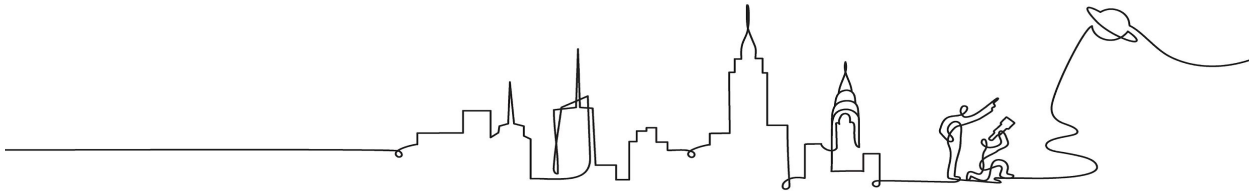
Welcome to Amplify Science!

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.

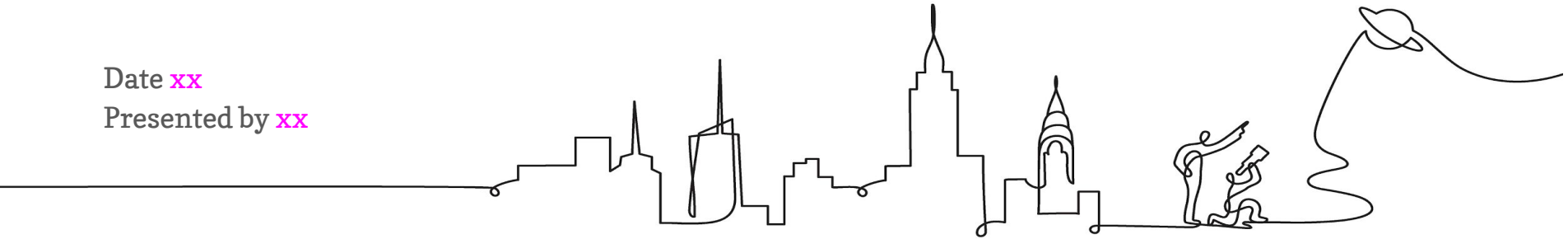
3. Open your Participant Notebook.



Amplify Science
New York City

The Amplify Science Approach: Practicing Multiple Modalities & 3-D Learning
Grade 4

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?"*

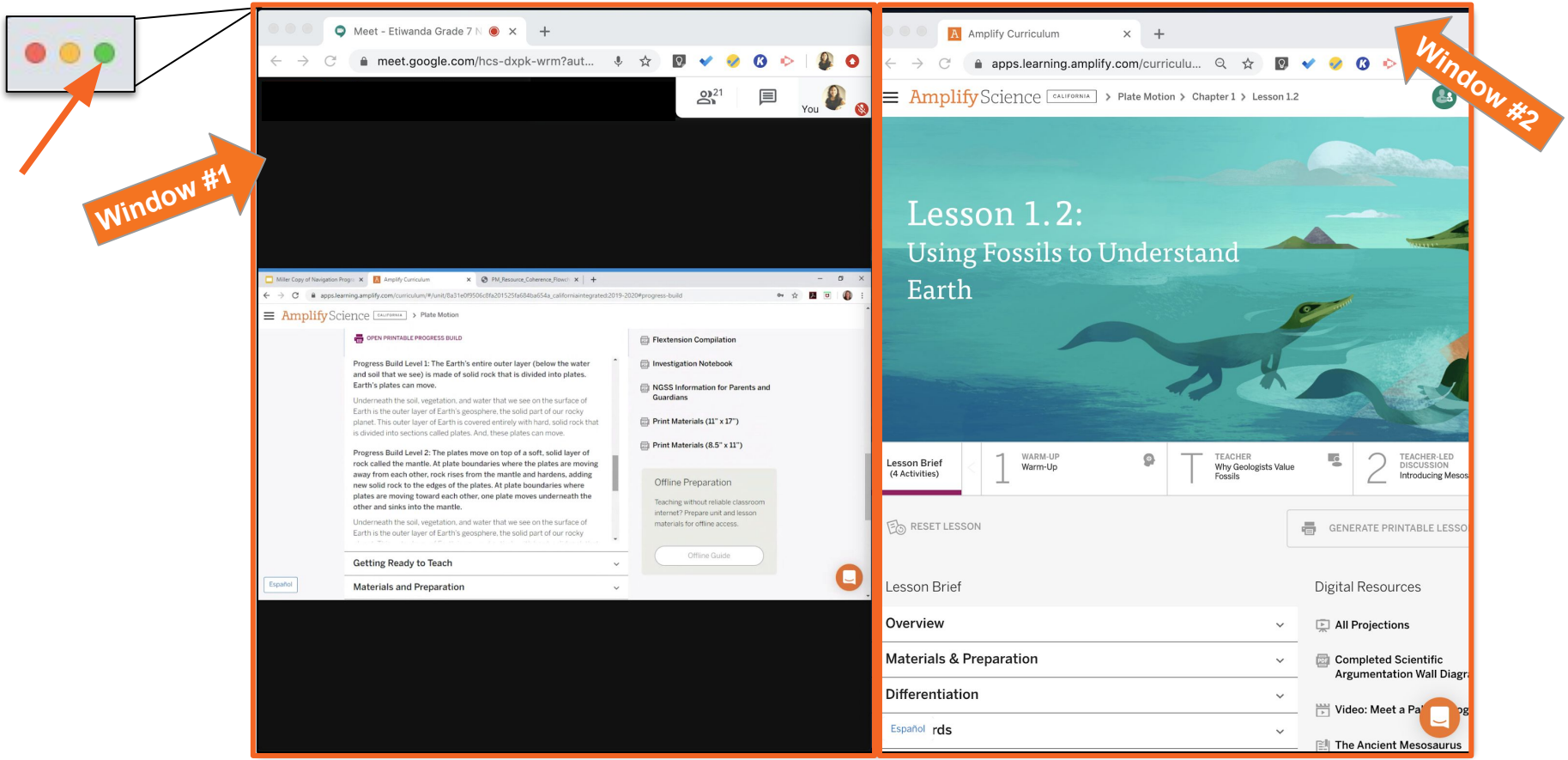
Mute your microphone to reduce background noise unless sharing with the group

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!

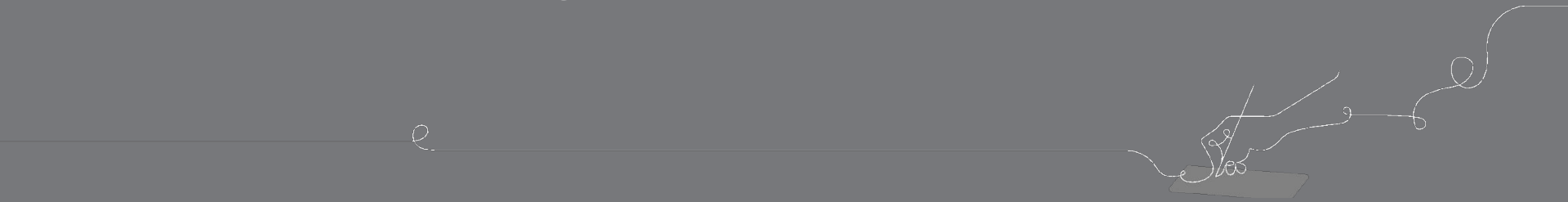
Use two windows for today's webinar

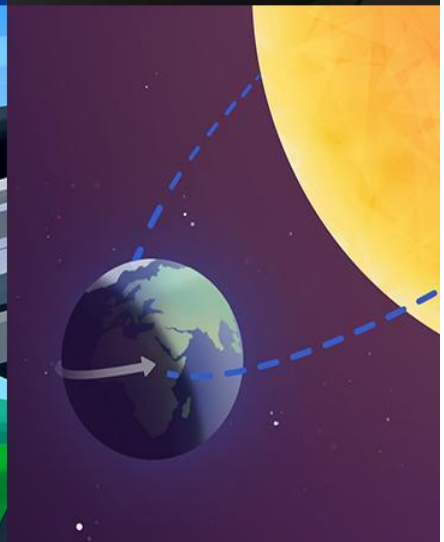


Objectives

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

- Analyze the role of multimodal and 3-dimensional learning in a coherent @Home lesson activity sequence.
- Adapt multimodal and 3-dimensional instructional routines to your learners' particular instructional contexts.
- Support caregivers as partners in practicing multiple modalities and 3-dimensional learning at home.



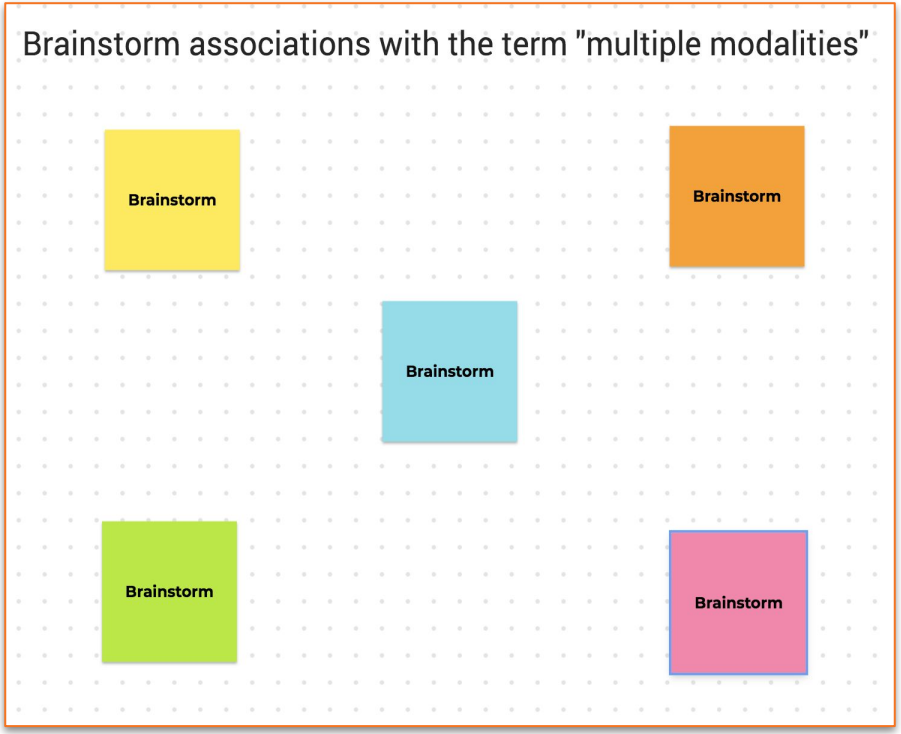
Plan for the day

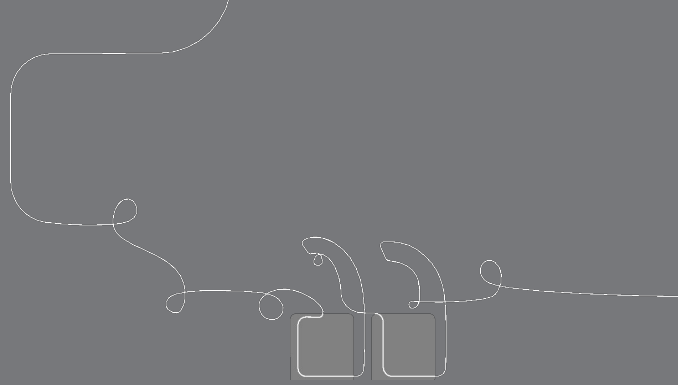
- **Framing the day**
  - Welcome and introductions
  - Anticipatory activity
- **Overview of Amplify Science Approach**
  - Multimodal, phenomenon-based learning
  - 3 dimensions of NYSSLS
- **@Home Resources review**
  - @Home Units
  - @Home Videos
- **Multimodal & 3-D Learning: @Home lesson**
  - Coherent activity sequence analysis
  - Adaptations of multiple modalities
  - Classroom wall
- **Caregivers as partners**
  - Family overview resource
  - Caregivers' site
- **Closing**
  - Reflection & additional resources
  - Survey

