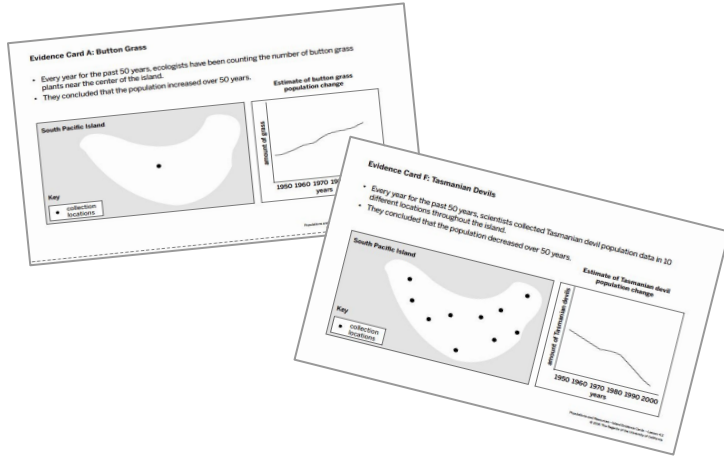
Reasoning Tool

Reasoning Tool

Evidence	This matters because . . . (How does this evidence support the claim?)	Therefore, . . . (claim)

Evidence Gradient

Evidence is higher quality if it comes from a reliable source.



Introducing Argumentation, Lesson 1.3

Independent work time directions:

- Navigate to lesson 1.3
- Use the lesson materials to find out how argumentation is introduced.
- Be ready to share out.

Reflection


- How is argumentation introduced? What tools/scaffolds are included to support students in developing this practice?
- Is there anything you anticipate your students will find challenging? What action will you take to support them?

Active Reading in Amplify Science



Active Reading

Teacher Modeling



Jelly population explosions can happen all over the world. This photo shows lots of jellies the ocean near Denmark.

Jelly Population Explosion: How Competition Can Affect Population Size

Jelly Population Explosions

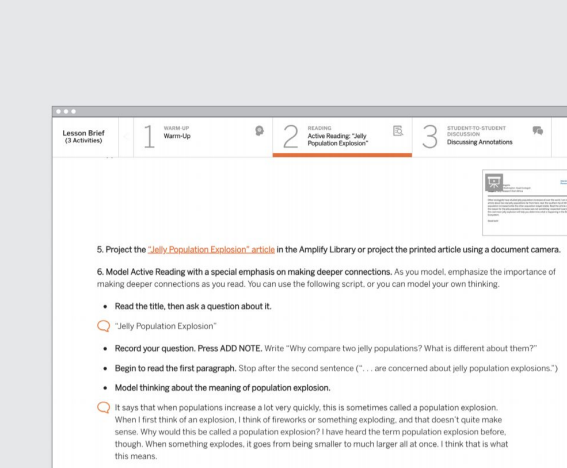
In some ecosystems, the population of jellies has increased so much over a short period of time that people call it a population explosion. Ecologists, fishermen, and many other people around the world are concerned about jelly population explosions. In some places where jelly populations are getting bigger, the increase in population can affect human activities and the ecosystems we depend on: masses of jellies damage fishing nets, clog water pipes for power plants, and drive swimmers away from beaches. Scientists around the world are hard at work trying to understand why these population increases occur and how we can avoid causing them.

Moon jellies are one of the most common types of jelly living in the ecosystem Southern Benguela.

Jelly Population Explosion: How Competition Can Affect Population Size

Example text and modeling suggestion taken from the Amplify Science Populations and Resources unit.

Step 1: An excerpt of student text is read aloud by the teacher



Lesson Brief (3 Activities)

- 1 WARM UP Warm-Up
- 2 READING Active Reading: "Jelly Population Explosion"
- 3 STUDENT TO STUDENT DISCUSSION Discussing Annotations

5. Project the "Jelly Population Explosion" article in the Amplify Library or project the printed article using a document camera.

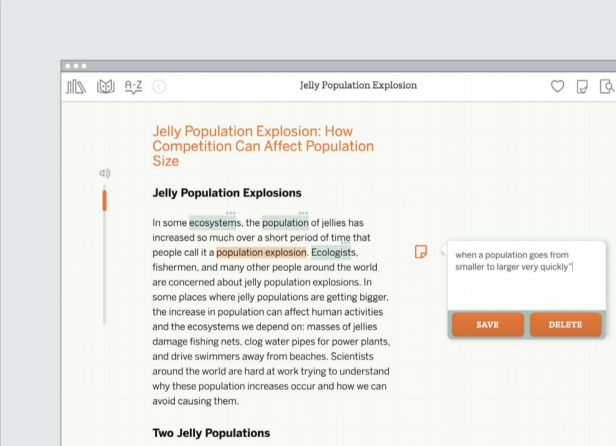
6. Model Active Reading with a special emphasis on making deeper connections. As you model, emphasize the importance of making deeper connections as you read. You can use the following script, or you can model your own thinking.

- Read the title, then ask a question about it.
- Record your question. Press ADD NOTE. Write "Why compare two jelly populations? What is different about them?"
- Begin to read the first paragraph. Stop after the second sentence ("... are concerned about jelly population explosions.")
- Model thinking about the meaning of population explosion.

It says that when populations increase a lot very quickly, this is sometimes called a population explosion. When I first think of an explosion, I think of fireworks or something exploding, and that doesn't quite make sense. Why would this be called a population explosion? I have heard the term population explosion before, though. When something explodes, it goes from being smaller to much larger all at once. I think that is what this means.

Amplify Science digital Teacher's Guide

Step 2: The teacher models her thinking



Jelly Population Explosion: How Competition Can Affect Population Size

Jelly Population Explosions

In some ecosystems, the population of jellies has increased so much over a short period of time that people call it a **population explosion**. Ecologists, fishermen, and many other people around the world are concerned about jelly population explosions. In some places where jelly populations are getting bigger, the increase in population can affect human activities and the ecosystems we depend on: masses of jellies damage fishing nets, clog water pipes for power plants, and drive swimmers away from beaches. Scientists around the world are hard at work trying to understand why these population increases occur and how we can avoid causing them.

Two Jelly Populations

when a population goes from smaller to larger very quickly!

