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

# 'Amplify Science

# Unit Internalization & Guided Planning

Deep-dive and strengthening workshop Grade 6, Earth's Changing Climate

LAUSD April 2021 Presented by :

# Workshop goals

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

- Internalize your upcoming unit.
- Plan for collecting <u>evidence of student learning</u> in order to make instructional decisions to <u>support diverse learner needs</u>.
- Gather resources to develop a multi-day plan for implementing Amplify Science within your class schedule and instructional format.



# Plan for the day

- Framing the day
  - Welcome
  - Instructional Materials
- Unit Internalization
- Planning to teach
  - Collecting evidence of student learning to meet diverse learner needs
- Reflection and closing

Amplify.



# Plan for the day

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- Reflection and closing

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# Amplify Science Refresher

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# **Amplify Science Instructional Approach**



# $\langle \rangle$

# **Instructional Materials**



# 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

# **Amplify**Science

 Launch: Geology on Mars

Grade 7

- 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** ٠

### Launch unit

- First unit 11 lessons

### Core units

- Majority of units
- 19 lessons

## Engineering **Internships**

- Two per year
- 10 lessons

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# Standard Amplify Science Curriculum



# Amplify Science @Home Curriculum

In addition to the standard Amplify Science curriculum, you also have access to Amplify Science @Home Curriculum on the 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





# **@Home Units**

A shift in approach to respond to user feedback

# Original approach: two different resources



Print-based: @Home packets

Digital: @Home slides and student sheets

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

Traite and Re-

@Home Lessor

Today, we will beg and Reproduction

> **Digital:** Google Slides @Home Slides and Google Doc student sheets 18

# Updated approach: one resource, two formats



# Amplify Science @Home Curriculum

You have access to the Earth's Changing Climate @Home Unit.

The Earth's Changing Climate @Home Unit has **13 lessons**. Each lesson is written to be **30 minutes** long.

### Earth's Changing Climate 🔻

Spanish@Home unit to come April 1

@Home Unit @Home Videos H	lands-on investigations videos	
@Home Unit		
Instructions >		
English		
ECC@Home Teacher Resources	ECC@Home Family Overview	ECC@Home Student Materials Compilations
TEACHER OVERVIEW	[∕] Google ፼ PDF	ALL SLIDES
PDF LESSON INDEX		ALL STUDENT SHEETS
PDF		ALL PACKETS (INCL. STUDENT SHEETS) PDF
		tion
ECC Pape	ECC@Home Le Digital	PUIOn Whome Lesson 3
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# Amplify Science @Home Curriculum

You have access to the Earth's Changing Climate @Home Videos.

There are 16 @Home Videos for the Earth's Changing Climate unit. This covers all lessons expect for the assessment lessons (1.1, 2.4, and 4.4). The video playlists on YouTube teach the standard Amplify Science Lessons.

### Earth's Changing Climate -@Home unit to come March 19 (Eng.)/April 1 (Span.) @Home Unit @Home Videos Hands-on investigations videos @Home Videos FCC Lesson 12 [7] FCC Lesson 1.3 [7] FCC Lesson 14 ECC Lessor Earth's Changing Climate Chapter 1 Lesson 1.2 Activity 1 Amplify 3:06 Earth's Changing Climate Chapter 1 Lesson 1.2 Activity 2 ECC Lessor Amplify PLAY ALL Earth's Changing Climate Earth's Changing Climate Chapter 1 Lesson 1.2 Activity T ECC Lessor Chapter 1 Lesson 1.2 Amplify 9 videos · 35 views · Last updated on Feb 23. 2021 Earth's Changing Climate Chapter 1 Lesson 1.2 Activity 3 I Unlisted Amplify ECC Lessor =+ % Earth's Changing Climate Chapter 1 Lesson 1.2 Activity 4 Amplify Amplify ECC Lesso Earth's Changing Climate Chapter 1 Lesson 1.2 Activity 5 Part A Amplify

# Amplify Science @Home Curriculum











# Plan for the day

- Framing the day
  - Welcome
  - Instructional Materials
- Unit Internalization
- Planning to teach
  - Collecting evidence of student learning to meet diverse learner needs
- Reflection and closing

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# Unit Guide Resources

Planning for the Unit		Printable Resources
Unit Overview	~	Article Compilation
Unit Map	~	Coherence Flowchart
Progress Build	~	Copymaster Compilation
Getting Ready to Teach	~	Flextension Compilation
Materials and Preparation	~	Investigation Notebook
Science Background	~	MGSS Information for Parents and Guardians
Standards at a Glance	~	Print Materials (8.5" x 11")
Teacher References		Print Materials (11" x 17")
Lesson Overview Compilation	~	Offline Preparation
Standards and Goals	~	Teaching without reliable classroom 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	~	
Flextensions in This Unit	~	

### Unit Guide resources

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

### Planning for the unit

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





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# Unit Map

Planning for the Unit		Printable Resources
Unit Overview	~	Article Compilation
Unit Map		
Progress Build	~	
Getting Ready to Teach	~	Flextension Compilation
Materials and Preparation	~	Investigation Notebook
Science Background	~	MGSS Information for Parents and Guardians
Standards at a Glance	~	Print Materials (8.5" x 11")
Teacher References		Print Materials (11" x 17")
Lesson Overview Compilation	~	Offline Preparation
Standards and Goals	~	Teaching without reliable classroom 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	~	
Electoncions in This Unit		

### Earth's Changing Climate

Planning for the Unit

Unit Map

### Unit Map

### Why is the ice on Earth's surface melting?

In the role of student climatologists, students investigate what is causing ice on Earth's surface to melt in order to help the ficional World Climate Institute oducate the public about the processes involved. Students consider claims about changes to energy from the sun, to the atmosphere, to Earth's surface, or in human activities as contributing to climate change.

### Chapter 1: Why is the ice on Earth's surface melting?

Students figure out: The decrease in ice has been caused by an increase in the amount of energy absorbed at Earth's surface (chown by an increase in global average temperature). This increase in temperature correlates with charthes to Earth's atmosphere over the same time period. As carbon dioxide and methane have increased in the atmosphere, so has the global average temperature.

How they figure it out: They analyze data about ice cover, temperature, and several gases in the atmosphere. They explore the unit's Simulation and test changes to the amounts of different gases in the atmosphere.

### Chapter 2: Why do temperatures on Earth increase when the amount of carbon dioxide or methane in the Earth system increases?

