Do Now: Use the link in the chat to add your best remote learning tips and tricks for teaching Amplify Science to the Jamboard.

Amplify Science

Unit Internalization & Guided Planning

Deep-dive and strengthening workshop Grade 7, Phase Change

LAUSD 3/6/2021

Presented by Your Name

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

Use two windows for today's webinar

	🔍 🔍 🔍 Meet - Etiwanda Grade 7 N 🕘 🗙 🕂		Amplify Curriculum × +	
	\leftarrow \rightarrow C $(here in the meet.google.com/hcs-dxpk-wrm?aut)$	🕴 🖈 🛛 🖌 🤣 🕜 🔅	← → C	v 0 0 0 Vip
		왕 ²¹ 🗏 _{You} 🖉 🚷	= AmplifyScience CALIFORNIA > Plate Motion > Chapter 1 > Lesson 1	Vindow
Window #1	🗖 Miller Copy of Navigation Progr. 🗴 🚺 Amplify Curriculum 🛛 🗴 🎯 PM,Resource,Coherence,Flowci: X 🕇	- σ x	Lesson 1.2: Using Fossils to Understand Earth	
	← → C	9-2020#progress-build 🗢 🖈 🖪 🗊 🦚 :	Latti	97 m
	GPEN PRINTABLE PROGRESS BUILD	Flextension Compilation		
	Progress Build Level 1: The Earth's entire outer layer (below the water and soil that we see) is made of soils rock that is divided into plates. Earth's plates can move. Undersent the soil weighted hand, and water that we see on the surface of Earth is the outer layer of Earth's geosphere. The soils part of our rocky planet. This outer layer of Earth's geosphere. The soil part of our rocky planet. This outer layer of Earth's geosphere. And, these plates can move.	Investigation Notebook NGSS Information for Parents and Guardian Print Materials (11° x 12°) Print Materials (8.5° x 11°)	24	
	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	Print materials (6.5 X11)	Lesson Brief (4 Activities)	e TEACHER-LED DISCUSSION
	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 soli wegetation, and water that we see on the surface of	Offline Preparation Teaching without reliable classroom internet? Prepare unit and lesson materials for offline access.	(A Activities)	
	Earth is the outer layer of Earth's geosphere, the solid part of our rocky	Offline Guide	E RESET LESSUN	GENERATE PRINTABLE LESSO
	Getting Ready to Teach ~			
	Español Materials and Preparation ~		Lesson Brief	Digital Resources
			Overview ~	🕞 All Projections
			Materials & Preparation ~	Completed Scientific Argumentation Wall Diagree
			Differentiation ~	📅 Video: Meet a Paiog
			Español rds ~	The Ancient Mesosaurus

Norms: Establishing a Culture of Learners



- Please keep your camera on, if possible.
- Take some time to orient yourself to the platform
 - "where's the chat box? what are these squares at the top of my screen?, where's the mute button?"



Mute your microphone to reduce background noise unless sharing with the group



The chat box is available for posting questions or responses to during the training



Make sure you have a note-catcher present



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

Workshop goals

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

- Internalize your upcoming unit.
- Plan for collecting **evidence of student learning** in order to make instructional decisions to **support diverse learner needs**.
- 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



Plan for the day

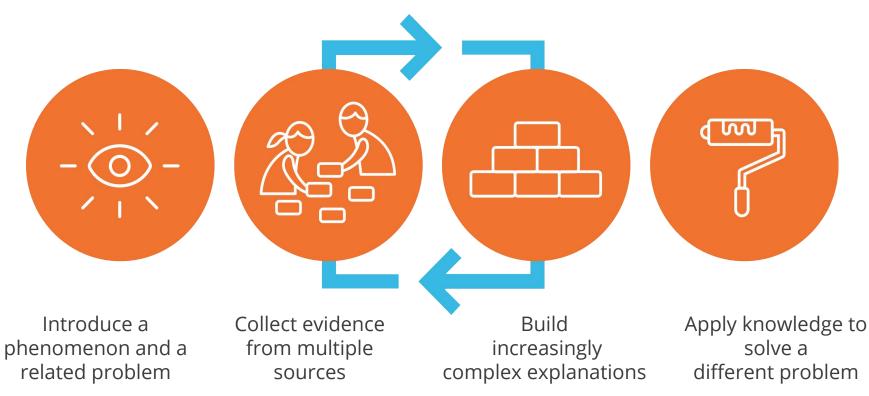
- Framing the day
 - Welcome
 - Instructional Materials
- Unit Internalization
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- Reflection and closing

Amplify Science Refresher

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Amplify Science Instructional Approach



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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

- Plate Motion
- Engineering Internship: Plate Motion
- Rock Transformations
- Phase Change
- Engineering Internship: Phase Change
- Chemical Reactions
- Populations and Resources

authored by

 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

THE LAWRENCE HALL OF SCIENCE

Launch units

- First unit
- 11 lessons

Core units

- Majority of units
- 19 lessons

Amplify.

*These are the prioritized units for 7th grade.

Standard Amplify Science Curriculum





JUMP DOWN TO UNIT GUIDE

GENERATE PRINTABLE TEACHER'S GUIDE

-

3 Lessons

Standard Amplify Science Curriculum

The Phase Change unit has **19 lessons** across 4 chapters. Each lesson is written to be **45 minutes** long.



Chapter 1: Describing Phase Change at Two Scales



Chapter 2: Investigating Energy and Phase Change



Chapter 3: Investigating Attraction and Phase Change

ge 5 Lessons

w

Skip slide if modeling live on the platform.



Chapter 4: Science Seminar

5 Lessons

Standard Amplify Science Curriculum

On the standard Amplify Science platform you will find all of your key documents for planning for the unit.

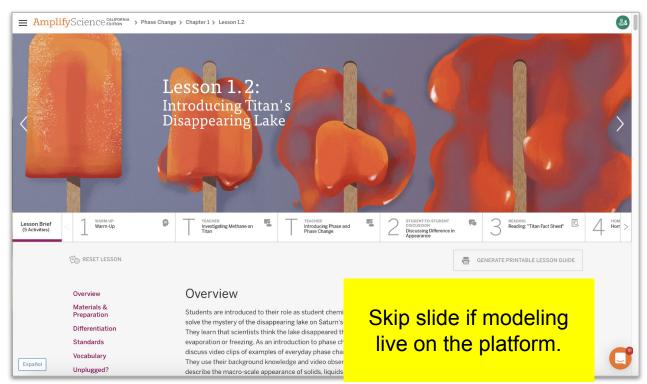
We will be using many of these in today's workshop.

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	~	Information for Parents an 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		
Embedded Formative Assessments	Skip slid	e if modeling
Articles in This Unit	•	he platform.
Apps in This Unit		
Flextensions in This Unit	~	

Standard Amplify Science Curriculum

When you click into a lesson, you will find key lesson level information.

We will be navigating to lessons during today's workshop in order to better plan for collecting evidence of student learning in order to plan to meet the needs of diverse learners.

