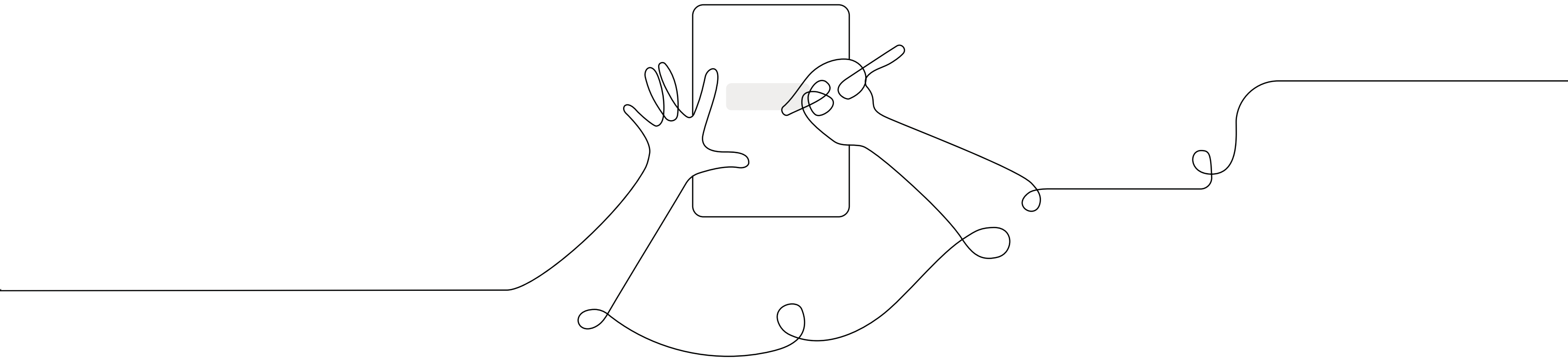
AmplifyScience

Participant Notebook

Unit Internalization and Guided Planning

Grade 7, Phase Change



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

Unit Overview	Describes what's in each unit, the rationale, and how students learn across chapters
Unit Map	Provides an overview of what students figure out in each chapter, and how they figure it out
Progress Build	Explains the learning progression of ideas students figure out in the unit
Getting Ready to Teach	Provides tips for effectively preparing to teach and teaching the unit in your classroom
Materials and Preparation	Lists materials included in the unit's kit, items to be provided by the teacher, and briefly outlines preparation requirements for each lesson
Science Background	Adult-level primer on the science content students figure out in the unit
Standards at a Glance	Lists 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

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.

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 into the lake was higher than at other times, so the lake must have evaporated, not frozen.

How they figure it out: In the Sim, they investigate how adding or removing energy can affect molecules' freedom of movement. They use magnetic marbles 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 didn't evaporate until 2007. This is because attraction between molecules 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 sun had transferred enough energy so that the kinetic energy of the methane molecules increased enough to overcome the attraction between them.The lake evaporated and the molecules started moving away from 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.

Chapter 4: Students apply what they learn to a new question—Why is the liquid oxygen machine producing less liquid oxygen than normal?

The rockets for the next mission to gather evidence about Titan will use liquid oxygen for fuel, but the device that makes the liquid oxygen is not working. The device makes liquid oxygen from air by changing the phase of nitrogen, water vapor, and oxygen. Students reread a short article about this kind of device and analyze each phase change involved in the process. Students consider three claims about why the device is malfunctioning and review the available evidence to make an argument. They engage in oral argumentation in a student-led discourse routine called a Science Seminar and then individually write their final arguments.

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 describes the way students' 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 students' learning: it organizes the sequence of instruction (generally, each level of the Progress Build corresponds to a chapter), 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 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 it by 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 experience with the phase changes of water. However, few students will have experience 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 see macroscopic 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 they will not have had experience thinking about how energy transfers 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 flow and take the shape of the container. For gases, the molecules move apart causing the substance to fill its 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 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 flow and take the shape of the container. For gases, the molecules move apart causing the substance to fill its 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.**

Progress Build Level 3: Molecular attraction affects the amount of energy transfer required for a phase change.

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 flow and take the shape of the container. For gases, the molecules move apart causing the substance to fill its 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. **Attraction between molecules pulls molecules toward one another. If an energy transfer into or out of a substance results in a phase change, either the molecular attraction overcomes the decreasing kinetic energy or the increasing kinetic energy overcomes the molecular attraction, and the freedom of movement changes.**

Guided Unit Internalization Planner

Unit-level internalization

Unit title:

What is the phenomenon students are investigating in your unit?