Students figure out: The overall temperature of the Earth system can be stable even as energy is flowing into and out of the system. If this balanced flow is disrupted, there may be changes to the system. Temperature increases if more energy enters than exits, and decreases when less energy enters than exits. An increase in carbon dioxide or methane disrupts the system by causing less energy to exit than enter. This is because carbon dioxide and methane stop energy from leaving by redirecting energy that would have exited the system.

How they figure it out: They gather evidence about stable and changing systems of energy flow from a physical model and from the Simulation. They gather evidence from articles about climate changes in Earth's history. They show their ideas using the unit's Modeling fool and by writing an explanation.

### Chapter 3: What can be done to stop the carbon dioxide and methane in Earth's atmosphere from increasing?

Students figure out: The increases in carbon dioxide and methane in the atmosphere are due to human activities. They learn that combustion of fossil fuels releases carbon dioxide, that livestock release methane, and that combustion of fossil fuels and the amount of fuelschock kept have both been increasing. Students learn that reducing these activities can slow the addition of these gases to the atmosphere and that these gases can be taken out of the atmosphere by reforestation and to capturing these gases.

How they figure it out: They analyze data about human activity, test changes to human activities in the Simulation, and read an article about solutions to climate change. They show their understanding with the Modeling Tool and in writing.

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### **Pages 2-3**

Earth's Changing Climat

ion—How is Earth's climate affected in the fig

ing of Earth's climate overall. They consider the

cience Seminar and then write final arguments.

and destruction of forests) as well as those that

uption of human activities like air travel). They engage

o the atmosphere and can also al don't affect Earth's climate near

sts study their impact in order to

om one large volcanic eruption—Pin

Planning for the Unit

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# Progress Build

Planning for the Unit		Printable Resources
Unit Overview	~	Article Compilation
Unit Map	~	Coherence Flowchart
Progress Build		
Getting Ready to Teach	~	
Materials and Preparation	~	Investigation Notebook
Science Background	~	NGSS Information for Parents and Guardians
Standards at a Glance	~	Print Materials (8.5" x 11")
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Lesson Overview Compilation	~	Offline Preparation
Standards and Goals	~	Teaching without reliable classroom 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	~	
Elevtensions in This Unit	~	

Earth's Changing Climate

Planning for the Unit



Progress Build

Each Amplify Science Middle School unit is structured around a unit-specific learning progression, which we call the Progress Buil. The unit's Progress Build escribes the way student's explanatory understanding of the unit's focal phenomena is likely to develop and deepen over the course of a unit. It is an important tool in understanding the structure of a unit and in supporting student's learning' in organizes the sequence of instruction (agenerality each level of the Progress Build corresponds to a chaptery. defines the focus of assessments, and grounds the inferences about student learning progress that guide suggested instructional adjustments and differentiation. By aligning instruction and assessment to the Progress Build (and therefore to each other), evidence about how student understanding is developing may be used during the course of the unit to support students and modify mistruction in an informed way.

The Earth's Changing Climate Progress Build consists of three levels of science understanding. To support a growth model for student learning progress, each level encompasses all of the ideas of prior levels and represents an explanatory account of unit phenomena, with the sophistication of that account increasing as the levels increase. At each level, students add new ideas and integrate them into a progressively deeper understanding of what causes climate change Since the Progress Build reflects an increasingly complex yet integrated explanation, we represent it by including the new ideas for each level in bold.

Prior knowledge (preconceptions): At the start of the Earth's Changing Climate unit, middle school students will likely have some extracurricular exposure to the topic of climate change. Many students know that Earth is warming and that the polar ice cases are melting, but lew will be able to explain why. Human pollution is often thought of in terms of littering, so the concept that "natural" substances like carbon dioxide or methane could be pollution will be unusual to students.

From the Ocean, Atmosphere, and Climate and Weather Patterns units, students will be familiar with the relationship between temperature and energy, and how energy coming from the sum is absorbed by Earth's surface and contributes to the global climate. Students will have little experience thinking of the atmosphere as being composed of mary gases that interact with both incoming and outbound energy, so the Sim will be especially useful for supporting this understanding. This experience and prior knowledge can be built on and refined, which the Earth's Changing Climate Progress Build and unit structure have been designed to do.

### Progress Build Level 1: Changes in the amount of carbon dioxide and methane in the atmosphere are correlated with changes in the amount of energy absorbed by Earth's surface.

When carbon dioxide and methane increase, the amount of energy absorbed by Earth's surface increases. When carbon dioxide and methane decrease, the amount of energy absorbed by the surface decreases.

### Progress Build Level 2: Carbon dioxide and methane affect the balance of energy entering and exiting the Earth system.

Changes in the amounts of carbon dioxide and methane in the atmosphere are correlated with changes in the amount of energy absorbed by Earth's surface. When carbon dioxide and methane increase, the amount of energy absorbed by Earth's surface increases. When carbon dioxide and methane decrease, the amount of energy absorbed by the surface decreases. The amount of energy absorbed by Earth's surface changes when the total amount of energy that enters or exits the system changes. If more energy has entered the system than has exited, there is more energy in the Earth system and the amount of energy absorbed by the surface will have increased (and vice weres, leading the Earth system and the amount of energy absorbed by the surface will have increased (and vice weres, leading the Earth system and the amount of energy absorbed by the surface will have increased (and vice weres, leading the Earth system and the amount of energy absorbed by the surface will have increased (and vice weres, leading the Earth system and the amount of energy absorbed by the surface will have increased (and vice weres, leading the Earth system and the amount of energy absorbed by the surface will have increased (and vice weres, leading the Earth system and the amount of energy absorbed by the surface will have increased (and vice weres, leading the Earth system and the amount of energy absorbed by the surface will have increased (and vice weres, leading the term of the surface were the surface will have increased (and vice were absorbed by the surface will have increased (and vice were absorbed by the surface were will have increased (and vice were absorbed by the surface will have increased (and vice were absorbed by the surface will have increased (and vice were absorbed by the surface will have increased (and vice were absorbed by the surface were absor

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Pages 4-5

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# Unit Internalization Work Time