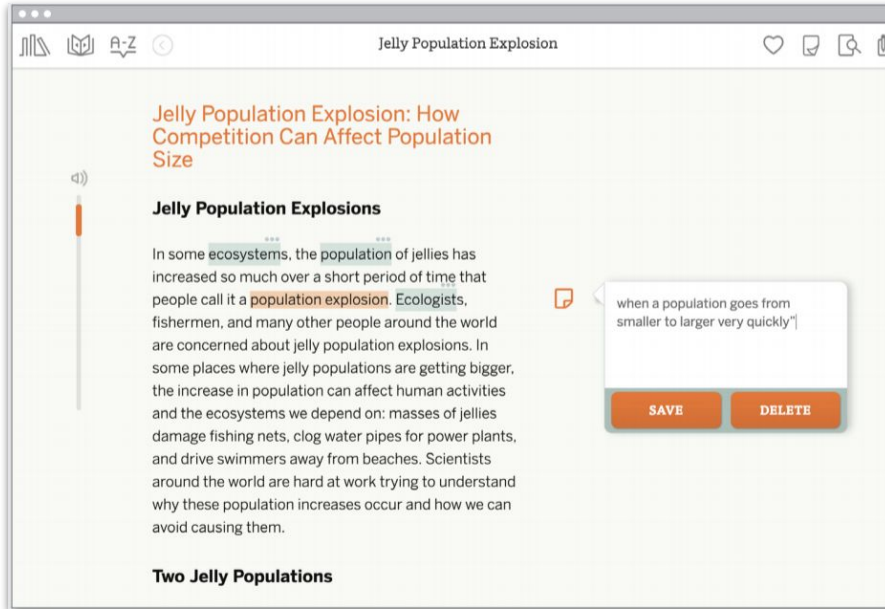
SAVE DELETE

Amplify Science student article

Step 3: The teacher models annotating the text

Active Reading

The first read



The screenshot shows a web browser window titled "Jelly Population Explosion". The main heading is "Jelly Population Explosion: How Competition Can Affect Population Size". Below this is a sub-heading "Jelly Population Explosions". The text describes how jelly populations have increased in some ecosystems, leading to "population explosions". A callout box on the right contains the definition: "when a population goes from smaller to larger very quickly". At the bottom of the callout are "SAVE" and "DELETE" buttons. A vertical progress indicator is on the left side of the text area.

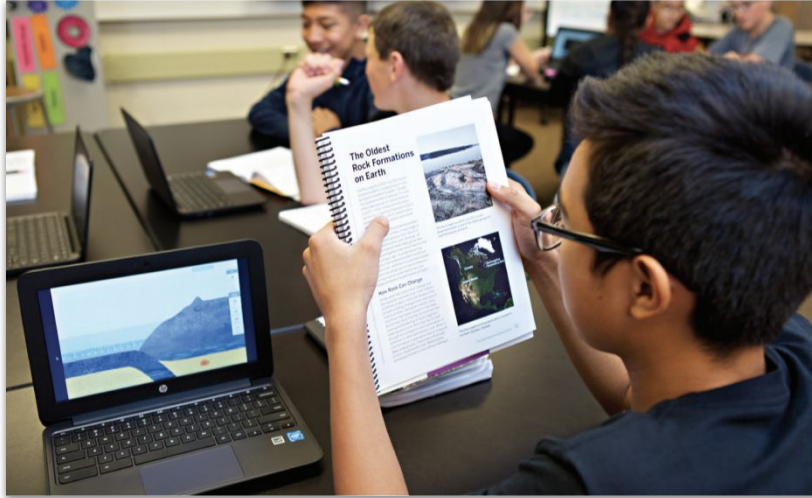


Students discuss their ideas and annotations with partners and dig back into the text together.

Students individually annotate the text by taking notes, and recording questions.

Active Reading

The second read



Students discuss the text
with a partner

Students reread a portion of the article for a particular purpose such as to examine a specific visual representation, answer a question, find evidence to support a claim or draw conclusions across texts.

Active Reading Guidelines

1. Think carefully about what you read. Pay attention to your own understanding.
2. As you read, annotate the text to make a record of your thinking. Highlight challenging words and add notes to record questions and make connections to your own experience.
3. Examine all visual representations carefully. Consider how they go together with the text.
4. After you read, discuss what you have read with others to help you better understand the text.

Introducing Active Reading, Lesson 2.1

Independent work time directions:

- Navigate to lesson 2.1
- Use the lesson materials to see how active reading is introduced.
 - Make sure to click on the article link to explore the digital text.
- Be ready to share out.

Reflection

- How is active reading introduced? What tools/scaffolds are included to support students?
- Is there anything you anticipate your students will find challenging? What action will you take to support them?



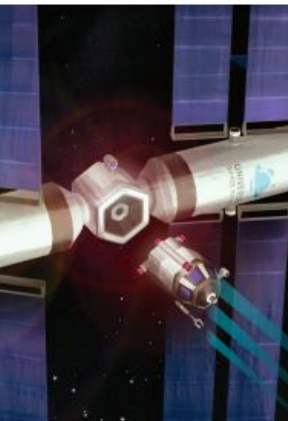
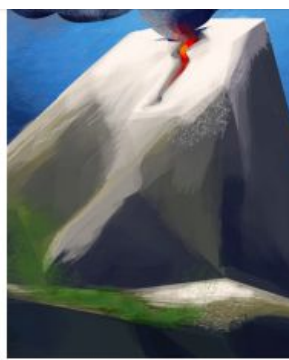
Ask in the chat feature



Questions?

