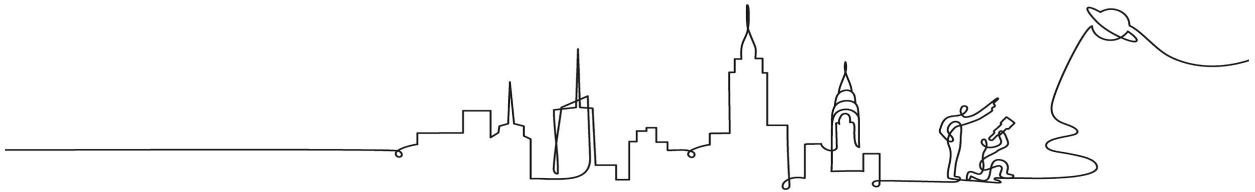
Welcome to Amplify Science!

Follow the directions below as we wait to begin.

1. Please log in to your Amplify Account.

2. Sign in using link dropped in chat.

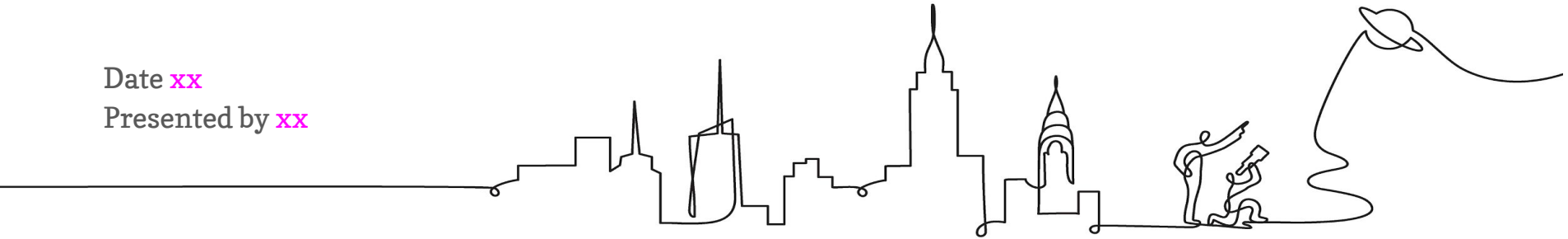
3. In the chat, share your name, grade level, and school you teach in.



Amplify Science
New York City

Analyzing Student Assessment Data
Grade 5- The Earth System

Date xx
Presented by xx



Remote Professional Learning Norms

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?"*

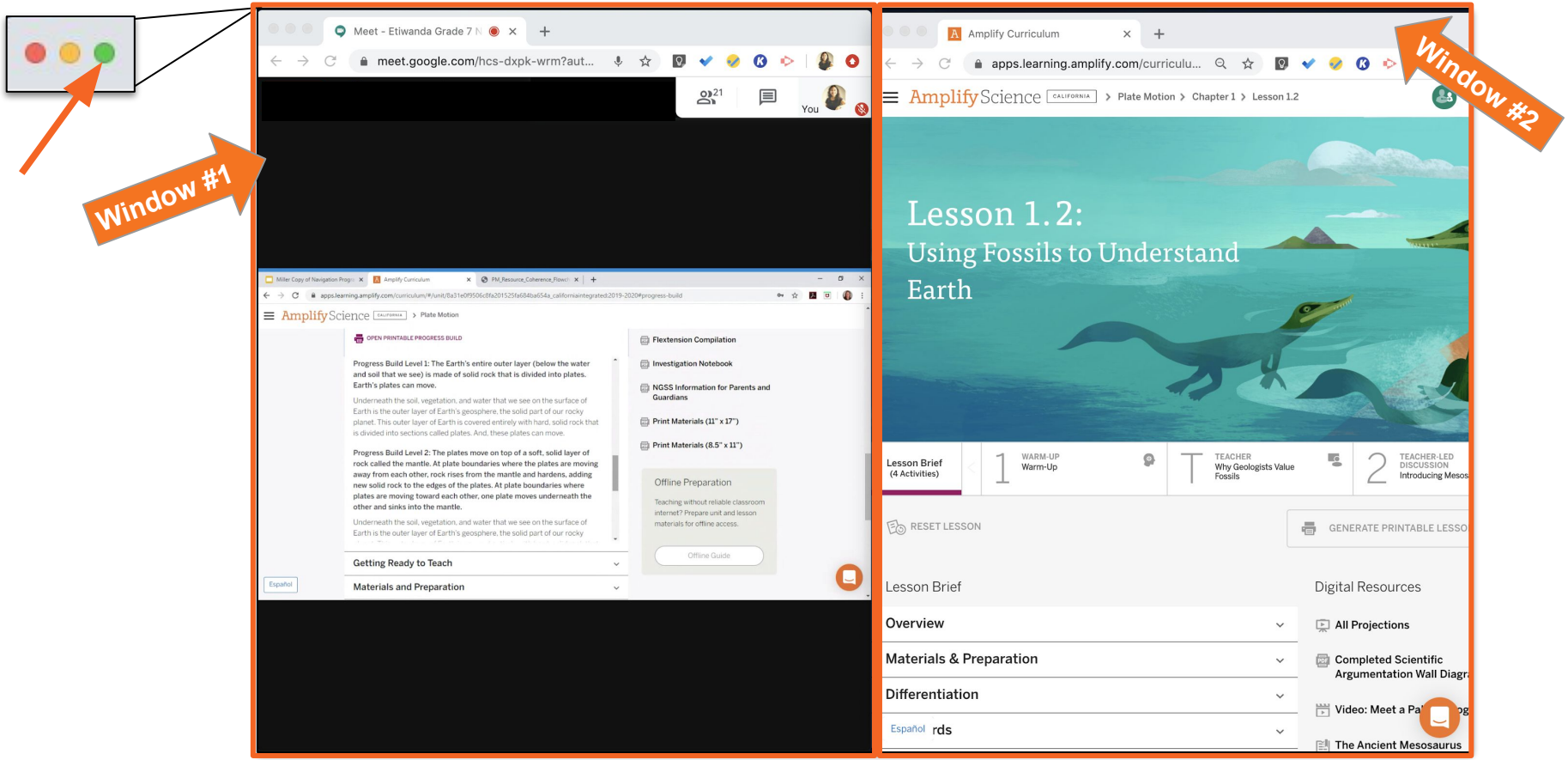
Mute your microphone to reduce background noise unless sharing with the group

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

Make sure you have a note-catcher present

Engage at your comfort level - chat, ask questions, discuss, share!

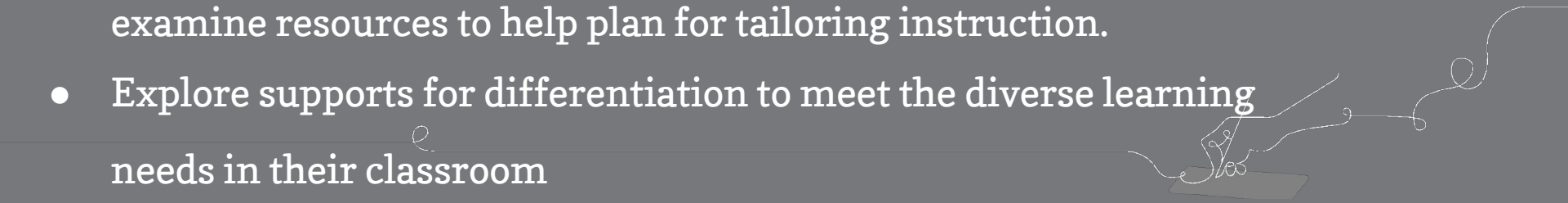
Use two windows for today's webinar

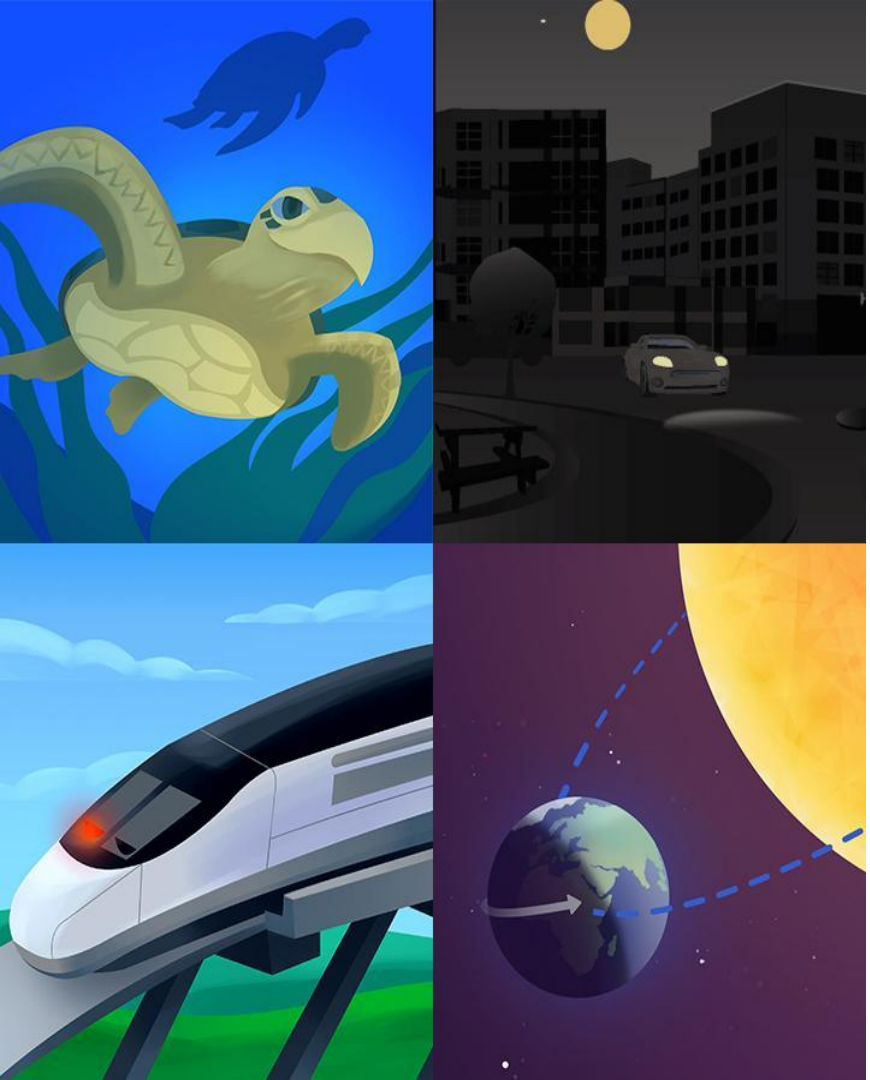


Objectives:

By the end of this 1-hour workshop, you will be able to…

- Explore the Amplify Science Formative Assessment system.
- Explore how to use Embedded Formative Assessments to gain access to credible, actionable, and timely diagnostic information about students progress toward learning the unit goals.
- Learn strategies for analyzing student's work & assessment data, examine resources to help plan for tailoring instruction.
- Explore supports for differentiation to meet the diverse learning needs in their classroom





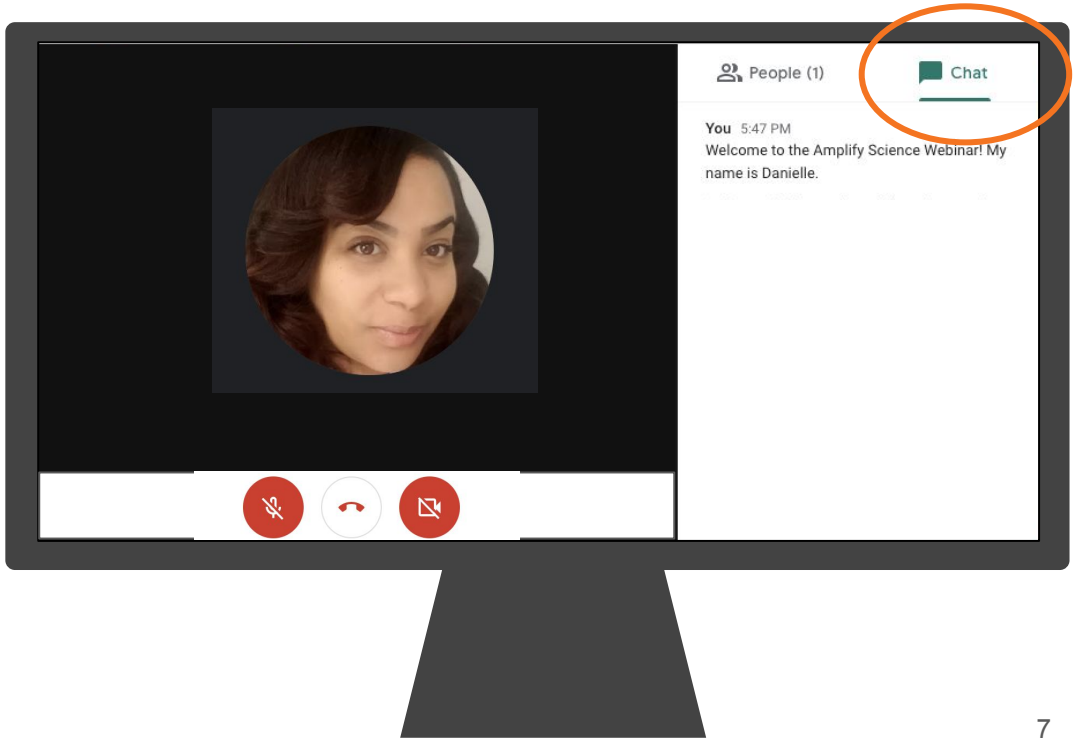
Plan for the day

- **Framing the day**
  - Welcome and introductions
  - Anticipatory Activity
- **Amplify Science Assessment System**
  - Credible, Actionable, Timely
  - Embedded Formative Assessments
  - Monitoring Student Progress
- **Amplify Science Diagnostics Tools**
  - Strategies for collecting/analyzing student work & assessment data
  - Resources for tailoring instruction
- **Amplify Science Embedded Supports**
  - Multimodal Instruction
  - Discourse routines
  - Differentiation/ Meeting the needs of diverse learners
- **Closing**
  - Reflection/Survey

Introductions!

Who do we have in the room today?