		Planning for the Unit		
Guided Unit Internalization		Unit Map		
Dart 1. Unit level internalization		Why is the ice on Earth's surface melting?	ig Climate	
Part 1: Onit-level Internalization		In the role of student climatologists, students investigate what is causing ice on Earth's surface to melt in order to he the fictional World Climate Institute educate the public about the processes involved. Students consider claims about changes to energy from the sun, to the atmosphere, to Earth's surface, or in human activities as contributing to clim	p t	
Unit title:		change.	l in the five	
		Chapter 1: Why is the ice on Earth's surface melting?	ests, algae,	
		Students figure out: The decrease in ice has been caused by an increase in the amount of energy absorbed at Earth surface (shown by an increase in pickle) surgage temperature). This increase in temperature correlates with chapter	s thas the nderstand	
		Earth's atmosphere over the same time period. As carbon dioxide and methane have increased in the atmosphere, s	p in 1991—to	
		has the global average temperature.	bse that	
What is the phenomenon students are investigating in your unit?		How they figure it out: They analyze data about ice cover, temperature, and several gases in the atmosphere. They	They engage	
		explore the unit's Simulation and test changes to the amounts of different gases in the atmosphere.	intents.	all the set of
		Chapter 2: Why do temperatures on Earth increase when the amount of carbon dioxide or methane in Earth system increases?	he .	focal Jnit
		Students figure out: The overall temperature of the Earth system can be stable even as energy is flowing into and or of the system. If this balanced flow is disrupted, there may be changes to the system. Temperature increases if more		bout
		energy enters than exits, and decreases when less energy enters than exits. An increase in carbon dioxide or methan	1	ne is
		from leaving by redirecting energy that would have exited the system.	5	ed way.
		How they figure it out: They gather evidence about stable and changing systems of energy flow from a physical mo and from the Simulation. They gather evidence from articles about climate changes in Earth's history. They show the	el r	rowth it.
Unit Question	Student roles	ideas using the unit's Modeling Tool and by writing an explanation.		ses the
onic question:	Student role:	Chapter 3: What can be done to stop the carbon dioxide and methane in Earth's atmosphere from increasing?		sent it by soe
		Students figure out: The increases in carbon dioxide and methane in the atmosphere are due to human activities. T learn that combustion of fossil fuels releases carbon dioxide, that livestock release methane, and that combustion of	ey	will likely
		fossil fuels and the amount of livestock kept have both been increasing. Students learn that reducing these activities can show the addition of these means to the atmosphare and that these means can be taken out of the atmosphare bu		of that hes
		reforestation and by capturing these gases.		usual to sk
		How they figure it out: They analyze data about human activity, test changes to human activities in the Simulation.	nd	rey
By the end of the unit, students figure out		read an article about solutions to climate change. They show their understanding with the Modeling Tool and in writin	g.	ontributes
				iny gases
				Dimate
		@ The Reserve of the University of	alfonia	
		1		related
				en
				Earth
			© The Regents of the University of California	
		2		amount orbed by
			and the state of t	e surface
What science ideas do students need to figure out in order to explain the phenomenon	2	enters or exits the system changes. If more energy has enter	ed the system than has exited, there	is more energy
what science ideas do students need to rigure out in order to explain the phenomenon	f	in the Earth system and the amount of energy absorbed by t	e surface will have increased (and vi	ice versa, leading
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# Pages 2-5

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Earth's Changing Climate

Unit Guide	Guided Unit Internalization Part 1: Unit-level internalization	Page 7
Document	Unit title: Earth's Changing Climate	
Unit Map	What is the phenomenon students are investigating in your unit? Why is the ice on the Earth's surface melting?	
Lesson Overview Compilation	Unit Question: VVhat causes climate change?	Student role: Student climatologists
Unit Map	By the end of the unit, students figure out Students figure out that whenever more energy enters the atmosphere than exits, the increases. Then they discover the cause of Earth's energy imbalance—increased carbon outgoing energy back to Earth's surface, reducing the flow of energy that exits the Ear human activities, including increased combustion of fossil fuels and greater numbers of responsible for increasing amounts of carbon dioxide and methane in the atmosphere	e amount of energy absorbed by the surface dioxide or methane in the atmosphere redirects rth system. Through investigations, they learn that of livestock kept for the benefit of humans, are
Progress Build	What science ideas do students need to figure out in order to explain the phenomene Changes in the amount of carbon dioxide and methan correlated with changes in the amount of energy abs surface. Carbon dioxide and methane affect the balance exiting the Earth system. Carbon dioxide and methan which causes less energy to exit.	ne in the atmosphere are sorbed by Earth's ce of energy entering and ne redirect outbound energy,









# Plan for the day

- Framing the day
  - Welcome
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- Unit Internalization
- Planning to teach
  - Collecting evidence of student learning to meet diverse learner needs
- Reflection and closing

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### Earth's Changing Climate

Planning for the Unit

Unit Map

# Unit Map

# Page 2



### Why is the ice on Earth's surface melting?

In the role of student climatologists, students investigate what is causing ice on Earth's surface to melt in order to help the fictional World Climate Institute educate the public about the processes involved. Students consider claims about changes to energy from the sun, to the atmosphere, to Earth's surface, or in human activities as contributing to climate change.

### Chapter 1: Why is the ice on Earth's surface melting?

**Students figure out:** The decrease in ice has been caused by an increase in the amount of energy absorbed at Earth's surface (shown by an increase in global average temperature). This increase in temperature correlates with changes to Earth's atmosphere over the same time period. As carbon dioxide and methane have increased in the atmosphere, so has the global average temperature.

**How they figure it out:** They analyze data about ice cover, temperature, and several gases in the atmosphere. They explore the unit's Simulation and test changes to the amounts of different gases in the atmosphere.



# Program Hub work time **5** minutes

# Navigate to the Program Hub. Open:

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

If you have extra time, explore the other tabs.

e	Earth's Changing Clin	nate 🔻	
	Spanish@Home unit to come Apri	1	
	@Home Unit @Home Videos H	ands-on investigations videos	
	@Home Unit		
	Instructions >		
	English		
	ECC@Home Teacher Resources TEACHER OVERVIEW C Google PDF LESSON INDEX PDF	ECC@Home Family Overview C Google PDF	ECC@Home Student Materials Compilations ALL SLIDES Google ALL STUDENT SHEETS Google ALL PACKETS (INCL. STUDENT SHEETS) PDF
	ECC@Home Lesson 1 SLIDES C Google PDF STUDENT SHEETS C Google PDF	ECC@Home Lesson 2 SLIDES [2] Google PDF STUDENT SHEETS [2] Google PDF	ECC@Home Lesson 3 SLIDES Google PDF STUDENT SHEETS Google PDF

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# @Home Unit Lesson Index

This resource correlates lessons from the Standard Curriculum with @Home Unit Lessons.

