Amplify Science

Navigation Program Essentials / Guided Planning

Grade 4, Unit 1: Energy Conversions

Part 1

School/District Name: LAUSD
Date: December, 2021
Presented by: Suzy Takeda

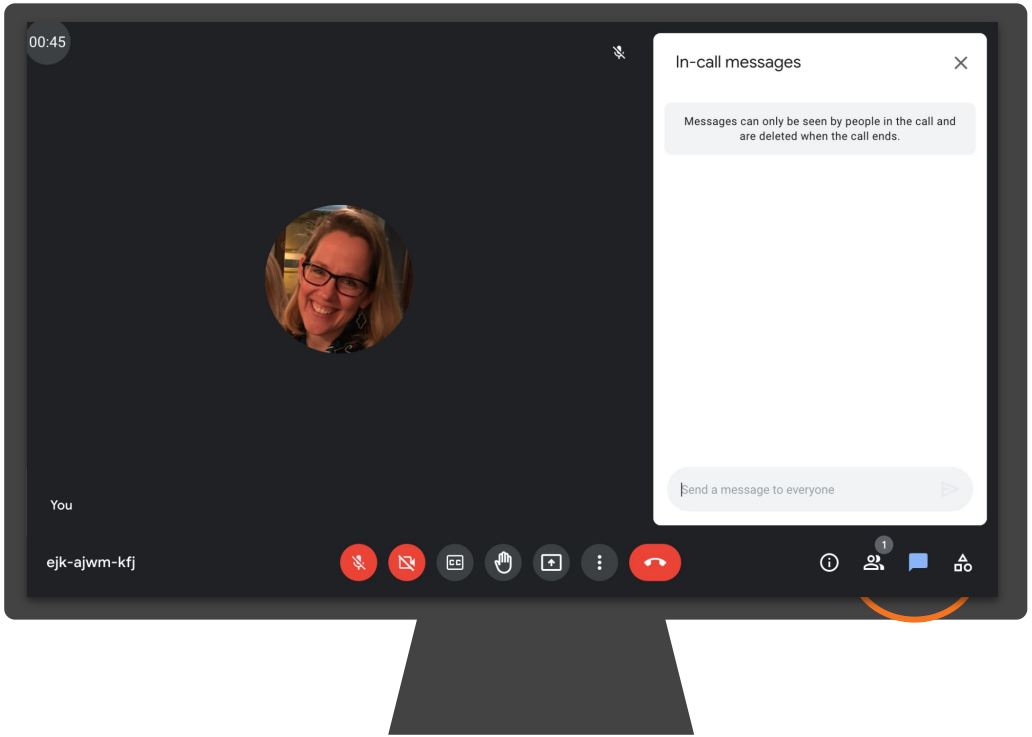
TOP RATED BY EDREPORTS

PLPG CERTIFIED PROVIDER

Ice Breaker!

Who do we have in the room today?

- **Question 1:** Which aspects of implementing the Amplify Science standard curriculum are you most excited or hopeful about?
- **Question 2:** What do you feel most hesitant about?



Amplify's Purpose Statement

Dear teachers,

You do a job that is nearly impossible and **utterly essential**.

We are in your corner – extending your reach, saving you time, and enhancing your understanding of each student.

Thank you for working with us to craft rigorous and riveting learning experiences for your classroom.

We share your goal of **inspiring all students to think deeply, creatively, and for themselves.**

Sincerely,
Amplify

Norms: Establishing a culture of learners

- **Take risks:** Ask any questions, provide any answers.
- **Participate:** Share your thinking, participate in discussion and reflection.
- **Be fully present:** Unplug and immerse yourself in the moment.
- **Physical needs:** Stand up, get water, take breaks.

Last year's Amplify apps.

About Los Angeles Unified | Find a School | Offices | Classic View

LOS ANGELES UNIFIED SCHOOL DISTRICT

mCLASS Student

Content Area: ELA
Grade Level: ES
Content Type: Assessment
Integration Type: App (Left Navigation)
Purchase Type: District
Getting Started Guide
Other Info: App to be installed for all course members.

Vendor Support Desk:
P: 800.823.1969
E: help@amplify.com
S: amplify.com/support/
Textbook Title(s):
NA

mCLASS Assessment

Content Area: ELA
Grade Level: ES
Content Type: Assessment
Integration Type: App (Left Navigation)
Purchase Type: District
Getting Started Guide
Other Info: App to be installed for Course Admins only

Vendor Support Desk:
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S: amplify.com/support/
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NA

mCLASS Portal

Content Area: ELA
Grade Level: ES
Content Type: Assessment
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Purchase Type: District
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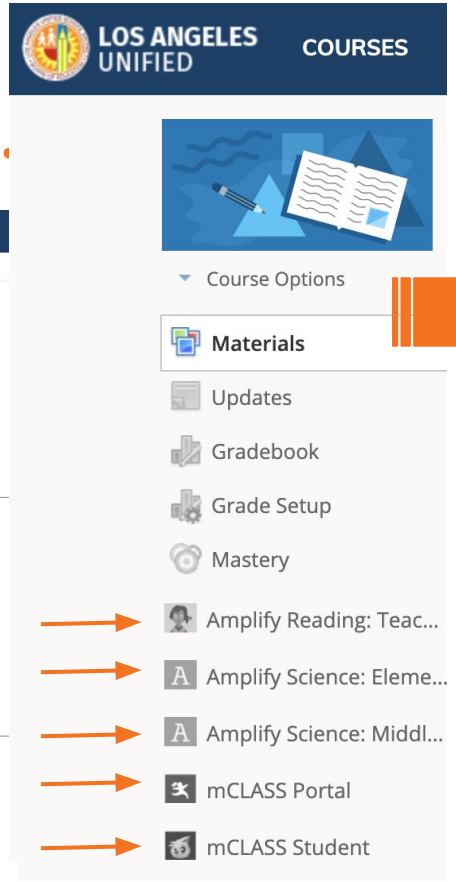

This year's app(s).

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LOS ANGELES UNIFIED SCHOOL DISTRICT

LMS App Center

The LMS App Center provides a catalog of District-approved digital content and learning tools (including digital components of adopted textbooks) that are available for classroom teachers and students to access within the learning management system, Schoology.