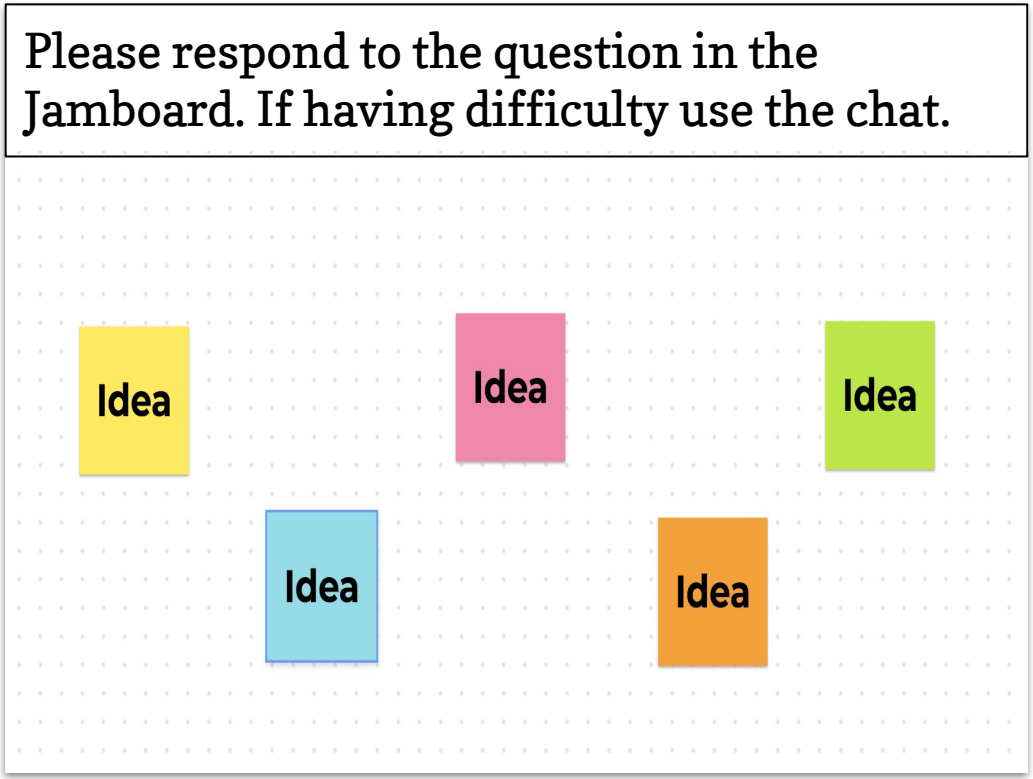
- **Introduce yourself (Name, School, Role)**
- **In the chat, share one word or phrase thats describes how you teaching Amplify.**

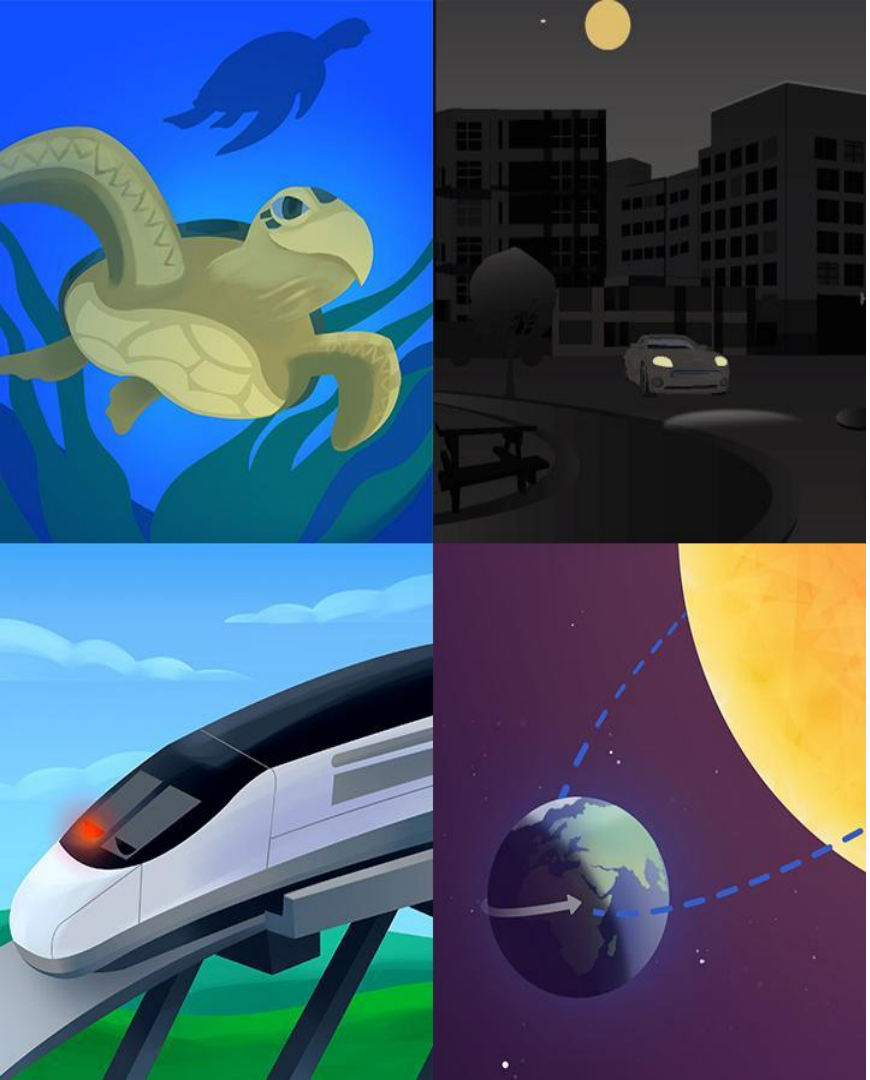


Anticipatory activity

On the Jamboard "post"….

- How are you currently collecting student data?
- How are you using that data to form your instruction?





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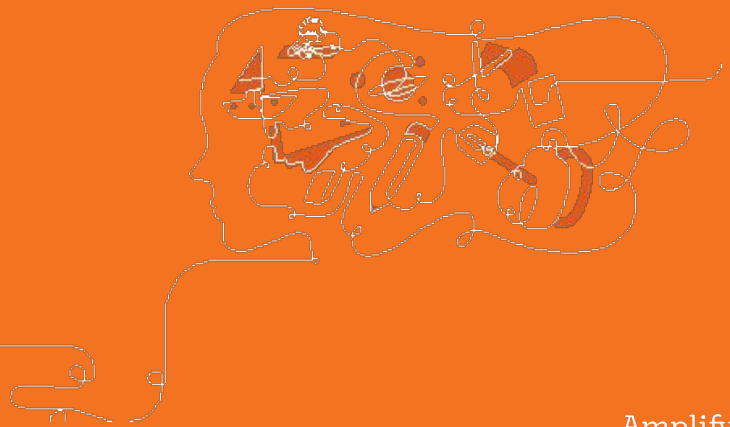
Credible, Actionable, Timely



Design Principles of Formative Assessment

- **Credible:** information from the assessment is trustworthy
- **Actionable:** information is at a level of specificity such that a teacher can use it to bolster instruction
- **Timely:** information comes at a time when a teacher is able to take action and when a student can productively leverage feedback

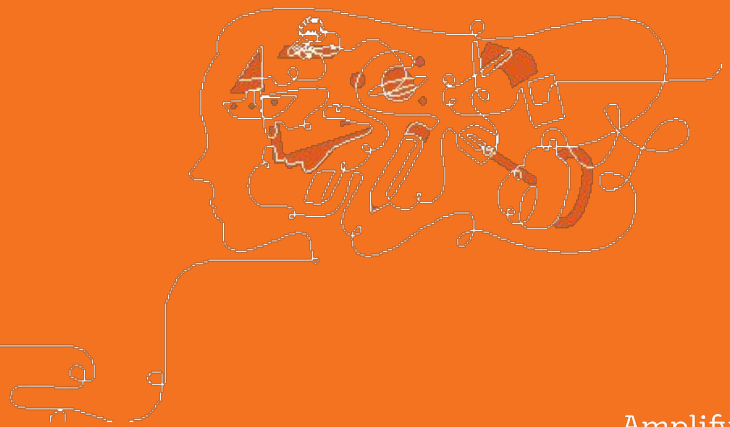
Assessment System

- The Assessment System includes formal and informal opportunities for students to demonstrate understanding and for teachers to gather information throughout the unit. Built largely around instructionally embedded performances, these opportunities encompass a range of modalities that, as a system, attend to the three-dimensional nature of science learning specified in the Next Generation Science Standards (NGSS) and the National Research Council's *Framework for K–12 Science Education* (2012).
- Each assessment was developed for a particular purpose. Entry-Level and Summative Assessments, includes assessments that can be used to measure growth, including entry-level assessments that reveal students' thinking at the beginning of the unit, and assessments that indicate students' level of understanding at the end of the unit, which can show the progress students have made and that can be used summatively.
- The second section, Monitoring Progress, includes assessments that can be used to monitor students' progress—formative assessments that provide teachers with actionable information and instructional suggestions for supporting students' learning and keeping all students on track—and assessments that help students monitor their own progress.
- Finally, the Assessments and Grading section provides suggestions around how the assessments might relate to grading.
- Assessment in kindergarten and grade 1 emphasizes multiple opportunities for students to show what they know through their oral and physical responses to prompts during partner and class discussions, through their engagement and participation in activities, and through some independent work products.

Assessment System Components

- **Assessment guides/rubrics:** Guidance is provided to gauge the level of student performance on the assessment task, with suggestions for student feedback and questioning strategies to advance learning, revise performance, or elicit and clarify student thinking. Assessment guides/rubrics are available in Digital Resources in the Lesson Brief for the lesson in which the task occurs.
- **Clipboard Assessment Tool:** The Clipboard Assessment Tool offers support for conducting brief, talk-based checks that reveal students' thinking and correspond to the level of the Progress Build. The Clipboard Assessment Tool is provided at key points in the unit (in Digital Resources) and includes tailored sets of questions and the specific activities that present an opportunity to ask those questions. Also included is space to write notes about students' ideas.
- **Possible student responses:** Possible student responses are provided to model how evidence of understanding, or partial understanding, may be demonstrated by the student for the specific task. Possible student responses are provided in the Possible Responses tab in the activity where there is an applicable notebook page. Possible student responses also appear in the Assessment Guide for the End-of-Unit Assessment (in Digital Resources).
- **Look for/Now what? notes:** Each On-the-Fly Assessment includes a two-part description of what evidence of understanding would look like for the task (Look for) and how instruction may be adjusted in response (Now what?). These are accessible by pressing the orange hummingbird icon in the activity in which they appear.
- **Assess understanding/Tailor instruction notes:** Each Critical Juncture Assessment includes a two-part description of how the expected level of student understanding may be demonstrated in the task (Assess understanding) and how instruction may be adjusted in response (Tailor instruction) at the class, group, and student level. These are accessible by pressing the orange hummingbird icon for the activity in which they appear.

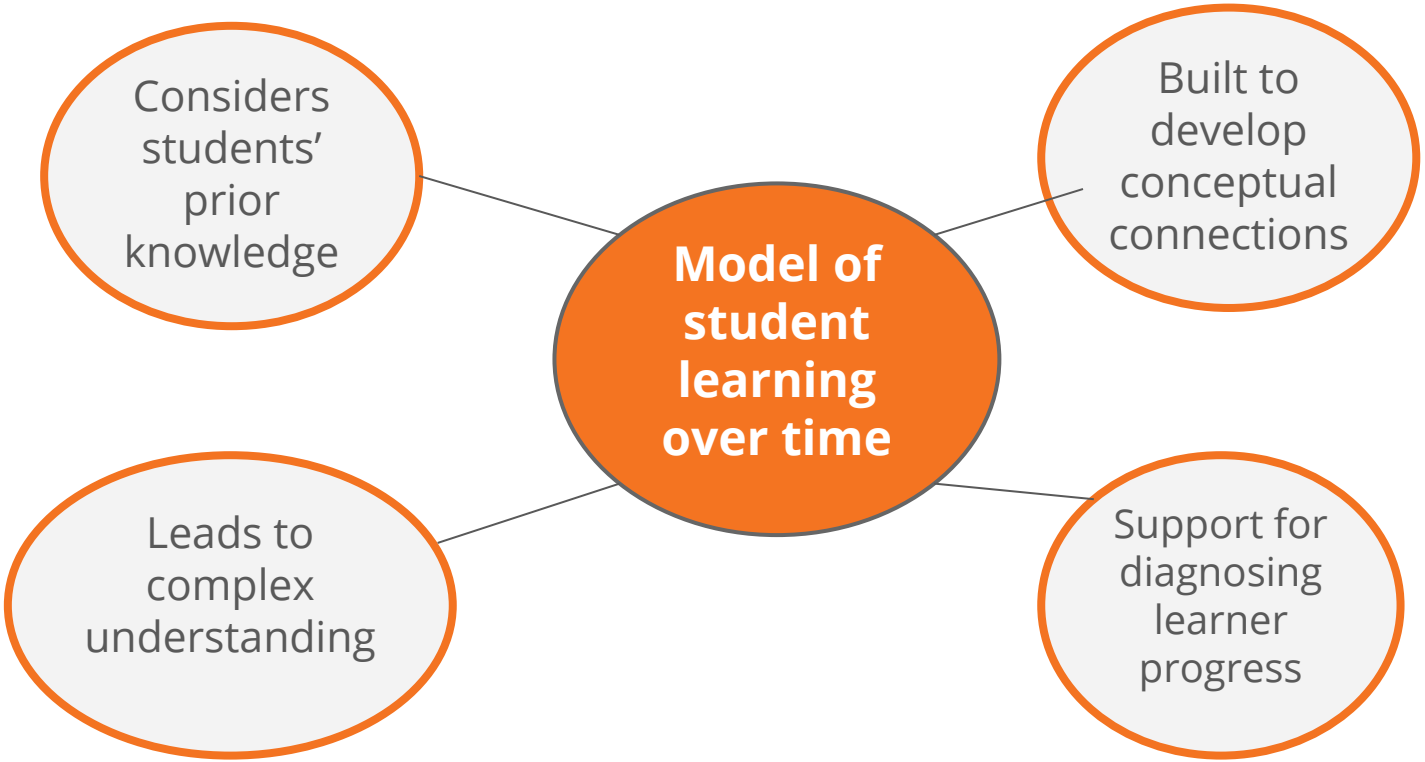
Embedded Formative Assessments



What is Formative Assessment?

Formative assessment is a cycle of eliciting, interpreting, and taking action on information about student learning.

Design Principles of Formative Assessment



Types of assessments

Formative Assessments

Used to guide instruction

Pre-Unit
Designed to gauge students' initial understanding and pre-conceptions about core ideas in the unit.

On-the-Fly
Quick check for understanding designed to help monitor and support student progress throughout the unit.

Critical Juncture
Designed to occur at points in the unit in which it is especially important that students understand the content before continuing.