It also lists the @Home Unit Student Sheets with information about where they came from (i.e. Student Investigation Notebook, copymaster, or new for the @Home Unit)

### AmplifyScience Earth's Changing Climate @Home Lesson Index

The Amplify Science@Home Units are versions of Amplify Science units adapted for use in a remote learning or hybrid learning situation. To help you plan instruction, below we have listed the @Home Lessons alongside the Amplify Science unit's Lesson(s) from which they come.

Index: @Home Unit Lessons and corresponding Earth's Changing Climate Lessons

	re also	ecessary, new pages were	s. When n		Science Earth's Changing Clim	Adapted from Amplify S	me Lesson
	es and	eet and Packet page titles	tudent Sh			Lesson 1.2 and 1.3	me Lesson 1
	g	ing Earth's Changing	respond			Lesson 1.4	me Lesson 2
						Lesson 1.5	me Lesson 3
		Possible Responses	ebook			Lesson 2.1	me Lesson 4
			r, or print			Lesson 2.2	me Lesson 5
		N/A				Lesson 2.3	me Lesson 6
		Lesson 1.3, Activity 2,	n Pg. 12			Lesson 2.6 and 2.7	me Lesson 7
		Possible Responses				Lesson 3.1	me Lesson 8
		N/A				Lesson 3.2	me Lesson 9
5		Lesson 1.4, Activity 3, Possible Responses	n Pg. 18			Lesson 3.3	me Lesson 10
		Lesson 1.4, Activity 3, Possible Responses	n Pg. 19			Lesson 4.1	me Lesson 11
		Lesson 1.4, Activity 3, Possible Responses				Lesson 4.2 and 4.3	me Lesson 12
1		Lesson 1.4, Activity 4, Possible Responses				200001414	
		Lesson 1.5, Activity 2, Possible Responses	n				
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		N/A	assroom				
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		N/A	erials				
		Lesson 2.1, Activity 2, Possible Responses		1	ne Lesson Index Al rights reserved	Changing Climate @Home	Earth's Ch
		Lesson 2.1, Activity 3, Possible Responses		_			
		Lesson 2.1, Activity 3, Possible Responses	on Pg. 38	<sup>n</sup> Modified, based	Investigating Energy in the (continued)	4	

### **Pages 8-11**

inal or modified versions of the unit's

### @Home Lesson 1

Adapted from: Amplify Science Earth's Changing Climate Lessons 1.2 and 1.3

### Key activities

- Introducing climate change and melting ice: Students are introduced to the unit problem and their role as student climatologists.
- Talk: Students analyze and discuss climate data and identify trends and fluctuations.
- **Do:** Students gather evidence from the *Earth's Changing Climate* Simulation about what can cause ice on Earth's surface to melt.

### Ideas for synchronous or in-person instruction

Before meeting, have students watch the introductory video. If meeting in person, have students analyze the graphs with a partner. Show the Global Average Temperature graph and discuss trends and fluctuations as a class.

# Earth's Changing Climate **Order Order**

**Amplify**Science

# Earth's Changing Climate @Home Lesson 1

**Amplify**Science

# Today, we will begin a new unit called *Earth's Changing Climate*.



We will examine Earth's climate throughout the unit. Climate includes temperature, rain, sun, and wind.



# general weather patterns over a long period of time

We will investigate the causes of *climate change*.



# changes in climate over a long period of time that can be caused by natural events or human activities

### Earth's Changing Climate @Home Lesson 1

Earth's Changing Climate Glossary (continued) sulfur dioxide; a molecule made of sulfur and oxygen atoms dióxido de azufre: una molécula hecha de átomos de azufre y oxígeno temperature: a measure of how bot or cold something is temperatura: una medida de qué tan caliente o frío está algo the Earth system: the living and nonliving components of Earth, including the water, land, and atmosphere el sistema Tierra: los componentes vivientes y no vivientes de la Tierra, incluvendo el agua, el terreno y la atmósfera trend: overall tendency (for tendencia: una propensión a lo largo del tiempo Earth's Changing Climate Glossary (continued) volcano: a mountain that h evidence: information about the natural world that is used to support or go against (refute) a volcán: una montaña que tie evidencia: información sobre el mundo natural que se utiliza para respaldar o rechazar (refutar) una afirmación fluctuation: variations in a set of data fluctuación: variaciones en un conjunto de datos human activities: things people do that affect the Earth system actividades humanas: cosas que hacen los humanos que afectan el sistema Tiarra luve a measure of how much light is present lux: una medida de cuánta luz hav methane: a molecule metano: una molécula h Earth's Changing Climate Glossary model: an object, diagra it simpler or easier to se absorb: to take in modelo: un objeto, diagn absorber: traer bania dentro haciéndolo más simple o atmosphere: the mixture of gases surrounding a planet reasoning: the process atmósfera: la mezcla de gases que rodea a un planeta razonamiento: el proces carbon dioxide: a molecule made of carbon and oxygen atoms redirect: to send to a ne dióxido de carbono: una molécula hecha de átomos de carbono y oxígeno redirigir: mandar a un lug change: when something becomes different over time reflect: to bounce off wi cambio: cuando algo se vuelve diferente con el tiernoo reflejar: rebotar sin abso claim: a proposed answer to a question about the natural world scientific argument: a c afirmación: una respuesta propuesta a una pregunta sobre el mundo natural argumento científico: un climate: general weather patterns over a long period of time stability: when somethin clima: patrones atmosféricos generales que ocurren durante un periodo largo de tiempo estabilidad: cuando algo climate change: changes in climate over a long period of time that can be caused by natural events or human activities cambio climático: cambios en el clima durante un largo periodo de tiempo, los cuales pueden ser causados por eventos paturales o actividades humanas combustion: the process of burning fuels, which produces carbon dioxide combustión: el proceso de quemar combustibles, que produce dióxido de carbono data: information collected in an investigation datos: información recolectada en una investigación deforestation: the process of clearing trees from land deforestación: el proceso de despejar un terreno de árboles energy: the ability to make things move or change energía: la capacidad de hacer que las cosas se muevan o cambien eruption: the sudden pushing out of something, such as lava from a volcano erupción: la expulsión repentina de algo, como la lava de un volcán

Earth's Changing Climate @Home Lesson 1

Throughout the unit, you can look up vocabulary words in the **glossary** to help you understand what they mean. You can find this in your student pages or in the Amplify Library.