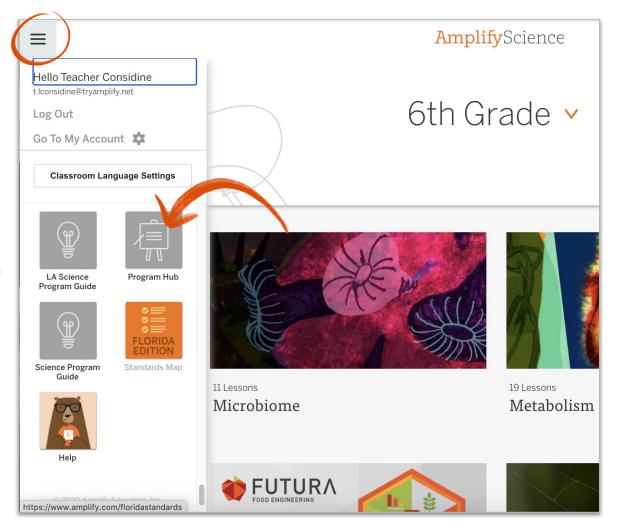


Amplify Science @Home Curriculum



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

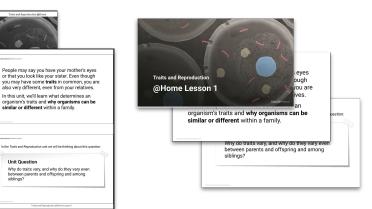
Traite and Re-

@Home Lessor

Today, we will beg and Reproduction

> **Digital:** Google Slides @Home Slides and Google Doc student sheets 22

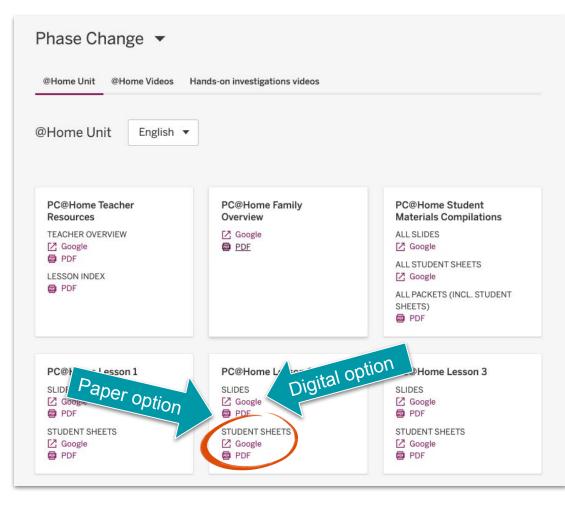
Updated approach: one resource, two formats



Amplify Science @Home Curriculum

You have access to the Phase Change @Home Unit.

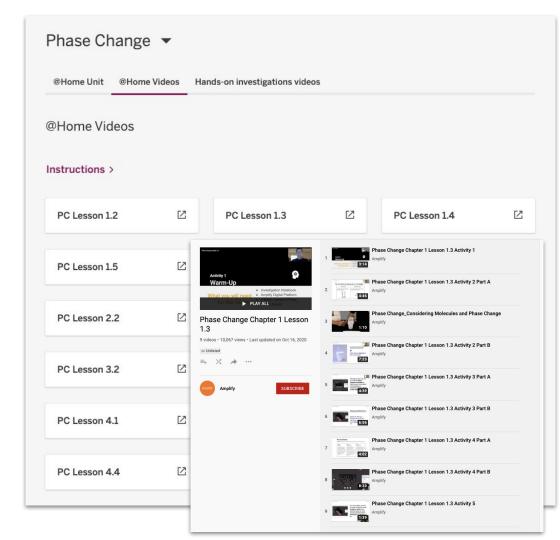
The Phase Change @Home Unit has **14 lessons.** Each lesson is written to be **30 minutes** long.



Amplify Science @Home Curriculum

You have access to the Phase Change @Home Videos.

There are 16 @Home Videos for the Phase Change unit. This covers all lessons expect for the assessment lessons (1.1, 3.4, and 4.5). The video playlists on YouTube teach the standard Amplify Science Lessons.











Plan for the day

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

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 an 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	





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	~	NGSS Information for Parents and Guardians
Standards at a Glance	~	Print Materials (8.5" x 11")
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Assessment System	~	Offline Guide
Embedded Formative Assessments	~	
Articles in This Unit	~	
Apps in This Unit	~	
Flextensions in This Unit	~	

Phase Change Planning for the Unit

Unit Map

Unit Map

Why did the methane lake on Titan disappear?

Taking on the role of student chemists working for the fictional Universal Space Agency, students investigate the mystery of a disappearing methane lake on Titan. One team of scientists at the Universal Space Agency claims that the lake exponded while the other team of scientists claims that the lake froze. The students' assignment is to determine what happened to the lake. They discover what causes phase changes, including the role of energy transfer and attraction between melecules.

Chapter 1: What happened to the liquid in Titan's lake?

Students figure out: The logical in the lake changed phase, either from liquid to gas (exponded) or from liquid to solid (frozs). Both of these changes involve a change in the freedom of movement of the molecules. As liquid, molecules of the lake mode around each other. If the lake evaporated, its molecules would have become able to more apart from one another. If the lake froze, its molecules would have become able only to move in place. The number of molecules and the size of mode useds do not: any each state angle.

How they figure it out: They analyze the movement of molecules during each of the phases in a digital Simulation. They read a text, engage in hands- on investigations of evaporation and condensation, and visually represent their understanding of possible phase changes in the lake using a Modeling Tool.

Chapter 2: What could cause liquid methane to change phase?

Students figure out: An increase or decrease of energy could have caused the liquid methane to change phase. If the energy increased, this would have caused the kinetic energy of the molecules—and possibly their freedom of movement—to increase. If the energy decreased, the molecules' kinetic energy and possibly their freedom of movement would have decreased. The lake disappeared during Titan's summer, when the amount of energy being transferred in the liek was higher than al other times. So the lake must have exported, not forcen.

How they figure it out: In the Sim, they investigate how adding or removing energy can affect molecules' freedom of movement. They use magnetic marbies as a physical model and, based on new evidence about the seasons on Titan, represent their thinking using the Modeling Tool.

Chapter 3: Why didn't the liquid methane change phase before 2007?

Students figure out: It had been summer since 2002; but the lake dirit evaporate until 2007. This is because attraction between medicase pulls them toward each other, and there hadn't been enough energy transferred to the lake to overcome this attraction until 2007. During this time, the kinetic energy of the methane molecules in the lake was increasing. but the lake was still liquid. After 2007, the sum had transferred nough energy soft the kinetic energy of the methane molecules increase enough to overcome the attraction between them. The lake evaporated and the molecules attract moving away of me each other.

How they figure it out: They use the Simulation and hands-on observations to investigate why some substances do not change phase as easily as others. They read an article and compare a physical model to the Sim to help explain differences between substances. Using the Modeling Tool, students visually represent their thinking.

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Pages 2-3

Phase Change Planning for the Unit

stion—Why is the liquid oxygen machine

will use liquid oxygen for fuel, but the dev

from air by changing the phase of nitrogen

d of device and analyze each phase change invi

ce is malfunctioning and review the available evidence udent-led discourse routine called a Science Seminar

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
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Assessment System	~	Offline Guide
Embedded Formative Assessments	~	
Articles in This Unit	~	
Apps in This Unit	×	
Flextensions in This Unit	~	

Phase Change

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 Build. The unit's Progress Build secretise the way student's replanatory 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; of organizes the sequence of instruction (generality, each level of the Progress Build corresponds to a chapter), defines the focus of assessments, and grounds the inferences about student learning progress that guides 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 instruction in an informed way.