Summative Assessments

Used to measure student learning at the end of instruction

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

The Earth System Progress Build

Deep, causal understanding

Prior knowledge

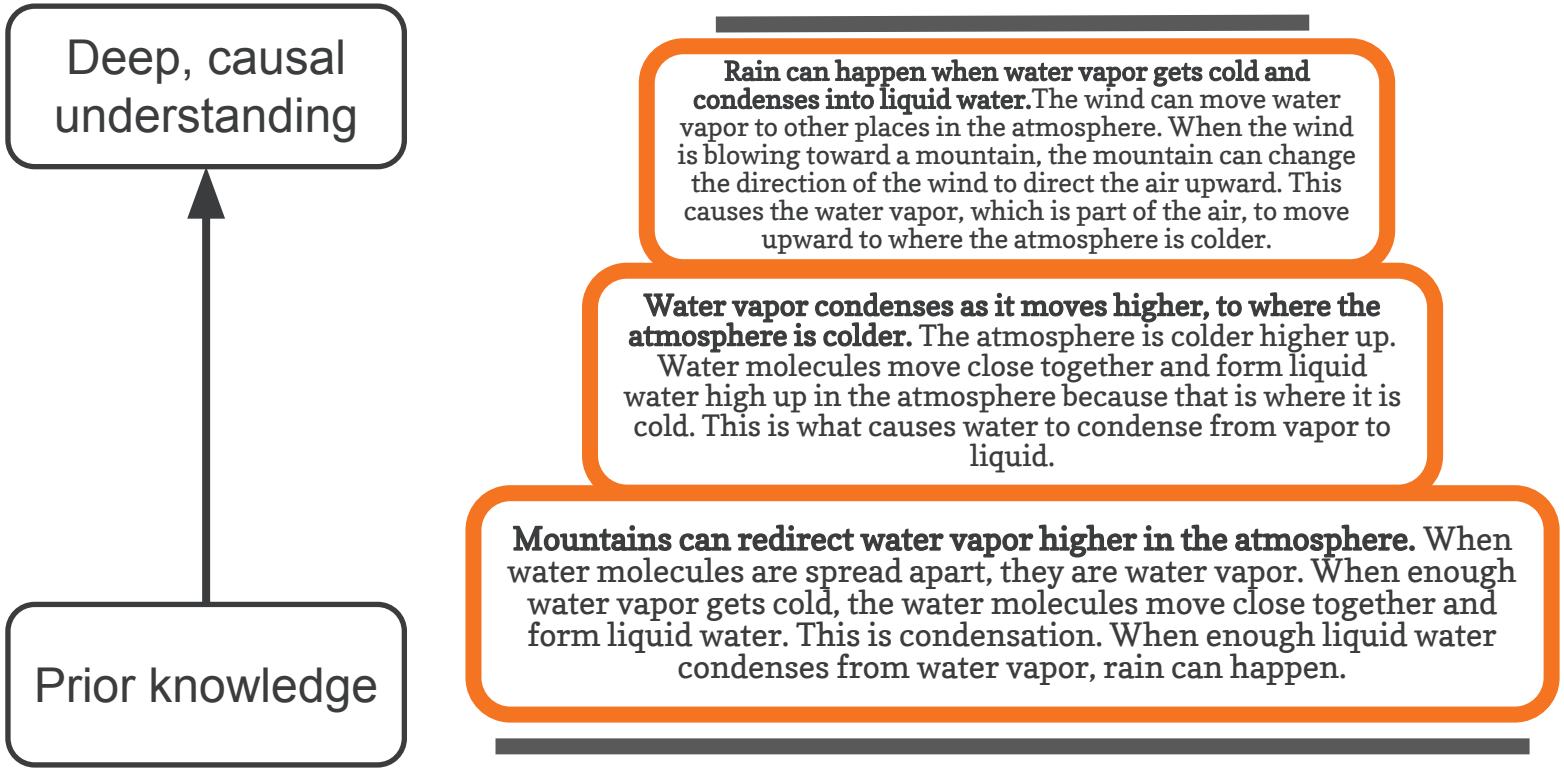
Rain can happen when water vapor gets cold and condenses into liquid water. The wind can move water vapor to other places in the atmosphere. When the wind is blowing toward a mountain, the mountain can change the direction of the wind to direct the air upward. This causes the water vapor, which is part of the air, to move upward to where the atmosphere is colder.

Water vapor condenses as it moves higher, to where the atmosphere is colder. The atmosphere is colder higher up. Water molecules move close together and form liquid water high up in the atmosphere because that is where it is cold. This is what causes water to condense from vapor to liquid.

Mountains can redirect water vapor higher in the atmosphere. When water molecules are spread apart, they are water vapor. When enough water vapor gets cold, the water molecules move close together and form liquid water. This is condensation. When enough liquid water condenses from water vapor, rain can happen.

What new ideas are added at each level?

Pre and End of Unit Assessments



Pre-Unit Assessment

- Reveals preconceptions
- Reveals ideas and experiences students can build on throughout the unit
- Contains multiple choice questions and two written responses
- Multiple choice section is auto-scored
- Contains a Scoring Guide with rubrics for analyzing student responses
- Happens in Lesson 1.1

Critical Juncture Assessments

Deep, causal understanding

Prior knowledge

Rain can happen when water vapor gets cold and condenses into liquid water. The wind can move water vapor to other places in the atmosphere. When the wind is blowing toward a mountain, the mountain can change the direction of the wind to direct the air upward. This causes the water vapor, which is part of the air, to move upward to where the atmosphere is colder.

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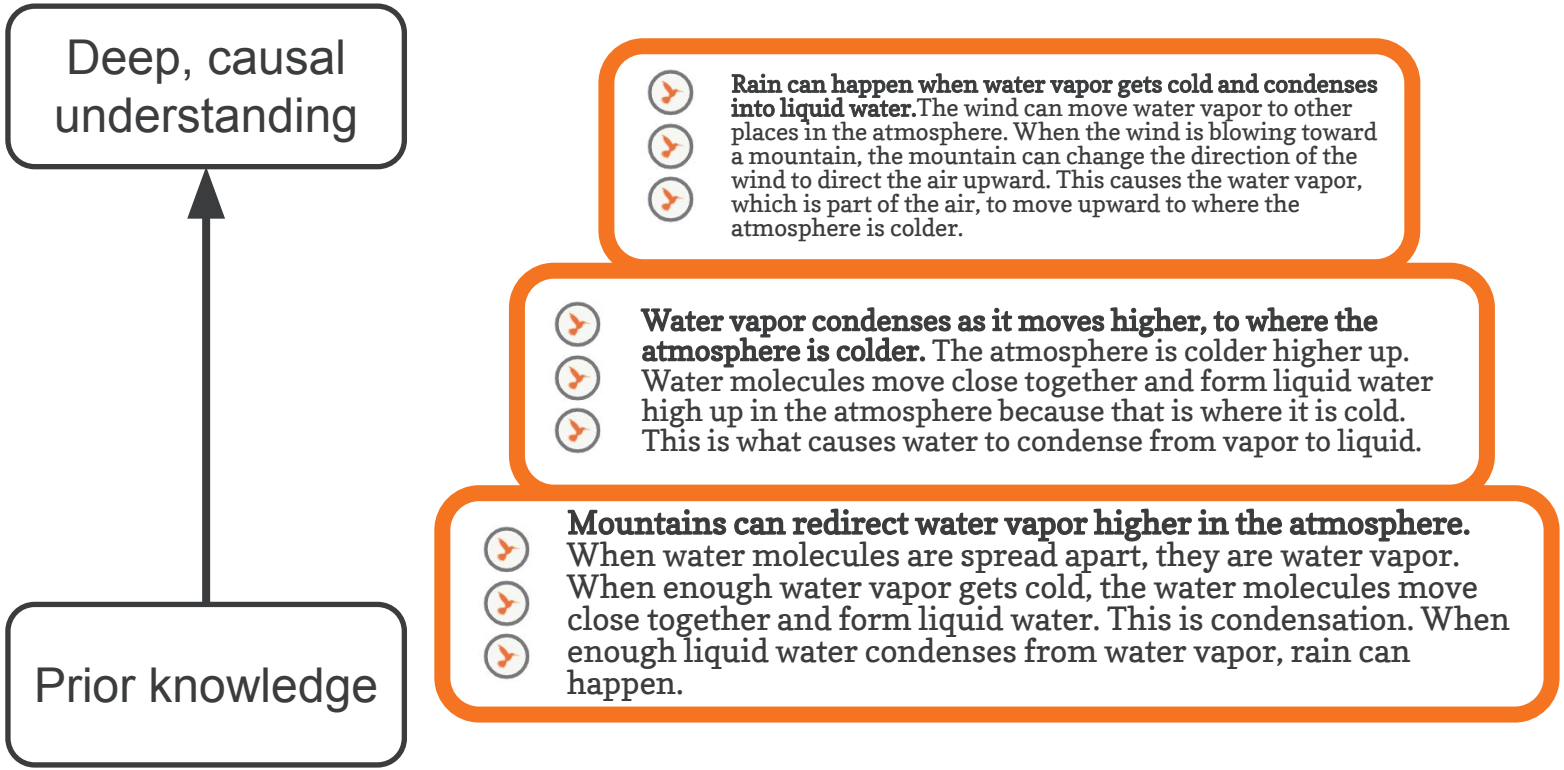
Critical Juncture Assessment

- Occurs at a key point in the unit
- Gauges students' growing understanding about core ideas in the unit
- Contains multiple choice questions and two written responses
- Multiple choice section is auto-scored
- Contains a Scoring Guide with rubrics for analyzing student responses
- Followed by a differentiated lesson based on results

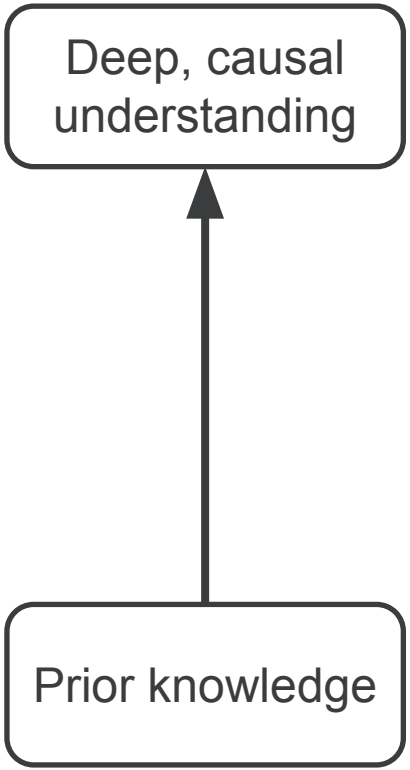
On-the-Fly Assessments



On the Fly Assessment

- Mostly frequently occurring assessment
- Quick check for understanding designed to help monitor and support student progress throughout the unit.
- Provides teachers with an opportunity to adjust instruction to meet student needs
- Contains Look For and Now What evaluation guidance
- Followed by a differentiated lesson based on results

Self Assessments



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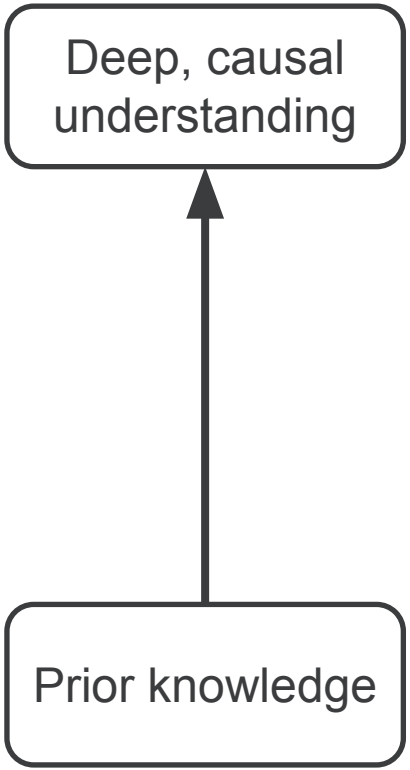
Portfolio Assessments



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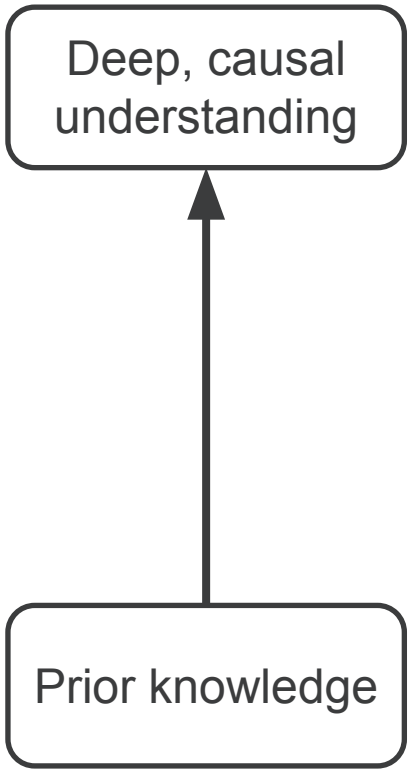
Investigation Assessments