For information on District-approval policies and procedures, please visit: udipp.lausd.net.

- To search the full list of digital learning tools, click "**Submit**".
- To search by Publisher Name or Textbook Title, type in a word associated to your adopted publisher, then click "**Submit**".
- To narrow your search with filters such as Content Area, Grade Level, or Content Type, select from the dropdown menu, then click "**Submit**".

To learn more about using the LMS App Center, please refer to the following video overview.

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LOS ANGELES UNIFIED SCHOOL DISTRICT

COURSES | GROUPS | RESOURCES | TOOLS

← Back to Schoology Home Page

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Publisher Name	Starts With	amplify
Content Area	All	
Grade Level	All	
Content Type	All	
Textbook Title	Starts With	

Submit

All Amplify Products

Grade Sync for MS Science

←Search Again

Amplify

Content Area: ELA
Grade Level: ES
Content Type: Supplemental
Integration Type: App (Left Navigation)
Purchase Type: District and School
Getting Started Guide
Other Info: School licenses required
mCLASS
CKLA
Amplify Reading
Amplify Science
Fractions

Vendor Support Desk:
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Textbook Title(s):
NA

Amplify Classwork

Content Area: ELA
Grade Level: ES
Content Type: Supplemental
Integration Type: App (Left Navigation)
Purchase Type: District and School
Getting Started Guide
Other Info: School licenses required. This app is for teacher use only (install for Course Admins only)

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my.amplify.com

Amplify. MY ACCOUNT ADMIN REPORTS LAUNCH PROGRAMS TERIN NGO

mCLASS Educators: To view or make changes to your account go to mclass.amplify.com.