Anticipatory activity

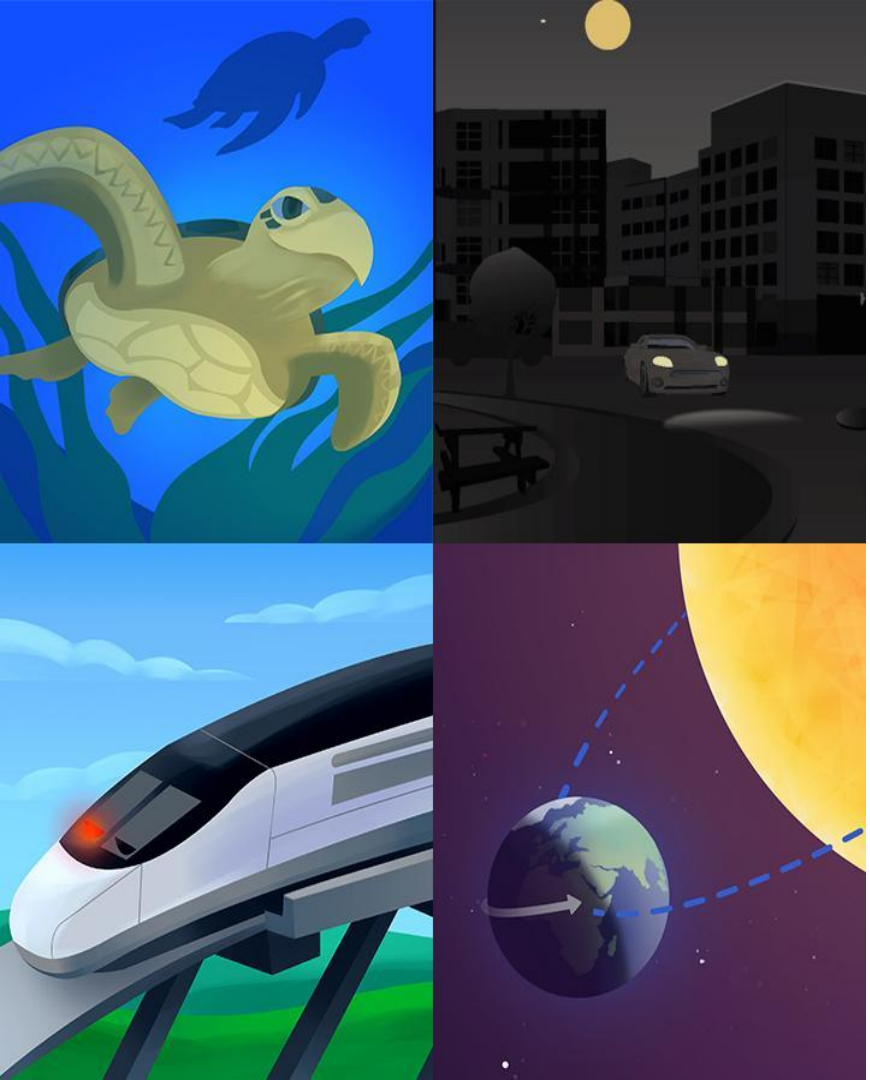
On the Jamboard “post”….

- Your **associations** with these terms:
  - “Multiple modalities”
  - “3-Dimensional learning”
  - “Amplify Science approach”





Questions?



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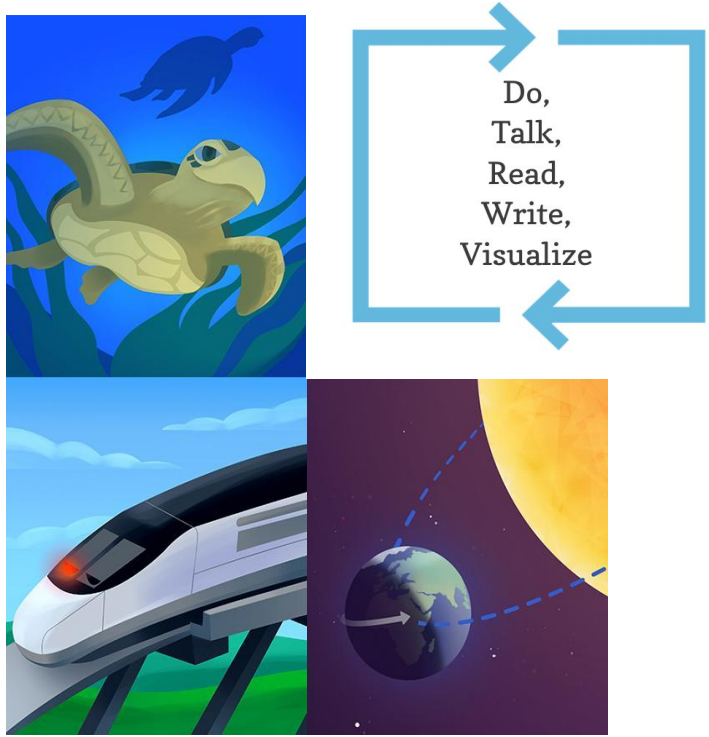
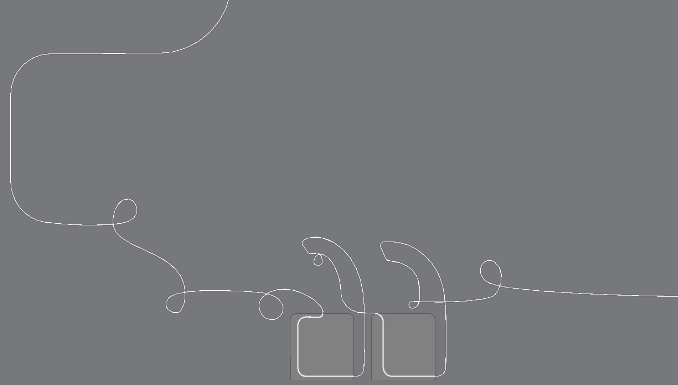
Multimodal, phenomenon-based learning

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

They gather evidence from multiple sources, using multiple modalities.



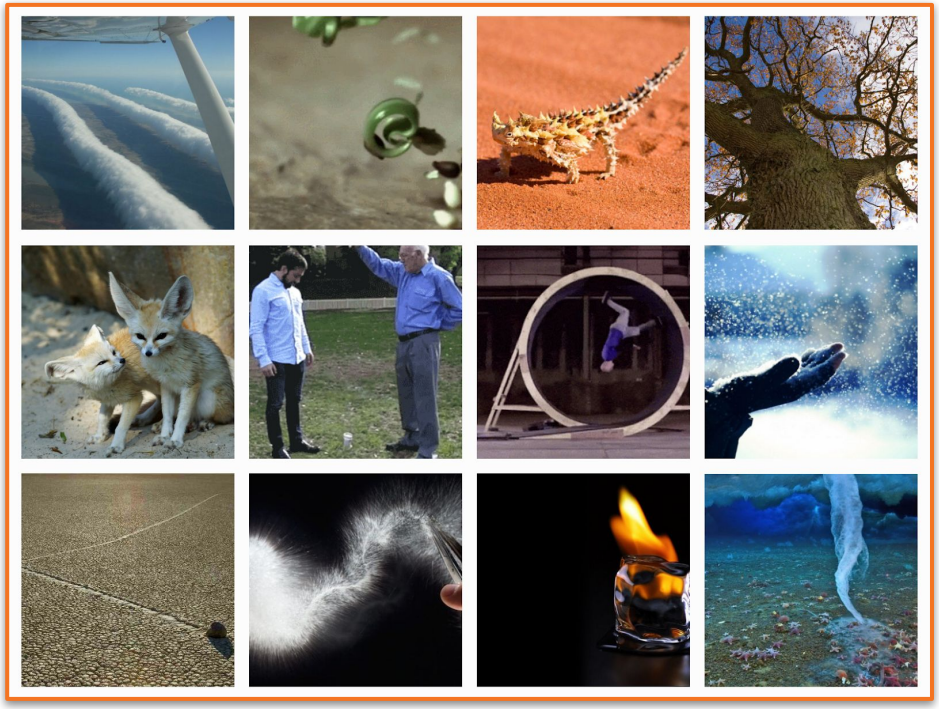


What are PHENOMENA?

Phenomena are observable occurrences.

- These occurrences stimulate curiosity or pose problems to for students to solve.

- Students are motivated to ask science questions or design solutions that drive learning.



Amplify Science units focus on phenomena

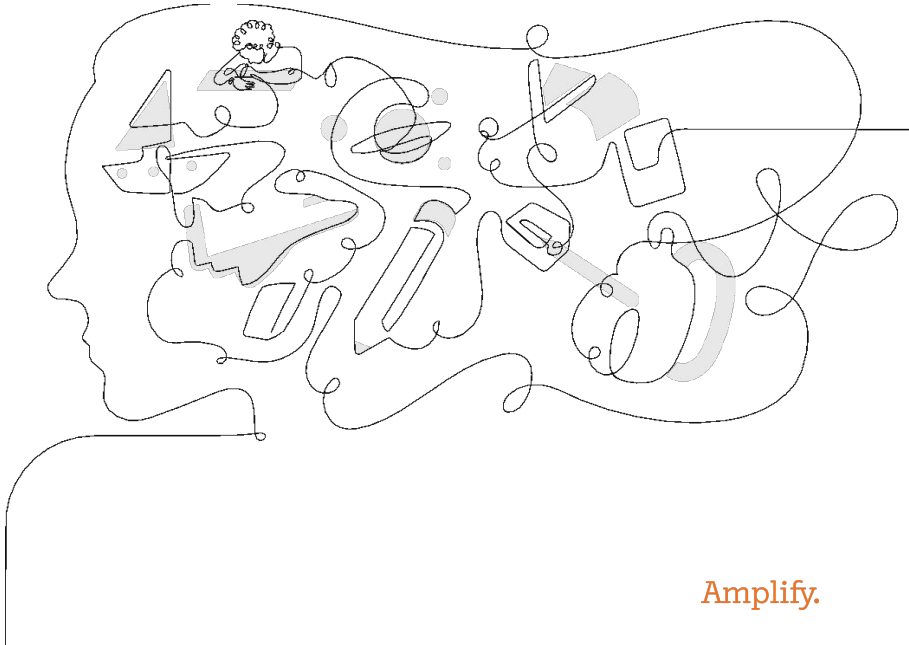
Topics		Phenomena
all about sea turtles	→	How do sea turtles defend themselves from sharks?
inheritance and traits	→	How do organisms get their traits?
ecosystem restoration	→	How can an ecosystem be restored to its original healthy state?

Shifts called for in the NRC* framework

Learning about topics	→	Figuring out phenomena
Listing or classifying facts devoid of context	→	Understanding interrelatedness of ideas
Simple observations	→	Complex causal explanations

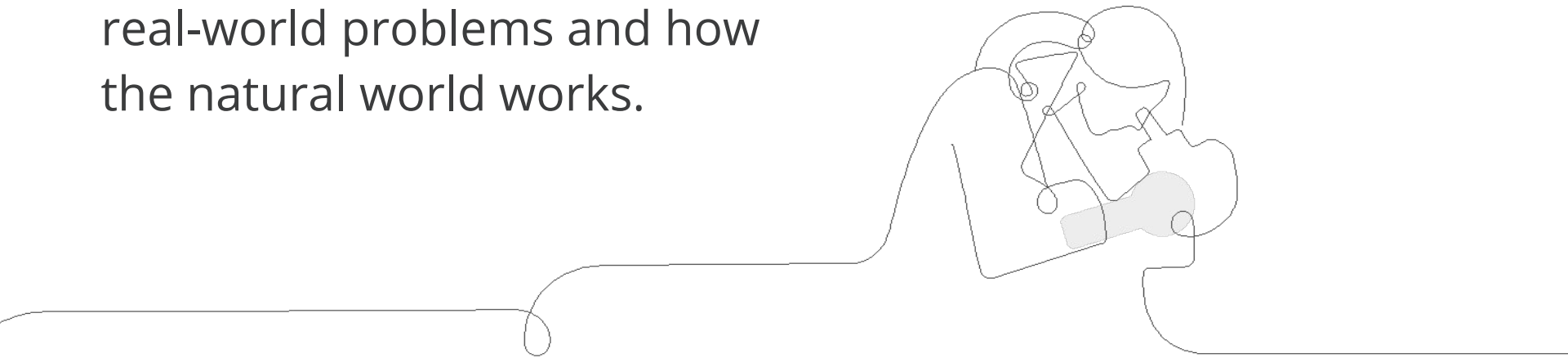
*National Research Council of the National Academy of Sciences, 2011

Figure out, not learn about



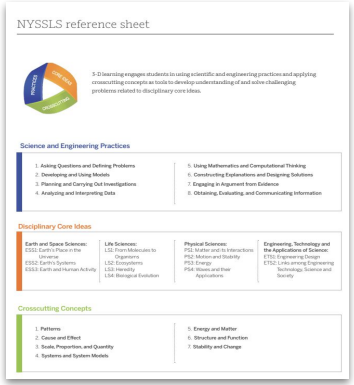
Problem-based deep dives

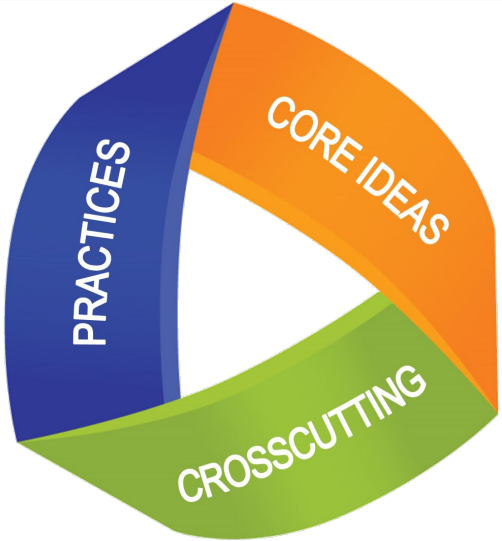
Students inhabit the roles of scientists and engineers to figure out solutions to real-world problems and how the natural world works.