The Phase Change 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 about what happens to a substance when it changes phase. Since the Progress Build reflects an increasingly complex yet integrated explanation, we represent tby including the new ideas for each level in bold.

Prior knowledge (preconceptions). At the start of the Phase Change unit, middle school students will likely have some everyday septemicene with the phase changes of water. However, few students will have septemene thinking about the molecular scale changes that characterize phase changes. Students often think of molecular motion as being mirrored by macroscopic movement. For example, students may think that the molecules of a fluid are only moving when students can be amacroscopic flow. From the "*Thermal Energy* unit, students will be familiar with how energy transfer changes the kinetic energy of the molecules in a substance and how this affects a substance's temperature, though hey will not have had sperience thinking about the venergy transfer relate to phase changes. This experience and prior knowledge can be built on and refined, which the *Phase Change* Progress Build and unit structure are designed to do.

Progress Build Level 1: When a substance changes phase, the freedom of movement of its molecules has changed.

A phase change is a change in the appearance of a substance due to a change in the freedom of movement of its molecules relative to one another. For solids, the molecules don't move past one another or apart, they just move in place, causing the substance to be rigid and have a fixed shape. For liquids, the molecules move past one another, but not apart, causing the substance to fill is container.

Progress Build Level 2: Energy transfers cause phase changes.

A phase change is a change in the appearance of a substance due to a change in the freedom of movement of its molecules relative to one another. For solids, the molecules don't move past one another or part, they just move in place, causing the substance to be rigid and have a fixed shape. For liquids, the molecules move past one another, but not apart, causing the substance to flow and take the shape of the container. For gases, the molecules move apart causing the substance to fills container. Transferring energy into or out of a substance can cause a phase change by increasing or decreasing the kinetic energy (and speed) of the molecules so that the freedom of movement of the molecules changes.

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Pages 4-5

Phase Change nning for the Unit

r a phase change.

ovement of its they just move in ast one another, but ules move apart a phase change by ovement of the nergy transfer into or lecreasing kinetic of movement

Unit Internalization Work Time

Guided Unit Internalization Part 1: Unit-level internalization		Each Angling Science Motids Bondo unit is structured annual a unit specific teaming progression, which we call the protocommunity and annual annual annual annual annual specific teaming progression, which we call the protocommunity and the specific teaming is a specific teaming annual a
Unit title:		The Phase Ohange Progress Build consists of three levels of source understanding. To support a greeth model for the end of the end o
What is the phenomenon students are investigating in your unit?		Peter banefacting forecanceptitions, All this start of the Phase Change nucl, models structured will alwy have some energy any content own the phase changes of the Phase Phase Phase Phase Phase Phase Phase Phase Phase molecular scale hanges that distances there are the structured structured will be any experisor and by macroscopic movement. For example, statutement may take that the many energies structure and structured and the phase Phase Phase Phase Phase Phase Phase Phase Phase Phase students are macroscopic flow. There the Therman Barray and structure structures will be there are phase they will not have been designed the there phase P
Unit Question:	Student role:	A phase change is a change in the appearance of a substance due to a change in the freedom of movement of tal molecules rative too another. For solids, the molecules don't none pairs are are other or appli to by at more in place, assing the substance to be register and the safe of apage. For liquids, the molecules move past the another, but, not applic, causing the substance to be register and the the shape of the container. For gases, the molecules move past causing the substance to fill fall container.
		Programs Build Lend 2: Dancy: transfers cause phase damps. A phase change is a change in the appoarance of a subdance due to a change in the freedom of movement of its molecular statistics to an arother, for solids, the molecular don't more past on a content or a goat, they just move in place, causing the subdance to be registed index in the dampker, of legister, the molecular move parts of the molecular cause in the subdance is to registed index in the dampker, of legister, the molecular move parts cause in the subdance is to fill is contents. Transferring energy index or of a subdance can scale a phase change by increasing of decounting the kinetic energy (not people) and the molecular sole space of movement of the subdance is the subdance is the subdance in the subdance is an that the relevance of movement of the subdance is the subdance is the subdance is a subdance with the subdance is an the molecular sole subdance is an intervent of the subdance is an explored in the subdance is and the intervent of the subdance is an the three decounts of the subdance is a subdance is a subdance is an explored in the subdance is a subdance is a subdance is a subdance is an intervent of the subdance is a subdance is
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		^{O The Report of Not}
What science ideas do students need to figure out in order to explain th	ne phenomenon?	New they figure it out: They use the Simulation and thinks one charge plane as early as other. They read an article and com- differences between substances. Using the locating host stude
Page	5	

Phase Change

Planning for the Unit Progress Build

Pages 2-5

Progress Build

Unit Map	
ents investigate the ice Agency claims that the signment is to determine	hange e Unit
nergy transfer and	
ted) or from liquid to solid s. As liquid, molecules of able to move apart from he number of molecules	tmakes er ved in Jence ninar
in a digital Simulation. sually represent their	
e to change phase. If the their freedom of their freedom of sount of energy being of frozen.	
t molecules' freedom of ut the seasons on Titan,	
17. This is because nergy transferred to the re molecules in the lake	
y so that the kinetic m.The lake evaporated and	
ate why some substances do not the Sim to help explain heir thinking.	
© The Regents of the University of California	
	ice Aproxy claims that the approxed is a bedomine regr founder and and or from liquid to solid is A is taken more than the approxement of the solid is a bedomine and the solid is a bedomine physical for the for doing physical for the for doing physical for the transformed of the the solid solid solid both of doing physical for the transformed of the the solid solid solid both of doing physical for the solid solid solid solid both of doing physical for the solid solid solid solid both of doing both both of the solid solid solid solid solid solid both of the solid both the solid solid solid solid solid solid solid solid both of the solid both the both solid both of the solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid solid

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Unit Guide Document	Guided Unit Internalization Part 1: Unit-level internalization Unit title: Phase Change	Pa	age 7]
Unit Map	What is the phenomenon students are investigating in your unit? Working for the Universal Space Agency, students investig disappearing methane lake on Titan.	ate the mystery of a	Y
Lesson Overview Compilation	Unit Ouestion: How can the appearance of a substance change without it becoming a different substance?	Student role: Student chemists	
ſ	By the end of the unit, students figure out It had been summer since 2002, but the lake didn't evaporate until 200 molecules pulls them toward each other, and there hadn't been enough overcome this attraction until 2007. During this time, the kinetic energ lake was increasing, but the lake was still liquid. After 2007, the sun ha the kinetic energy of the methane molecules increased enough to over The lake evaporated and the molecules started moving away from eac	energy transferred to the lake to y of the methane molecules in the ad transferred enough energy so that come the attraction between them. n other.	
Progress Buld What science ideas do students need to figure out in order to explain the phenomenon? When a substance changes phase, the freedom of movemen changed. Energy transfers cause phase changes. Molecular a amount of energy transfer required for a phase change.		vement of its molecules has	









Plan for the day

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

Planning for the Unit

Unit Map

Why did the methane lake on Titan disappear?