Earth's Changing Climate Glossary pages or Amplify Library


Next, you'll watch a video about a real **climate scientist** to learn more about issues related to climate change.

Note: all videos in this @Home Unit can be viewed on a smartphone, or any other connected device.



Using the print version? Watch the video at tinyurl.com/AMPECC-09

### World Climate Institute



- RESEARCH the causes of global climate change
- EDUCATE the public about climate change
- MENTOR student climatologists

You'll work as student climatologists helping the World Climate Institute **investigate climate change** and **educate the public** about their discoveries.

Read the message from Dr. Irene Lee, the head climatologist, on the next slide.

### $\bullet \bullet \bullet$

## ✓ ∧ ☑ ☆ 値

From: Irene Lee To: Student Climatologists Subject: Welcome!



The World Climate Institute is pleased that you will be assisting us in reaching out to the public and explaining a complicated process—why the ice on Earth's surface is melting.

To help, you will need to learn how energy moves throughout the Earth system and how this is related to temperature changes across our planet. This is complex, but important science, and explaining requires a complete understanding of the entire system so you can make sense of it for others. Only then will you be able to explain what is happening to our planet and why the ice is melting so rapidly.

The World Climate Institute is fictional, but it is based on real organizations that do similar work.

Your goal will be to thoroughly answer the question of **why the ice on Earth's surface is melting**. To do this, you will need to learn about the **Earth system** so you can understand the changes we are currently seeing in Earth's climate.

## We will focus on answering this question.

# **Chapter 1 Question**

# Why is the ice on Earth's surface melting?

Earth's Changing Climate @Home Unit

Chapter Outlines

@Home Lesson 1

Adapted from: Amplify Science Earth's Changing Climate Lessons 1.2 and 1.3

### Key activities

- Introducing climate change and melting ice: Students are introduced to the unit problem and their role as student climatologists.
- Talk: Students analyze and discuss climate data and identify trends and fluctuations.
- **Do:** Students gather evidence from the *Earth's Changing Climate* Simulation about what can cause ice on Earth's surface to melt.

### Ideas for synchronous or in-person instruction

Before meeting, have students watch the introductory video. If meeting in person, have students analyze the graphs with a partner. Show the Global Average Temperature graph and discuss trends and fluctuations as a class.

# Claim

The amount of ice at Earth's poles is decreasing significantly.

# Here is a claim related to ice on Earth melting.

# Claim

The amount of ice at Earth's poles is decreasing significantly.

Your first task as student climatologists is to **review data** about this claim.

It's important to be skeptical and look at the data carefully.

## Question

Why did some scientists initially disagree that overall ice was decreasing?

Some scientists **didn't agree** with the claim that an increase in global average temperature caused ice to melt. At first glance, not all the evidence seemed to support this conclusion.

# In this lesson and many others in the *Earth's Changing Climate* @Home unit, you will need to **talk with a partner**. Check with your teacher about how you will work with partners in this @Home Unit.

# You and your partner will examine graphs with data about the amount of sea ice.



# When you are reading graphs, it's important to pay attention to the **titles** and **axis labels**.





#### **Discussion Questions**

- · What information is provided on Graph A?
- What can you conclude about the amount of summer sea ice in the Arctic based on Graph A?
- What information is provided on Graph B?
- What can you conclude about the amount of summer sea ice in the Arctic based on Graph B?
- Why do you think some scientists initially disagreed that the overall ice was decreasing?

#### Earth's Changing Climate @Home Lesson 1 @ 2020 The Regents of the University of California. All rights reserved.

### Go to the Analyzing Climate Data page.

# Examine the graphs with your partner and discuss the questions.

### Analyzing Climate Data page

This is the end of partner work for this lesson.



This is another piece of climate data on the global average temperature. It also shows a pair of concepts that are important in Earth science.



In Earth science, it's important to have data from a long-enough time period to tell if there's an overall tendency or if you're just seeing variations.



This graph shows temperature changes since 1880. The temperature goes up and down a lot but the tendency, or overall change, is an increase in global average temperature.



If you only looked at data from a shorter time, for example from 1945 to 1950, you might conclude that temperature decreased, but that is just a **fluctuation**.



# variations in a set of data



If you follow the larger trend, which you can see by following the blue line on the graph, you see it shows an overall increase in temperature.



# overall tendency (for example, a consistent increase) in a set of data over time

# Graph A shows fluctuations in the sea ice data but if you look at a longer period of time on Graph B, you can see the trend is an overall decrease in sea ice.



# Remember, **climate** is the weather over a long period of time, and **climate change** refers to the ways that climates in regions on Earth change over **long periods of time**.

To explain something happening to Earth's climate, climatologists don't just look at the weather over a few days, months, or years.





Climatologists need to look at **longer periods of time** to form these explanations.

**Trends** in data show what's happening over long periods of time.

# The data on the graphs lead us to this key concept:

 Although there are many fluctuations, there is a trend toward increasing temperatures and decreasing ice on Earth since about 1880.

# We found evidence of a **trend** that has been happening since about 1880—temperatures are increasing and ice is decreasing.

We're going to investigate **what could be** causing this.

We'll pay particular attention to energy since because temperature and melting ice are related to energy.



# the ability to make things move or change

Remember that energy is the ability to make things move or change. The change we are investigating is a decrease in ice and an increase in temperature.



# a measure of how hot or cold something is

@Home Lesson 1

Adapted from: Amplify Science Earth's Changing Climate Lessons 1.2 and 1.3

### Key activities

- Introducing climate change and melting ice: Students are introduced to the unit problem and their role as student climatologists.
- Talk: Students analyze and discuss climate data and identify trends and fluctuations.
- **Do:** Students gather evidence from the *Earth's Changing Climate* Simulation about what can cause ice on Earth's surface to melt.

### Ideas for synchronous or in-person instruction

Before meeting, have students watch the introductory video. If meeting in person, have students analyze the graphs with a partner. Show the Global Average Temperature graph and discuss trends and fluctuations as a class.