Three dimensions of NYSSLS

p. 4





Disciplinary Core Ideas

- Describe core ideas in the science discipline (DCI)

Science and Engineering Practices

- Describe behaviors scientists and engineers engage in (SEP)

Crosscutting Concepts

- Describe concepts linking the different domains of science (CCC)

Disciplinary Core Ideas

The foundational concepts lessons are based on

Physical Science

PS1 Matter and Interactions
PS2 Motion and Stability: Forces and Interactions
PS3 Energy
PS4 Wave Properties

Earth & Space Science

ESS1 Earth's Place in the Universe
ESS2 Earth's Systems
ESS3 Earth and Human Activity

Life Science

LS1 From Molecules to Organisms: Structure and Properties
LS2 Ecosystems: Interactions, Energy, and Dynamics
LS3 Heredity: Inheritance and Variation of Traits
LS4 Biological Evolution: Unity and Diversity

Earth & Space Science

ETS1 Earth's Place in the Universe

Science and Engineering Practices (SEP)

How students engage as scientists

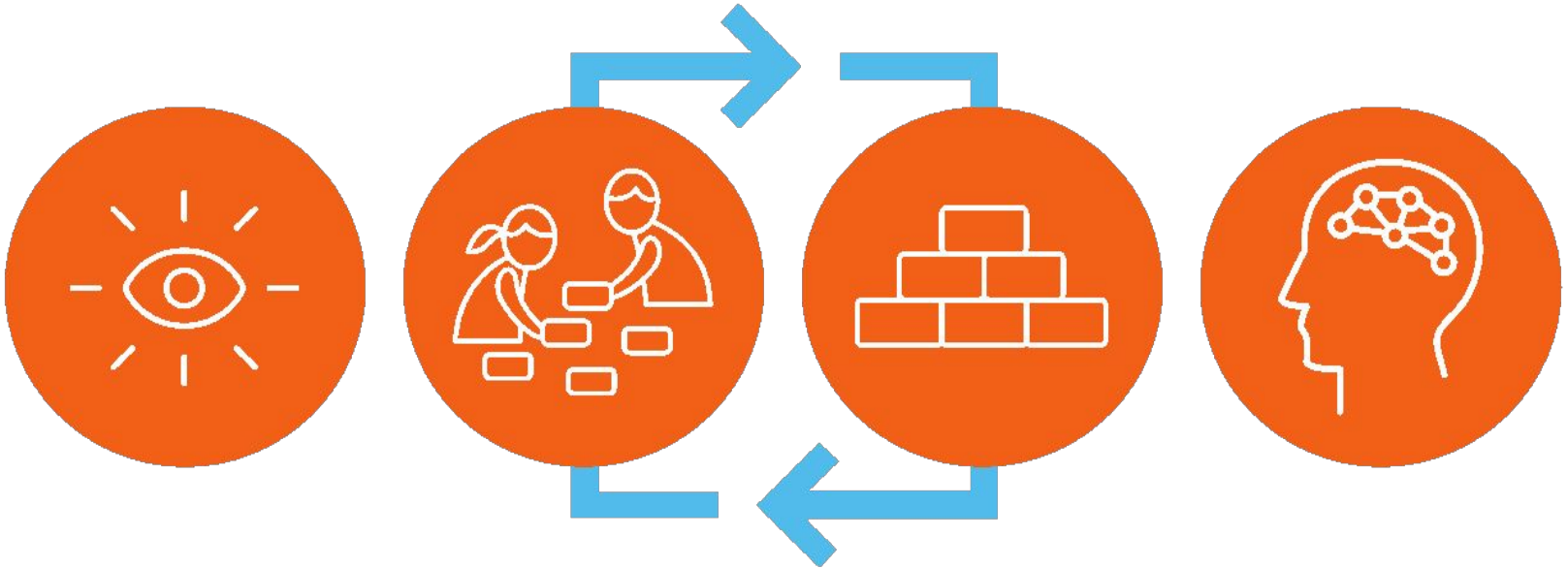
1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

Crosscutting Concepts (CCC)

How students makes sense of phenomenon

- Patterns
- Cause and Effect
- Scale, Proportion and Quantity
- Systems and System Models
- Energy and Matter
- Structure and Function
- Stability and Change

Amplify Science approach



Introduce a phenomenon and a related problem

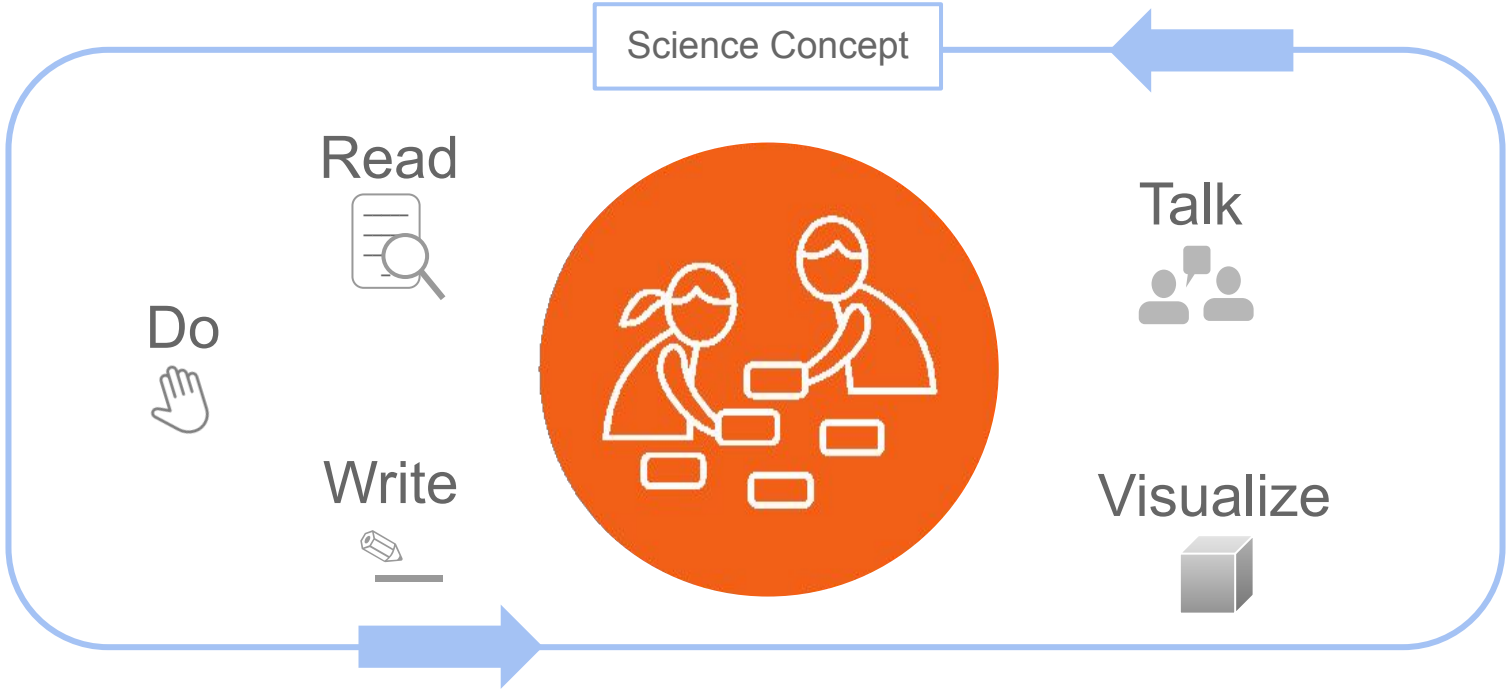
Collect evidence from multiple sources

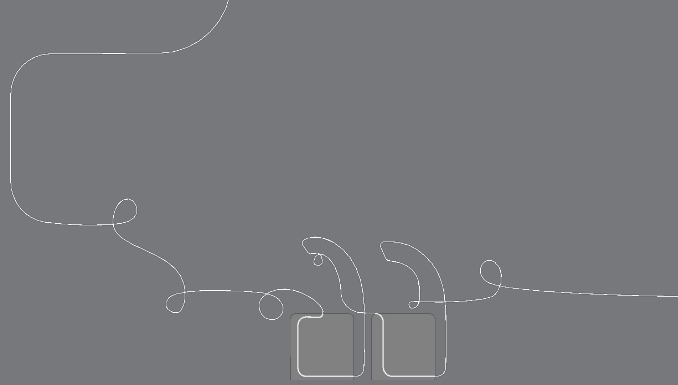
Build increasingly complex explanations

Apply knowledge to a different context

Multimodal learning

Gathering evidence from different sources





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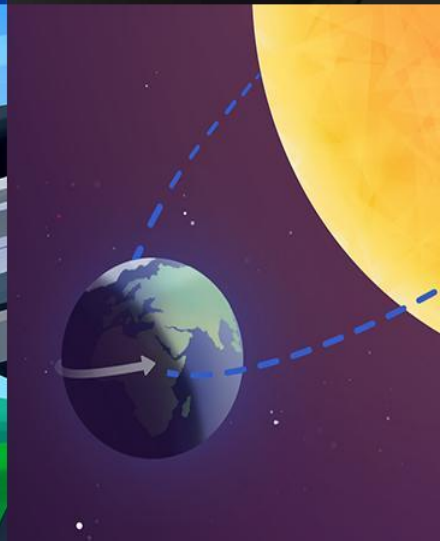

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Temperature Check

Rate your comfort level accessing and navigating the Amplify Science @Home Resources

1 = Extremely Uncomfortable

2 = Uncomfortable

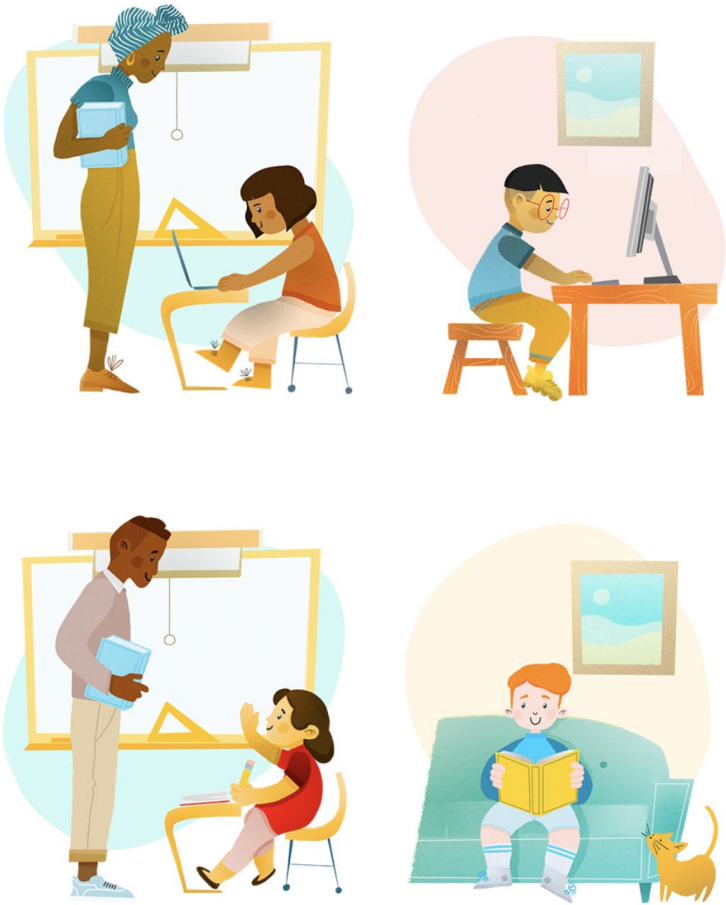
3 = Mild

4 = Comfortable

5 = Extremely Comfortable

AmplifyScience@Home

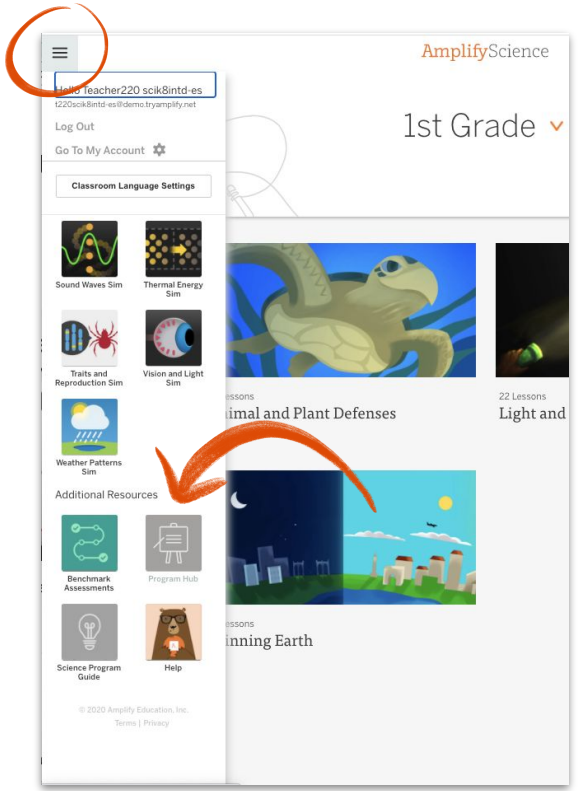
A suite of new resources designed to make extended remote and hybrid learning easier for teachers and students.