Hi, Terin

Classes

Programs & Licenses

Account Settings

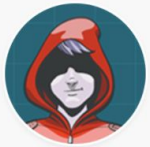
Help Center

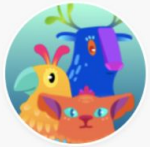

CKLA Hub


CKLA Resource Site


mCLASS Assessment


mCLASS Reporting


Reading 6-8


Reading K-5


Science


Vocabulary

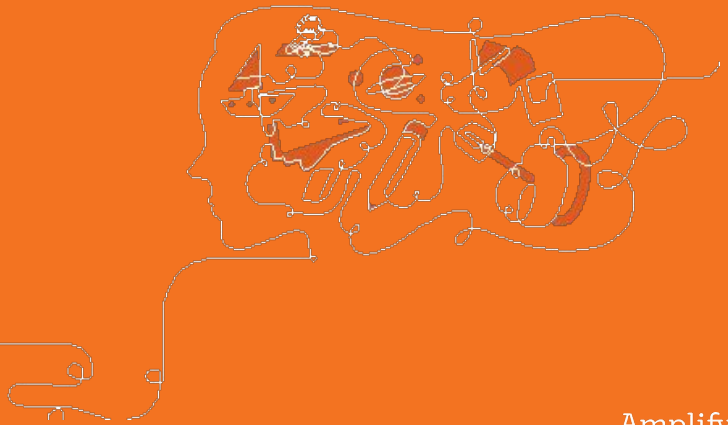
Amplify. on Schoology

2021-2022

Join Amplify Science Schoology Group

To join Amplify Science Schoology ES Group: W4PK-W466-63F5B

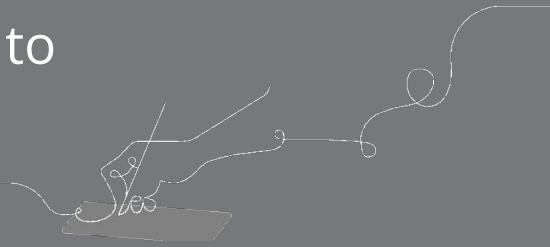
Part 1

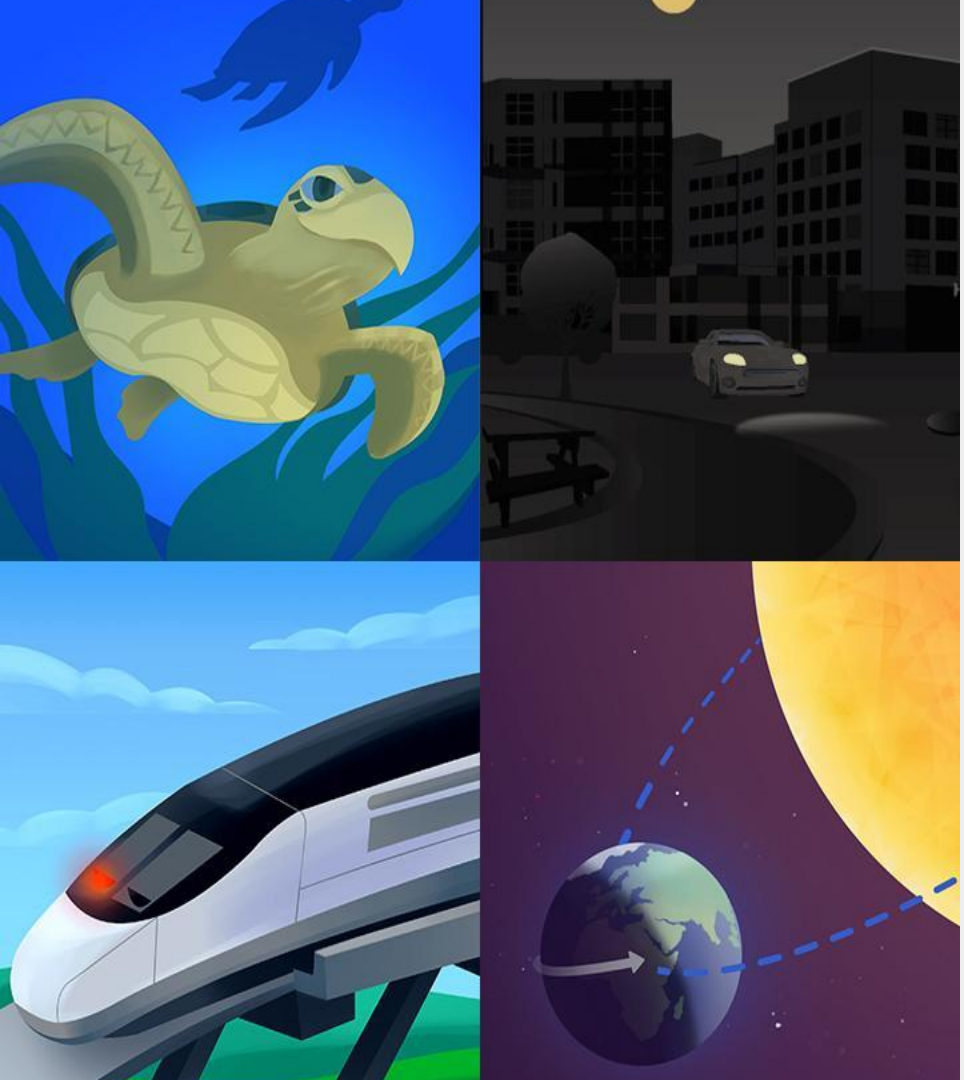


Overarching goals

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

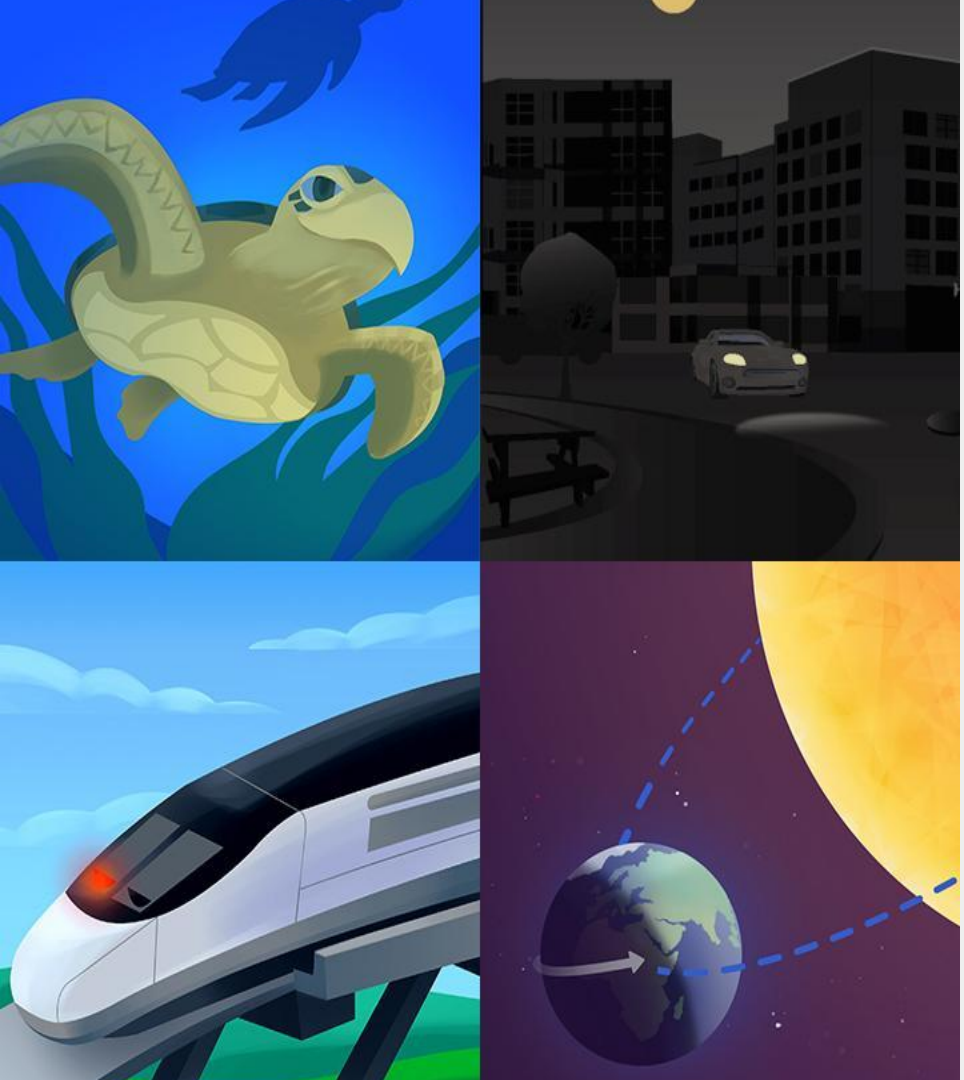
- ❑ Navigate the full Amplify Science standard curriculum.
- ❑ Understand the program's phenomenon-based approach.
- ❑ Apply the program essentials to prepare to teach.





Plan for the day: Part 1

- Introduction and Framing
- Phenomenon-based Instruction
- Program Essentials
- Closing



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THE LAWRENCE HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

+ Amplify.

Amplify Science

Next Generation Science Standards

Disciplinary Core Ideas — What students figure out

Science and Engineering Practices — How students figure out the science

Crosscutting Concepts — The habits of thinking that help students organize information

Course curriculum structure

Grade K

- Needs of Plants and Animals
- Pushes and Pulls
- Sunlight and Weather

Grade 1

- Animal and Plant Defenses
- Light and Sound
- Spinning Earth

Grade 2

- Plant and Animal Relationships
- Properties of Materials
- Changing Landforms

Grade 3

- Balancing Forces
- Inheritance and Traits
- Environments and Survival
- Weather and Climate

Grade 4

- Energy Conversions
- Vision and Light
- Earth's Features
- Waves, Energy, and Information

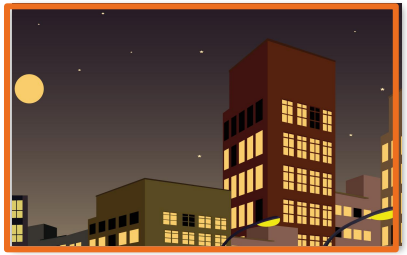
Grade 5

- Patterns of Earth and Sky
- Modeling Matter
- The Earth System
- Ecosystem Restoration

Key takeaways:

- There are 22 lessons per unit
- Lessons at grades 2-5 are 60 minutes long

Year at a Glance: Grade 4

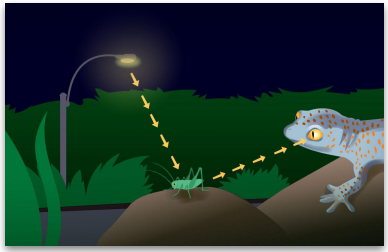


Energy Conversions

Domain: Physical Science

Unit type: Engineering Design

Student role: System engineers

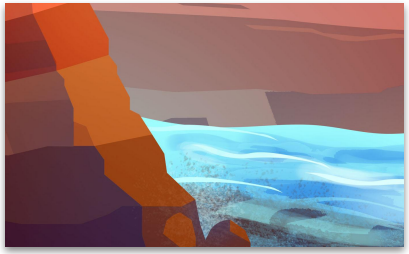


Vision and Light

Domain: Life Science

Unit type: Investigation

Student role: Conservation biologists

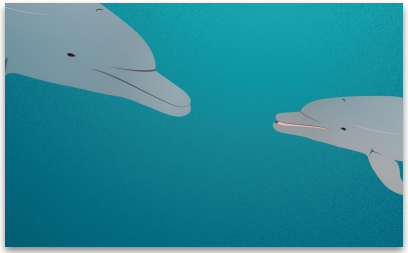


Earth's Systems

Domain: Earth and Space Science

Unit type: Argumentation

Student role: Geologists



Waves, Energy, and Information

Domain: Physical Science

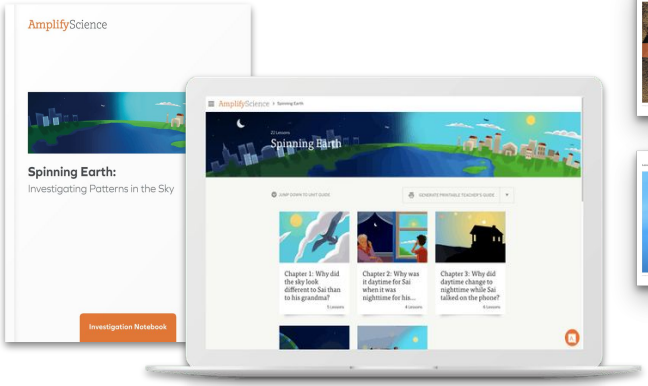
Unit type: Modeling

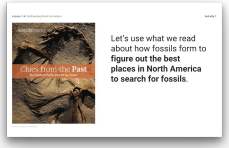
Student role: Marine scientists

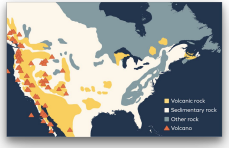
K-5 Program components

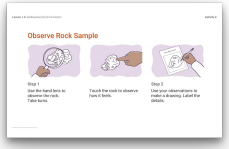
Teacher materials

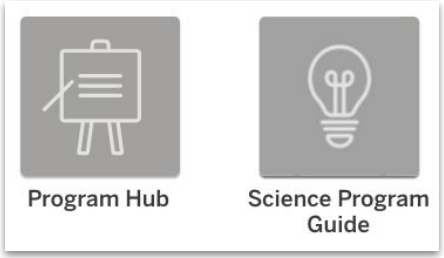
- Teacher's Guide (print and digital)
- Classroom Slides
- Classroom wall materials
- Embedded assessments
- Program Guide
- Program Hub
- Amplify Help Site