Unit Question:

Student role:

By the end of the unit, students figure out ...

What science ideas do students need to figure out in order to explain the phenomenon?

Unit Guide Document

Unit Map

Lesson Overview Compilation

Unit Map

Progress Buld

Guided Unit Internalization

Part 1: Unit-level internalization

Unit title: Phase Change

What is the phenomenon students are investigating in your unit?

Working for the Universal Space Agency, students investigate the mystery of a disappearing methane lake on Titan.

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

Student role:
Student chemists

By the end of the unit, students figure out ...
It had been summer since 2002, but the lake didn't evaporate until 2007. This is because attraction between molecules 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 sun had transferred enough energy so that the kinetic energy of the methane molecules increased enough to overcome the attraction between them. The lake evaporated and the molecules started moving away from each other.

What science ideas do students need to figure out in order to explain the phenomenon?

When a substance changes phase, the freedom of movement of its molecules has changed. Energy transfers cause phase changes. Molecular attraction affects the amount of energy transfer required for a phase change.

Phase Change @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 *Phase Change* Lessons

@Home Lesson	Adapted from Amplify Science *Phase Change*
@Home Lesson 1	Lesson 1.2
@Home Lesson 2	Lessons 1.3
@Home Lesson 3	Lessons 1.4
@Home Lesson 4	Lesson 1.5
@Home Lesson 5	Lesson 1.6
@Home Lesson 6	Lesson 2.1 and 2.2
@Home Lesson 7	Lesson 2.3
@Home Lesson 8	Lesson 3.1
@Home Lesson 9	Lesson 3.2
@Home Lesson 10	Lesson 3.2 and 3.3
@Home Lesson 11	Lessons 4.1
@Home Lesson 12	Lessons 4.2
@Home Lesson 13	Lesson 4.3 and 4.4
@Home Lesson 14	Lesson 4.5

The student sheets and packets used in @Home units are original or modified versions of the unit's Amplify Science Investigation notebook pages or copymasters. When necessary, new pages were also created. In the following table we have outlined the @Home Student Sheet and Packet page titles and their origins.

Index: @Home Student Sheets/Packets and corresponding *Phase Change* materials

@Home Lesson	Student Sheet/Packet page title	Investigation Notebook page, copymaster, or print material
1	Discussing Difference in Appearance	Pg. 7
1	*Phase Change* Glossary	Lesson 1.2 copymaster
2	Considering Molecules and Phase Change	Pg. 12
2	Investigating the Molecular Scale	Modified from Pgs. 15–16
3	*Weird Water Events*	Lesson 1.4 copymaster
4	Reading About Molecular Movement	Modified from Pg. 24
4	Modeling a Phase Change	New
5	Write and Share: Explaining Everyday Phase Change	Modified from Pg. 33
5	Modeling Evaporating	New
5	Chapter 1 @Home Science Wall	New, based on Classroom Wall materials
6	Using the Sim to Observe Energy Transfer	Modified from Pg. 49
7	Titan Evidence Cards	Print material
7	Titan Evidence Sorting Background	Print material
7	Interpreting Evidence About Phase Change	Modified from Pg. 57
7	Writing a Scientific Argument	Pg. 59
7	Chapter 2 @Home Science Wall	New, based on Classroom Wall materials
8	Liquid Oxygen	Lesson 3.1 copymaster
9	Second Read of "Liquid Oxygen"	Pg. 70
10	Exploring Attraction in the Sim	Modified from Pgs. 71–72
10	Why Didn't the Liquid Methane Change Phase Before 2007?	Modified from Pg. 83
10	Chapter 3 @Home Science Wall	New, based on Classroom Wall materials
11	Annotating the Liquid Oxygen Machine	Modified from Pg. 105

11	Liquid Oxygen Machine Diagram	Lesson 4.1 copymaster
12	Science Seminar Visual Claims	Lesson 4.2 copymaster
12	Interpreting the Claims	Pg. 112
12	Science Seminar Evidence Cards	Lesson 4.1 copymaster
12	Interpreting the Evidence Cards	Pg. 113
12	Sorting the Evidence Cards	Pg. 114
13	Argumentation Sentence Starters	Print material
13	Writing a Scientific Argument	Modified from Pgs. 128–130
14	Written-Response Question #1	Lesson 4.5 copymaster
14	Written-Response Question #2	Lesson 4.5 copymaster

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

Day @Home Lesson 1

Minutes for science: 15 min.