Taking on the role of student chemists working for the fictional Universal Space Agency, students investigate the mystery of a disappearing methane lake on Titan. One team of scientists at the Universal Space Agency claims that the lake evaporated while the other team of scientists claims that the lake froze. The students' assignment is to determine what happened to the lake. They discover what causes phase changes, including the role of energy transfer and attraction between molecules.

Chapter 1: What happened to the liquid in Titan's lake?

Students figure out: The liquid in the lake changed phase, either from liquid to gas (evaporated) or from liquid to solid (froze). Both of these changes involve a change in the freedom of movement of the molecules. As liquid, molecules of the lake moved around each other. If the lake evaporated, its molecules would have become able to move apart from one another. If the lake froze, its molecules would have become able only to move in place. The number of molecules and the size of molecules do not change during a phase change.

How they figure it out: They analyze the movement of molecules during each of the phases in a digital Simulation. They read a text, engage in hands-on investigations of evaporation and condensation, and visually represent their understanding of possible phase changes in the lake using a Modeling Tool.

Page 2

Unit Map



Chapter 1: Describing Phase Change at Two Scales

JUMP DOWN TO CHAPTER OVERVIEW



Pages 8-10

@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)

arning or hybrid learning situat	Its are versions of Amplify Science units adapted for use in a remot tion. To help you plan instruction, below we have listed the @Home science unit's Lesson(s) from which they come.			
ndex: @Home Unit Lesso	ons and corresponding Phase Change Lessons			
@Home Lesson	Adapted from Amplify Science Phase Change		ified versions of the unit's	
@Home Lesson 1	Lesson 1.2		essary, new pages were also	
@Home Lesson 2	Lessons 1.3		t and Packet page titles and	
@Home Lesson 3	Lessons 1.4		Phase Change	
@Home Lesson 4	Lesson 1.5			pymaster
©Home Lesson 5	Lesson 1.6		estigation Notebook page,	pymaster
@Home Lesson 6	Lesson 2.1 and 2.2		singation Notebook page, symaster, or print material	pymaster
			7	pymaater
@Home Lesson 7	Lesson 2.3		son 1.2 copymaster	
@Home Lesson 8	Lesson 3.1		12	
@Home Lesson 9	Lesson 3.2		dified from Pgs. 15–16	Pgs. 128-130
@Home Lesson 10	Lesson 3.2 and 3.3		sson 1.4 copymaster	pymaster
ි ඔHome Lesson 11	Lessons 4.1		dified from Pg. 24	pymaster
			dified from Pg. 33	
@Home Lesson 12	Lessons 4.2		N	
@Home Lesson 13	Lesson 4.3 and 4.4		w, based on Classroom Wall	
@Home Lesson 14	Lesson 4.5		erials	
			dified from Pg. 49	
			nt material	
			nt material	
			dified from Pg. 57	
			59 w. based on Classroom Wall	
			erials	
			son 3.1 copymaster	
			70	
C	Phase Change @Home Lesson Index		dified from Pgs. 71-72	
	0 020 The Regents of the University of California All rights reserved.	1	dified from Pg. 83	
			w, based on Classroom Wall	
	Chapter 3 @Home Science Wall		aterials	
	11 Annotating the Liquid Oxygen Machine	M	odified from Pg. 105	
			1.00	
	Phase Change @Home Le © 2020 The Regents of the University of California		2	
	- Provide the Annual Control of the Annual Statement	gran reasoned		

Key activities

- Introducing Titan's Disappearing Lake: Students are introduced to the unit problem and their role as student chemists.
- Observe: Students observe four short videos showing everyday examples of phase change.
- Read: A short reading connects students back to the Titan context, providing them with additional background knowledge.

Ideas for synchronous or in-person instruction

While meeting, first introduce the unit, then have student pairs watch and discuss the four phase change videos. If meeting in person, provide the "Titan Fact Sheet" article and have students read and annotate it, then discuss what they read.



Phase Change

@Home Lesson 1

AmplifyScience



Today, we will begin a new unit called *Phase Change*.

In this unit, you will be working as **student chemists** investigating a mystery on a moon called Titan.

This will be a central question guiding activities and content throughout the unit:

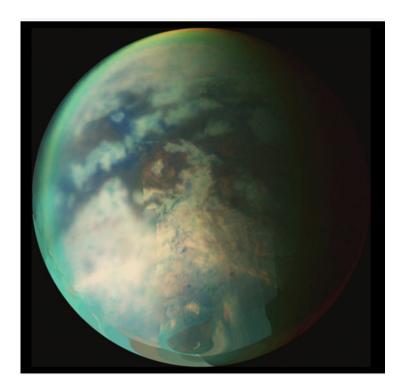
Unit Question

How can the appearance of a substance change without it becoming a different substance?





Earth is the only place in the universe where we have found evidence of water in all three phases: liquid water, solid water (or ice), and water vapor (or gas) in the air.



However, NASA recently found evidence that **Titan**, one of Saturn's moons, has lakes and seas on its surface.

We'll watch a video to learn more.

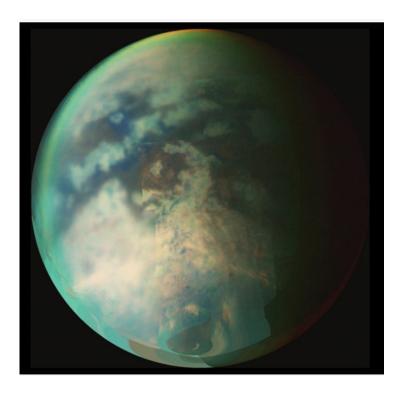
What questions about Titan are Dr. Mike Malaska and Dr. Alexander Hayes trying to answer through their research?

What evidence are they using to answer these questions?

In the video, we'll meet two **real-life scientists** investigating a lake on Titan.

As you watch, **listen for answers** to each of these questions.







What questions about Titan are the scientists trying to answer?

What evidence are they using to answer these questions?

As Dr. Hayes and Dr. Malaska mentioned, there are many lakes on Titan.

In this unit, we are going to focus on **one particularly mysterious lake** made primarily of **methane**.

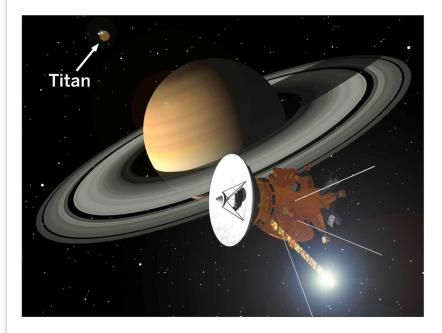
The methane found on Titan is the subject of much research.

Dr. Flores, a **lead chemist** at the Universal Space Agency, has sent a message with information about the mystery of Titan's missing lake.

Read her message on the next slide.

• • •

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To: Student Chemists From: Dr. Daniela Flores, Lead Chemist at the Universal Space Agency Subject: Missing Lake on Titan



Dear Student Chemists,

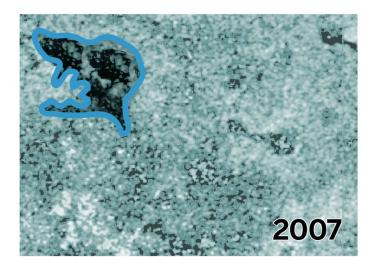
Scientists at the Universal Space Agency are investigating what happened to one of the methane lakes on Titan. The following slides depict the same location at two different times. As you will see, the location looks very different in the two pictures. As student chemists, we ask for your help in determining what happened to this missing lake.