5 min break

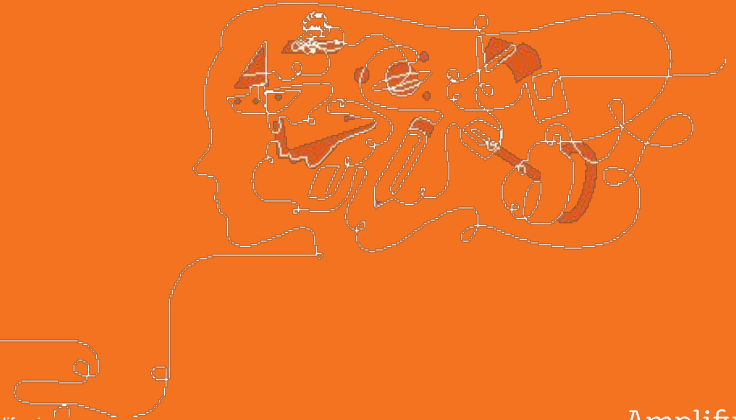




Plan for the day

- ✓ Experiencing the Launch Unit
- ✓ Launch Unit Components
- Planning to Teach
- Remote/Hybrid Resources
- Closing and reflection

Planning to Teach



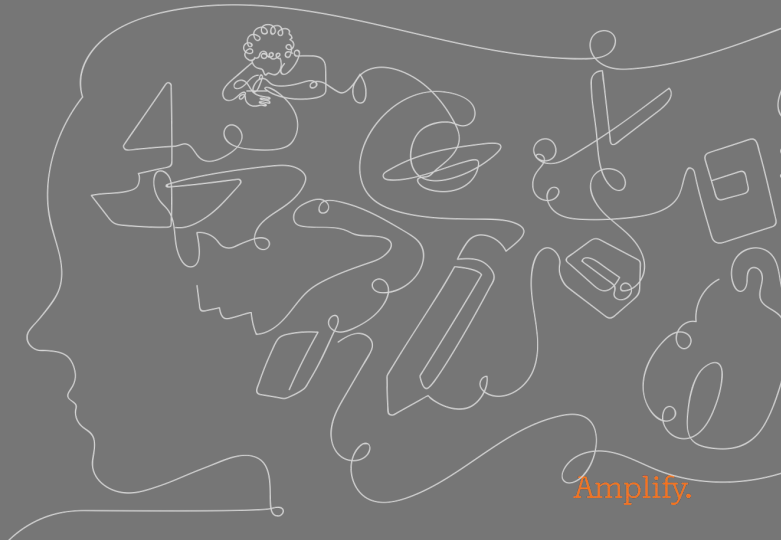


Answer in the chat feature



Group Talk

How do you typically prepare to teach a new unit?



Practice Planning a Lesson



What you need for this section:



Google or Word document

OR



Pen + paper



Your Turn!

Follow these 3 Easy Steps for lesson preparation

Step 1: Read the lesson overview

Step 2: Read the Materials and Preparation section

Step 3: Read the Differentiation section

Lesson 1.2:
Picturing the Moon

Lesson Brief (5 Activities) | 1 WARM-UP Warm-Up | T TEACHER Video: Photographing the Moon | 2 TEACHER-LED DISCUSSION Taking Pictures of the Moon | 3 SIM Investigating Light on the Moon | 4 HOMEWORK Homework | 5 HOMEWORK Family Homework Experience

RESET LESSON

GENERATE PRINTABLE LESSON GUIDE

Step 1 Overview

Step 2 Overview

Step 3 Overview

Overview

Materials & Preparation

Differentiation

Standards

Vocabulary

Unplugged?

Students begin the unit with an introduction to their new role as student astronomers tasked with helping an astrophotographer take high-quality photos of features on the Moon. First, students watch a video that introduces them to the *terminator*, or the border between light and dark on the Moon. Through this video, they find out that the best time to photograph features on the Moon is when these features are near the terminator. They also learn that their job will be to help the astrophotographer decide when to take these photos. With this goal in mind, students are introduced to the Chapter 1 Question, *Why is there a border between light and dark on the Moon?* This question prompts students to begin investigating where the Moon gets its light by looking at photos of light on the Moon and by watching the

Digital Resources

- All Projections
- Video: Photographing the Moon
- The Solar System Is Huge
- Printable article: "The Solar System Is Huge"
- Active Reading Guidelines
- Earth, Moon, and Sun Investigation Notebook, pages 5–8

Español

Go 'live' to walk through lesson planning

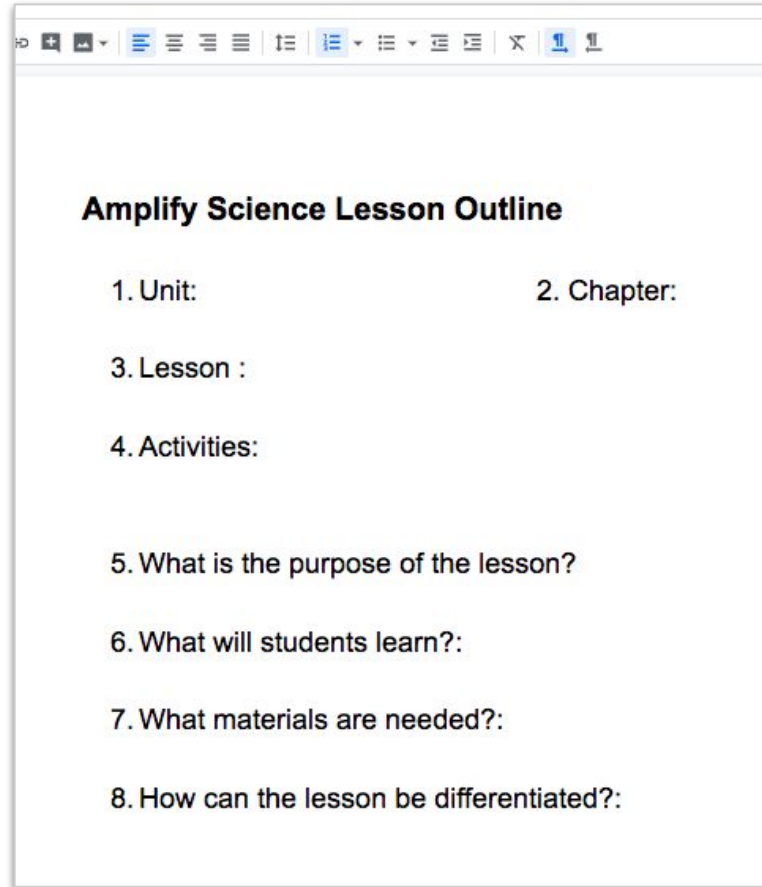
Outline your lesson

Follow these 3 Easy Steps for lesson preparation

Step 1: Read the lesson overview

Step 2: Read the Materials and Preparation section

Step 3: Read the Differentiation section



The image shows a screenshot of a web browser displaying a lesson outline form. The browser's address bar and toolbar are visible at the top. The form is titled "Amplify Science Lesson Outline" and contains a list of eight numbered items for completion.