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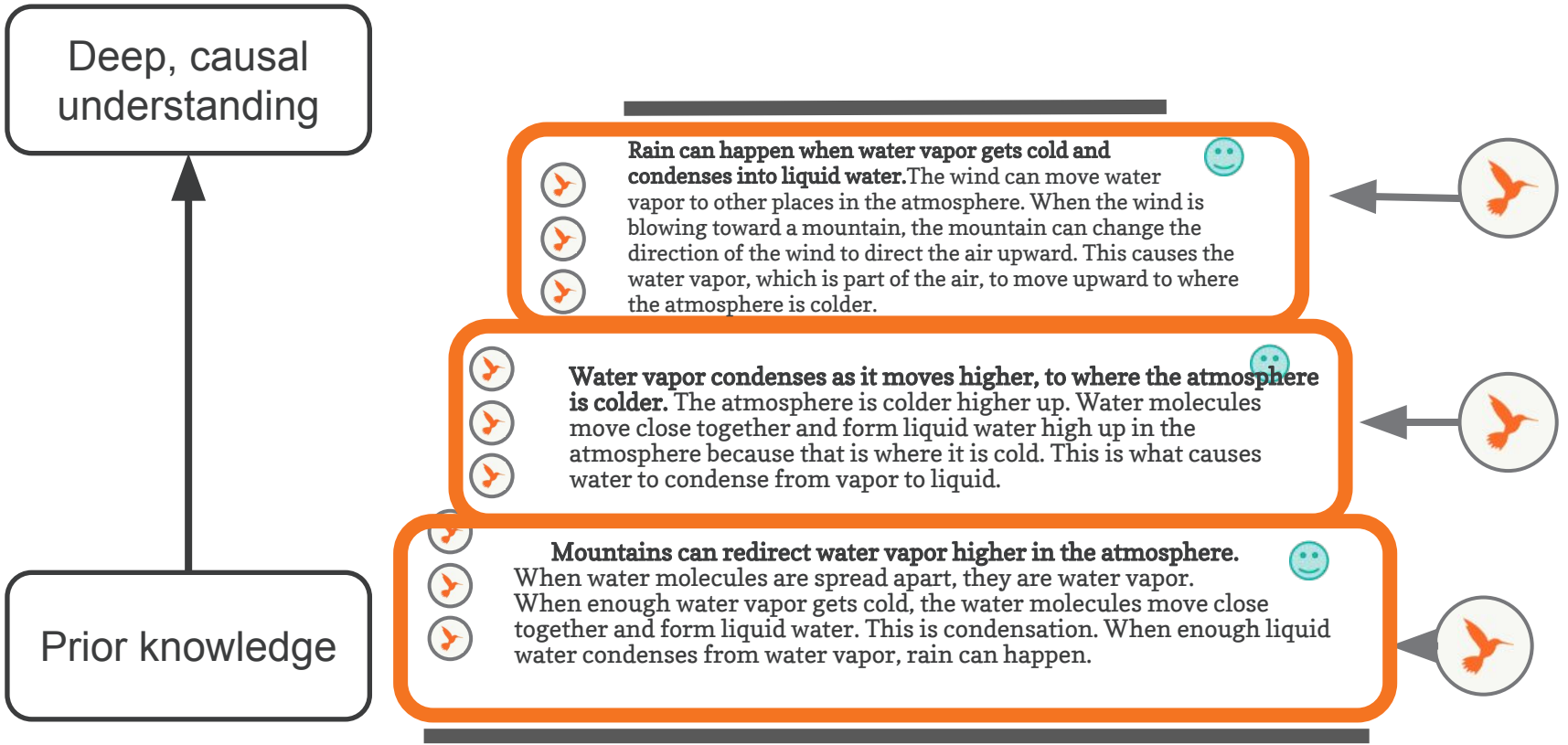
Investigation Assessments

Grade	Unit Title
Kindergarten	Sunlight and Weather
First Grade	Light and Sound
Second Grade	Plant and Animal Relationships
Third Grade	Balancing Forces
Fourth Grade	Vision and Light
Fifth Grade	Patterns of Earth and Sky

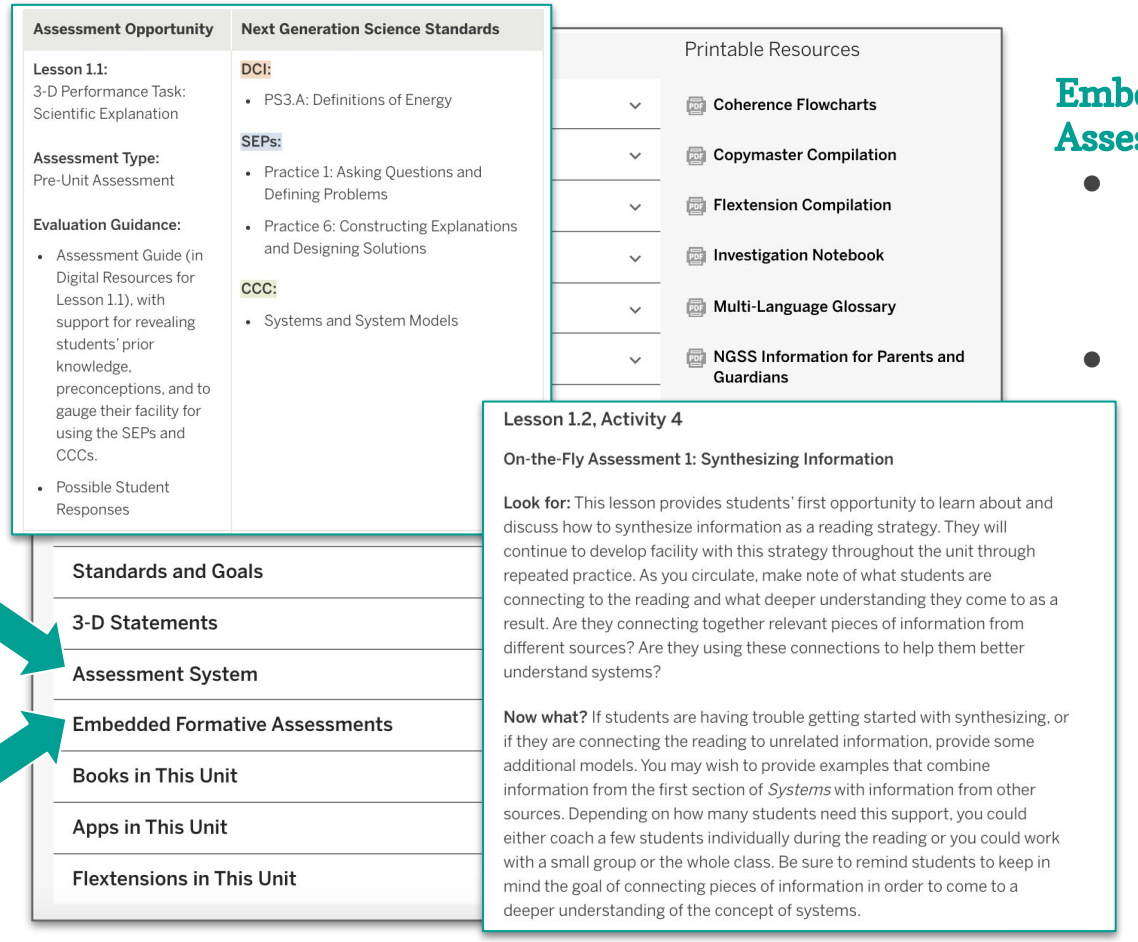
Assessment System



Unit Level Assessment Documents

Assessment System:

- explains the organization of the assessment system
- lists out each assessment in the unit with key information
- goes into an explanation of each type of assessment found in the unit

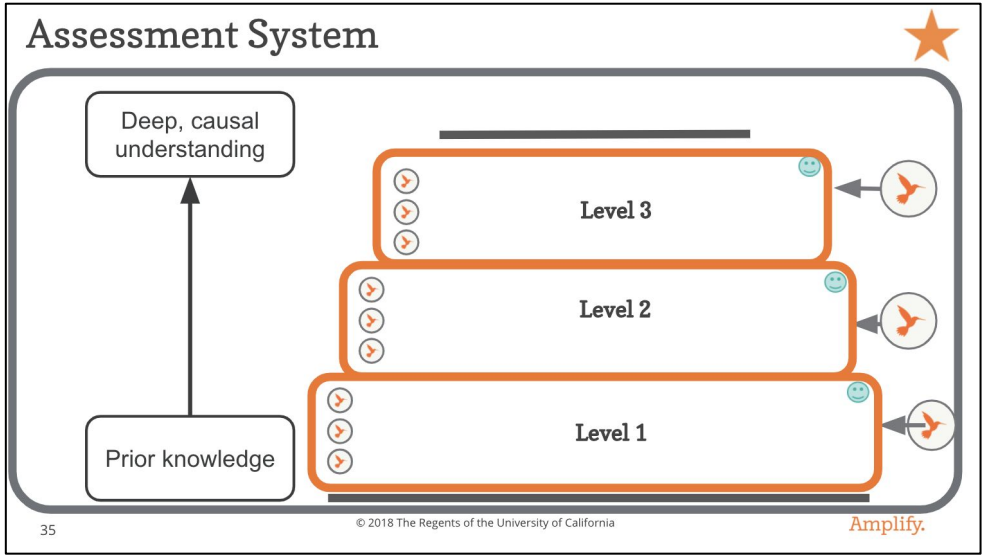


Embedded Formative Assessments:

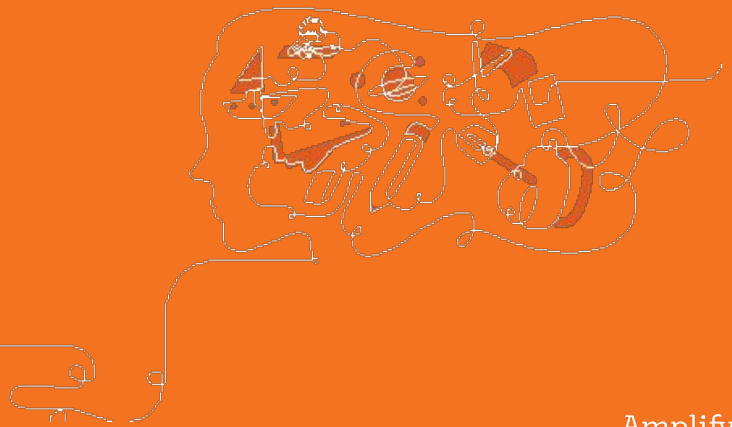
- explains what to look for at each assessment opportunity
- gives guidance for instructional next steps

Assessment Reflection

- There are many assessment opportunities in each Amplify Science unit.
- What does having this quantity of assessment opportunities do for students? For teachers?



Monitoring Student Progress



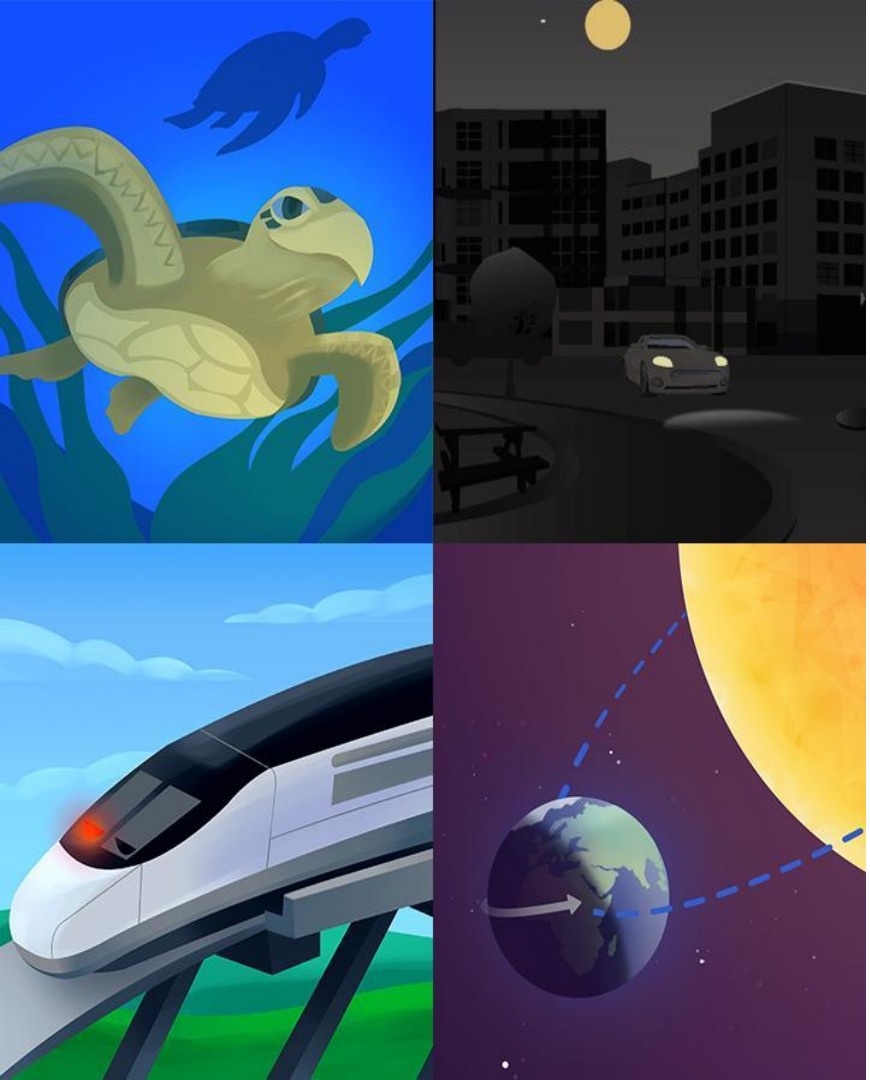
How can you monitor students progress?

- Through the implementation of multimodal instruction (Do, Talk, Read, Write, Visualize)
- Using the embedded formative assessments (Pre/End of unit, On-the-fly, Critical Juncture,etc)
- Observation
- Student Work

Multiple Modalities: Do, Talk, Read, Write, Visualize

The crosscutting concept emphasized in ***The Earth System*** unit is Systems and System Models. In their role as water resource engineers, students delve deeply into the Earth system and its interacting parts as they investigate water shortages, rain formation, and evaporation. Through these investigations, students construct an understanding of how the hydrosphere, atmosphere, and geosphere interact to affect rainfall patterns and how the biosphere affects water availability. Students apply their systems lens to engineering design as they construct systems for collecting freshwater from salt water. Students return to the idea of systems again and again throughout the unit, through a variety of modalities.

- **Do.** Students design and construct freshwater collection systems, a potential solution to the water shortage in the fictional city of East Ferris. As they design, test, and refine their systems, students closely analyze the role that each part of their system plays and how to revise their systems to better meet their design criteria.
- **Talk.** Multiple opportunities for student-to-student talk engage the class in figuring out what role Earth's spheres play in rain formation and how spheres interact with one another during that process.
- **Read.** Students read a book about how Earth's spheres interacted when the dinosaurs went extinct and apply this understanding to explain how Earth's spheres interact during rain formation.
- **Write.** During the course of the unit, students write several scientific explanations about rain formation. These explanations require students to apply a system-level understanding of the interactions of Earth's spheres to explain how rain forms.
- **Visualize.** As students develop and use models, they visualize nanoscale interactions that occur during condensation and evaporation. These activities support students in understanding how Earth's spheres interact to result in rain formation.



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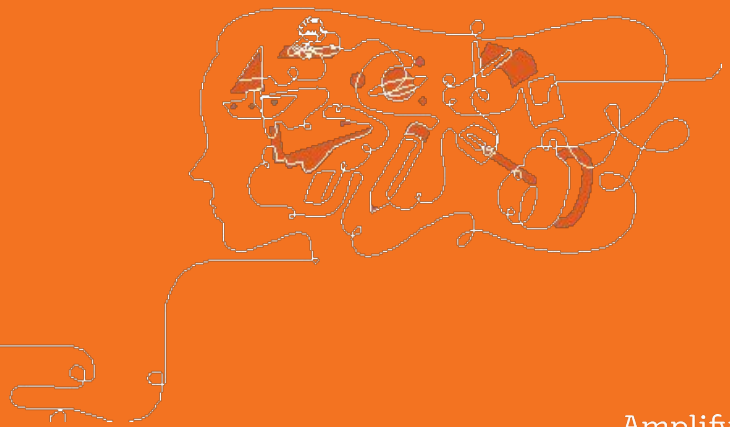
Strategies for Collecting and Analyzing Student Work



Collecting Data

How do you typically collect and record student data?