Accessing Amplify Science@Home

Amplify Science Program Hub

- Contains Amplify Science@Home and additional PL resources
- Accessible via the Global Navigation menu
- First unit for each grade level is now available
- Additional units rolling out throughout back-to-school



AmplifyScience@Home

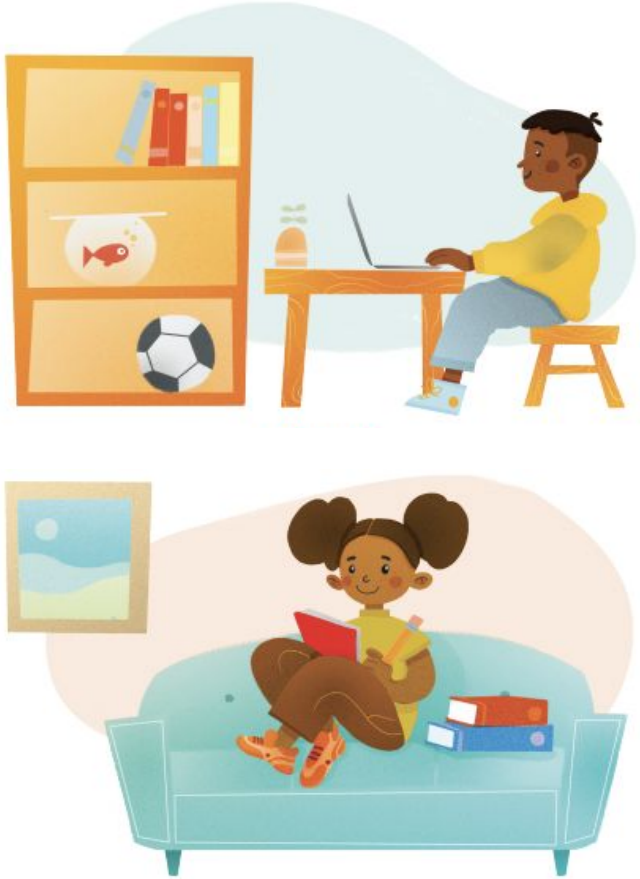
Two different options:

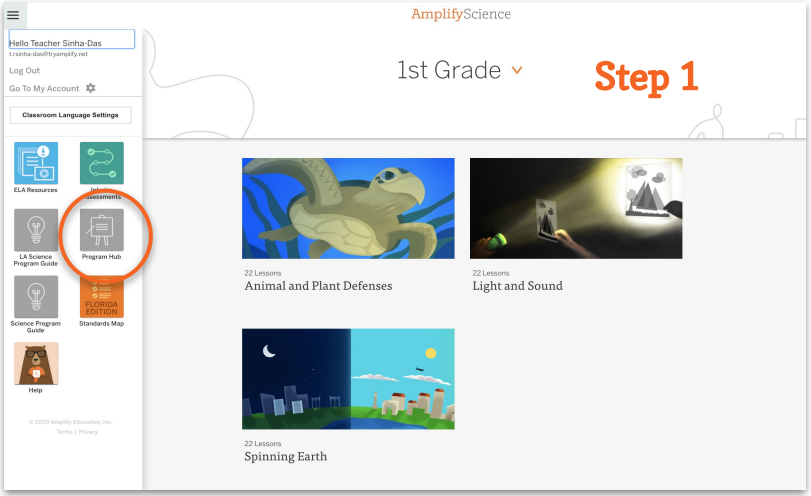
@Home Units

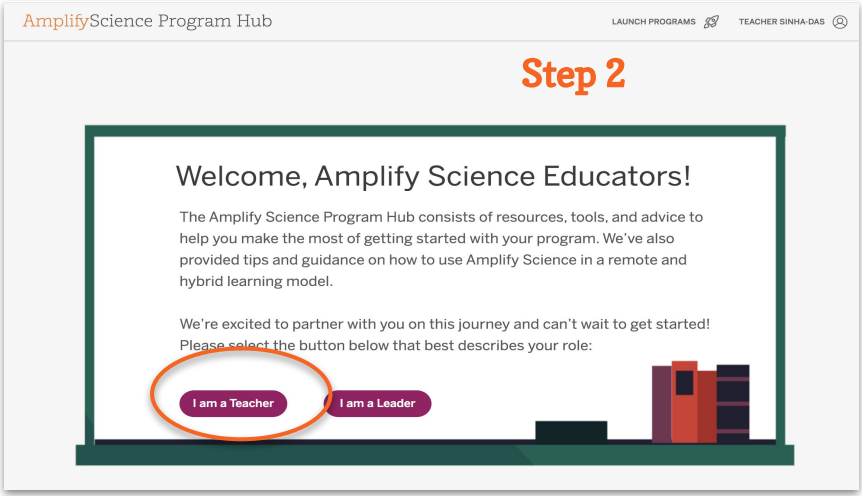
- Packet or slide deck versions of Amplify Science units condensed by about 50%

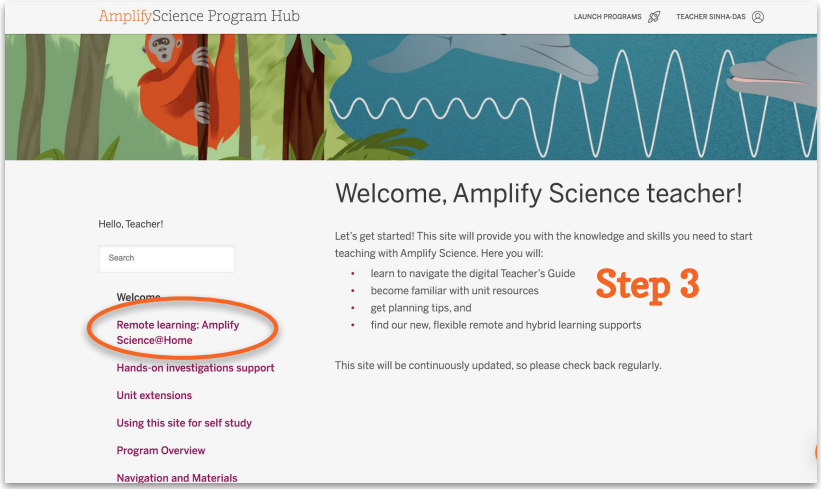
@Home Videos

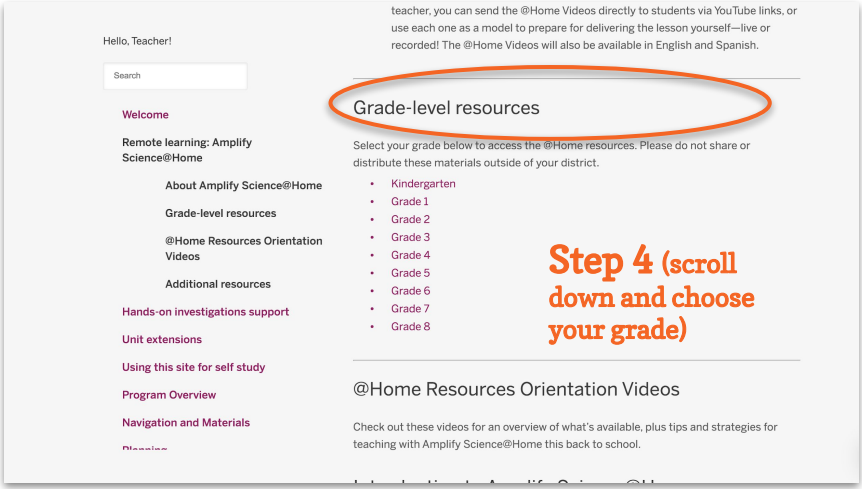
- Video playlists of Amplify Science lessons, taught by real Amplify Science teachers




AmplifyScience
Hello Teacher Sinha-Das
Log Out
Go To My Account
Classroom Language Settings
ELA Resources
LA Science Program Guide
Program Hub
Science Program Guide
Standards Map
Help
1st Grade
Step 1
22 Lessons
Animal and Plant Defenses
22 Lessons
Light and Sound
22 Lessons
Spinning Earth

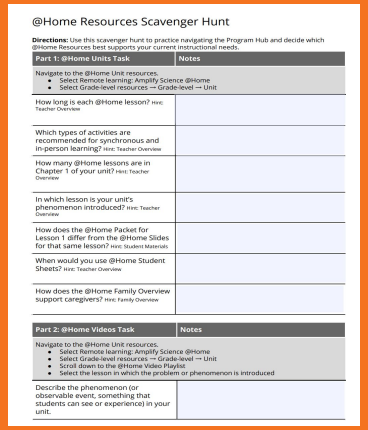

AmplifyScience Program Hub
LAUNCH PROGRAMS
TEACHER SINHA-DAS
Step 2
Welcome, Amplify Science Educators!
The Amplify Science Program Hub consists of resources, tools, and advice to help you make the most of getting started with your program. We've also provided tips and guidance on how to use Amplify Science in a remote and hybrid learning model.
We're excited to partner with you on this journey and can't wait to get started! Please select the button below that best describes your role:
I am a Teacher
I am a Leader


AmplifyScience Program Hub
LAUNCH PROGRAMS
TEACHER SINHA-DAS
Welcome, Amplify Science teacher!
Hello, Teacher!
Search
Welcome
Remote learning: Amplify Science@Home
Hands-on investigations support
Unit extensions
Using this site for self study
Program Overview
Navigation and Materials
Let's get started! This site will provide you with the knowledge and skills you need to start teaching with Amplify Science. Here you will:
learn to navigate the digital Teacher's Guide
become familiar with unit resources
get planning tips, and
find our new, flexible remote and hybrid learning supports
Step 3
This site will be continuously updated, so please check back regularly.


Hello, Teacher!
Search
Welcome
Remote learning: Amplify Science@Home
About Amplify Science@Home
Grade-level resources
@Home Resources Orientation Videos
Additional resources
Hands-on investigations support
Unit extensions
Using this site for self study
Program Overview
Navigation and Materials
teacher, you can send the @Home Videos directly to students via YouTube links, or use each one as a model to prepare for delivering the lesson yourself—live or recorded! The @Home Videos will also be available in English and Spanish.
Grade-level resources
Select your grade below to access the @Home resources. Please do not share or distribute these materials outside of your district.
Kindergarten
Grade 1
Grade 2
Grade 3
Grade 4
Grade 5
Grade 6
Grade 7
Grade 8
Step 4 (scroll down and choose your grade)
@Home Resources Orientation Videos
Check out these videos for an overview of what's available, plus tips and strategies for teaching with Amplify Science@Home this back to school.

Review your @Home Unit

p. 3



@Home Resources Scavenger Hunt

Directions: Use this scavenger hunt to practice navigating the Program Hub and decide which @Home Resources best supports your current instructional needs.

Part 1: @Home Units Task	Notes
Navigate to the @Home Unit resources. • Select Remote learning: Amplify Science @Home • Select Grade-level resources → Grade-level → Unit	
How long is each @Home lesson? Hint: Teacher Overview	
Which types of activities are recommended for synchronous and in-person learning? Hint: Teacher Overview	
How many @Home lessons are in Chapter 1 of your unit? Hint: Teacher Overview	
In which lesson is your unit's phenomenon introduced? Hint: Teacher Overview	
How does the @Home Packet for Lesson 1 differ from the @Home Slides for that same lesson? Hint: Student Materials	
When would you use @Home Student Sheets? Hint: Teacher Overview	
How does the @Home Family Overview support caregivers? Hint: Family Overview	

Part 2: @Home Videos Task	Notes
Navigate to the @Home Unit resources. • Select Remote learning: Amplify Science @Home • Select Grade-level resources → Grade-level → Unit • Scroll down to the @Home Video Playlist • Select the lesson in which the problem or phenomenon is introduced	
Describe the phenomenon (or observable event, something that students can see or experience) in your unit.	

Navigate to your unit on the Program Hub and explore (if you this is your first time).