Thanks, Dr. Flores

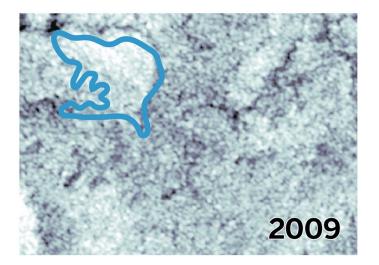
The next slide shows **two photographs** of the lake. These photos were taken **two years apart**.

Read the information on the slide and **carefully examine** each photograph.

What Happened to the Lake?



Scientists note a dark area in photos from a NASA probe in 2007. The area outlined in blue is a liquid lake.



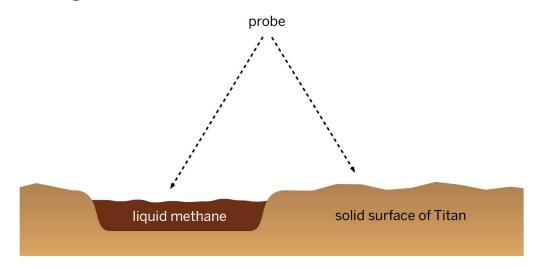
Two years later, the area outlined in blue is now much lighter. What happened to the lake?

This question will guide our first few lessons:

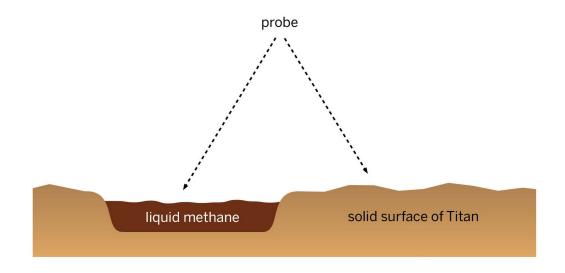
Chapter 1 Question

What happened to the liquid in Titan's lake?

Scientists know the lake was there in 2007 because it was a different color than the surrounding area.



What do you think happened to the lake?



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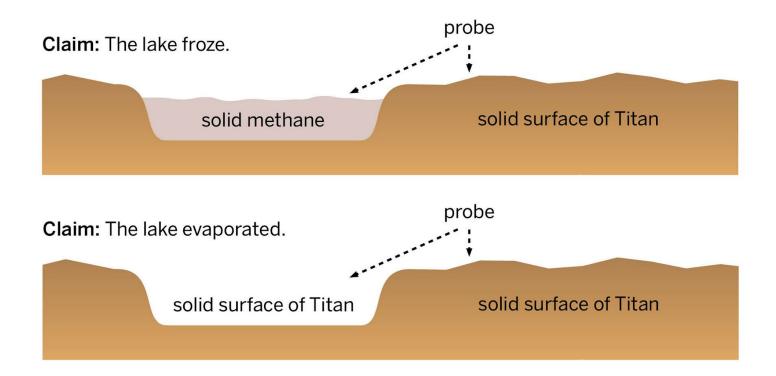
Scientists at the Universal Space Agency have developed **two claims** about what could have happened to the lake.

The **diagrams** of these claims on the next slide show what might have happened if the **lake froze or if it evaporated**.

Carefully examine both of these claims.

Freezing and Evaporation Claims

The lake area in 2009

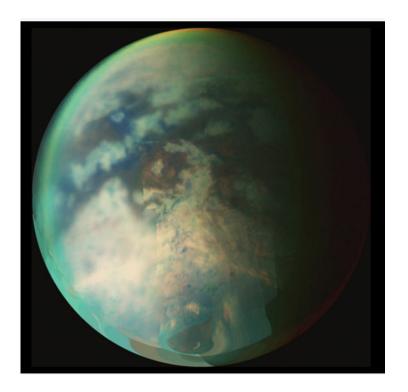


In this unit, you'll use your understanding of chemistry to explain **what happened to the lake on Titan.**

As we read in the message, the two claims for what happened to the lake are both examples of **phase changes:** the methane in the lake either evaporated or froze.

This question will help us figure out if the methane lake on Titan froze or evaporated.

Investigation Question: How does the appearance of a substance change when it changes phase?



We cannot directly study phase changes on Titan. Instead, we will study videos of phase changes on Earth to help us understand what is happening on Titan.

Key activities

- Introducing Titan's Disappearing Lake: Students are introduced to the unit problem and their role as student chemists.
- Observe: Students observe four short videos showing everyday examples of phase change.
- Read: A short reading connects students back to the Titan context, providing them with additional background knowledge.

Ideas for synchronous or in-person instruction

While meeting, first introduce the unit, then have student pairs watch and discuss the four phase change videos. If meeting in person, provide the "Titan Fact Sheet" article and have students read and annotate it, then discuss what they read.

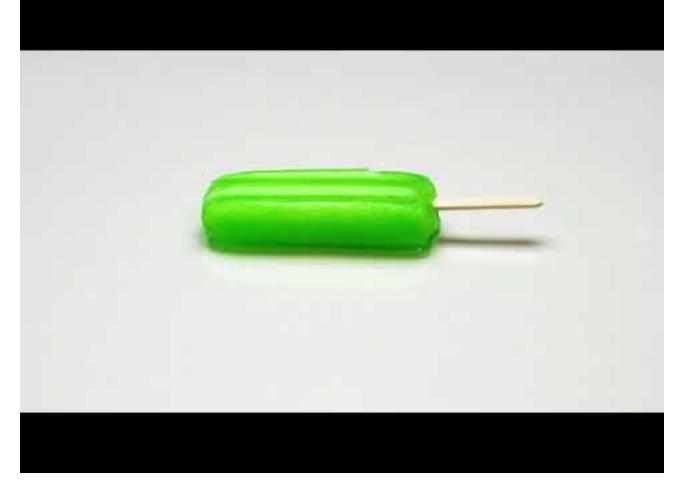


Next, you will watch **four videos** showing everyday examples of phase changes on Earth to better understand how the appearance of a substance changes when it changes phase.

You will watch each video independently, and you should watch each video twice.









Here is an important word for the *Phase Change* unit, along with its definition:



a noticeably different form or state of the same substance

In this lesson, and throughout the unit, you will need to **access different pages**, such as the glossary on the next slide. Check with your teacher about how you will access materials and complete and submit work in this @Home Unit.