What strategies have you successfully used for collecting data in a remote learning setting ?

Collecting data

What ideas do you have for collecting student data?

Synchronous

Formative assessments
Summative assessments
Observations
Classwork
Homework
Simulations
Modeling Tools
Student Talk

Asynchronous

Formative assessments
Summative assessments
Observations
Classwork
Homework
Simulations
Modeling Tools
Student Talk

Recording Data

What ideas do you have for collecting student data from assessments?

Synchronous

Amplify Platform

Note - taking

Graphic Organizer

Google doc/forms

Google Classroom

Asynchronous

Amplify Platform

Google Classroom

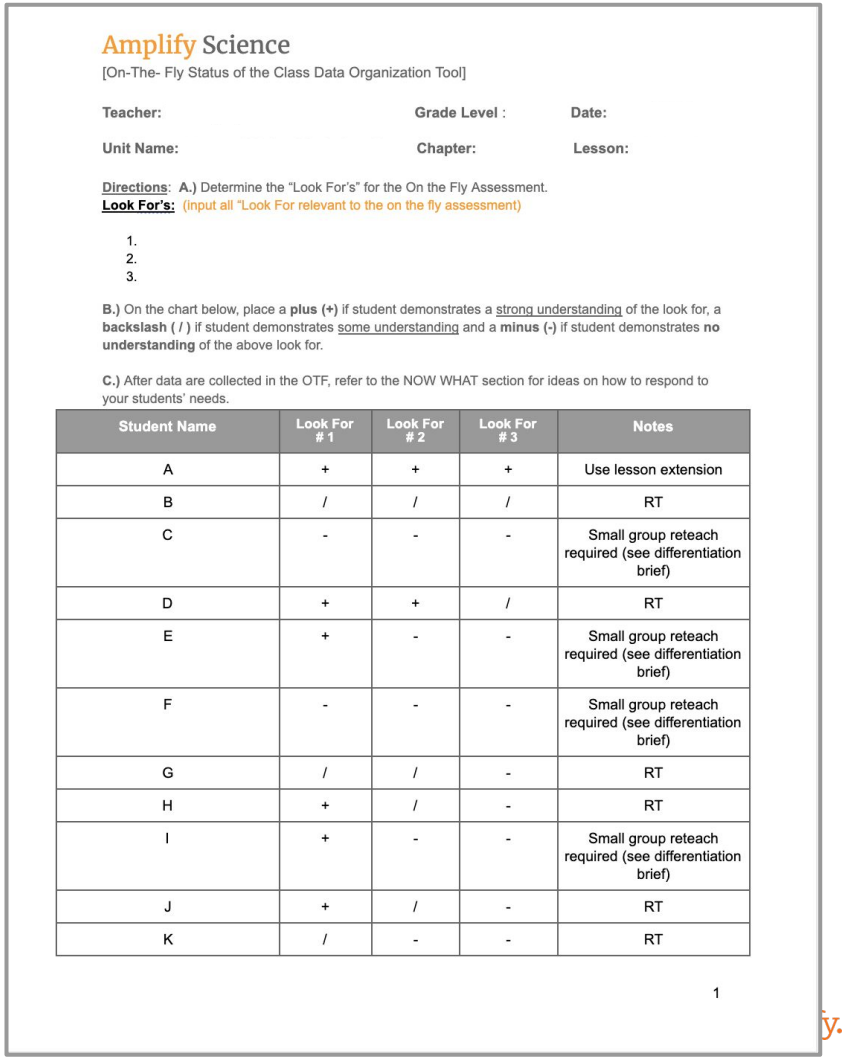
Google Forms

Google Doc

Third Party Apps

Collecting and Analyzing Embedded Formative Assessment Data

Look at the class data, what do you notice about the class as a whole? Individually?



Amplify Science

[On-The- Fly Status of the Class Data Organization Tool]

Teacher: **Grade Level :** **Date:**

Unit Name: **Chapter:** **Lesson:**

Directions: **A.)** Determine the "Look For's" for the On the Fly Assessment.
Look For's: (input all "Look For relevant to the on the fly assessment)

1.
2.
3.

B.) On the chart below, place a **plus (+)** if student demonstrates a strong understanding of the look for, a **backslash (/)** if student demonstrates some understanding and a **minus (-)** if student demonstrates **no understanding** of the above look for.

C.) After data are collected in the OTF, refer to the NOW WHAT section for ideas on how to respond to your students' needs.

Student Name	Look For # 1	Look For # 2	Look For # 3	Notes
A	+	+	+	Use lesson extension
B	/	/	/	RT
C	-	-	-	Small group reteach required (see differentiation brief)
D	+	+	/	RT
E	+	-	-	Small group reteach required (see differentiation brief)
F	-	-	-	Small group reteach required (see differentiation brief)
G	/	/	-	RT
H	+	/	-	RT
I	+	-	-	Small group reteach required (see differentiation brief)
J	+	/	-	RT
K	/	-	-	RT

1

The Earth System: Lesson 1.2 Overview

Lesson Goal:

The purpose of this lesson is for students to develop an understanding of the differences between observations and inferences and to learn more about the work of geologists in the field.

Activity 1: Discussing Water Use

- Students review where water is located on Earth and discuss how humans need freshwater.

Activity 2: Introducing Synthesizing

- Students are introduced to their Investigation Notebooks, the book *Water Shortages, Water Solutions*, and the strategy of synthesizing.

Activity 3: Partner Reading

- Students read *Water Shortages, Water Solutions* with a partner and discuss big ideas from the book.

Activity 4: Synthesizing Ideas about Water Shortages

- Students share the big ideas they learned from the book and synthesize an answer to the Investigation Question by connecting big ideas.

Planning for an Upcoming Assessment

1.Choose an upcoming assessment for your unit.

2.Plan using the template or your note catcher.

Unit: **Lesson:**			
Analyzing student data: refer to the Look for section of the Lesson ____ assessment. *(If using the @Home Units refer to the chapter assessment considerations).*		**Taking action based on student data:** refer to the Now what section of the ____ assessment and consider how you might adjust instruction in your classroom.	
How will I collect data?	**Which misconception?**	**When?**	**How?**
	❏ Key Concept ❏ Practice ❏ Crosscutting Concept Notes:	❏ In the moment ❏ In upcoming activity ❏ Outside of lesson Notes:	❏ Keep an eye on certain students ❏ Provide additional instruction ❏ Revisit an activity Notes:

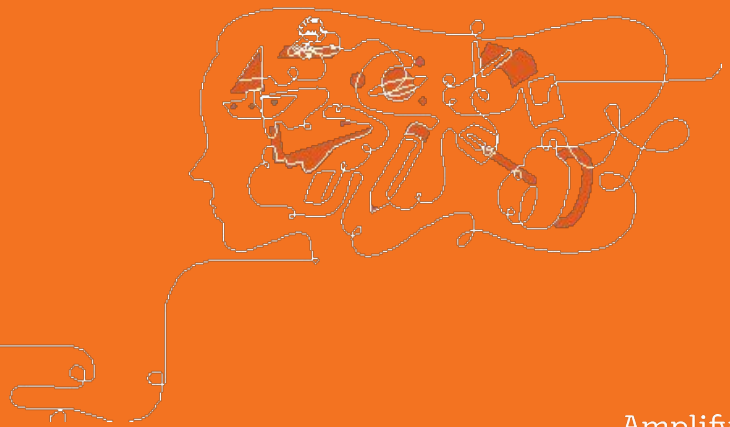
Model Analysis: 1.2 Activity 4

Analyzing Student Assessment Data: Refer to the "Look For" section of Lesson 1.2 Act. 4 and refer to your observation notes.		Taking action based on student data: refer to the Now what section of the 1.2 Act. 4 assessment and consider how you might adjust instruction in your classroom.	
Which misconception? 	**Which students?**	**When?**	**How?**
❑ Key Concept ❑ Practice ☑ Crosscutting Concept Notes: *This lesson serves as an introduction to the sense-making strategy of synthesizing and is a chance for students to try it out with the book they have read. Students will continue to develop facility with this strategy throughout the unit through additional modeling and continued practice. As you circulate, make note of the ideas that students have identified in the text as related to the question How can people affect how much freshwater is available? Are they discussing what they think the big ideas are from the book? Are they thinking about a new understanding that relates to the question?*	Tristian Trent Wanda Zena	❑ In the moment ❑ In upcoming activity ❑ Outside of lesson Notes:	❑ Keep an eye on certain students ❑ Provide additional instruction ❑ Revisit an activity Notes:

Model Analysis: 1.2 Activity 4

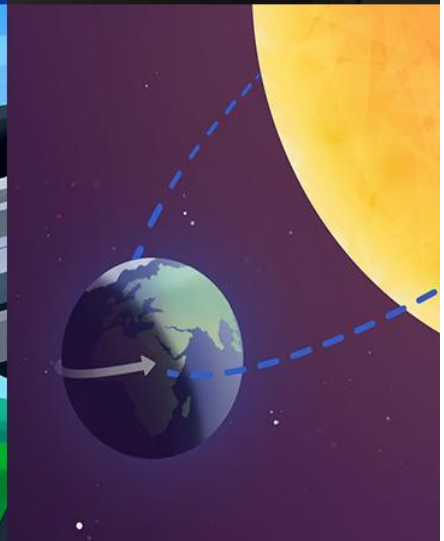
Analyzing Student Assessment Data: Refer to the "Look For" section of Lesson 1.2 Act. 4 and refer to your observation notes.		Taking action based on student data: refer to the Now what section of the 1.2 Act. 4 assessment and consider how you might adjust instruction in your classroom.	
Which misconception? 	**Which students?**	**When?**	**How?**
❑ Key Concept ❑ ✓ Practice ❑ Crosscutting Concept Notes: *This lesson serves as an introduction to the sense-making strategy of synthesizing and is a chance for students to try it out with the book they have read. Students will continue to develop facility with this strategy throughout the unit through additional modeling and continued practice. As you circulate, make note of the ideas that students have identified in the text as related to the question How can people affect how much freshwater is available? Are they discussing what they think the big ideas are from the book? Are they thinking about a new understanding that relates to the question?*	Tristian Trent Wanda Zena	❑ ✓ In the moment ❑ In upcoming activity ❑ Outside of lesson Notes: *If students are having trouble getting started with synthesizing, or if they are connecting unrelated ideas, you may want to model by using an example from Water Shortages, Water Solutions. (Pages 8–9, "Drought Down Under," will work well for this purpose. Discuss the key idea that when people use water and it isn't replaced by rain, the amount available in reservoirs can go down.) Depending on how many students need this support, you could either coach a few students individually, work with a small group, or model synthesizing with the whole class. As you guide student thinking with this sense-making strategy, remind students that they are trying to figure out how people might help to cause a water shortage.*	❑ Keep an eye on certain students ❑ ✓ Provide additional instruction ❑ Revisit an activity Notes: Coach students listed after 1.2 Act 4

Resources for Tailoring Instruction



How do I tailor instruction for my classroom?

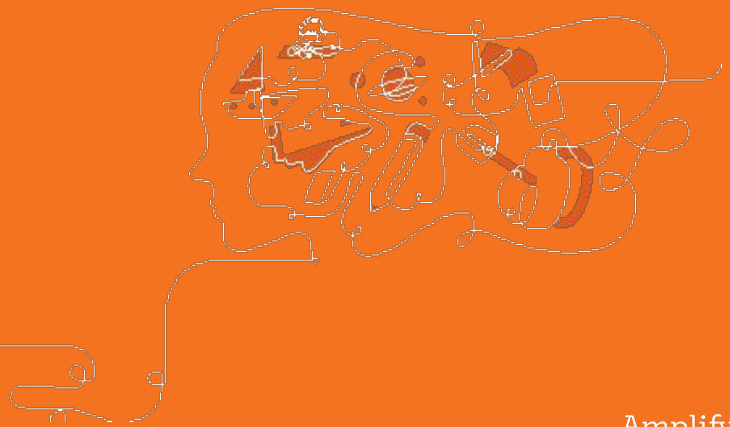
- Group students according to ability level
- Use the “Look For” and “Now what” tools to provide support based on formative assessment data
- Use the differentiation brief within each lesson
- Pull intervention suggestions from the student online component

Plan for the day

- **Framing the day**
  - Welcome and introductions
  - Anticipatory Activity
- **Amplify Science Assessment System**
  - Credible, Actionable, Timely
  - Embedded Formative Assessments
  - Monitoring Student Progress
- **Amplify Science Diagnostics Tools**
  - Strategies for collecting/analyzing student work & assessment data
  - Resources for tailoring instruction
- **Amplify Science Embedded Supports**
  - Multimodal Instruction
  - Discourse routines
  - Differentiation/Meeting the needs of diverse learners
- **Closing**
  - Reflection/Survey