Amplify Science Lesson Outline

1. Unit:
2. Chapter:
3. Lesson :
4. Activities:
5. What is the purpose of the lesson?
6. What will students learn?:
7. What materials are needed?:
8. How can the lesson be differentiated?:



Reflect on planning a lesson

Reflecting on planning a lesson

How are students introduced to the unit's anchor phenomenon?

What are the big ideas students take away from the lesson?

What key vocabulary will students engage with?

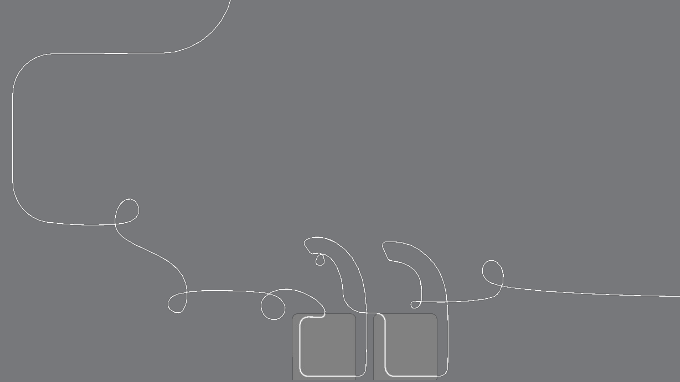
What are a few learning modalities students engaged with during the lesson?

How are students thinking and solving problems like a scientist?

Debrief



Answer in the chat feature



How are students thinking like scientists?

What might your students be challenged by?



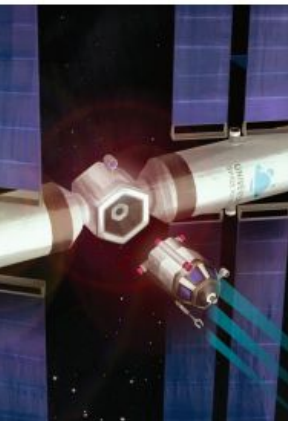
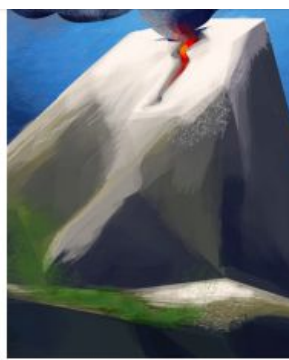
Ask in the chat feature



Questions?

5 min break

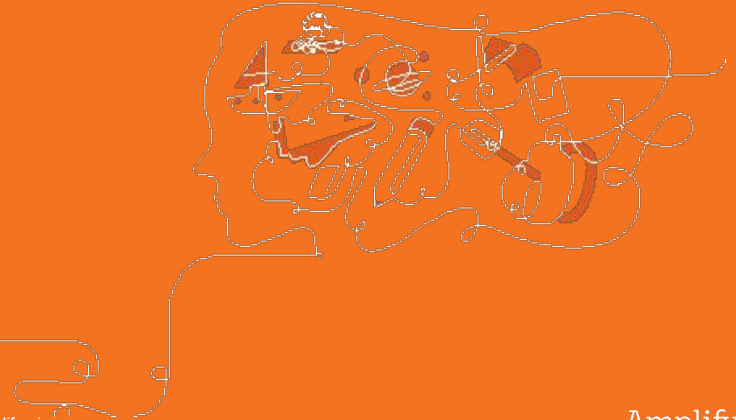




Plan for the day

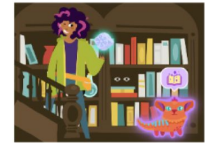
- ✓ Experiencing the Launch Unit
- ✓ Launch Unit Components
- ✓ Planning to Teach
- Remote/Hybrid Resources
- Closing and reflection

Remote/Hybrid Resources



Remote/Hybrid Learning Guidance

- **amplify.com/remoteteaching**
 - Access resources and suggestions for using Amplify programs remotely.
- **Program Hub**
 - Access two new product features for teaching select units in various remote models.
 - **Amplify Science@Home Videos**
 - **Amplify Science@Home Units**

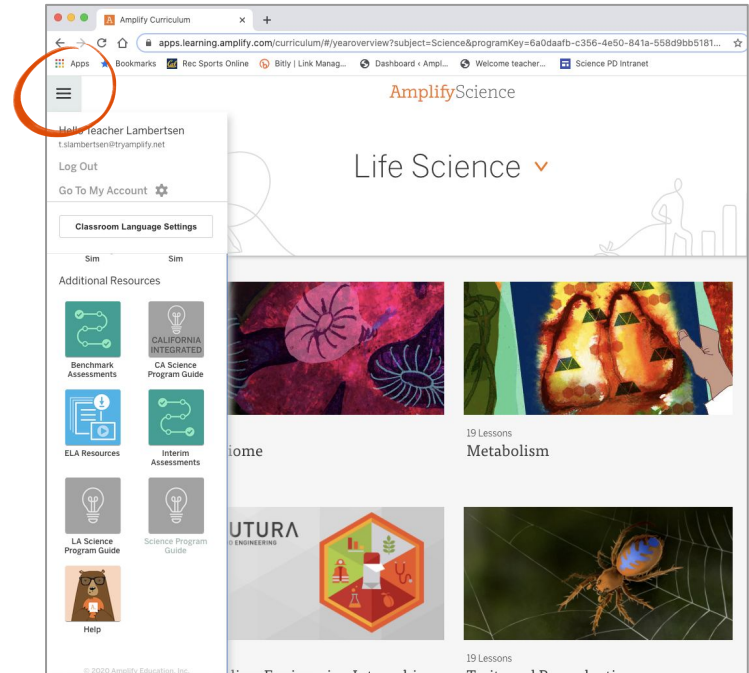


Amplify Science Program Hub

A new hub for Amplify Science resources

- Videos and resources to continue getting ready to teach
- Coming soon: Amplify@Home resources
- Keep checking back for updates

science.amplify.com/programhub



Amplify Science@Home

A suite of resources that...