Phase Change Glossary

freedom of movement: the way molecules in a substance move around relative to each other libertad de movimiento: la forma en la que las moléculas de una sustancia circulan una en relación a la otra

kinetic energy: the energy that an object has because it is moving energía cinética: la energía que tiene un objeto porque se está moviendo

molecular attraction: a pull between two molecules that is always the same for a substance atracción molecular: un jalón entre dos moléculas que siempre es igual para una sustancia

molecule: a group of atoms joined together in a particular way molécula: un grupo de átomos unidos de una manera particular

phase: a noticeably different form or state of the same substance fase: una forma o estado visiblemente diferente de la misma sustancia

refute: to provide evidence that goes against a claim refutar: proporcionar evidencia en contra de una afirmación

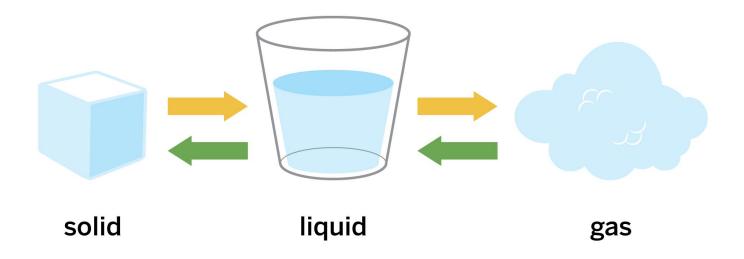
scale: the relative size of things escala: el tamaño relativo de las cosas

temperature: a measure of how hot or cold something is temperatura: una medida de qué tan caliente o frío está algo

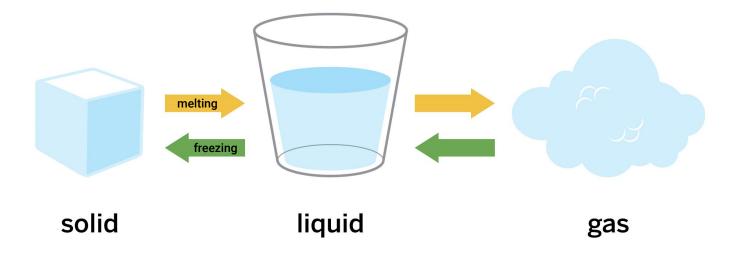
Phase Change @Home Lesson 1

Throughout the year, 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.

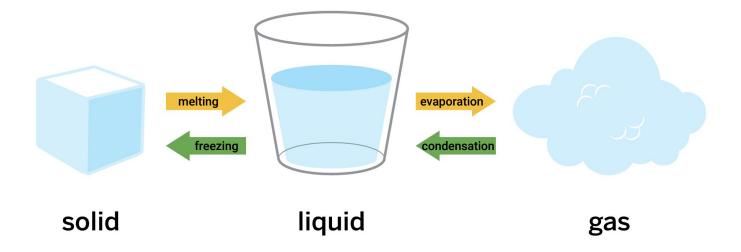
How do you think matter can change from one phase to the other?



A solid turning to liquid is called **melting**. A liquid turning to solid is called **freezing**.



A liquid turning to gas is called **evaporation**. A gas turning to liquid is called **condensation**.



In this activity, and for many other activities in the *Phase Change* @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.



With a partner, you'll now choose one video and try to more precisely describe how the substance changes in that video.

Phase Change @Home Lesson 1

Name:

Discussing Difference in Appearance

Date:

Discuss the phase change videos with your partner. Pick one of the videos and answer the questions about it below. Include terms from the word bank in your responses.

- Condensation on a Cup tinyurl.com/AMPPC-09
- Evaporating Mud Puddle tinyurl.com/AMPPC-11
- Melting Ice Pop Timelapse tinyurl.com/AMPPC-12
- Ice Forming on Tree Branches tinyurl.com/AMPPC-13

Word Bank			
condensation	does not flow	evaporation	flows
freezing	gas	has its own shape	invisible
liquid	melting	phase change	solid
takes the shape of its container	visible		

1. How would you describe the appearance of the substance before the phase change?

2. How would you describe the appearance of the substance after the phase change?

 Based on your description, choose which phase change you think occurred in your video. Circle the name of the video you discussed and the phase change you think occurred.

Video	Phase change that occurred
Condensation on a Cup Evaporating Mud Puddle Melting Ice Pop Timelapse Ice Forming on Tree Branches	freezing (liquid to solid) melting (solid to liquid) evaporation (liquid to gas) condensation (gas to liquid)

Phase Change @Home Lesson 1

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Go to the **Discussing Difference in Appearances** activity.

Complete the activity with your partner. You may need to rewatch the video.

At this point, how would you answer the Investigation Question?

Investigation Question: How does the appearance of a substance change when it changes phase?

This is the end of partner work for this lesson

The next three slides show three **key concepts** for this unit that you may have discussed with your partner.

Key Concept

1. A solid holds its shape and does not take the shape of its container.

Key Concept

2. A gas has no visible shape and fills its container.

Key Concept

3. A liquid flows and can take the shape of its container.

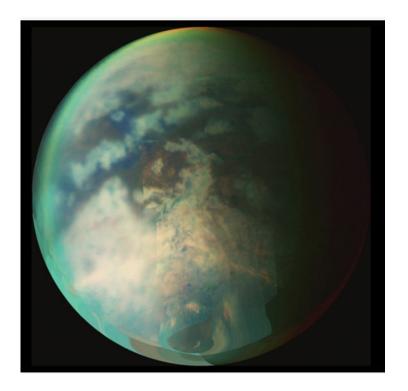
Key activities

- Introducing Titan's Disappearing Lake: Students are introduced to the unit problem and their role as student chemists.
- Observe: Students observe four short videos showing everyday examples of phase change.
- Read: A short reading connects students back to the Titan context, providing them with additional background knowledge.

Ideas for synchronous or in-person instruction

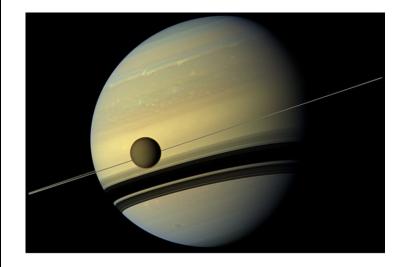
While meeting, first introduce the unit, then have student pairs watch and discuss the four phase change videos. If meeting in person, provide the "Titan Fact Sheet" article and have students read and annotate it, then discuss what they read.





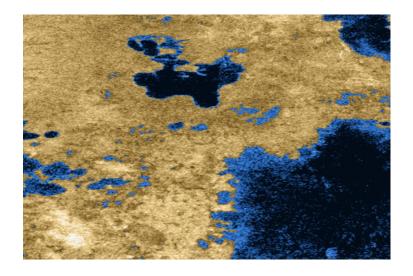
We will end this lesson by learning a little more about **Titan**.

Read each slide and think about how these **Titan Facts** can help you understand what happened to Titan's lake.

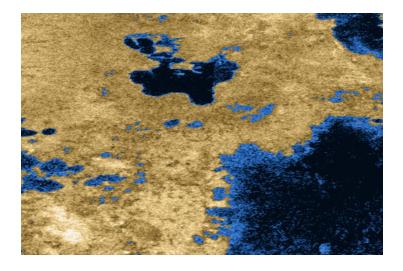


Titan is a large moon that orbits the planet Saturn.

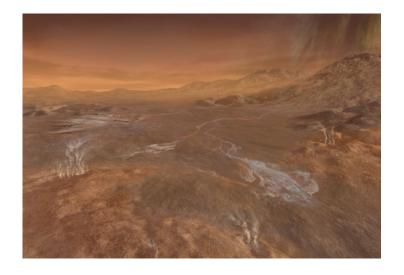
Saturn is about 866 million miles from the sun.



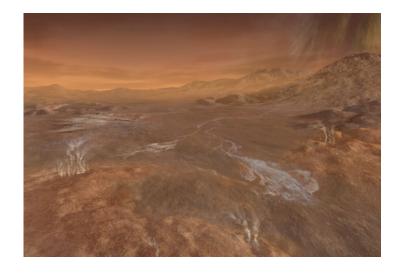
The surface of Titan is hidden by a thick, hazy atmosphere, but in the past few years spacecraft have managed to collect images and other data that tell us about what lies beneath the haze.