OR,

Complete scavenger hunt (if you explored these resources before)

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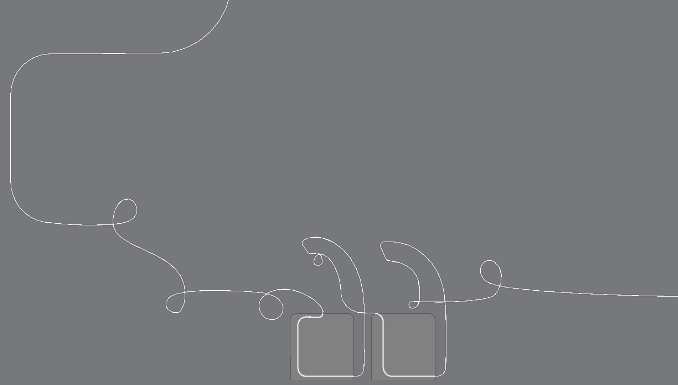
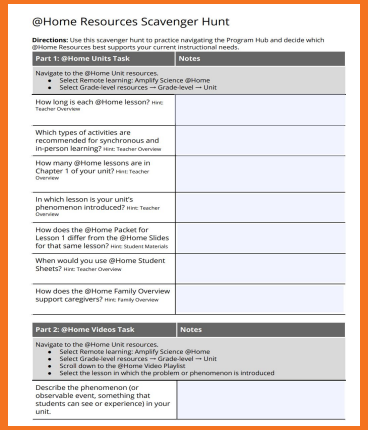


Questions?

Review your @Home Video

p. 3



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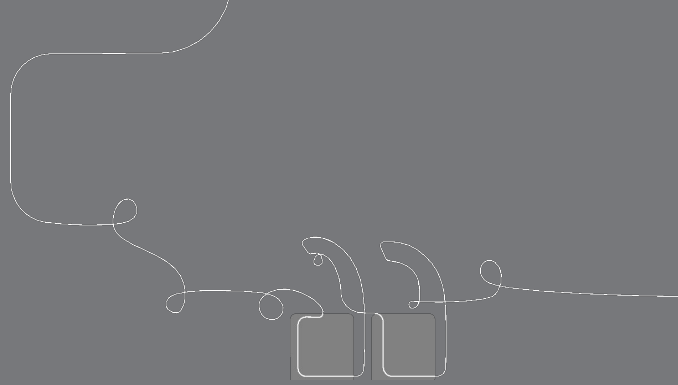

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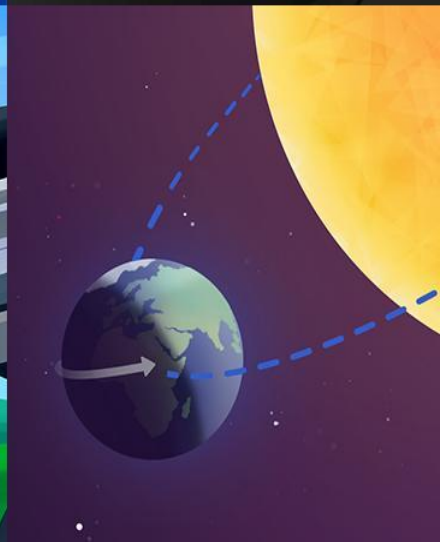

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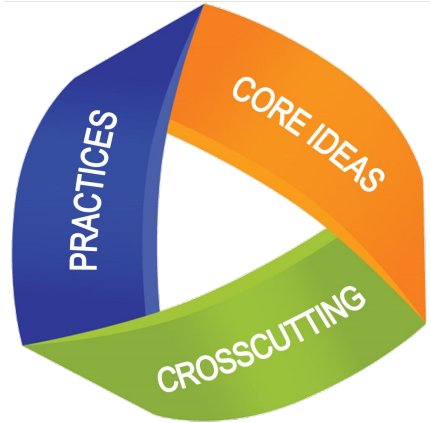
@Home Units

Reduced set of prioritized activities

- Preserves a **coherent** instructional build
- Retains a **multi-modal** & **3-D** learning approach
- **Adapted** versions of doing, talking, reading, and writing



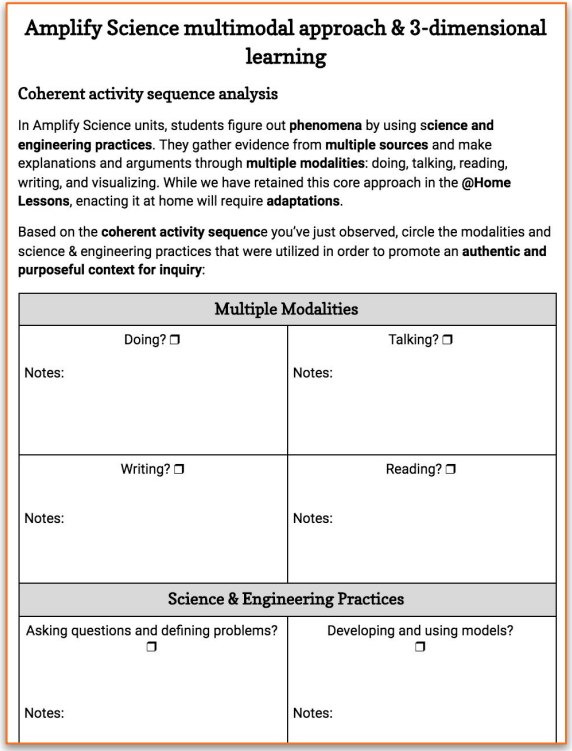
@Home Lesson

A coherent activity sequence

- **Observe** lesson

- Note **modalities** and science & engineering **practices** that were utilized

p. 5



Amplify Science multimodal approach & 3-dimensional learning

Coherent activity sequence analysis

In Amplify Science units, students figure out **phenomena** by using **science and engineering practices**. They gather evidence from **multiple sources** and make explanations and arguments through **multiple modalities**: doing, talking, reading, writing, and visualizing. While we have retained this core approach in the **@Home Lessons**, enacting it at home will require **adaptations**.

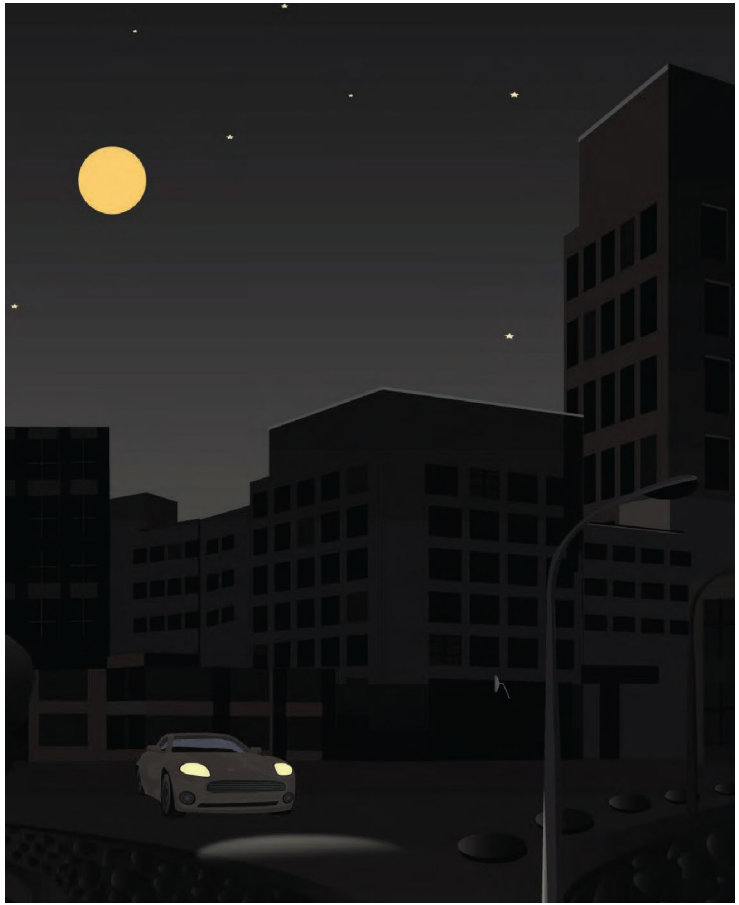
Based on the **coherent activity sequence** you've just observed, circle the modalities and science & engineering practices that were utilized in order to promote an **authentic and purposeful context for inquiry**:

Multiple Modalities	
Doing? ❐ Notes:	Talking? ❐ Notes:
Writing? ❐ Notes:	Reading? ❐ Notes:
Science & Engineering Practices	
Asking questions and defining problems? ❐ Notes:	Developing and using models? ❐ Notes:

Energy Conversions

@Home Lesson 4

AmplifyScience

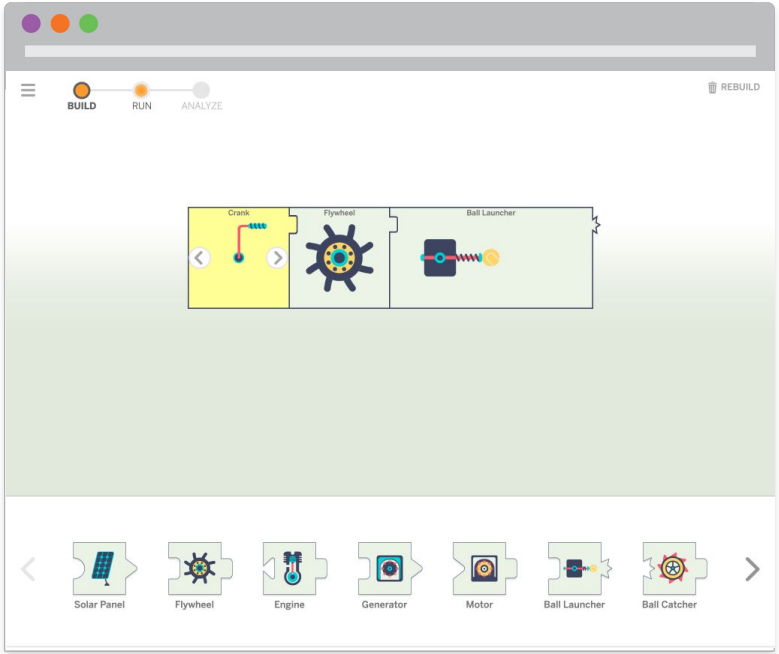


Remember, we are working as systems engineers trying to help solve Ergstown's blackout problem.

We are trying to figure out **what happened to the electrical system** the night of the Ergstown blackout.

Today, we are going to investigate this question:

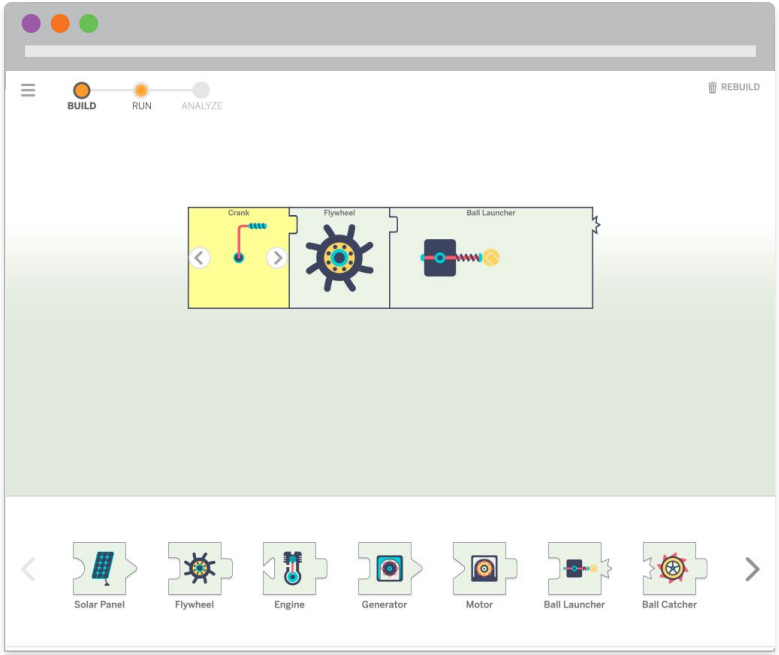
What can electrical energy in a system be used for?



We are going to use a **digital simulation (Sim)** to investigate our question.

First, you'll have a chance to explore the Sim.

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



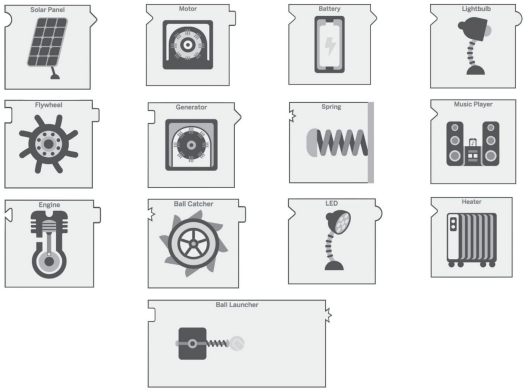
Explore the Sim for a few minutes.

Then watch the video on the next slide, which highlights some features of the Sim.

Name: _____ Date: _____

Electrical Energy in the *Energy Conversions* Sim

1. Circle each device that can be found in the *Energy Conversions* Sim that has electrical energy as an energy input.
2. Make an "X" across each device that does not have electrical energy as an energy input.



How can you tell if a device in the Sim is using electrical energy?