- Are designed for students to complete independently
- Require no materials except a pencil and paper
- Include digital and print-only options
- Can be leveraged in a variety of remote and hybrid instructional formats



Amplify Science@Home

@Home Units

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

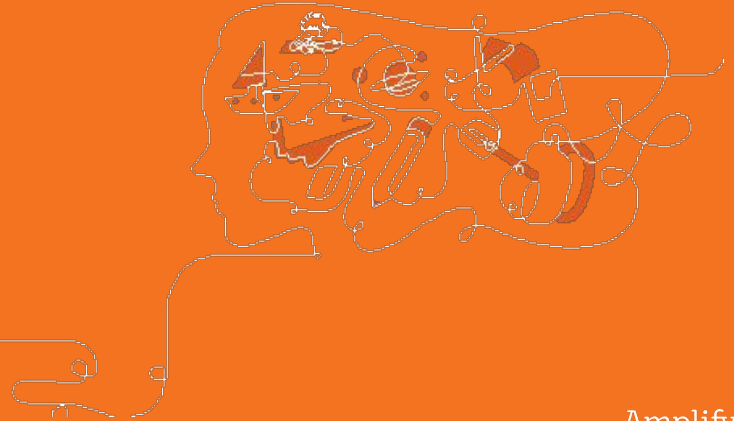
@Home Videos

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



@Home Units

Tips for selecting and using the resource



Selecting @Home Units

You might use this resource if...

- You have **less instructional time** for science than you normally would
- You need a solution for remote, asynchronous student learning some or all of the time

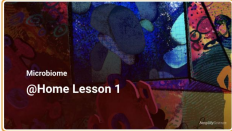
@Home Units

Two options for student access

For students with consistent access to technology at home, use **@Home Slides**

For a print-only option, use **@Home Packets**

1




Microbiome
@Home Lesson 1

2

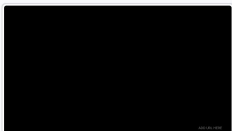
We are starting a new unit about **life science**. Life science is the study of living things. Like all kinds of science, life science is not just **knowledge** you can read about—it is also the process used to figure out that knowledge. In this unit, you will learn how to see and investigate the world like life scientists.

3



In this unit, you will take on the role of **student researchers** for the Microbiome Research Institute. Let's watch a video message from the head scientist there.

4



5

What are your reactions to the video?

Do you have any **questions** about it?

6



As **student researchers** for the Microbiome Research Institute, you will need to learn more about the tiny living things on and in the human body.

Unit Question

How can having 100 trillion microorganisms on and in the human body keep us healthy?

Microbiome @Home Lesson 1

INTRODUCING THE MICROBIOME RESEARCH INSTITUTE
Scientists at the Microbiome Research Institute need help explaining how the trillions of **tiny microorganisms** on and in the human body keep us healthy.



These are microorganisms that live on and in the human body!

The head scientist of the Microbiome Research Institute is asking for help because a politician wants to stop funding research on little things like microorganisms. As **student researchers**, you need to learn more about these tiny living things on and in the human body in order to convince people that this research needs to continue.

Optional: Watch a video from the head scientist at: tinyurl.com/xxxx

We will be trying to figure out this question throughout the unit:

Unit Question
How can having 100 trillion microorganisms on and in the human body keep us healthy?

Name _____ Date _____

Quick-Write: Initial Ideas

Chapter 1 Question: How small are the microorganisms that live on and in the human body?

What initial ideas do you have about the Chapter 1 Question? Record some of your ideas below.

- Don't worry if you don't have a lot of ideas yet. These are just your initial ideas about the question.
- If you need help getting started, use some of the sentence starters below to help you record your ideas.

Think a microorganism is smaller than a ...

Think this because ...

6

Microbiome @Home Lesson 1

@Home Unit resources

All resources are fully editable and customizable

- Teacher Overview
 - Outlines the unit and summarizes each lesson
- Family Overview
 - Provides context for families
- Student materials
 - 30-minute lessons featuring subsets of activities from Amplify Science curriculum

@Home Units

Student materials

- Brief narrative sections providing key content
- Activity instructions
- Vocabulary support
- Student sheets for writing, drawing, and diagramming
- Packets available in Word or .pdf
- Slides available in PowerPoint or .pdf

This is a thumbnail of a student worksheet. At the top, there are fields for 'Name' and 'Date'. Below that is the title 'Quick-Write: Initial Ideas'. The main text asks the student to think about microorganisms and to record their initial ideas. It includes a 'Chapter 1 Question' and a list of bullet points: 'Don't worry if you don't have a lot of ideas yet. These are just your initial ideas about the question.', 'If you need help getting started, use some of the sentence starters below to help you record your ideas.', 'Think a microorganism is smaller than a...', and 'I think this because...'. There are several horizontal lines provided for writing. At the bottom, there is a small page number '6' and a footer with the text 'Microbiome @Home Lesson 1'.

This block shows a larger view of the student worksheet. On the left is the worksheet itself, which is identical to the thumbnail above. On the right, there is a blue pencil icon and the text: 'Record your **initial ideas** about the Chapter 1 Question in the **Quick-Write: Initial Ideas** activity.' At the bottom right, there is a small text: 'Quick-Write: Initial Ideas page or [Lesson 1.1, Activity 2](#)'.

@Home Units

Teacher Overview

- Instructions for establishing key routines
- Pacing suggestions for expanding or further condensing
- Assessment considerations for each chapter
- Guidance for synchronous and in-person learning for each lesson

@Home Unit Overview: Microbiome

About the @Home Units

The Amplify Science @Home Units are versions of Amplify Science units adapted for use with asynchronous instruction in a remote learning or hybrid learning situation. The resources, delivered in either digital or printable form, allow students to complete activities independently or with minimal help from a family member. @Home Units focus on a reduced set of prioritized activities, while preserving a coherent instructional build. The @Home Units retain a multimodal approach, engaging students in adapted versions of doing, talking, reading, writing, and visualizing.