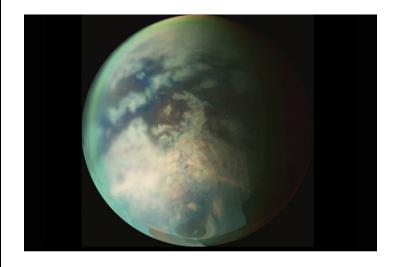
They found something that's common on Earth but very unusual in the rest of the solar system: **lakes and seas!**



Besides Earth, Titan is the only body in our solar system with **enough liquid on its surface** to fill lakes and seas.



Titan's lakes and seas are filled mainly with thick, tar-like substances, such as methane and ethane. Titan also has **methane** gas in its atmosphere, just as Earth has water vapor in its atmosphere.



Titan has summer and winter seasons when its surface becomes warmer and colder. However, because it is so far from the sun, even in summer Titan is very cold. Its average surface temperature is about -179°C (-290°F)!

Did you read anything about Titan that might help you explain what happened to the lake on Titan?

We will keep thinking about this in our next lesson.

Phase Change @Home Lesson 1

End of @Home Lesson





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Key activities

- Introducing Titan's Disappearing Lake: Students are introduced to the unit problem and their role as student chemists.
- Observe: Students observe four short videos showing everyday examples of phase change.
- Read: A short reading connects students back to the Titan context, providing them with additional background knowledge.

Ideas for synchronous or in-person instruction

While meeting, first introduce the unit, then have student pairs watch and discuss the four phase change videos. If meeting in person, provide the "Titan Fact Sheet" article and have students read and annotate it, then discuss what they read.

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 18



Pages 19-21

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 others are essential for promoting deep training and learning in science. Meaningful tachieving that advects are to a critic ontext for promoting open-anded student dialogue and discussion. The Science Farmework for California Public Schools explains that "Simply providing opportunities to fails in ond enough. Effective questioning can scatted student thinking" (California Science Framework, 2016, Chapter 11, p. 21). The Framework suggests that "Secher-initiated questions are key to helping students expand their communication, reasoning, arguments, and representation of ideas in science (California Science Framework, 2016, Chapter 11, p. 21). The types of questions that tachers pose are instrumental in supporting student understanding. The Framework calls for more openended tacher questioning that "prompts and facilities students" discusse and thinking and less teacher questioning that prompts and scientize students valuents and thinking and less teacher questioning that prompts and scientize students' california Science Framework, 2016, Chapter 11, p. 6).

The Amplify Science Teacher's Guide is inflused with opportunities for students to discuss their developing ideas in reopones to open-ended prompts. Questions to promote student thinking and discuss that surround all our hands-on and reading activities. In a distinual all with particule discours roundines (e.g., Shared Listening, 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 paractices. Many of the On-th-Fig Assessment staggestions provided throughout each unit offer opper-inded follow-up questions that can be used to probe student thinking and formatively assess student understanding of the content. In addition, activity in fundes multiple opportunities for students to respond to opper-ended questions through addition all model affects (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 questions is invaluable for assessing students' is novelage and skills, promoting student-to-student discourse, and guiding student learning. A cellection of gradeappropriate questions follows that can be used for these purposes. You will also that a list of a kill of a kill with yous included within the Amplify Science curriculum that are particularly conducive to the use of these questions. You may choose to print out these questions and activity types for reference throughout you instruction.

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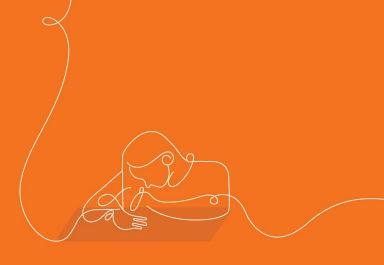
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Reflection: Teaching @Home Lesson 1

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

Instructional format: Asynchronous Asynchronous Asynchronous Synchronous Synchronous Lesson or part of lesson: Lesson or part of lesson: Introducing Titan's Disappearing Lakes (slides 1-16), Deserve (slides 23-26) Mode of instruction: Mode of instruction: Preview Preview Review Preview Teach full lesson live Teach full lesson live Printed @Home Slides Students work independently using: Printed @Home Slides Digital @Home Slides Øligital @Home Slides Digital @Home Slides @Home Videos @Home Videos	Ų
Introducing Titan's Disappearing Lakes (slides 1-16), Observe (slides 23-26) Mode of instruction: Preview Review Teach full lesson live Teach using synchronous suggestions Students work independently using: Printed @Home Slides Digital @Home Slides Digital @Home Slides	K
Students willTeacher willStudents willTeacher willView slides and the video that introduces students to the unit.Assign slides 1-16 in Schoology and provide direction for students to jot down their ideas about the unit problem to share when the class meets together.Students willTeacher will	

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

Day@Home Lesson 1				
Minutes for science: <u>15 min.</u>		Minutes for science: <u>30 MIN</u>		
Instructional format: Asynchronous Synchronous		Instructional format: Asynchronous Synchronous		
Lesson or part of lesson: Introducing Titan's Disappearing Lakes (slides 1-16), Observe (slides 23-26) Mode of instruction: Preview Review Teach full lesson live Teach full lesson live Teach using synchronous suggestions Students work independently using: Printed @Home Slides Digital @Home Slides @Home Videos		Lesson or part of lesson: Discuss claims, discuss videos and Read (slides 9-49) Mode of instruction: Preview Review Teach full lesson live Teach full lesson live Teach using synchronous suggestions Students work independently using: Printed @Home Slides Digital @Home Slides @Home Videos		
Students will View slides and the video that introduces students to the unit. Jot down initial ideas about their reactions to the video. Preview the phase change videos on slides 23-26.	Teacher will Assign slides 1–16 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 Consider the claims introduced on slide 18. Discuss and record their observations of one of the phase change videos, read about Titan and reflect on learning.	Teacher will lead students through the lesson activities using slides 9-49 allowing students time to collaborate as they discuss their phase change observations, and read to learn more about Titan.	

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olify.

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 of phase changes	Some Types of Written Work in Amplify Science Daily written reflections Homework tasks Investigation notebook pages Written explanations (typically at the end of Chapter) Diagrams Recording pages for Sim uses, investigations, etc 		Page 12
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 of the phase change video(s) and submit through Schoology	 Completing Written Work Plain paper and pencil (videos include prompts for setup) (6-8) Student platform Investigation Notebook Record video or audio file describing work/answering prompt Teacher-created digital format (Google Classroom, etc) 	 Submitting Written Work 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 	
How will you differentiate this lesson for diverse learners? (Navigate to the lesson level on th	ne standard Amplify Science platform and c	lick on differentiation in the left menu.)	