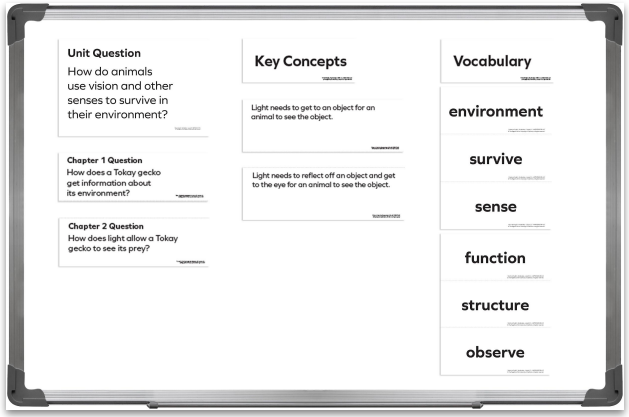








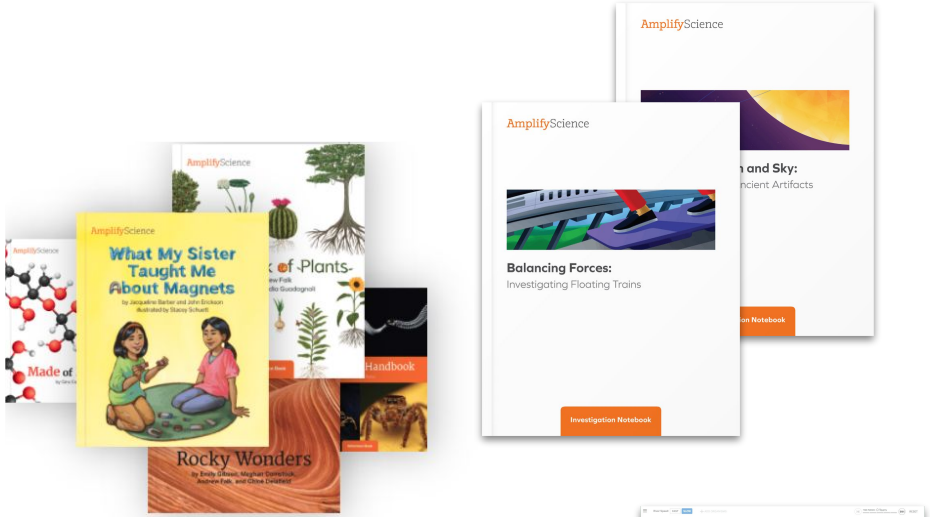


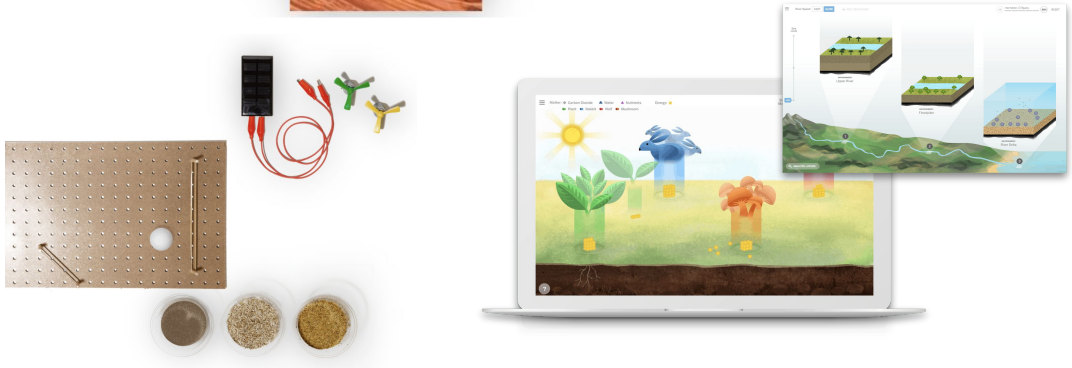


K-5 Program components

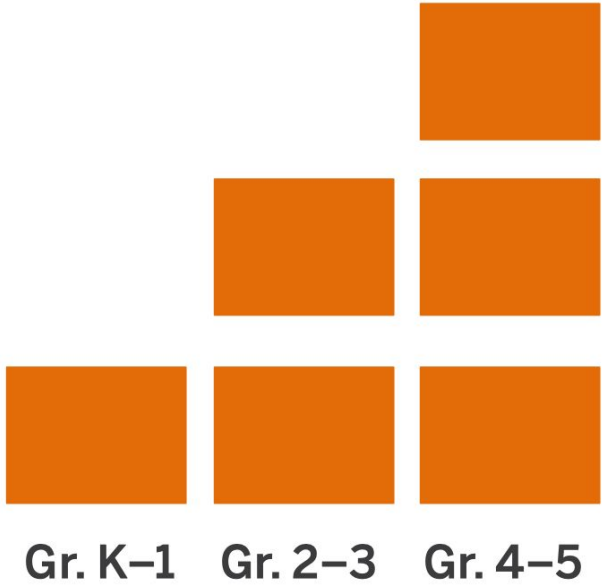
Student materials

- Hands-on materials
- Investigation Notebooks (print and digital)
- Student books
- Digital Applications





What are the digital components of Amplify Science Elementary?

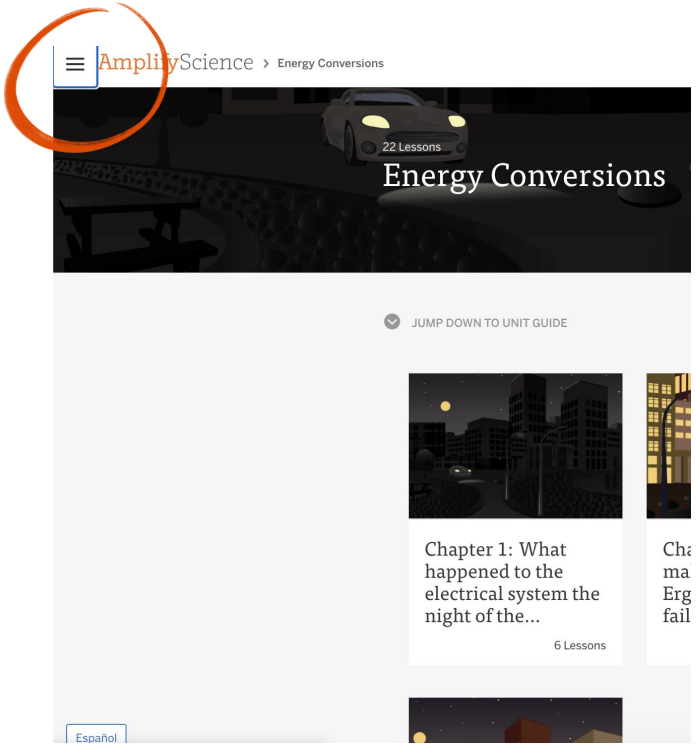


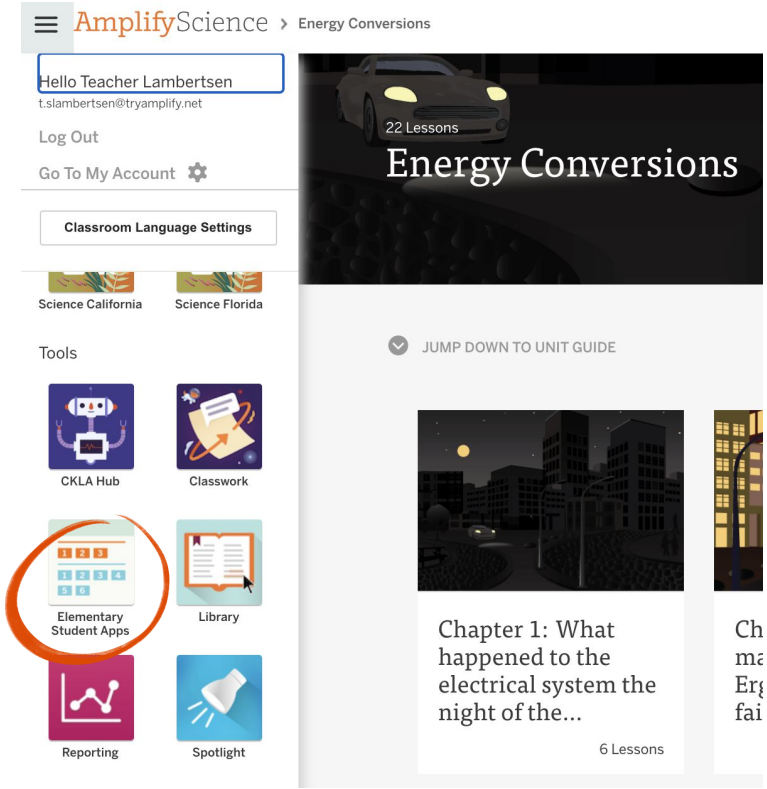
Student Simulations

Student Science Practice Tools
(sorting tool, diagramming tool, modeling tool, data tool)