These resources are intended to be modified and adapted for your particular situation. We provide suggestions for further adjusting the lessons for your context, including how to use the resources when some synchronous or in-person instruction is possible. For more in-depth information and the full teaching guide, please refer to the *Microbiome* unit at learning.amplify.com or your print Teacher's Guide.

Overview of @Home Unit Resources

Teacher resources

This @Home Unit Overview provides general information for teaching with the @Home Units. It also contains chapter-specific outlines for the @Home Microbiome unit with guidance about the subset of unit activities to be taught.

Student resources

The @Home Units include two options for student access during asynchronous learning:

- @Home Slides + Student Sheets (for students with consistent access to technology at home)
- @Home Packets (for students without consistent access to technology at home)

Both options provide guidance for students to complete the lessons independently or with minimal family support. For students using the @Home Packets, adaptations have been made so that digital resources, such as student apps and videos, are eliminated or optional. Similarly, for both @Home Slides and @Home Packets, activities which require specific physical materials have been modified or made optional. Note: student resources include information about how to access videos of these activities, which can be viewed on any digital device, including smart phones.

only one chapter, your students will not complete the entire unit, you may

students engage with key ideas through talking, writing, and drawing. If needed one or more activities are provided with each

lessons may be appropriate in your context. Specific suggestions

Microbiome Investigation Notebook. of each chapter.

to explore, for example mold growing or some explorations, phenomena ideas,

Microbiome Opportunities for Unit learning.amplify.com/uploads/science-unit-extensions/MB-0

Remote Learning

via using science and engineering and make explanations and arguments in class, and visualizing. They also make classroom wall. While we have retained at home will require adaptations.

se adaptations, but you may need to set

up expectations for specific routines or provide additional supports to your students. Below are ideas for how different aspects of the Amplify Science approach might be adapted for your learners' particular contexts.

Student Talk options

- Talk to a member of their household about their ideas

@Home Units

Family Overview

- Introduction to the unit and types of activities
- List of key ideas and vocabulary
- Suggestions for supporting students working at home



Hello!

Your student is about to start a unit called *Microbiome* in science class. We hope that the information here can help support you as you guide your student through their at-home science learning.

We are using a program called Amplify Science, which is split up into units about different areas of science. In each unit, students start by wondering about something that happens in the real world and they investigate, talk, read, write, think, and argue like real scientists and engineers in order to figure out how and why that thing happens.

In the *Microbiome* unit, students learn about the trillions of microorganisms that live on and in the human body, which all together are called the human microbiome. As they figure out what's going with one patient's microbiome, students get familiar with the practices of science, including the specific ways that scientists investigate, talk, read, write, and argue. These practices will be important as students study science throughout the year, and beyond.

We are using a version of *Microbiome* that is specially designed for at-home learning. It gives students many opportunities to consider different questions about the human microbiome, gather evidence to help them understand, then use that evidence to make an explanation. This means students will be doing activities that involve talking, writing, reading, and investigating.

In order to support your student, you can help them with understanding directions, writing about their ideas, and reading articles. Students are asked to do some activities with a partner, and you can be your student's partner as they talk over questions and ideas and practice scientific arguments.

In this unit, students are investigating what's happening with Patient 23, and you may wish to ask your student:

- "What did you figure out in your science lesson today?"
- "How does that help you understand what's happening with Patient 23?"

Answering these questions after every lesson can help students understand more deeply and keep them interested in learning more.

evidencia: información sobre el mundo natural que se utiliza para respaldar o rechazar (refutar) una afirmación

- **microbiome:** all of the microorganisms that live in a particular environment, such as a human body
microbioma: todos los microorganismos que viven en un ambiente específico, por ejemplo en un cuerpo humano
- **microorganism:** an organism that is too small to be seen with the naked eye
microorganismo: un organismo que es demasiado pequeño como para ver a simple vista
- **microscopic:** too small to be seen with the naked eye

...see, cells are much bigger than molecules.

...imately 100 trillion microorganisms. Most of

...nt (food and space) for bacteria to survive.
...types of bacteria.

...uman microbiome can make a person sick.
...and harmful bacteria in the microbiome.
...ful bacteria in their guts can become infected
and space available for harmful bacteria.

Use?
...at students use throughout the unit. Getting
...times different from how people use these
...port your student's at-home learning. Your
...words along with additional words from the

...anisms, especially bacteria
microorganismos, especialmente las bacterias
...f a single cell
son hechos de una sola célula
...l living things and are the smallest units able to

*constituyen todos los seres vivos y que son las
...mpañar las funciones de la vida*
...about the natural world
una pregunta sobre el mundo natural
...world that is used to support or go against

Selecting @Home Units

Different ways to use the resource

- Assign students @Home Lessons to work through independently at home
- Teach live during in-person or online synchronous time
 - Refer to Teacher Overview resources for suggestions for synchronous instruction, or
 - Revisit hands-on activities, digital tool uses, or discussion moments

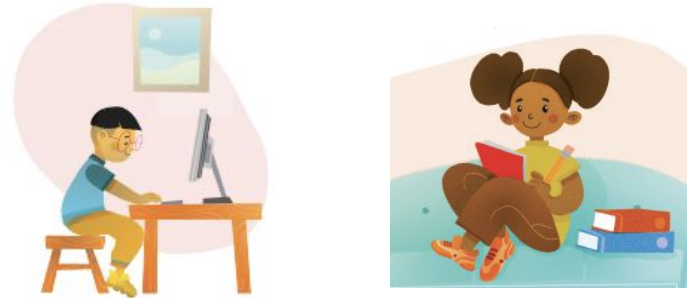
@Home Units example use case

Remote Asynchronous Model: Students work flexibly through content



Monday-Thursday

Assign @Home Lessons 1-2
(Packets or Slides)



Friday

Students submit work product through email, or by writing on paper and texting the teacher a photo of their work

@Home Units example use case

Hybrid Model: Teach live during in-person time



Monday-Tuesday

Remote

Assign: @Home Lesson 1 (Packet or Slides)

Wednesday

In-person

Teach: @Home Lesson 1: Ideas for synchronous or in-person instruction

Thursday-Friday

Remote

Assign: @Home Lesson 3 (Packet or Slides)