# We will now investigate this question:

**Investigation Question:** What could be causing ice to melt and temperatures to increase on Earth?

# In this lesson, you will use the *Earth's Changing Climate* Simulation or watch a video of the Sim investigation.

Check with your teacher about how you will access Sims and other digital tools in this @Home Unit.



This is the *Earth's Changing Climate* **Sim.** It is similar to apps used by scientists who study climate change.

You'll watch a video to get familiar with parts of the Sim.

The panel on the right has things you can change: the amount of sunlight, the amounts of different gases in the atmosphere, and how reflective the surface of Earth is.



Using the print version? Watch the video at tinyurl.com/AMPECC-10



Energy travels from the sun to Earth and is absorbed by Earth's surface. This energy is transferred to the air just above the surface, affecting the temperature.



This Sim does not show details about how the surface warms the air just above it, but looking at the temperature will give us evidence of when energy is transferred to air.



# Your first mission is to **make ice melt** in the Sim.

Since energy and temperature are connected, you'll need to **pay close attention to energy** in this mission.
#### Earth's Changing Climate @Home Lesson 1



# **Resetting** the Sim will ensure you start out with enough ice to melt.

# The **starting image** will give you a baseline before you begin the mission.

Name:	Date:
Making	g Ice Melt in the Sim
Jse the Earth's Changing Climate Sim to vatch a video of someone completing	to complete the Sim mission. If you cannot use the Sim, the investigation.
Using the Sim? Complete the Sim mis	ission and answer the questions below.
Not using the Sim? Go to <u>tinyurl.com</u> the Sim mission, then answer the que	<u>//AMPECC-01</u> to watch a video of someone completing estions below.
<ul> <li>Sim Mission: Make ice melt in the Sim.</li> <li>Use Earth's System mode.</li> <li>Reset the Sim before you begin.</li> </ul>	L.
Before: Quickly sketch the starting an ice.	nount of After: Sketch what it looks like after you made some ice melt.
low did the global average temperatur	re change when you made the ice melt?
low did the energy absorbed by the su	urface change when you made the ice melt?
Earth's Chan	nging Climate @Home Lesson 1
@ 2020 The Reg	agents of the University of California. All rights reserved.

Go to the Making Ice Melt in the Sim activity. Use the <u>Sim</u> or watch a video of the investigation.

Make ice melt in the Sim and answer the questions.

Making Ice Melt in the Sim page or Lesson 1.3, Activity 2, part 3

# How would you answer our question based on the Sim activity?

**Investigation Question:** What could be causing ice to melt and temperatures to increase on Earth?



You should have noticed that the ice melts and temperature increases when more energy is **absorbed** by Earth's surface.

## This is a word we will use as we investigate energy.



to take in

## The Sim provides evidence of this key concept:

2. Global average temperature increases when energy absorbed by the surface increases.

We don't know the whole story yet, but from what we've learned today, we can say that if ice is melting and temperatures are increasing, Earth's surface must be absorbing more energy.

Next, we will investigate what could cause Earth's surface to absorb more energy.

Earth's Changing Climate @Home Lesson 1

# End of @Home Lesson





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@Home Lesson 1

Adapted from: Amplify Science Earth's Changing Climate Lessons 1.2 and 1.3

#### Key activities

- Introducing climate change and melting ice: Students are introduced to the unit problem and their role as student climatologists.
- Talk: Students analyze and discuss climate data and identify trends and fluctuations.
- **Do:** Students gather evidence from the *Earth's Changing Climate* Simulation about what can cause ice on Earth's surface to melt.

#### Ideas for synchronous or in-person instruction

Before meeting, have students watch the introductory video. If meeting in person, have students analyze the graphs with a partner. Show the Global Average Temperature graph and discuss trends and fluctuations as a class.

# Suggestions for Online Synchronous Time







#### **Online synchronous time**

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

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

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

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

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

#### page 19

#### Pages 20-22

during

# **Questioning Strategies**

#### **Open-Ended Questions to Facilitate Student Thinking & Discourse**

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

#### Questioning Strategies for Grades 6-8

#### Overview of the Role of Open-Ended Questioning

Repeated opportunities for students to listen to and speak with nithers are essential for promoting deep intriving and learning in soince. Meaningful tachier initiated questions orate a rick context for promoting open-anded student dialogue and discussion. The Science Farameok for California Public Schools explains that "Simply providing opportunities to talk is not enough. Effective questioning can scaffold student thinking" (California Science Framework; 2016, Chapter 11, e.2). The Framework suggests that "Sachier-Initiated questions are key to helping students expand their communication, reasoning, arguments, and representation of ideas in science (California Science Framework; 2016, Chapter 11, e.2). The types of questions that tachers pose are instrumental in supporting student understanding. The Framework calls for more openended tacher questioning that "prompts and facilitates students" discusse and thinking and less teacher questioning that prompts students to seek a confirmatory right answer" (California Science Framework, 2016, Chapter 11, p. 6).

The Amplify Science Teacher's Guide is inflused with opportunities for students to developing ideas in reopones to open-inded prompts. Questions to promote student thinking and discuss their developing purposeduly built into the Teacher's Guide instructional stops and Teacher's Support notes that surround all our hands-on and reading schutels. In addition, all units include discourse notices (e.g., Stream Lietering, Thinking Draw-Pair-Share, Write and Share, Word Relationships) that provide opportunities for students to use focal unit occabulary as they think and talk with partners and the class about their understanding of key science content and practices. Many of the On-the-Fig Assessment staggestions perioded throughout each unit offer open-inded follow-up questions that can be used to probe student thinking and Tomatively assess student understanding of the content. In addition, adv unit includes imultipe oportunities for students to respond to open-ended questions through addition all modalities (e.g., in writing, with diagrams, through a kinesthetic model).

While the prompts embedded in each of the opportunities mentioned abox provide forlie ground for student discussion, continued use of floatky, open-inded quadrations is invaluable for assessing students' is novelage and skills, promoting student-to-student discourse, and guiding student learning. A cellection of gradeappropriate quadrations follows that can be used for these purposes. You will also that a list of a list of a drivity types included within the Amplify Science curriculum that are particularly conducive to the use of these quastrons. You may choose to print out these quastrons and activity types for reference throughout you instruction.

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# Reflection: Teaching @Home Lesson 1

How would you teach this lesson?

How might you include suggestions for online synchronous time and/or questioning strategies?