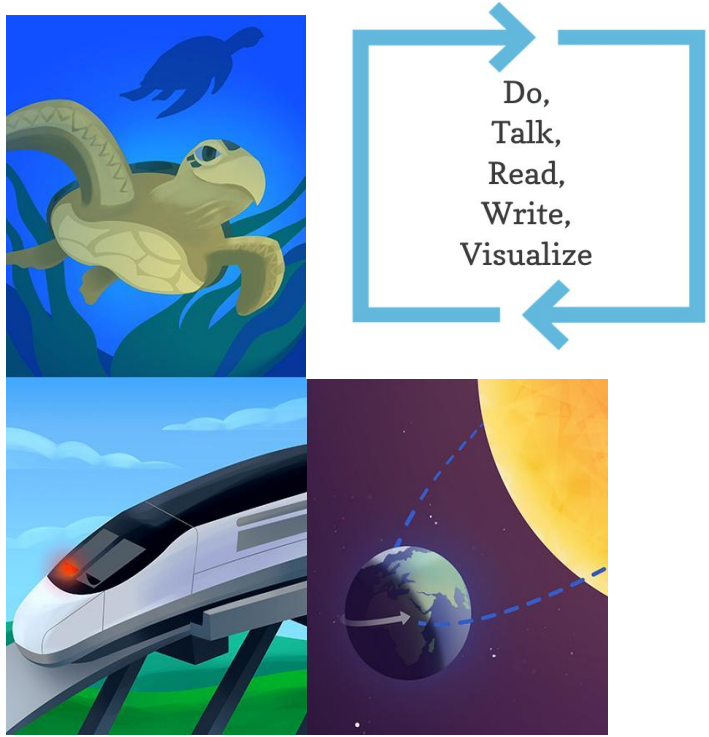
Multimodal Instruction



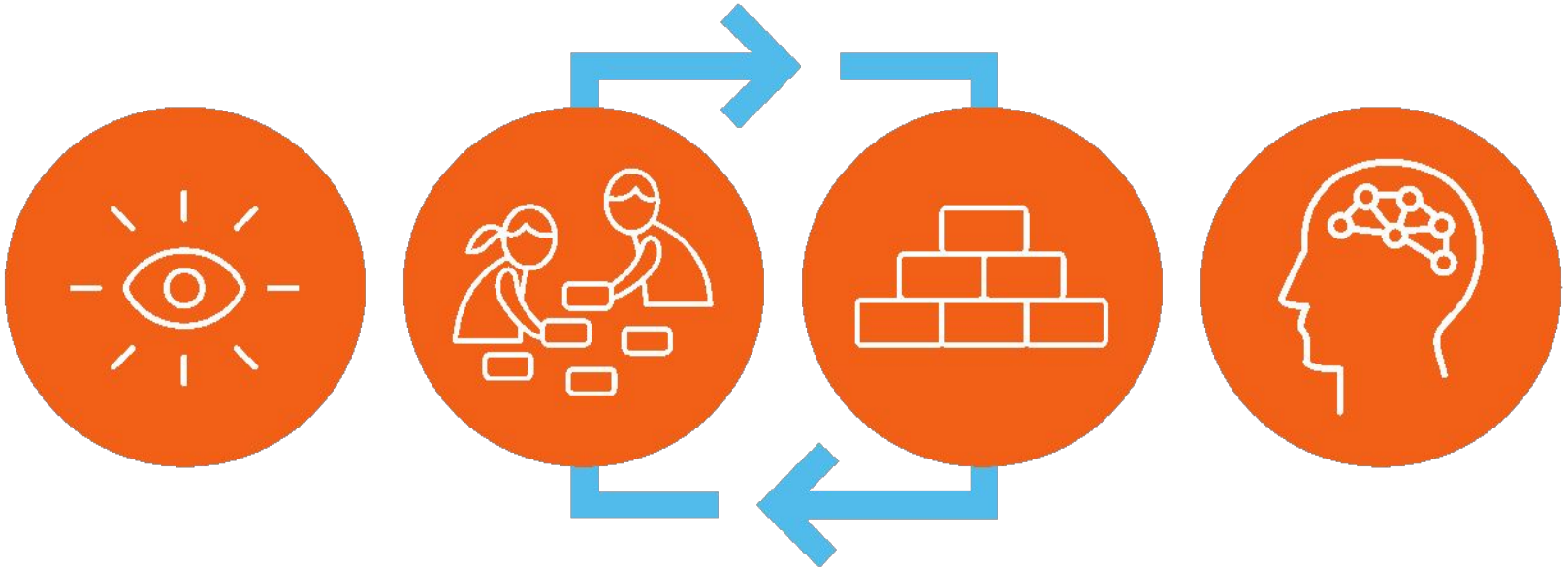
Multimodal, phenomenon-based learning

In each Amplify Science unit, students embody the role of a scientist or engineer to **figure out** phenomena.

Through problem based deep dives, they gather evidence from multiple sources, using multiple modalities.



Amplify Science approach



Introduce a phenomenon and a related problem

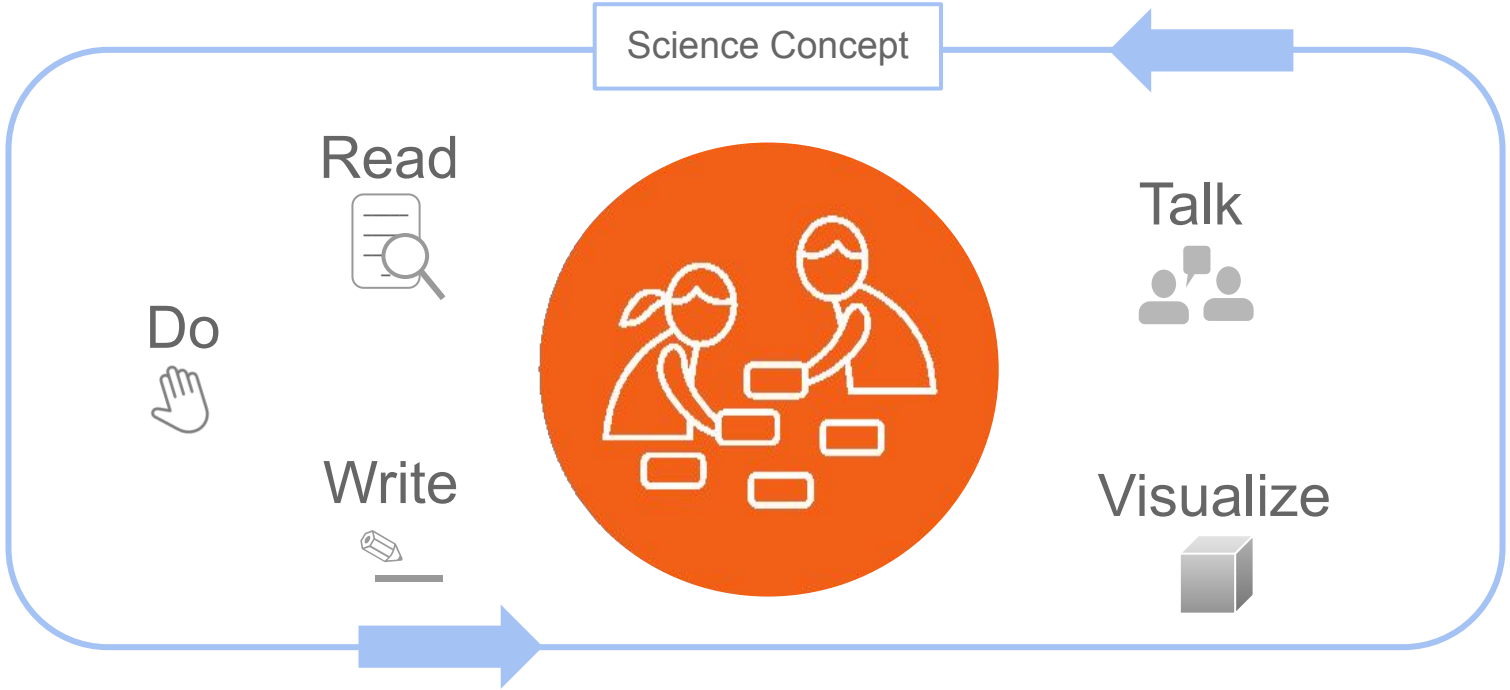
Collect evidence from multiple sources

Build increasingly complex explanations

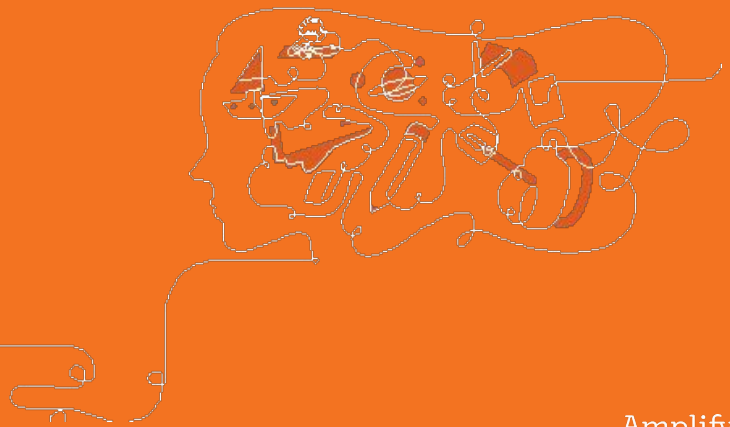
Apply knowledge to a different context

Multimodal learning

Gathering evidence from different sources



Discourse Routines



Amplify Science discourse routines

- Oral Composition and/or Drawings as teacher captures words (K-1)
- Explanation Language Frames
- Shared Listening
- Partner Reading
- Thought Swap
- Think-Pair-Share
- Word Relationships
- Questioning Strategies [K-8]
    - Do you agree/disagree?

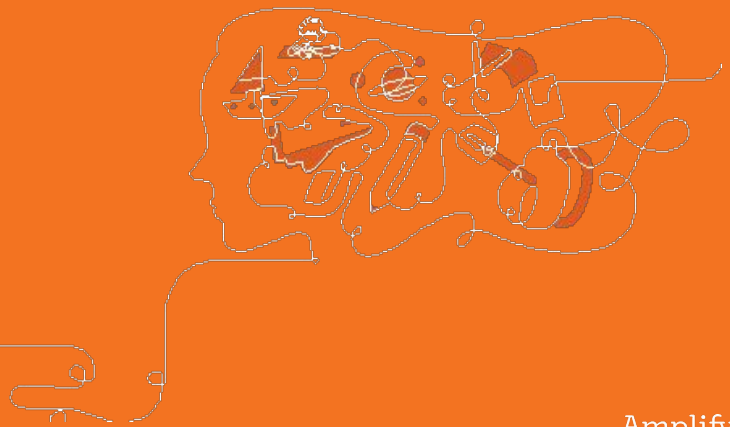
	Kindergarten - Grade 1	Grades 2-5
Discourse routines	Students engage in informal partner, small group, and full class talk as well as with Shared Listening, a structured discourse routine. To work towards answering each Chapter question, students first compose responses orally with a Language Frame activity using sentence frames written on sentence strips, completed with cards. They use this practiced sentence structure to write explanations together as a class (Shared Writing) or in their investigation notebooks.	Students engage in informal partner, small group, and full class talk as well as with a variety of structured discourse routines. Each unit includes 2-3 different routines such as: • Shared listening • Think-pair-share • Think-draw (or write) -pair-share • Thought swap • Concept mapping • Word relationships • Building on ideas • Evidence circles

Additional support considerations

Modifying the instructional suggestions for my students

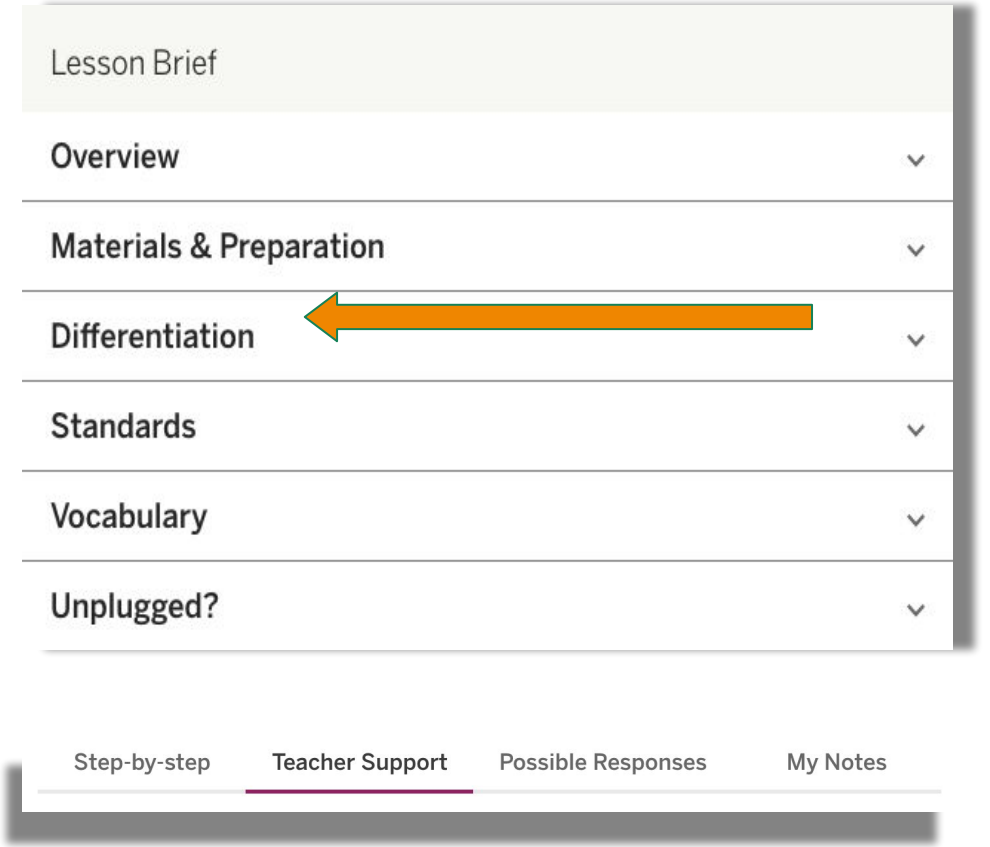
- Additional practice time
- Strategic grouping
- Additional resources (multilingual glossary, word banks, other environmental print)
- Increased support for gradual release of responsibility
- Alternative response options

Differentiation



Differentiation Briefs

- Embedded supports for diverse learners
- Potential challenges in this lesson
- Specific differentiation strategies for English learners
- Specific differentiation strategies for students who need more support
- Specific differentiation strategies for students who need more challenge



Differentiation briefs

Categories of differentiation briefs

- Embedded supports for diverse learners
- Potential challenges in this lesson
- Specific differentiation strategies for English learners
- Specific differentiation strategies for students who need more support
- Specific differentiation strategies for students who need more challenge

Lesson 1.2 Specific Differentiation

Embedded Supports for Diverse Learners

Partner Reading. Reading with a partner provides opportunities for students to assist each other with reading and understanding complex text. Partner Reading encourages discussion of the text and allows students to share ideas with each other, notice illustrations and text features, and interact with the book.

Accessible examples. Activity 1 introduces students to the difference between observations and making inferences through a simple prompt. Students observe a photo of a broken eggshell in a bird nest and are asked to state what they can directly see (their observations) versus what they think happened (their inferences). This task requires very little scientific background knowledge and is meant to be accessible to all students. Using a familiar example and referring back to it often will help students engage in the more complex inferencing tasks later in the unit.

Explicit instruction about making inferences. This lesson focuses on making inferences through contrasting observations with inferences. Students are introduced to the practice of making inferences through a familiar example in Activity 1, through reading about how one scientist makes inferences in *Clues from the Past* in Activities 2 and 3, and they practice distinguishing between observations and inferences as they sort statements about a fossil in Activity 4. Throughout the lesson, you will use modeling and guided instruction to help students understand what observations and inferences are and how to go about making them. Students will make observations and inferences frequently throughout this unit as they read and investigate.