Planning to use @Home Units

- Download and read your unit's **Teacher Overview** on the Program Hub
- Plan for establishing **key routines** for talk, writing, reading, hands-on, and classroom wall references
 - *(See: Adapting the Amplify Science Approach for Remote Learning in your unit's Teacher Overview)*
- Determine **how students will access** slides or packets, and how they will **submit work**
- Consider **pacing**, including when you have synchronous science time with your students (if applicable)

Reflection

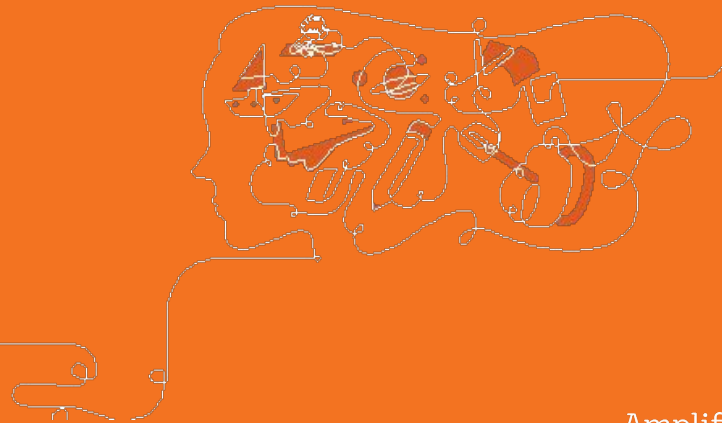
What other ideas do you have for using @Home Units?

How could you make this resource work for your learning scenario?



@Home Videos

Tips for selecting and using the resource



Selecting @Home Videos

You might use this resource if...

- Your students have **access to internet-connected devices** at home
- You have **about the same amount of instructional time** for science as you normally would
- You need a solution for remote, asynchronous student learning some or all of the time

The screenshot shows a video interface with the Wildlife Protection Organization logo in the top left. The main text asks, "Which island's weather would be best for orangutans?". Three satellite-style images of islands are displayed: Arc Island (top right), Blue Island (bottom left), and Creek Island (bottom right). A small video feed of a woman is visible in the bottom right corner of the screenshot.

Selecting @Home Videos

Different ways to use the resource

- Assign students video lessons to watch at home
- Teach live during in-person or online synchronous time!
 - Teach full lessons, or
 - Revisit parts of lessons in the videos students have already watched
- Watch the videos yourself as a model, then make videos of yourself teaching to send to your students

@Home Videos example use case

Hybrid Model: Teach live during in-person time



Monday

Remote

Assign: Lesson 1.1
Video



Tuesday

In-person

Teach: Lesson 1.2
live



Wednesday

Remote

Assign: Lesson 1.3
Video



Thursday

Remote

Assign: Lesson 1.4
Video



Friday

In-person

Revisit: hands-on
or discourse-based
activities the week's
lessons

@Home Videos example use case

Remote Synchronous Model: Discussions during online class



Monday

Asynchronous

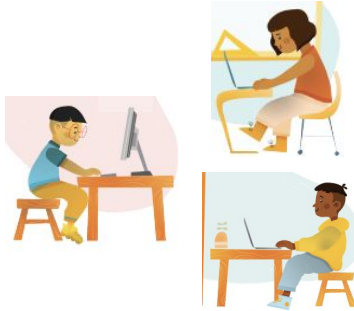
Assign: Lesson 1.1
Video



Tuesday

Asynchronous

Assign: Lesson 1.2
Video



Wednesday

Synchronous

Teach: Lead class
discussion to review
key ideas from 1.1
and 1.2



Thursday

Asynchronous

Assign: Lesson
1.3 Video



Friday

Asynchronous

Assign: Independent
written reflection
about week's lessons

Planning to use @Home Videos

- Determine **how students will access** videos, and how they will **submit work**
- Consider **pacing**, including when you have synchronous science time with your students (if applicable)
- Plan for **student access to digital tools** and/or digital books and articles (if applicable)
- Consider how you'll **communicate with families** about this resource

Reflection

What other ideas do you have for using @Home Videos?

How could you make this resource work for your learning scenario?

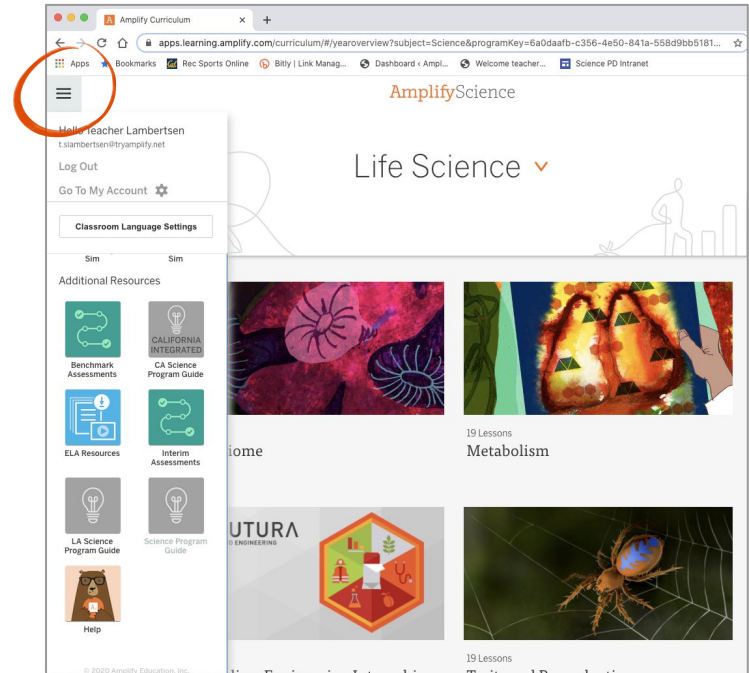


Amplify Science Program Hub

A new hub for Amplify Science resources

- Click on Global Navigation
- Scroll down and click on Program Hub
- Take some time to explore the resources here.