Teacher's Guide
(Online digital books for students)

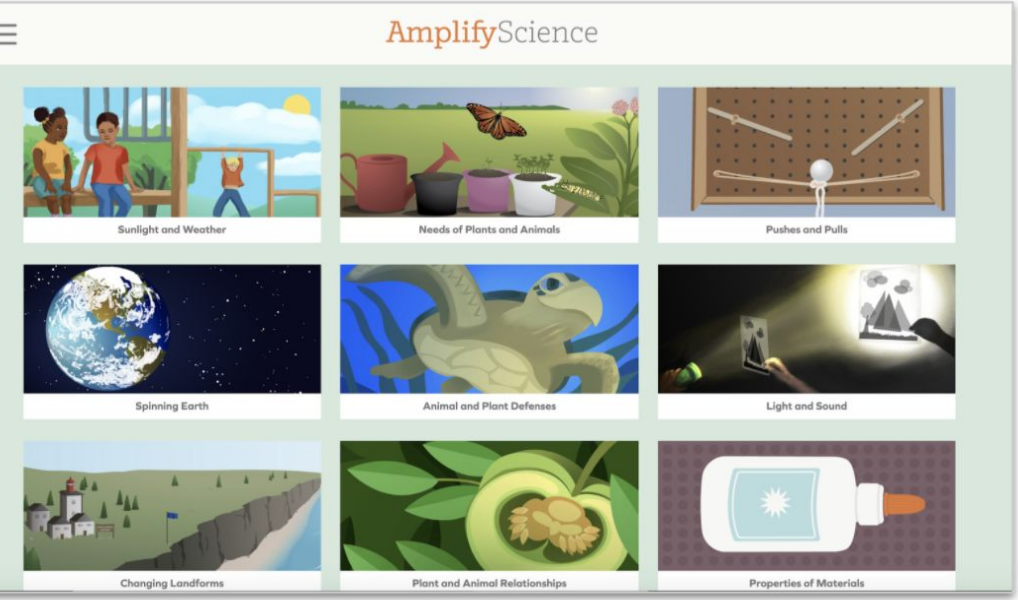
Navigating to the Student Apps page

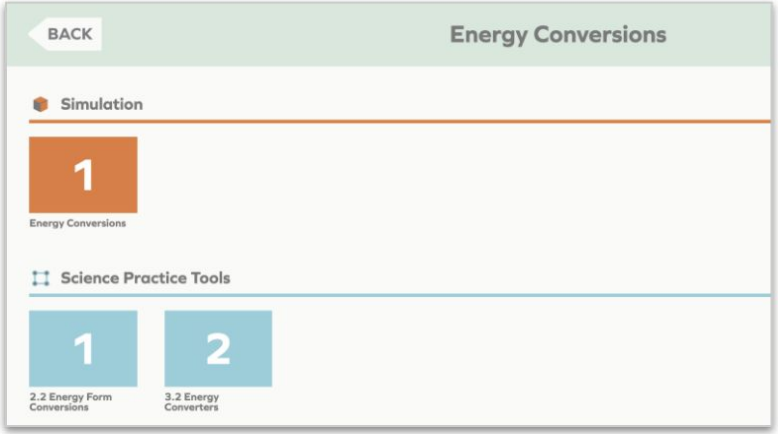




Student apps page

The elementary digital experience for students grades 2-5 is through the student apps page: apps.learning.amplify.com/elementary





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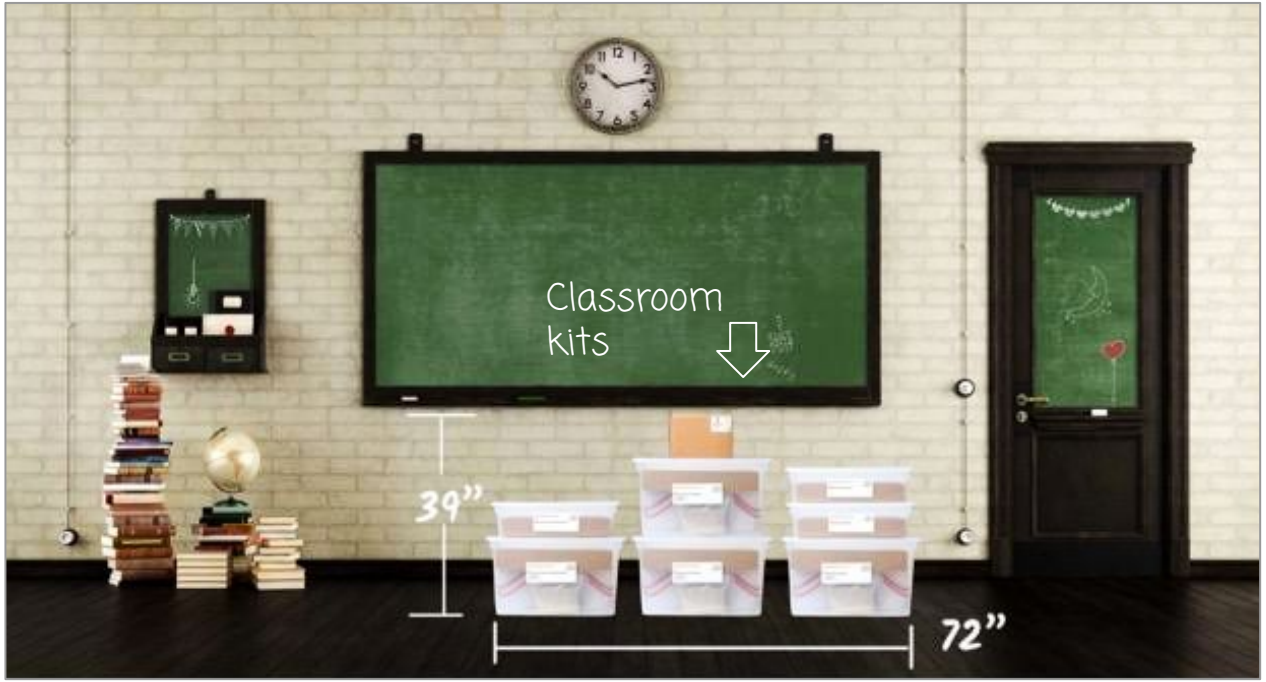
K-5 Program components

Classroom kits



Classroom Kits

Built for a class of 36 students, with consumables for two years

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

Welcome to Amplify Science!