_____

_____

_____

Energy Conversions @Home Lesson 4

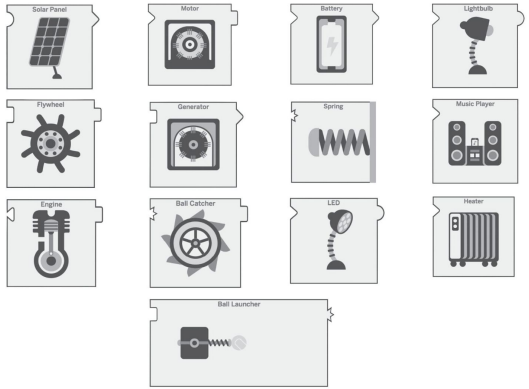
Find the Electrical Energy in the *Energy Conversions* Sim page.

You will use this page to keep track as you explore the devices in the Sim.

Name: _____ Date: _____

Electrical Energy in the *Energy Conversions* Sim

1. Circle each device that can be found in the *Energy Conversions* Sim that has electrical energy as an energy input.
2. Make an "X" across each device that does not have electrical energy as an energy input.



How can you tell if a device in the Sim is using electrical energy?

_____

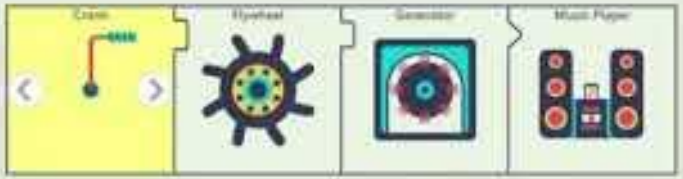
_____

_____

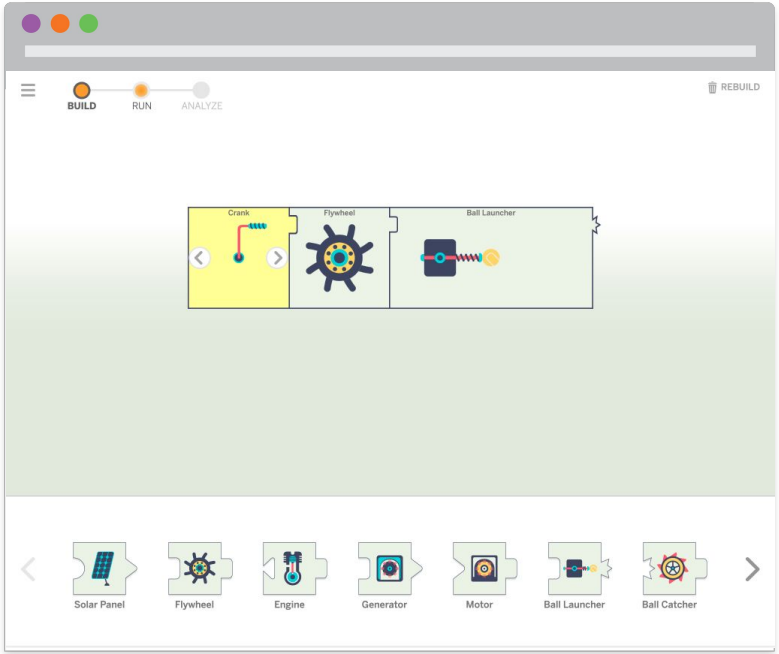
Energy Conversions @Home Lesson 4

The directions say to find devices that have electrical energy as an energy **input.** This means you'll look for **devices that use electrical energy**.

If you choose to use
the **hand crank**,



tinyurl.com/AMPEC-04



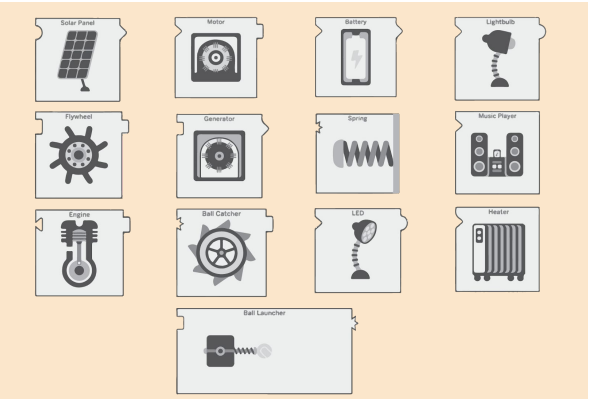
Now we'll use the Sim to investigate our question:

What can electrical energy in a system be used for?

Name: _____ Date: _____

Electrical Energy in the *Energy Conversions* Sim

1. Circle each device that can be found in the *Energy Conversions* Sim that has electrical energy as an energy input.
2. Make an "X" across each device that does not have electrical energy as an energy input.



How can you tell if a device in the Sim is using electrical energy?

_____

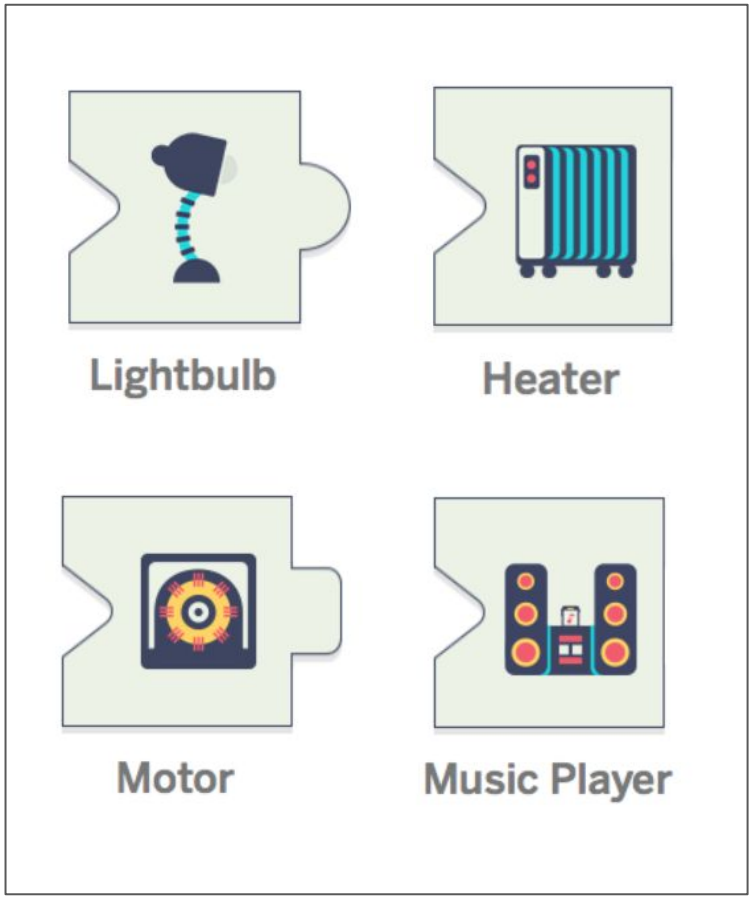
_____

_____

Energy Conversions @Home Lesson 4

Return to the Sim to investigate and **record** which devices use electrical energy and which do not. Then **answer the question**.

Hint: Notice the labels in the Sim and the ways that devices connect to each other.



These are some of the devices in the Sim that use electrical energy.

What is the **function** of each of these devices?

What is the **function** of other devices that used electrical energy in the Sim?

Now let's think of some electrical devices that are not in the Sim. Think of devices that are found at school, at home, or in other places you go.

What are some electrical devices you know of that are not in the Sim?

Hint: When a device plugs into an outlet, that is good evidence that the device uses electrical energy from the electrical system.

We have been using this science word.

electrical device

a machine that converts electrical energy to another form of energy

We will continue to investigate what electrical energy can be used for in the next @Home Lesson.

End of @Home Lesson

THE LAWRENCE HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

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Reflection

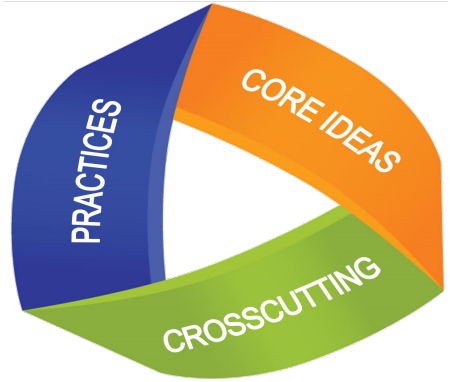
Coherent activity sequence analysis

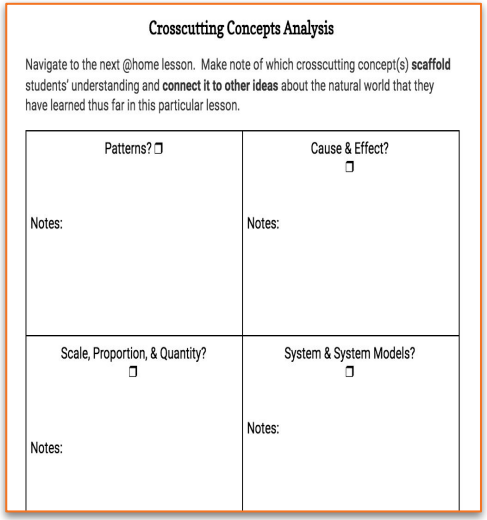
- Which **multiple modalities** were students in engaged in? How were they **adapted**?

- Which **science & engineering practices** were students engaged in? How were they **adapted**?

Crosscutting concepts

- The **“big ideas”** that cut across all the domains
- Serve as useful lens to **integrate** new ideas
- Open next **@home lesson**
- Identify the cross-cutting concepts **collaboratively**





Crosscutting Concepts Analysis

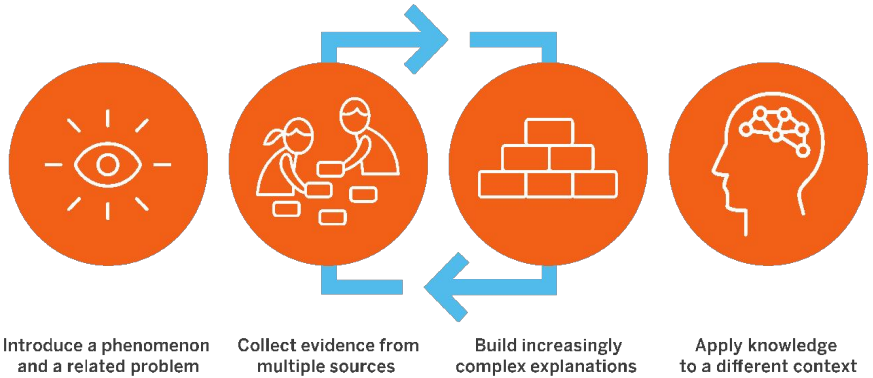
Navigate to the next @home lesson. Make note of which crosscutting concept(s) **scaffold** students' understanding and **connect it to other ideas** about the natural world that they have learned thus far in this particular lesson.

Patterns? ❒ Notes:	Cause & Effect? ❒ Notes:
Scale, Proportion, & Quantity? ❒ Notes:	System & System Models? ❒ Notes:

Adaptations of multiple-modalities

Specific routines & additional supports

- How would you adapt different aspects of the **Amplify Science approach** for your learners' **particular contexts**?



Adaptations of multiple modalities

The **@Home Lessons** provide general guidance for these **adaptations** of the **multiple modalities** in **remote/hybrid** instructional contexts but you may need to set up expectations for specific routines or provide additional support to your students. Let's brainstorm ideas for how different aspects of the **Amplify Science approach** might be adapted for your **learners' particular context**s.

Modality	Adaptation
Doing	
Talking	
Reading	
Writing	

Suggestions for synchronous time

p. 7

Using the resources

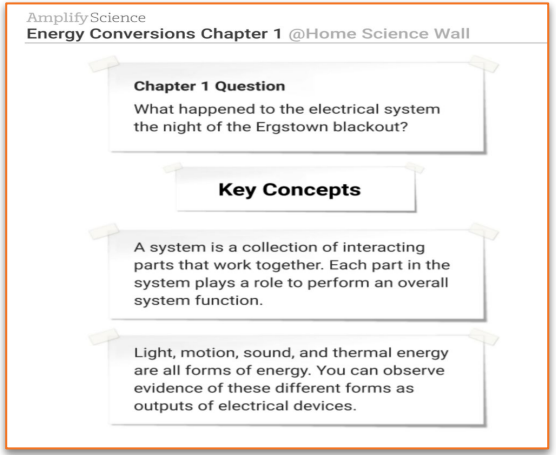
- Leverage synchronous time for live teaching
  - Lots of time? Teach full lessons
  - Less time? Revisit and preview (see table)

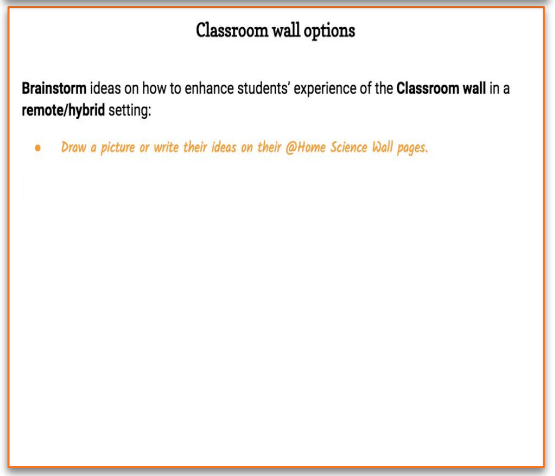
Synchronous time	
In-person	**Online class**
• Discourse routines • Class discussions • Hands-on investigations (option for teacher demo) • Physical modeling activities	• Online discussions • Sim demonstrations • Interactive read-alouds • Shared Writing • Co-constructed class charts

Classroom wall

Re-imagined as @Home science wall

- **Chapter Questions**, **key concepts**, and **vocabulary** that have been introduced so far are provided in the **last lesson** of each chapter.
- How would you enhance students' experience of the **Classroom wall** in a **remote/hybrid** setting?