Instructional format:
- X Asynchronous
- ❑ Synchronous

Lesson or part of lesson:
Introducing Titan's Disappearing Lakes (slides 1-16), Observe (slides 23-26)

Mode of instruction:
- X Preview
- ❑ Review
- ❑ Teach full lesson live
- ❑ Teach using synchronous suggestions
- X Students work independently using:
  - ❑ Printed @Home Slides
  - X Digital @Home Slides
  - ❑ @Home Videos

Students will…	Teacher 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.	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.

Minutes for science: 30 min

Instructional format:
- ❑ Asynchronous
- X Synchronous

Lesson or part of lesson:
Discuss claims, discuss videos and Read (slides 9-49)

Mode of instruction:
- ❑ Preview
- ❑ Review
- ❑ Teach full lesson live
- X Teach using synchronous suggestions
- ❑ Students work independently using:
  - ❑ Printed @Home Slides
  - ❑ Digital @Home Slides
  - ❑ @Home Videos

Students will…	Teacher 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.	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.

Look at the *Students will* 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.

Asynchronous: students complete the warm-up activity and jot down their initial ideas

Synchronous: record observations of rocks, students will also jot down their initial ideas about each of the claims

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

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.

Asynchronous: students will submit their work digitally on the Amplify Science website, and jot initial ideas on paper to bring with them to the asynchronous lesson

Synchronous: during activity 2, Students will submit their work on the Amplify Science site OR by taking a picture of their Investigation Notebook page and emailing it, activity 3 students can read and annotate digitally or on paper

Completing Written Work	Submitting 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)	• 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 the standard Amplify Science platform and click on differentiation in the left menu.)

Supports:
- Provide students with the Multi-Language Glossary where appropriate
- Provide sentence starters
- Leverage primary language for discussions

Extension:
- Have students write questions about the unit phenomenon.

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

<table>
<tr><td colspan="4">Day ____________</td></tr>
<tr><td colspan="2">Minutes for science: ____________

Instructional format:
❏ Asynchronous
❏ Synchronous</td><td colspan="2">Minutes for science: ____________

Instructional format:
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❏ Synchronous</td></tr>
<tr><td colspan="2">Lesson or part of lesson:

Mode of instruction:
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How will you differentiate this lesson for diverse learners? (Navigate to the lesson level on the standard Amplify Science platform and click on differentiation in the left menu.)		

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

Day ____________

Minutes for science: ____________ **Instructional format:** ❏ Asynchronous ❏ Synchronous	**Minutes for science: _____________** **Instructional format:** ❏ Asynchronous ❏ Synchronous

Lesson or part of lesson:
 	
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Students will…	**Teacher will…**	**Students will…**	**Teacher will…**

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<tr>
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</tr>
</table>

@Home Teacher Overview – Chapter 1
Overview of Phase Change @Home Lessons 1-5

@Home Lesson 1:

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

@Home Lesson 2:
Breakout 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.

@Home Lesson 3:
Breakout 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:
Breakout 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:
Breakout 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.

Suggestions for synchronous time

The following are some ideas for making the most of synchronous time with your students. As a general rule, the best way to use your synchronous time is to provide students opportunities to talk to one another, or to observe or visualize things they could not do independently.

Online synchronous time	Notes
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.	

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 thinking and learning in science. Meaningful teacher-initiated questions create a rich context for promoting open-ended student dialogue and discussion. The *Science Framework 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, p. 21). The Framework suggests that "Teacher-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 teachers pose are instrumental in supporting student understanding. The Framework calls for more open-ended teacher questioning that "prompts and facilitates students' discourse 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 infused with opportunities for students to discuss their developing ideas in response to open-ended prompts. Questions to promote student thinking and discussion are purposefully built into the Teacher's Guide instructional steps and Teacher Support notes that surround all our hands-on and reading activities. In addition, all units include discourse routines (e.g., Shared Listening, Think-Draw-Pair-Share, Write and Share, Word Relationships) that provide opportunities for students to use focal unit vocabulary as they think and talk with partners and the class about their understanding of key science content and practices. Many of the On-the-Fly Assessment suggestions provided throughout each unit offer open-ended follow-up questions that can be used to probe student thinking and formatively assess student understanding of the content. In addition, each unit includes multiple opportunities for students to respond to open-ended questions through additional modalities (e.g., in writing, with diagrams, through a kinesthetic model).