English-Chinese Glossary	nns. What are students working in the lesson(s)	Some Types of Written Work in Amplify Science
nof movement: the way molecules in a substance move around relative to each other 物质中的分子相对于彼此的运动方式 mergys the energy that an object has because it is moving star attraction: a pull between two molecules that is always the same for a substance 力: 物质中两个分子之间最终恒至不变的形力 ere agroup of atoms joined together in a particular way .55m 具有该物质质性的最小领粒 anoticeably different form or state of the same substance	or provide feedback on? Amplify Science to the right for guidance. d above, do you want to add one? Make notes below. complete the warm-up activity and cas	 Daily written reflections Homework tasks Investigation notebook pages Written explanations (typically at the end of Chapter)
TraceLaby Summittin Bin File Add So to A and A doubling E Mag (時間) 石田氏式成大态 10 provide evidence that goes against a claim 2供与某个主张相反的论据 1%的前相对大小	 I notice/observe I think this is important because wr 	
量物体冷热的尺度 Phase Olange—Multi-Language Glosary E Transport and a construction and a first second	• I wonder • And jot initial ideas on paper to bring hronous lesson fivity 2, Students will submit their ience site OR by taking a picture of book page and emailing it, activity 3 annotate digitally or on paper	 and pencil de prompts (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
Supports: Provide stud Provide sent Leverage pro Extension:	nis lesson for diverse learners? (Navigate to the lesson level on the lents with the Multi-Language Glossary whe rence starters Imary language for discussions	

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

@Home Lesson 2: GROUP 1

• Students watch a video to observe phase change, then describe what they observe. Students are introduced to the Phase Change Simulation, then use the Sim to investigate the molecular scale of phase changes.

Page 17

@Home Lesson 3: GROUP 2

• Students read and annotate an article from the article set, *Weird Water Events* to learn about water in different phases on Earth. Students share their questions and ideas about the article they read in the *Weird Water Events* article series.

@Home Lesson 4: GROUP 3

• Students reread the Introduction to the article set Weird Water Events to gather evidence about what happens on the molecular level when water changes phase. Students create models to show what happens when a substance changes phase.

@Home Lesson 5: GROUP 4

• Students watch one of the four phase change videos, then write what they think is happening at the molecular scale using unit vocabulary. Students share with a partner what they wrote about what is happening at the molecular scale in the video they watched. Students create models showing the lake on Titan evaporating. Amplify.

pages 13-14

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:		
Asynchronous Synchronous		Asynchronous Synchronous		
Lesson or part of lesson:		Lesson or part of lesson:		
Mode of instruction: Preview Review Teach full lesson live Students work independe @Home Placket @Ohome Slides and @ @Home Videos	ently using:	Mode of instruction: Preview Review Teach full lesson live Students work Independe @Home Packet @Home Packet @Home Videos	Home Student Sheets	
Students will	Teacher will	Students will	Teacher will	
				ork in Amplify Science
				s Ily at the end of Chapter) s, investigations, etc
				is, investigations, etc
				ubmitting Written Work
		I	describing work/answering prom	k digital format file During in-school time (hybrid model) or lunch/materials pick-up
			 Teacher-created digita format (Google Classroom, etc) 	(6-8) Hand-in button on student platform
	How will you differentiate this l	esson for diverse learners? (Navgete to th	lesson level on the standard Amplify Science platform	and click on differentiation in the left menu.)

Planning Share Out

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

Room 1 -	Day			
Planning	Minutes for science:		Minutes for science:	
@Home Lesson 2	Instructional format: Asynchronous Synchronous	Asynchronous		
	Lesson or part of lesson:		Lesson or part of lesson:	
	Mode of instruction: Preview Review Teach full lesson live Teach suns function suggestions Students work independently using: Printed @Home Sildes Digital @Home Sildes @Home Videos		Mode of instruction: Preview Teach full lesson live Teach full lesson live Teach full lesson live Distriked @Home Sildes Digital @Home Sildes @Home Videos	
	Students will	Teacher will	Students will	Teacher will











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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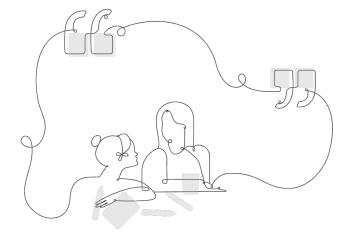
During this workshop did we meet our objectives?

- 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, 3/11
- Thursday, 3/25
- 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 Lear This section will provide yo teaching with Amplify Scie videos and resources.	ou with the knowledge and s	skills you need t	
LA Science Program Guide	Getting sta	arted		Planning Videos and resources to help you plan
Science Program Guide	Assessme Student Asses	nt sments and Work		Unit Orientation
Help	Additional	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.

Amplify.

Welcome to Amplify Science!

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

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

Click here for Remote Learning Resources for Amplify Science

Click here to go back to the LAUSD homepage.

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



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

Amplify.

Smart Start Plans

Middle School Science Schoology Group

- Access code to join the Schoology Group: SPG7G-K7BT9
- Once in the group, you will find the Smart Start Plans under *resources*.

Day	Learning Objective	What teacher does	What students do			
Monday	Instructional Support Day					
	Synchronous (60 min)					
Day 4	 Community Building (SEL) Creating a safe space for sharing on Zoom using Community Circle. 	 Community Building (SEL) The teacher will pose a question to students and have students respond in the Zoom chat. Thinking about the world around you, name at least 2 instances where you observe science happening. 	Community Building (SEL) Students will respond to the question posed by the teacher in the chat.			
	 Aspects of Modeling: Deepen students' understanding of scientific models. (SEP Modeling) 	 Aspects of Modeling: Read article and <u>watch video</u> Students need to understand the role of modeling in science. 	 Aspects of Modeling Students will read this article and watch this video and answer questions in a <u>Schoology Quiz</u>: in LAUSD MS Science Group: SPG7G-K7BT9) or in Google Docs. 			
	 Uploading Images to a Discussion Learn how to upload an image to a Schoology Discussion using a video tutorial. (Tool) 	 Uploading Images to a Discussion The teacher provides students the link to the informational video on "How to upload the image to Schoology discussion." 	 Uploading Images to a Discussion Students will watch a tutorial on how to upload a image to a Schoology discussion. Students upload their initial model of the phenomenon to a Schoology discussion. 			
	 Introduce Initial Model Critique Critique a model of a classmate in a constructive way to promote collaboration and student discussion. (SEP Modeling) 	 Introduce Initial Model Critique Using the <u>Discussion and Writing</u> <u>Prompts PDF</u> select sentence starters from pages 6 and 8 to have students use to critique the models of classmates. 	 Introduce Initial Model Critique Students return to the Initial Model in Schoology Discussion and critique the model of at least 1 classmate. 			
Day 4	Asynchronous					
1 -	 Apply understanding of modeling (SEP modeling) and students revise their initial model. 	 Revise Initial Model: The teacher provides an opportunity for students to revise their initial model based on article and feedback. 	Revise Initial Model: • Students will revisit their initial model and make edits based on critiques from classmaters and the reading. • Students will add an explanation of how their model changed and why they made the changes. • Students upload their revised model to Schoolog discussion.			

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

AmplifyScience

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		

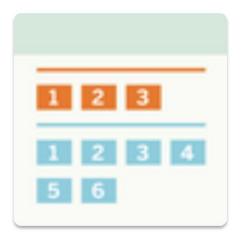
Elementary Student Apps Shared Logins

English

- Username: ampsci123
- Password: ampsci123

Spanish

- Username: ampsci123sp
- Password: ampsci123sp



Elementary Student Apps