—

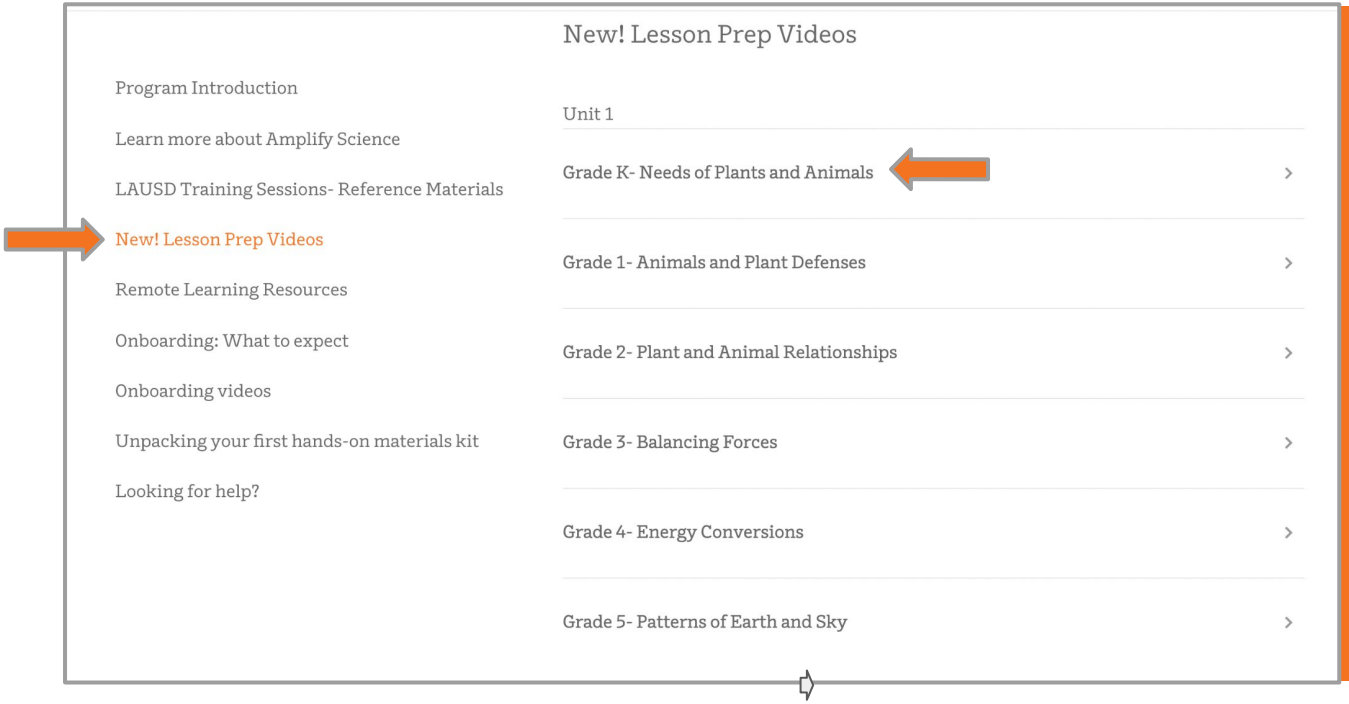
This site contains supporting resources designed for the LAUSD Amplify Science adoption for grades TK–8.

- Access the Amplify Science Program Hub (To help orient you to the new design, watch this video and view this reference guide.)
- Find out more about Amplify Science@Home
- Share the Caregiver Hub (Eng/Span) with your families
- For LAUSD ES Teachers- Amplify Science & Benchmark Advance Crosswalk
- Instructional guidance for a Responsive Relaunch of Amplify Science in 21-22