While the prompts embedded in each of the opportunities mentioned above provide fertile ground for student discussion, continued use of flexible, open-ended questions is invaluable for assessing students' knowledge and skills, promoting student-to-student discourse, and guiding student learning. A collection of grade-appropriate questions follows that can be used for these purposes. You will also find a list of activity types 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 your instruction.

Open-Ended Questions to Facilitate Student Thinking and Discourse

Questions to assess students' knowledge and skills:

- Can you explain how you decided that this claim is the best one?
- Can you explain why X happened?
- Would you (and your partner) explain the steps you went through (to create the model you made)?
- How do you know X?
- If XXX were changed, how would that change YYY?

Questions to promote student-to-student discourse:

- Do you agree or disagree with (that idea)? Why?
- Can you add evidence to support (student name)'s thinking?
- Do you have evidence to go against (refute) (that idea)?
- Does anyone else have something to add to the conversation?
- We are working together right now to figure out/better understand X. Can anyone start us off with some thinking about this (question, problem, idea)?
- Can you explain X, using science vocabulary words XX and YY (from the unit)?
- What claim does this evidence support? How do you know?
- Can you explain why this evidence is important?
- Can you explain why this evidence does not support Claim Y?
- How does your idea relate to what others have said today?

Questions to guide student learning:

- I hear what you are saying (or I read your question/response). Can you explain your thinking to me a bit more so I can understand your idea?
- Some students have said that they think X happened. Can those students work together to find more evidence to support this idea?
- You are claiming that Y happened/explains this phenomenon.
    - Can you find more evidence to support your claim? Please go back to these resources (e.g., simulation, article) and see if you can find more evidence.
    - Which evidence can you use to make a stronger argument?
- How can we investigate why this happened?
- What did you notice? What else do we need to figure out?

Activity Types Within the Amplify Science Curriculum That Are Especially Suited for Additional Teacher Questioning

The activity types listed below are student-centered and often contain prompts for pairs or small groups of students to use to discuss content or to vet evidence together. As you circulate through the classroom during these activities, you can use the open-ended questions to assess students' knowledge and skills, promote student-to-student discourse, and guide student learning.

- Hands-on activities
- Discourse routines (e.g., Write and Share, Word Relationships)
- Discussion after reading
- Paired Modeling Tool activities
- Paired Reasoning Tool activities
- Paired Simulation activities
- Evidence Card sorts
- Evidence Gradient card sorts
- Discussion of evidence in preparation for a Science Seminar (discussing which claim the evidence supports and why, sorting evidence in pairs)
- Science Seminar

Amplify Science@Home resources reference

Use this guide to keep track of the different resources available for remote and hybrid learning.

Instructional materials: Click Remote and hybrid learning resources, then select your grade level from the dropdown menu. Select your unit.	
@Home Unit resources: These will appear when you select your unit.	
Teacher Overview	General information for teaching with @Home Units, planning information, chapter and lesson outlines
Lesson Index	Lists the original Amplify Science lessons associated with each @Home lesson, and the Investigation Notebook pages, copymasters, and print materials associated with the @Home Unit Student Sheets
Family Overview	Information to send home to families to help them support students with remote learning
Student lesson materials for @Home Units	Printable or digital lessons condensed to be about 30 minutes long. You can access compilations of all student materials for your unit, or select from individual lessons.
@Home Video resources: After selecting your grade level and unit, select the @Home Videos tab below your unit title.	
@Home Video links	Links to video lessons that include all activities from the original units. Lesson playlists are on YouTube, and they autoplay in a playlist form.
Additional remote and hybrid instructional materials: These can be accessed from the tabs below your unit title.	
Hands-on investigations support	Videos of every unit's hands-on activities (note, these videos also appear in the student lesson materials).
Read-aloud videos	Link to a YouTube playlist of read-aloud videos of all books in your unit.
Orientation and Tutorials: Click Remote and hybrid learning resources, then select your grade from the dropdown menu. Click Orientation and Tutorials. You'll not only find videos to help you use the resources, but also videos you can share with students and caregivers.	

Notes