@Home science wall

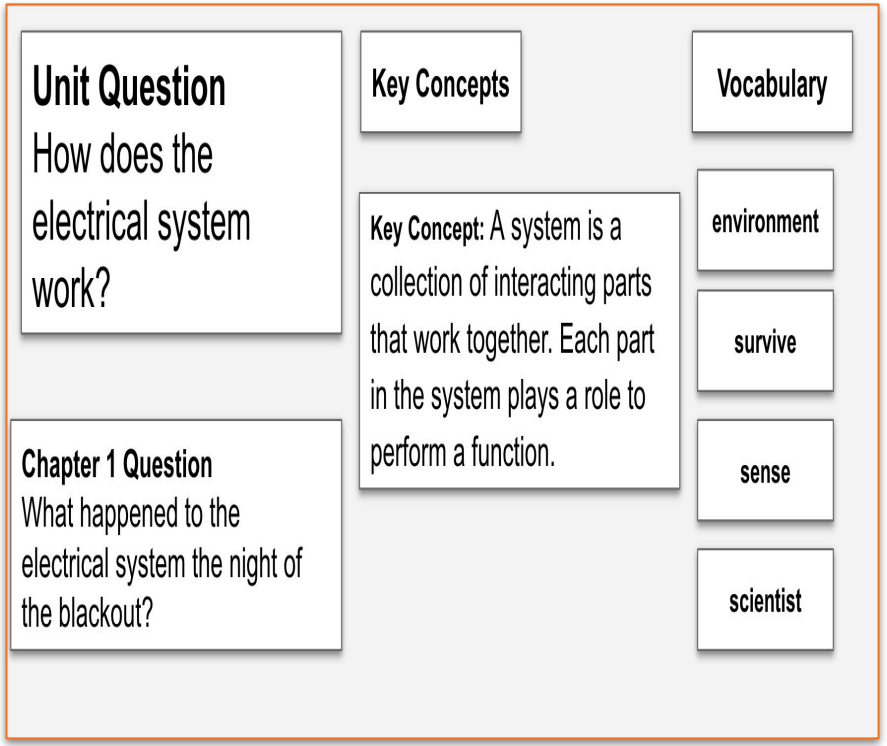
To enhance students' experience of the @Home Science Wall, you could have them:

- Draw a **picture** or write their ideas on their @Home Science Wall pages.
- Highlight or **color** in each question, key concept, or word that is introduced.
- **Cut out** each question, key concept, or word. These can be then posted on a wall, large sheet of paper, or refrigerator at home.
- **Illustrate** each word that is introduced to create a picture glossary.
- If you are meeting with your class remotely, you could create a **virtual** @Home Science **Wall.**

Creating a virtual @Home science wall

If meeting remotely

- **Screenshot** chapter questions, key concepts, vocabulary from **@Home Student sheets**
- Screenshot (from **teacher's guide**) or create own **unit** & **investigation** questions
- **Animate** new additions
- Now **try** yourself on **Google slides**!



Classroom Wall

Unit Question
How does the electrical system work?

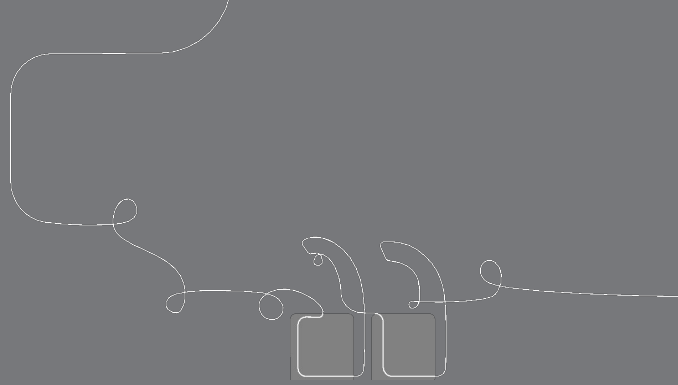
Chapter 1 Question
What happened to the electrical system the night of the blackout?

Key Concepts

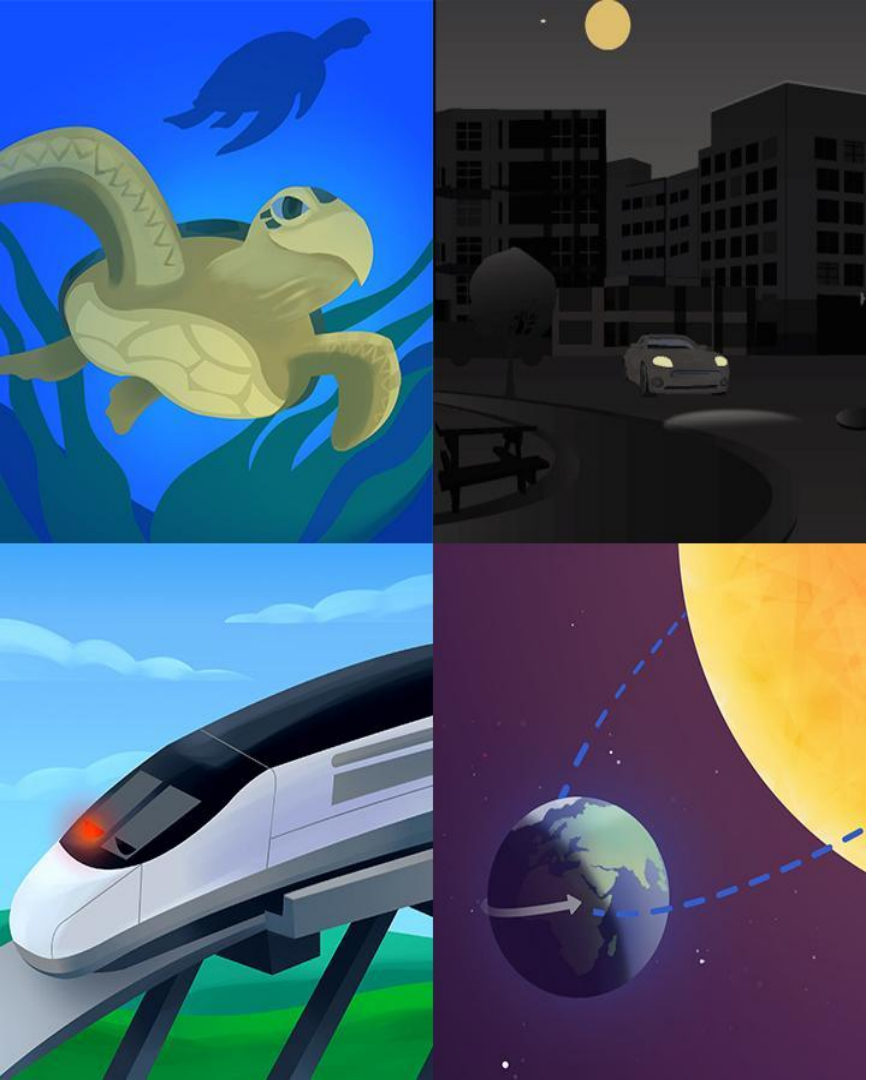
Key Concept: A system is a collection of interacting parts that work together. Each part in the system plays a role to perform a function.

Vocabulary

- environment
- survive
- sense
- scientist



Questions?



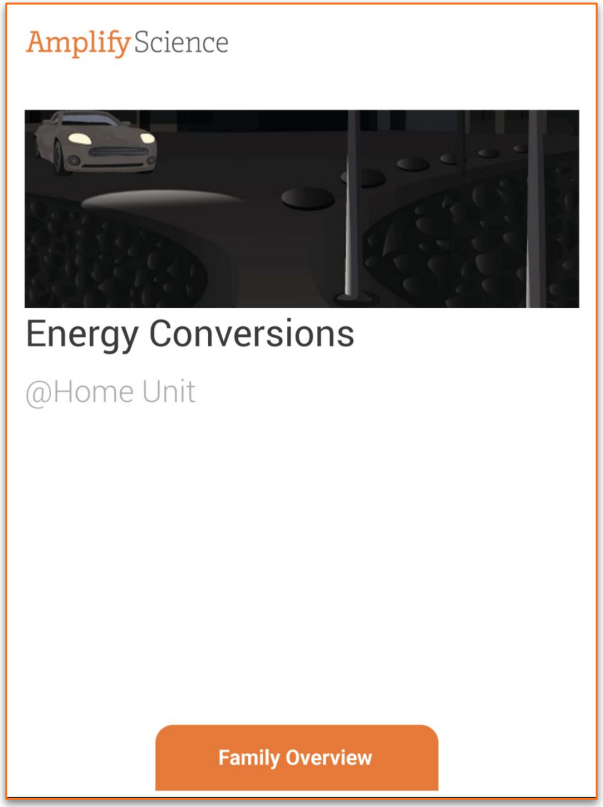
Plan for the day

- **Framing the day**
  - Welcome and introductions
  - Anticipatory activity
- **Overview of Amplify Science Approach**
  - Multimodal, phenomenon-based learning
  - 3 dimensions of NYSSLS
- **@Home Resources review**
  - @Home Units
  - @Home Videos
- **Multimodal & 3-D Learning: @Home lesson**
  - Coherent activity sequence analysis
  - Adaptations of multiple modalities
  - Classroom wall
- **Caregivers as partners**
  - Family overview resource
  - Caregivers' site
- **Closing**
  - Reflection & additional resources
  - Survey

Caregivers as partners

Supporting practicing multiple modalities & 3-D learning at home

- Editable letter that introduces the **unit** and the kinds of **activities** students will be doing
- Ideas about what **parents and guardians** can do to support their student at home.
- **Unit summary**, Chapter Questions, **key concepts**, unit vocabulary and definitions, and information about **books** & **hands-on** materials.



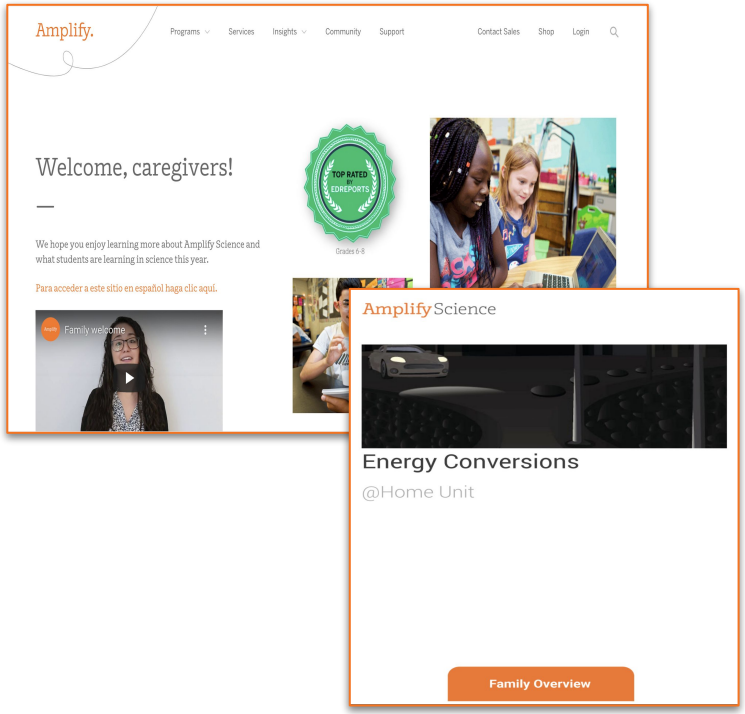
Caregivers' site

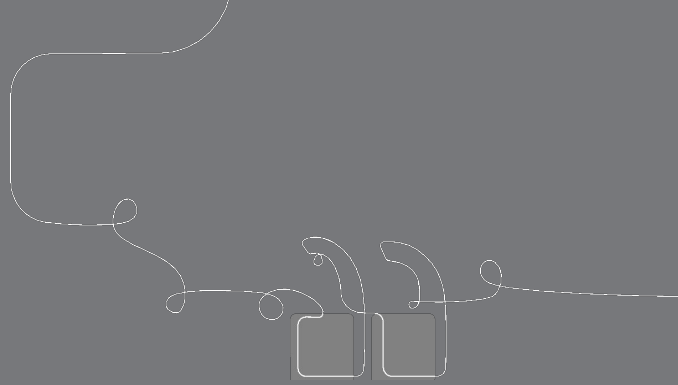
amplify.com/amplify-science-family-resource-intro/

- Provides your students' **families** information about Amplify Science & optional **extension** activities.