Multi-day planning, including planning for differentiation and evidence of student work

Day@Home Lesson 1			
Minutes for science: <u>15 min.</u> Instructional format: Asynchronous Synchronous		Minutes for science: Instructional format: Asynchronous Synchronous	—
Lesson or part of lesson: Introduce, Why the Ice on Ea 1-12) Mode of instruction: Preview Review Teach full lesson live Teach using synchronous sugg Students work independently Printed @Home Slides Digital @Home Slides @Home Videos	rth's surface is melting? (slides sestions using:	Lesson or part of lesson: Mode of instruction: Preview Review Teach full lesson live Teach using synchronous sugg Students work independently Printed @Home Slides Digital @Home Slides @Home Videos	restions using:
Students will View slides and the video that introduces students to the unit. Jot down initial ideas about their reactions to the video.	Teacher will Assign slides 1-12 in Schoology and provide direction for students to jot down their ideas about the unit problem to share when the class meets together.	Students will	Teacher will

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Day@Home Lesson 1				Page
Minutes for science: <u>15 min.</u>		Minutes for science: <u>30 min</u>		
Asynchronous Synchronous		Instructional format: Asynchronous Synchronous		
Lesson or part of lesson: Introduce, Why the Ice on Eat (slides 1-12) Mode of instruction: Preview Review Teach full lesson live Teach using synchronous sug Students work independently Printed @Home Slides Digital @Home Slides @Home Videos	th's surface is melting? gestions using:	Lesson or part of lesson: Summarize the introduction to the unit. Introduce of rooms to review data about the claim. Together the question: "What could be causing lee to melt and to Mode of instruction: Preview Review Teach full lesson live Teach using synchronous sugget Students work independently u Printed @Home Slides Digital @Home Slides @Home Videos	the first claim and have students work in breakout class will work on the SIM to investigate the imperatures to increase on Earth? estions sing:	
Students will View slides and the video that introduces students to the unit. Jot down initial ideas about their reactions to the video.	Teacher will Assign slides 1-12 in Schoology and provide direction for students to jot down their ideas about the unit problem to share when the class meets together.	Students will Discuss the claim and their initial ideas about the data they collected in groups (slides 13-19). Engage with the simulation (34-46)to develop an understanding of the factors that affect global average temperature and then reflect on their observations.	Teacher will Revisit the unit question on slide 12 and introduce the claim on slide 13. Present slides 20-31 giving students an opportunity to understand trends and fluctuations in climate data. Use slides 34-46 to answer and reflect on the Investigation Question: What could be causing ice to melt and temperatures to increase on Earth?	

Look at the <i>Students will</i> columns. What are students working in the lesson(s) that you could collect, review, or provide feedback on? See Some Types of Written Work in Amplify Science to the right for guidance. If there isn't a work product listed above, do you want to add one? Make notes below. <u>Asynchronous</u> : students jot down their initial ideas <u>Synchronous</u> : record observations while analyzing Climate Data and record observations as they explore making ice melt in the Simulation.	Some Types of Written <ul> <li>Daily written reflections</li> <li>Homework tasks</li> <li>Investigation notebook pa</li> <li>Written explanations (typi</li> <li>Diagrams</li> <li>Recording pages for Sim to</li> </ul>	Work in Amplify Science ages ically at the end of Chapter) uses, investigations, etc
How will students submit this work product to you? See the Completing and Submitting Written Work tables to the right for guidance on how students can complete and submit work. <u>Asynchronous</u> : students jot initial ideas on paper or digitally to bring with them to the asynchronous lesson <u>Synchronous</u> : Students will use the student sheets to record their observations while analyzing Climate Data as well as their observations as they explore the Simulation and submit through Schoology.	<ul> <li>Completing Written Work</li> <li>Plain paper and pencil (videos include prompts for setup)</li> <li>(6-8) Student platform</li> <li>Investigation Notebook</li> <li>Record video or audio file describing work/answering prompt</li> <li>Teacher-created digital format (Google Classroom, etc)</li> </ul>	<ul> <li>Submitting Written Work</li> <li>Take a picture with a smartphone and email or text to teacher</li> <li>Through teacher-created digital format</li> <li>During in-school time (hybrid model) or lunch/materials pick-up times</li> <li>(6-8) Hand-in button on student platform</li> </ul>
How will you differentiate this lesson for diverse learners? (Navigate to the lesson level on the l	he standard Amplify Science platform and c	lick on differentiation in the left menu.)

<ul> <li>Daily written</li> <li>Daily written</li> <li>Daily written</li> <li>Daily written</li> <li>Completing and Submitting Written</li> <li>Work tables to the right for guidance.</li> <li>Daily written</li> <li>Homework ta</li> <li>Investigation</li> <li>Written expla</li> <li>Diagrams</li> <li>Recording particulation.</li> </ul>	reflections asks notebook pages anations (typically at the end of Chapter) ges for Sim uses, investigations, etc
ow will students submit this work product to you? e the Completing and Submitting Written Work tables to the right for guidance on how Jdents can complete and submit work. • Plain paper an (videos include)	tten Work Submitting Written Work
Plain paper and submit work.     Plain paper and submit work.	cten work Submitting written work
Asynchronous: students jot initial ideas on paper or digitally to pring with them to the asynchronous lesson <u>Synchronous</u> : Students will use the student sheets to record their observations while analyzing Climate Data as well as their observations as they explore the Simulation and submit through Schoology. (6-8) Student p Investigation M Record video of describing work/answerin Teacher-create format (Googl Classroom, etc.	Ind pencil e promptsTake a picture with a smartphone and email or text to teacherolatform NotebookThrough teacher-created digital formator audio file or audio fileDuring in-school time (hybrid model) or lunch/materials pick-up timesed digital lee c)(6-8) Hand-in button on student platform

You may want to exterial the lesson and provide more whole class time to talk about the climate Data graphs.
 Think about other examples of where trends and fluctuation might be common-taking your own temperature on one day when you have a fever does not give an indication of your normal body temperature.

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# Planning in Groups





## Teacher Overview - Chapter 1 Overview of @Home Lessons 2-5

#### @Home Lesson 2: GROUP 1

• Students use the Earth's Changing Climate Simulation to gather evidence about the effects of changing the amounts of different gases the atmosphere. Students engage in the Word Relationships routine to discuss what changes to the atmosphere could affect how much energy is absorbed by Earth's surface.