Potential Challenges in This Lesson

Reading-centered. Reading informational texts can present challenges for many students. As the unit progresses, students will become more familiar with the content and reading the texts will get easier, but it can be daunting at first. although *Clues from the Past* is written to be accessible to fourth-grade students, it does contain science vocabulary that students may be unfamiliar with at this point in the unit. Consider if any of your students would benefit from extra support during this reading-centered lesson.

Complex cognitive activities. In this lesson, students are introduced to making inferences, which is an important but challenging cognitive process. It may be challenging for some students to draw inferences based on observations, especially since the words represent concepts that may be unfamiliar. Students will have many other opportunities to read, write, hear, and say these words throughout the unit, but you might want to consider spending extra time discussing these new words if you think this will be a challenge for your students.

Specific Differentiation Strategies for English Learners

Bilingual Spanish glossary. Having access to translations and definitions of new science terms in Spanish is helpful for English learners for whom Spanish is their primary language. Have students turn to pages 86–87, Glossary, in the *Earth's Features* Investigation Notebook to see Spanish translations and definitions. Encourage students to refer to this glossary as needed throughout the unit.

Increase wait time. English learners benefit from increased time to process oral questions. In addition to considering the content of a question, English learners can use a few extra seconds to make sense of unfamiliar words or phrases and/or to mentally translate questions into their primary languages. Increasing your wait time up to 10 seconds before calling on students will likely increase the participation of English learners in class discussions.

Vocabulary support. *Clues from the Past* may be especially challenging for English learners because of the number of science vocabulary words introduced in the text. You may want to preview the text with students, pointing out strategies to use when they encounter unknown words. You can point out that some words are defined in the sentence after they appear in bold, as in the word *inferences* on page 4 and *fossils* on page 5. Also turn students attention to the glossary and invite them to use this when they encounter words in bold print. Students will continue to be exposed to and have opportunity to practice these words throughout the unit, which will help them develop flexible word knowledge.

Cognates. Many of the academic words that students will be learning over the course of this lesson and unit are Spanish cognates. Cognates are words in two or more different languages that sound and/or look the same or very nearly the same, and that have similar or identical meanings. You may decide to support students by keeping a running list on chart paper of cognates that students encounter in this unit, or by encouraging students to keep their own lists that they can refer to as needed. Cognates are especially rich linguistic resources to exploit for academic English language development and for biliteracy development.

Specific Differentiation Strategies for Students Who Need More Support

Strategic partnering. Thinking in advance about reading partners can help ensure that all students are successful during reading. You may want to pair a reader who might benefit from more support with a partner who is a slightly more fluent reader. You may also want to provide partners with more time to read.

Anticipation Guide. For each book, we provide an optional Anticipation Guide in the Investigation Notebook. Anticipation Guides can help support students by activating prior knowledge before reading, promoting engaged reading, and encouraging students to monitor their comprehension. If you choose to use this optional activity, have students turn to page 4, Getting Ready to Read: *Clues from the Past* in the Investigation Notebook. To use this activity, explain that students should work with a partner to decide if they agree or disagree with each statement. After reading, ask partners to revisit the statements and discuss whether they want to change any responses based on their reading. Encourage students to refer to the text as they discuss.

Specific Differentiation Strategies for Students Who Need More Challenge

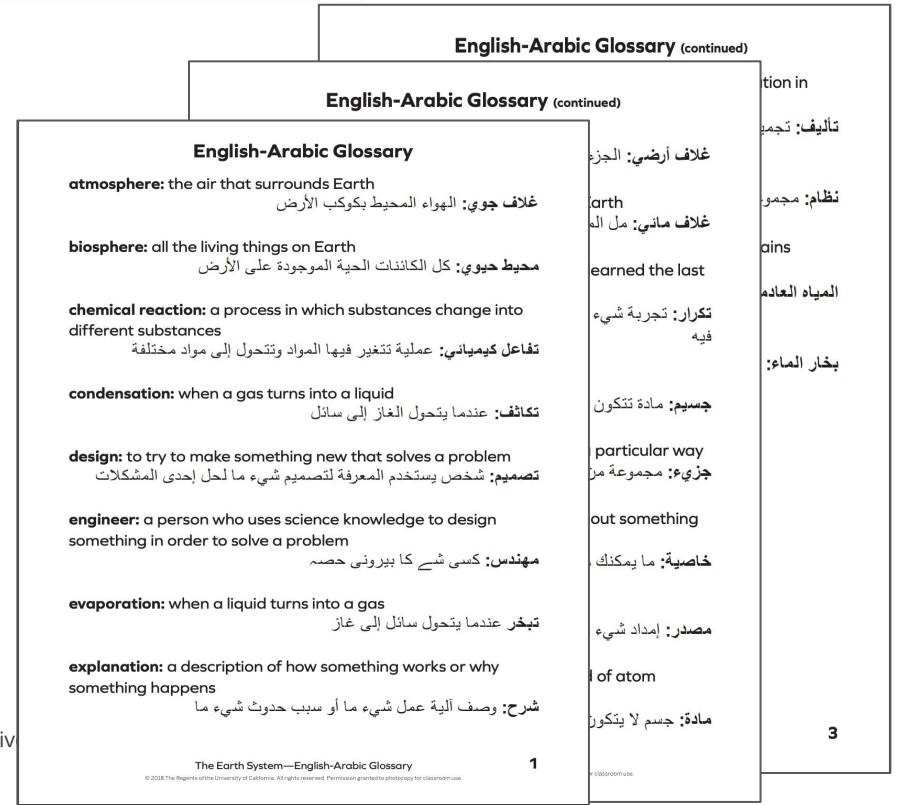
Reading Reflection. A Reading Reflection activity for each book is included in the Investigation Notebook. These are optional written activities designed to reinforce concepts in the books and provide prompts to encourage further thinking about the text. These activities are designed for early finishers to use during Partner Reading and can also be used in a variety of other ways, such as to reinforce concepts on a second read of the book or as homework. The Reading Reflection for this book (on pages 6–7, Reading Reflection: *Clues from the Past*, in the Investigation Notebook) asks students to make observations and inferences about images of fossils in the book.

Embedded instructional design

- Modeling Active Reading/ Active Reading
- Anticipation Guides
- Science/ Everyday Word Chart
- Word Relationships Activities
- Graphic Organizers
- Reflective writing with language frames/ sentence starters
- Practice Tools
- Physical and digital models

Additional supports

- Cognates
- Multilingual Glossary
- Word Banks
- Multiple-Meaning Words
- Extended Modeling
- Additional Visual Representations
- Optional Graphic Organizers
- Response Option



English-Arabic Glossary (continued)

English-Arabic Glossary (continued)

English-Arabic Glossary

atmosphere: the air that surrounds Earth
غلاف جوي: الهواء المحيط بكوكب الأرض

biosphere: all the living things on Earth
محيط حيوي: كل الكائنات الحية الموجودة على الأرض

chemical reaction: a process in which substances change into different substances
تفاعل كيميائي: عملية تتغير فيها المواد وتتحول إلى مواد مختلفة

condensation: when a gas turns into a liquid
تكاثف: عندما يتحول الغاز إلى سائل

design: to try to make something new that solves a problem
تصميم: شخص يستخدم المعرفة لتصميم شيء ما لحل إحدى المشكلات

engineer: a person who uses science knowledge to design something in order to solve a problem
مهندس: كسى شے كا بيرونى حصہ

evaporation: when a liquid turns into a gas
تبخر عندما يتحول سائل إلى غاز

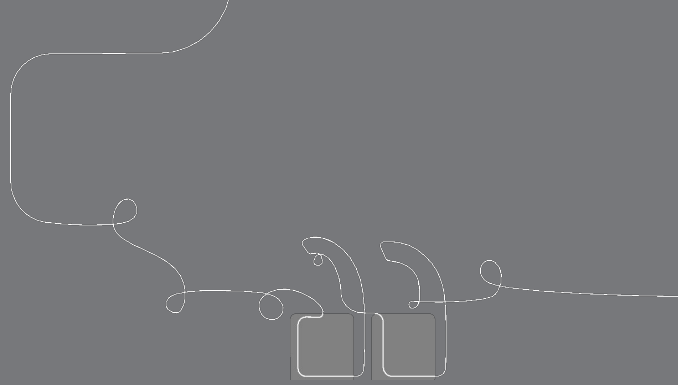
explanation: a description of how something works or why something happens
شرح: وصف آلية عمل شيء ما أو سبب حدوث شيء ما

The Earth System—English-Arabic Glossary 1

Resources for Diverse Learners

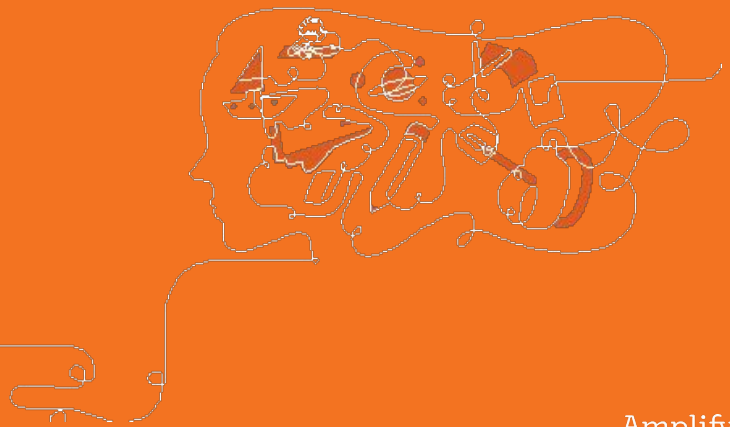
- Optional investigation notebook pages
- Digital copy of vocabulary words
- Access to lesson level powerpoints (editable)
- Remote learning access for students (via Program Hub)
  - Student readers (English/Spanish)
  - Modeling tools/Sims/Practice tools
  - Videos with calls to action (English/Spanish)
  - Student slides, packets, and sheets (editable)

Reflect and Share



What is an example of an embedded differentiation strategy you want to use in your classroom to support students?

Meeting the Needs of Diverse Learners



Who are our Diverse Learners?

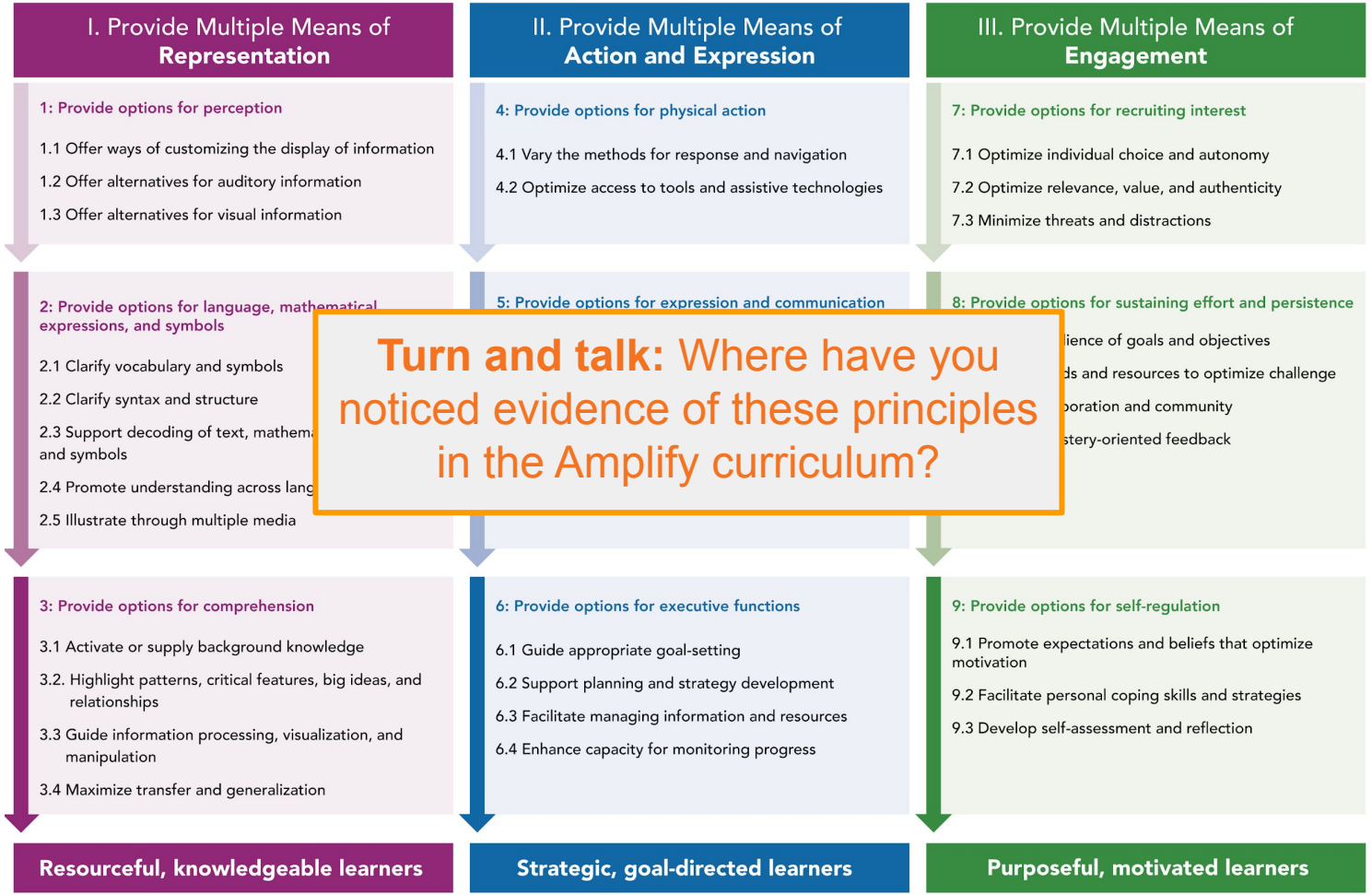
"Diverse learning is not based on race or dependent on a deficit model. Students who are considered gifted are also diverse learners. All students are diverse and unique, in their own right. Let's agree that diverse learning recognizes that all students have unique learning needs and we educators must be prepared to provide multiple entry points for all learners to access the rigor of the goals and standards."