- **Explore** and reflect:

  - How will you utilize these resources to support caregivers?





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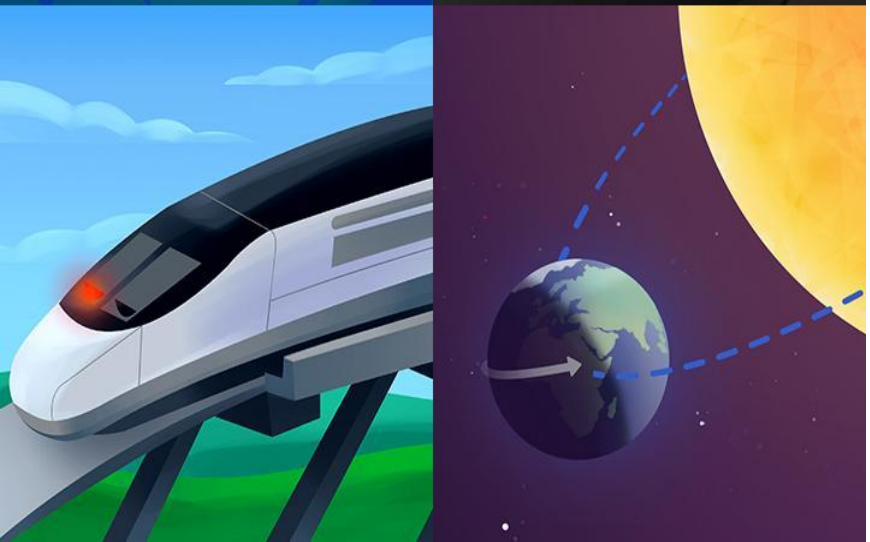

Plan for the day

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Revisiting our objectives

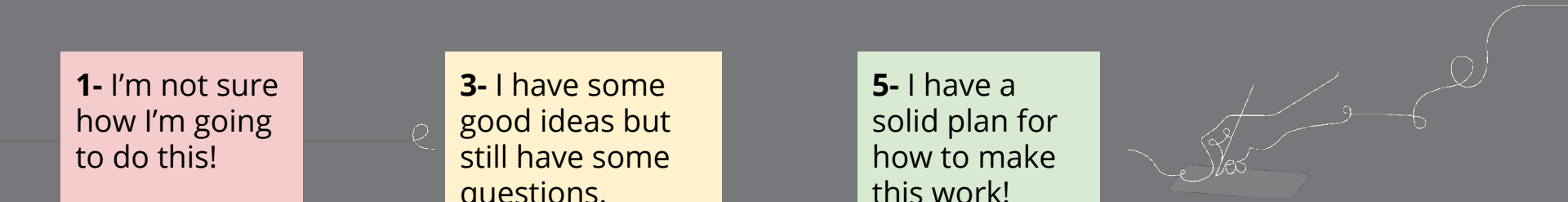
Do you feel ready to to…

- Analyze the role of multimodal and 3-dimensional learning in a coherent @Home lesson activity sequence?
- Adapt multimodal and 3-dimensional instructional routines to your learners' particular instructional contexts?
- Support caregivers as partners in practicing multiple modalities and 3-dimensional learning at home?

1- I'm not sure how I'm going to do this!

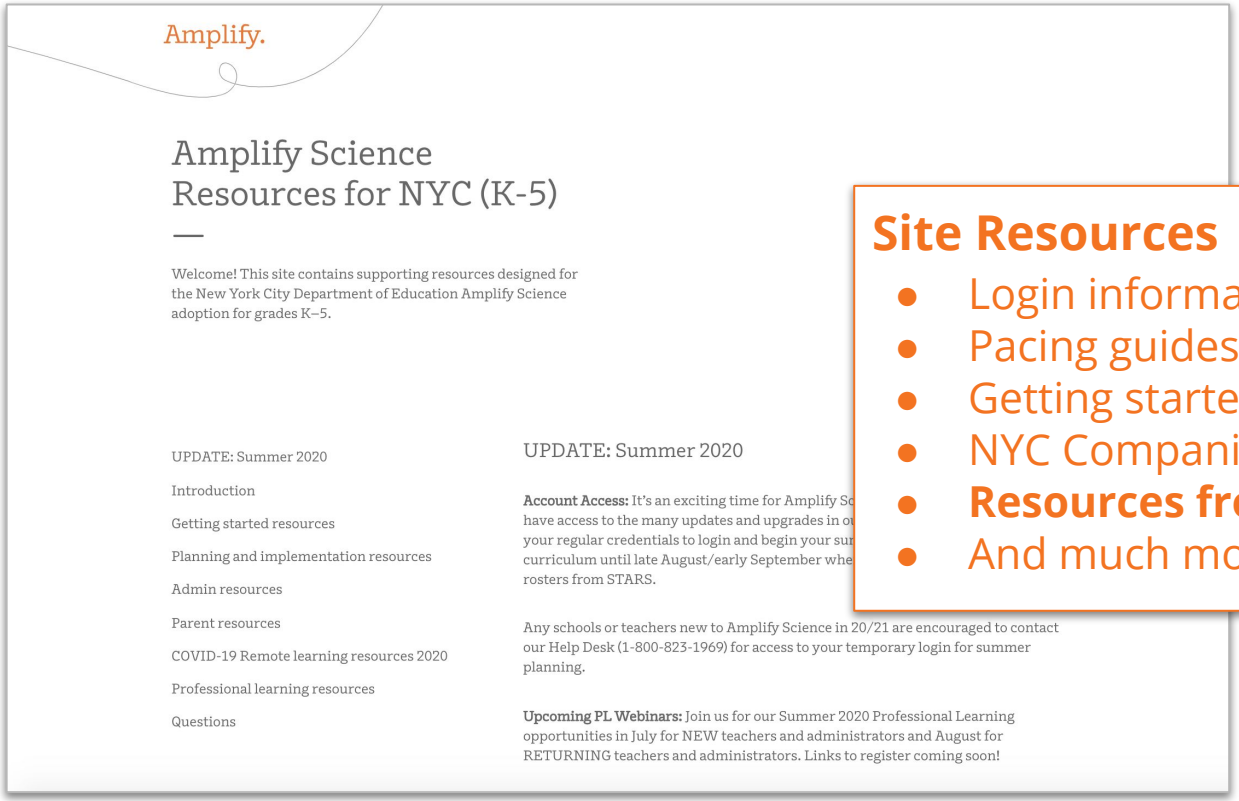
3- I have some good ideas but still have some questions.

5- I have a solid plan for how to make this work!



New York City Resources Site

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



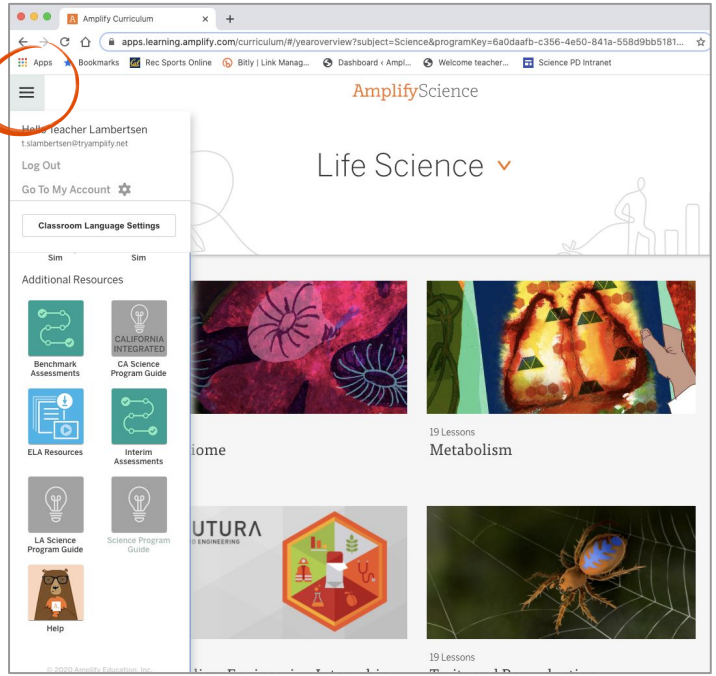
Site Resources

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

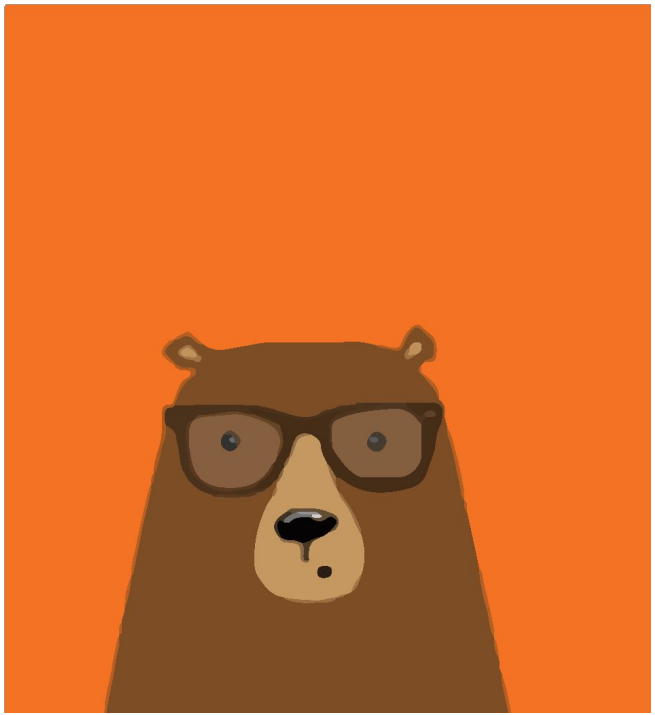
Amplify Science Program Hub

A new hub for Amplify Science resources

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



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.

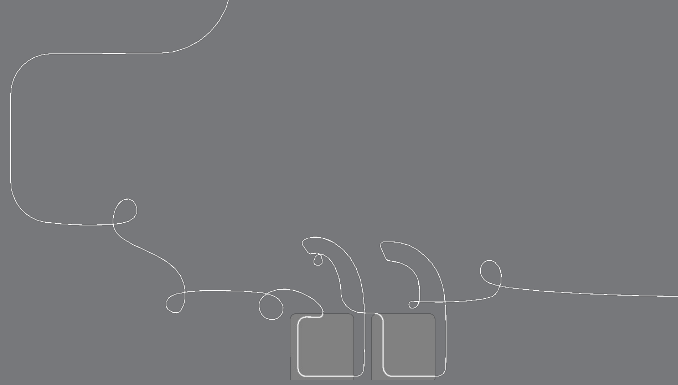
scihelp@amplify.com

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.

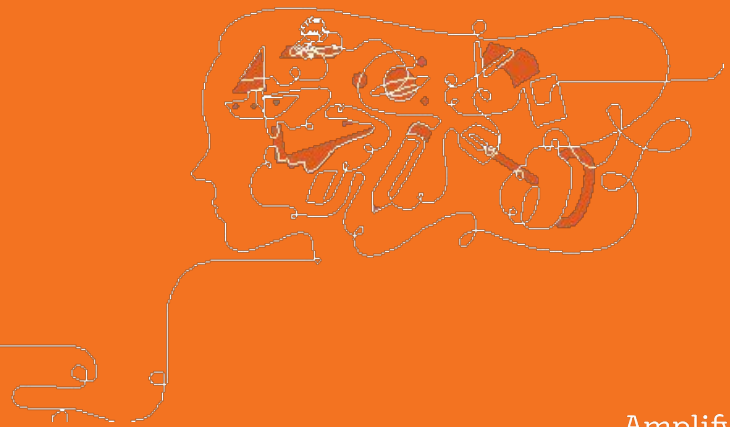


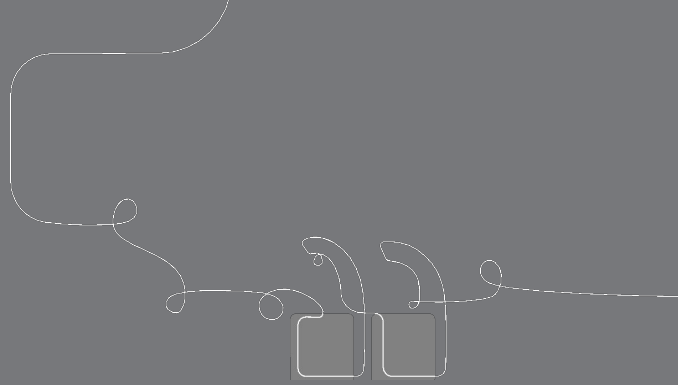
Final Questions?

Please provide us feedback!

URL: https://www.surveymonkey.com/r/BY56SBR

Presenter name: XXX





30 minute open office hours to follow...