**Page 18** 

#### @Home Lesson 3: GROUP 2

• Students analyze graphs showing the level of carbon dioxide, methane, and sulfur dioxide in the atmosphere over time. Students review the @Home Science Wall, including the Chapter 1 Question, key concepts, and vocabulary.Students create models to show one idea about why the ice on Earth's surface is decreasing and temperature is increasing.

#### @Home Lesson 4: GROUP 3

• Students use a physical model to investigate energy exiting and entering the Earth system. Students watch a video to reinforce ideas about stability and change, and energy in the Earth system. Students use the Earth's Changing Climate Simulation, or watch a video of the Simulation, to test the amount of energy that enters and exits the Earth system when specific changes are made.

#### @Home Lesson 5: GROUP 4

• Students read and annotate "Past Climate Changes on Earth" to learn more about how the relationship between energy entering and exiting Earth's system affects climate. Pairs discuss the article they read and the annotations they made. Amplify.

#### pages 14-17

# Breakout groups

# **Discussion prompts**

#### **Planning:**

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

### Student work:

• Discuss how you can collect evidence of student work

## Differentiation:

• Consider how you might differentiate your lesson

Day 2:				
Minutes for science:		Minutes for science:		
Instructional format: Asynchronous Synchronous	-	Instructional format: Asynchronous Synchronous	_	
Lesson or part of lesson:		Lesson or part of lesson:		
Mode of instruction: Preview Review Teach full lesson live Students work independently u: etach using synchronous sugge Students work independently u: etachome Packet etachome Sides and @Home etachome Videos	stions sing: • Student Sheets	Mode of instruction: Preview Review Teach fullesson live Students work independently u @Home Packet @Home Slides and @Home @Home Videos	stions sing: e Student Sheets	
Students will	Teacher will	Students will	Teacher will	
				s ly at the end of Chapter) s, investigations, etc
				ubmitting Written Work
H	ow will you differentiate this lesson fo	or diverse learners? (Navigata to the lesso	ror setupp (6-8) Student platform Investigation Notebook Record video or audio file describing work/answering prompt Teacher-created digital format (Google Classroom, etc)	Take a picture with a smartphone and email or text to teacher Through teacher-created digital format During in-school time (hybrid model) or lunch/materials pick-up times (-6-8) Hand-in button on student platform elekon differentiation in the left menu)

#### pages 14-17

# Breakout groups

# **Discussion prompts**

**Planning:** 

• Dig into the @Home Resources

Day 2:				a I
Minutes for science:		Minutes for science:	_	
Asynchronous Synchronous		Asynchronous Synchronous		
Lesson or part of lesson:		Lesson or part of lesson:		
Mode of instruction:      Preview     Teach full lesson live     Teach full lesson live     tudents work independently usis     @Home Facket     @Home Sides and @Home S     @Home Videos	ions ነዊ: Student Sheets	Mode of instruction: Preview Review Teach full lesson live Students work independently us GHOme Packet GHOme Packet GHOme Packet GHOme Videos	stions ing: - Student Sheets	
Students will	Teacher will	Students will	Teacher will	

Please choose a person from your group to share out.

evidence of student work

Differentiation:

• Consider how you might differentiate your lesson

	Investigation routebook     Record video or audio file     Du     describing     work/answering prompt     lu     Teacher-created digital     format (Google     Classroom, etc)     stu	ital format iring in-school time /brid model) or /ch/materials pick-u nes 8) Hand-in button o /dent platform
How will you differentiate this lesson for diverse learners? (Navgate	to the lesson level on the standard Amplify Science platform and click on dif	ferentiation in the left menu

**y** Science

of Chapter)

ritten Work

ns, etc

# Planning Share Out

- What are your key takeaways from planning?
- Which lesson parts did you plan for synchronous vs. asynchronous time?

om 1 -			<b>r</b>	
anning	Minutes for science:		Minutes for science:	
Home sson 2	Instructional format: Asynchronous Synchronous	Instructional format: a Asynchronous Synchronous Lesson or part of lesson:		
	Lesson or part of lesson:			Lesson or part of lesson:
	Mode of instruction: Preview Teach full lesson live Students work Independe Printed @Home Slid Digital@Home Slid @Home Videos	suggestions ently using: es s	Mode of instruction: Preview Review Teach full lesson live Teach using synchronou. Students work indepen Printed @Home Slid @Home Videos	us suggestions Jently using: des es
	Students will	Teacher will	Students will	Teacher will

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# Plan for the day

- Framing the day
  - Welcome
  - Instructional Materials
- Unit Internalization
- Planning to teach
  - Collecting evidence of student learning to meet diverse learner needs
- Reflection and closing

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# During this workshop did we meet our objectives?

- Were you able to internalize your upcoming unit?
- Do you know how to plan for <u>collecting evidence of student</u> <u>learning</u> in order to make instructional decisions to <u>support</u> <u>diverse learner needs</u>?
- Do you have the resources you need to develop a multi-day plan for implementing Amplify Science within your class schedule and instructional format?

# Upcoming LAUSD MS Office Hours

# Bi-weekly from 3-4pm

- Thursday, 4/8
- Thursday, 4/22
- Thursday, 5/13
- Thursday, 5/27



## https://tinyurl.com/6-80fficeHours

# Additional Amplify resources

#### Program Hub: Professional Learning Resources

Hello Teacher Considine t.lconsidine@tryamplify.net Log Out Go To My Account \$ Classroom Language Settings	Professional This section will pro- teaching with Ampli videos and resource	Learning Resources vide you with the knowledge and fy Science. You'll find <b>self-study</b> s.	▼ d skills you need t professional lear	o start ning
LA Science Program Guide	Gett	ting started		Planning Videos and resources to help you plan
Science Program Guide	Asso Stude	essment ent Assessments and Work		Unit Orientation
Help	Add	itional Support		

# Additional Amplify resources



#### **Caregivers site**

Provide your students' families information about Amplify Science and what students are learning **amplify.com/amplify-science-family**resource-intro/

# Additional Amplify resources



#### **Program Guide**

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

#### http://amplify.com/science/california/r eview

## **Amplify Help**

Find lots of advice and answers from the Amplify team. **my.amplify.com/help** 

# Additional Amplify Support

#### **Customer Care**

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



scihelp@amplify.com



800-823-1969



# When contacting the customer care team:

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

# Creating Assignments in Schoology

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

# LAUSD Shared Logins

# **Amplify**Science

#### Go to: my.amplify.com

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Log In with Amplify

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