Anonymous Educator

Universal Design for Learning

Universal Design for Learning (UDL) is a **research-based framework** for improving student learning experiences and outcomes by **focusing on careful instructional planning to meet the varied needs of students.** UDL is **NOT a special-education initiative**. Through the UDL framework, the **needs of ALL learners are considered** and planned for at the point of first teaching, thereby **reducing the need to reteach concepts.**

Universal Design for Learning Guidelines



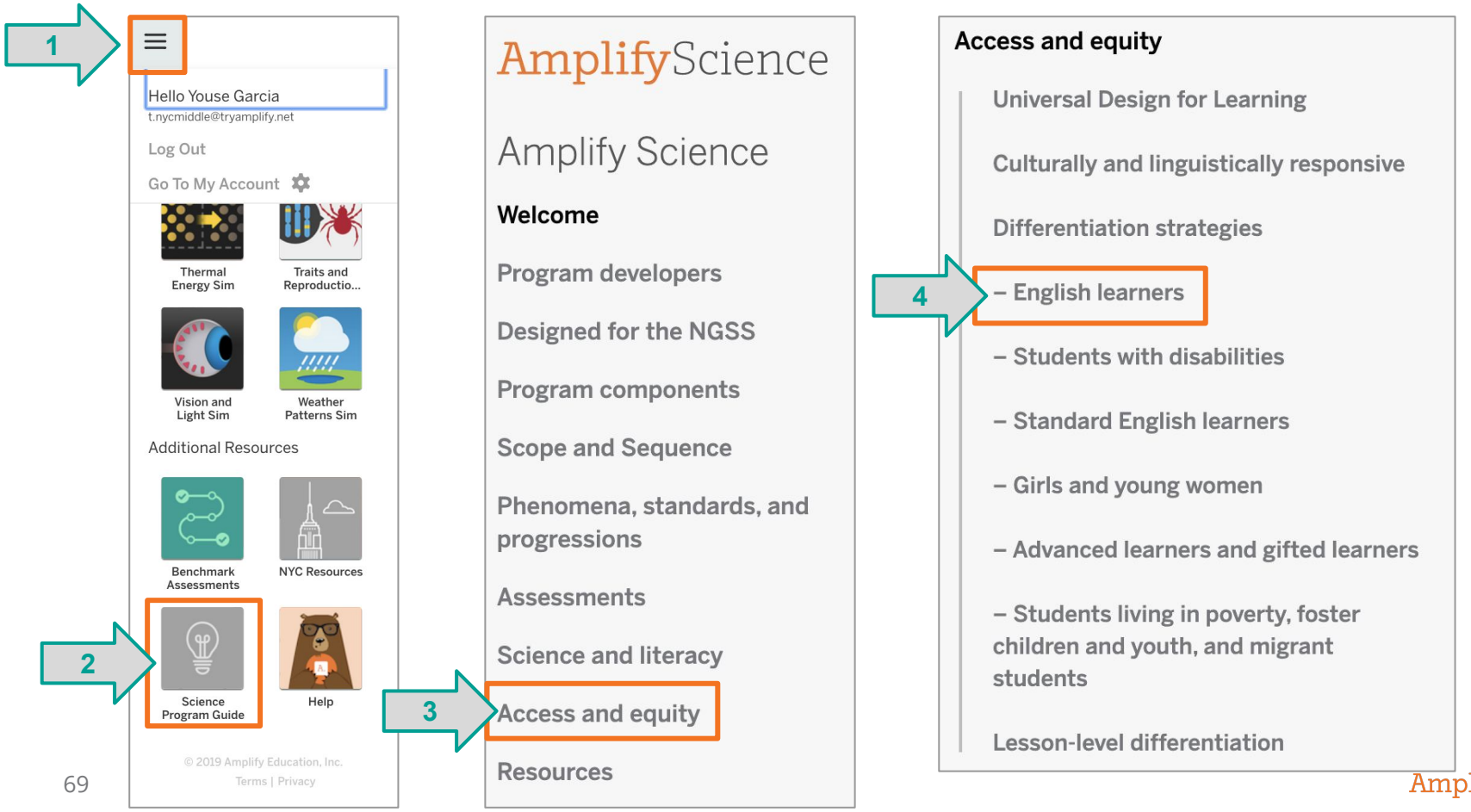
Turn and talk: Where have you noticed evidence of these principles in the Amplify curriculum?

Amplify.

Culturally and linguistically responsive teaching

Culturally and linguistically responsive teaching (CLRT) principles **emphasize validating and valuing students' cultural and linguistic heritage** and **creating positive and nurturing learning environments** so that learning is more effective.

Differentiation Strategies



What resources can you use to meet the needs of diverse learners?

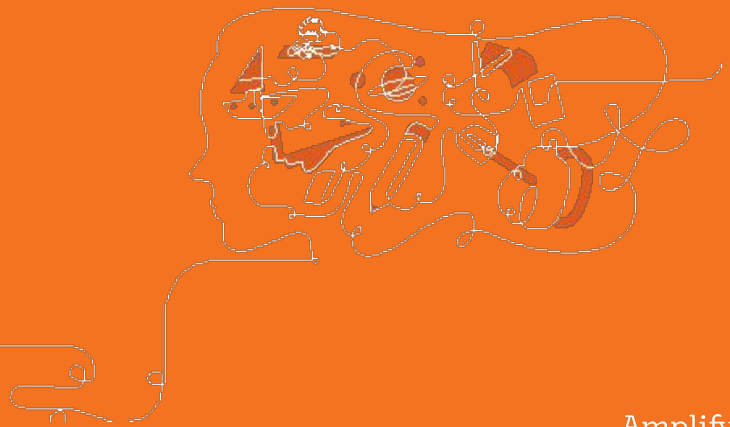
A Differentiation

B Universal Design for Learning

C Do, Talk, Read, Write, Visualize

D All of the Above

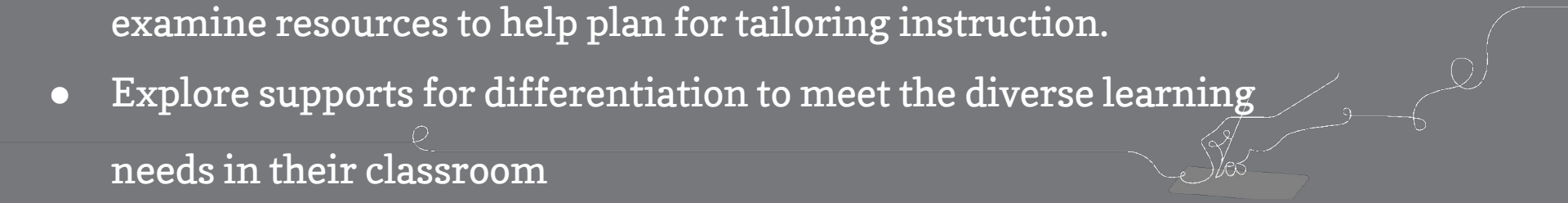
Closing/ Reflection



Revisiting Objectives:

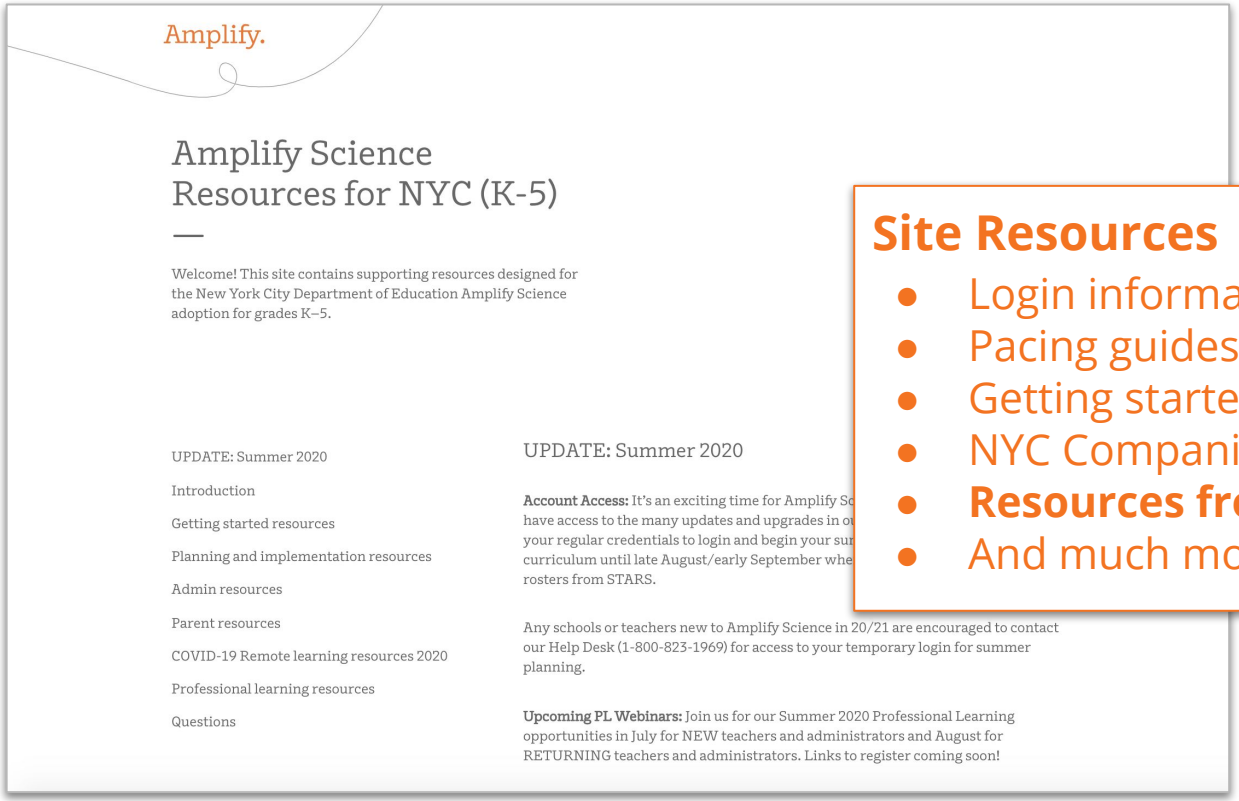
By the end of this 1-hour workshop, you will be able to…

- Explore the Amplify Science Formative Assessment system.
- Explore how to use Embedded Formative Assessments to gain access to credible, actionable, and timely diagnostic information about students progress toward learning the unit goals.
- Learn strategies for analyzing student's work & assessment data, examine resources to help plan for tailoring instruction.
- Explore supports for differentiation to meet the diverse learning needs in their classroom



New York City Resources Site

https://amplify.com/resources-page-for-nyc-k-5/



Site Resources

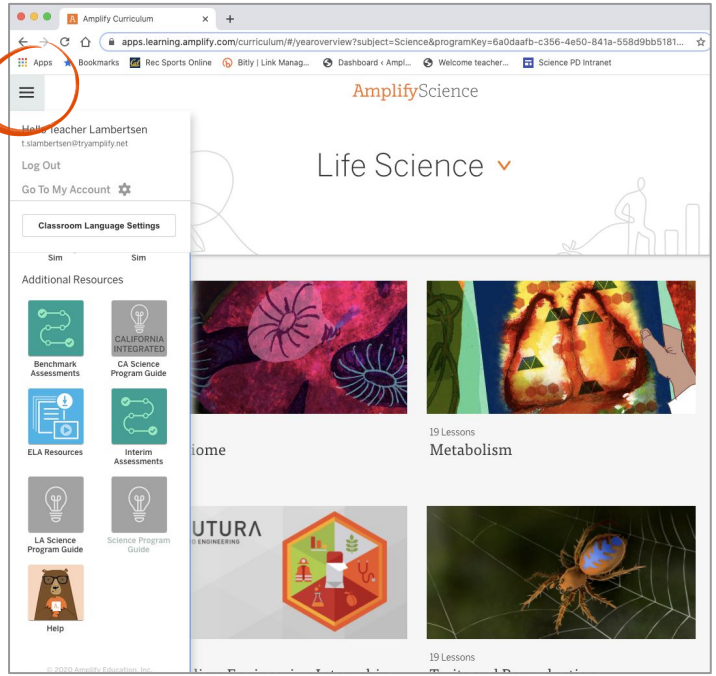
- Login information
- Pacing guides
- Getting started guide
- NYC Companion Lessons
- **Resources from PD sessions**
- And much more!

Amplify Science Program Hub

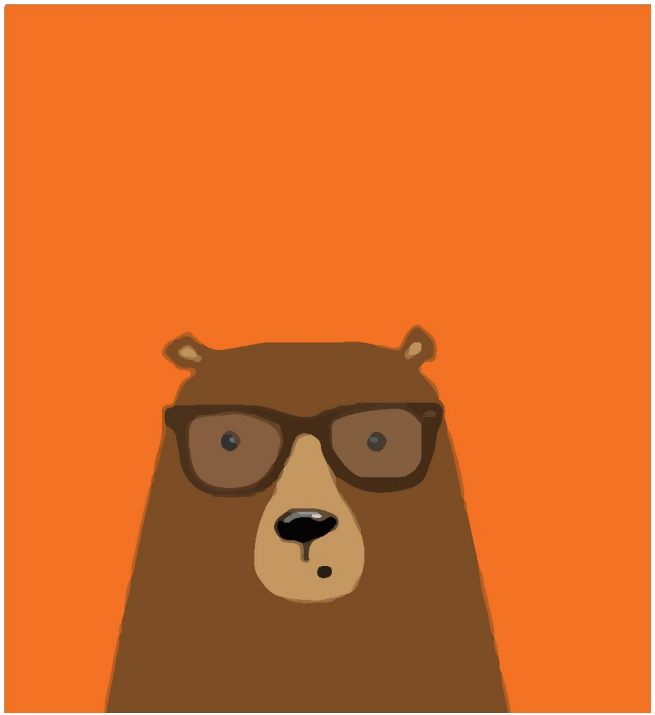
A new hub for Amplify Science resources

- **Videos and resources to prepare for instruction**
- **Amplify@Home resources**
- **Self study resource and much more!**

***Check back often to stay update to date with Amplify Science ***



Additional Amplify resources



Program Guide

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

https://my.amplify.com/programguide/content/national/welcome/science/

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.

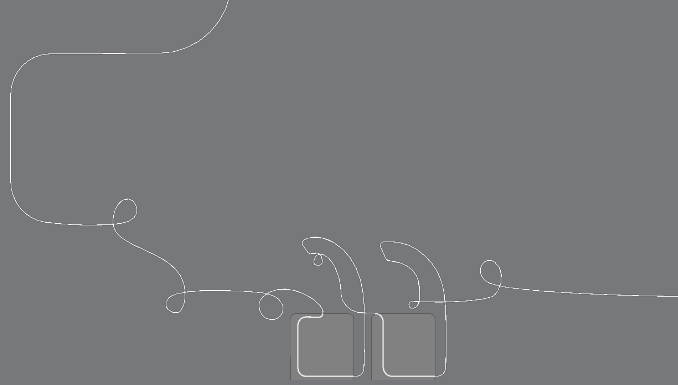
scihelp@amplify.com

800-823-1969

Amplify Chat

When contacting the customer care team:

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



Final Questions?