science.amplify.com/programhub



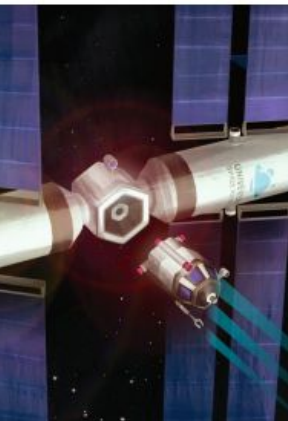
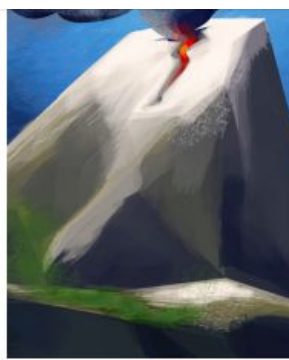
The screenshot shows a web browser window displaying the Amplify Science Program Hub. The browser's address bar shows the URL: apps.learning.amplify.com/curriculum/#/yearoverview?subject=Science&programKey=6a0daafb-c356-4e50-841a-558d9bb5181.... The page features a user profile for "Math Teacher Lambertsen" with options for "Log Out" and "Go To My Account". A "Classroom Language Settings" button is also visible. The main content area is titled "Life Science" and includes a "Sim" section with "Additional Resources" such as "Benchmark Assessments", "ELA Resources", "Interim Assessments", "LA Science Program Guide", and "Science Program Guide". There are also "Help" and "Help" buttons. The page displays several resource cards, including "Metabolism" (19 Lessons) and "Metabolism" (19 Lessons). A red circle highlights the "Global Navigation" menu icon in the top left corner.



Ask in the chat feature



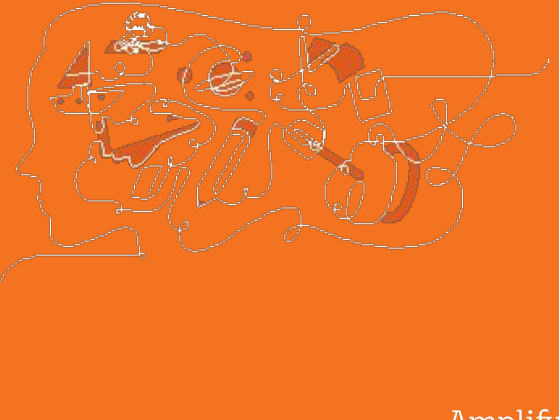
Questions?



Plan for the day

- ✔ Experiencing the Launch Unit
 - ✔ Launch Unit Components
 - Planning to Teach
 - ✔ Remote/Hybrid Resources
- Closing and reflection

Closing and Reflection





Ask in the chat feature



Questions?

Revisiting Day 2 Objectives

Are you able to...

- Understand the purpose of Launch Units?
- Apply program essentials to prepare to teach an Amplify Science Launch Unit?
- Make an informed decision about which of the Amplify Science Hybrid Learning Resources will best support your students?

Overarching goals

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

- Navigate the Amplify Science curriculum.
- Understand the program's multimodal approach and instructional materials.
- Apply program essentials to prepare to teach an Amplify Science unit.
- Make an informed decision about which of the Amplify Science Hybrid Learning Resources will best support your students.



Closing reflection

Based on our work today, share:



Answer in the chat feature

Brain: something you'll keep in mind

Heart: something you're feeling

Feet: something you're planning to do

New York City Resources Site

<https://amplify.com/amplify-science-nyc-doe-resources/>

- Login information
- Pacing guides
- Getting started guide
- NYC Companion Lessons
- Resources from professional learning sessions
- And much more!

Amplify.

Amplify Science

Resources for NYC (6-8)

resources designed for
Amplify Science



THE LAWRENCE
HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

Amplify.

UPDATES: Summer 2020

Program Rollover – Login Access: It's an exciting time for Amplify Science as we are updating our program to reflect all of the amazing new features for the 2020-21 school year! During this rollover process (July 1- 17), you will be temporarily unable to login with your personal account so we can apply the most recent upgrades to our content that will assist with your summer planning for the 20/21 school year.

We encourage you to use the [NYC reviewer site](#) for full curriculum access during the transition. Once on the site, scroll to the bottom of the page and select *Begin your review* → *select your grade level* → *teacher*.

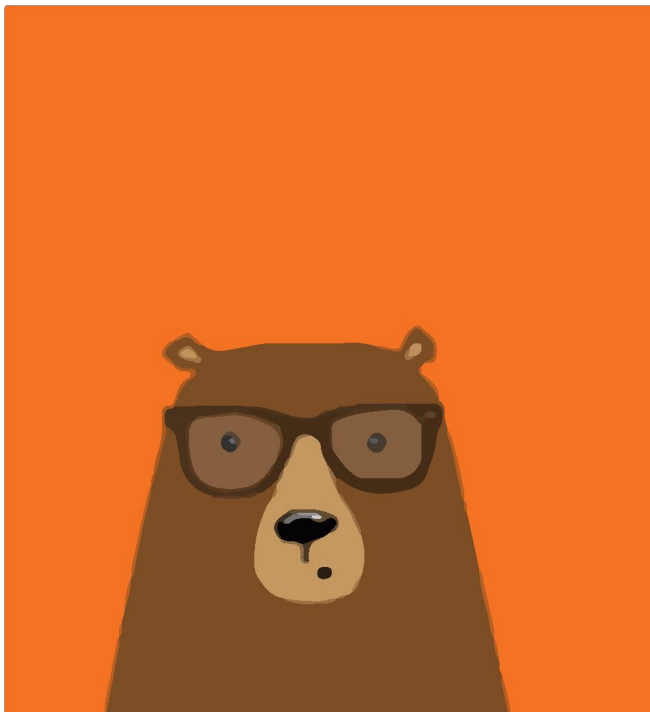
On **July 18**, your personal login will be restored and you will be able to log back in with your regular credentials to see the updated curriculum for 20/21 in your

COVID- 19 Remote learning resources 2020

Professional learning resources

Questions

Additional Amplify resources



Program Guide

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

my.amplify.com/programguide

Amplify Help

Find advice and answers from the Amplify team.

my.amplify.com/help

Additional Amplify support

Customer Care

Access 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

Additional Amplify Support

Customer Care

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



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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/InitialAmplifySciPL>

Presenter name: XXX

Workshop title: Navigating Program Essentials 6-8

Modality: Remote