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

Unit 1, K-5 Lesson Prep Videos

Classroom kits



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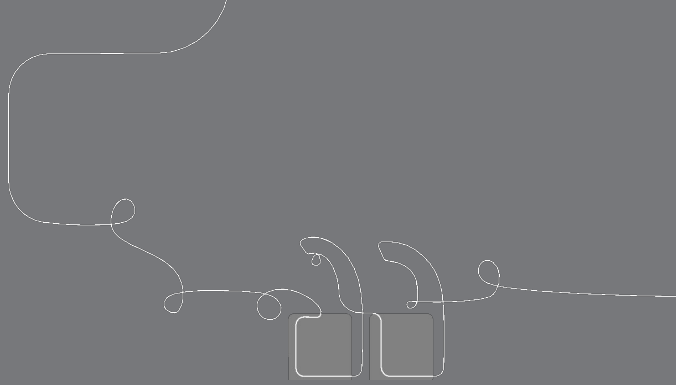
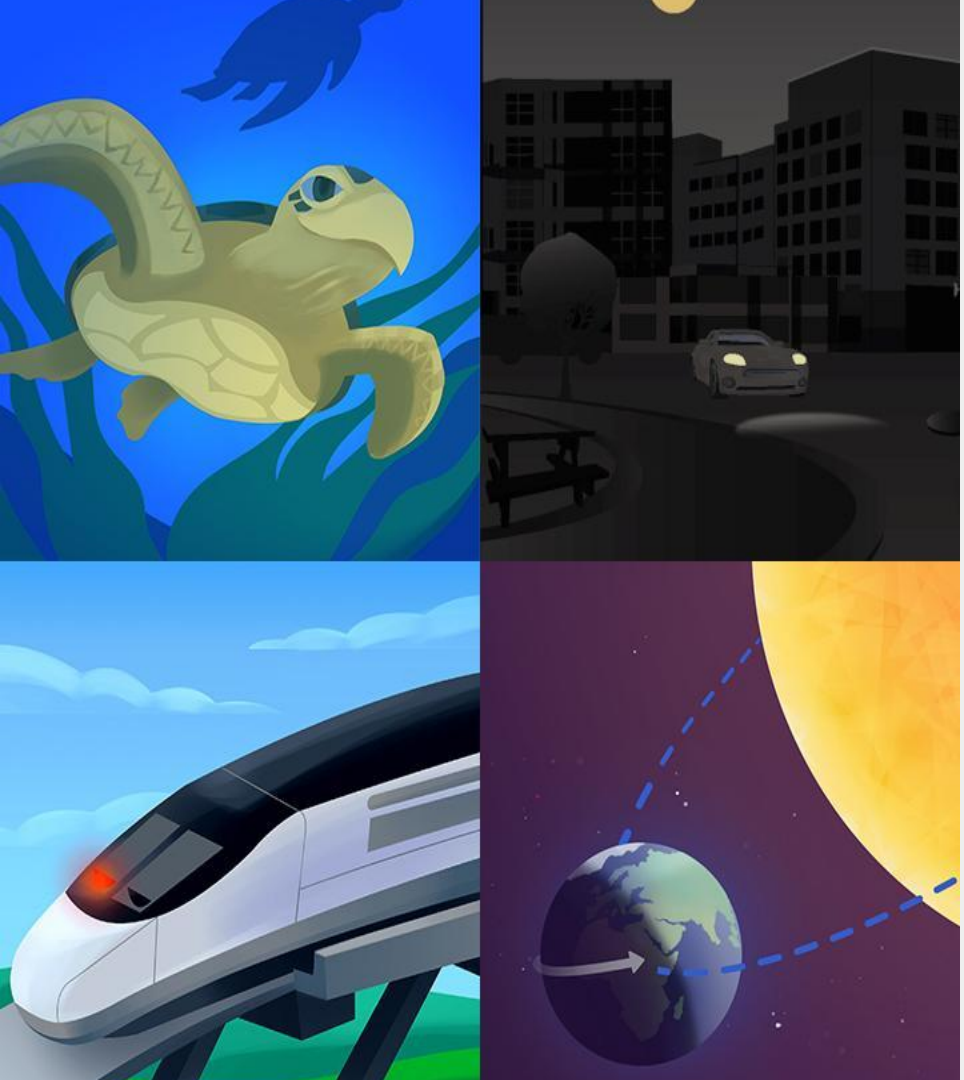
Questions?





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Next Generation Science Standards

Phenomenon-based learning and teaching

A scientific phenomenon is an **observable event** that occurs in the universe that we can use science ideas to explain or predict.

Comparing topics and phenomena

Topic-based	Phenomenon-based
Chemical reactions	There's a reddish-brown substance in a town's tap water.

Next Generation Science Standards

How might learning be different?

Topic-based	Phenomenon-based
Chemical reactions	There's a reddish-brown substance in a town's tap water.
Electric circuits	A flashlight won't turn on, even though it used to work.
Natural selection	A population of newts has become more poisonous over time.

Comparing topics and phenomena

A shift in science instruction

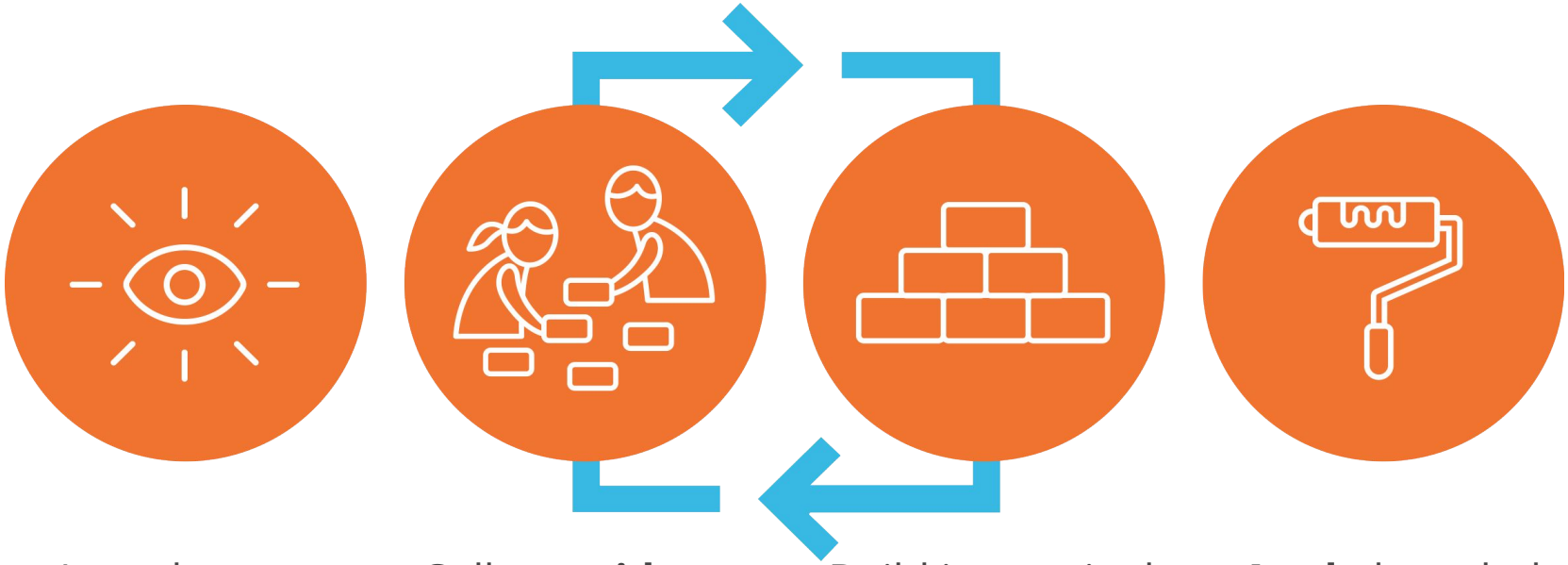
from learning about

(like a student)

to figuring out

(like a scientist)

Amplify Science Approach



Introduce a **phenomenon** and a related problem

Collect **evidence** from multiple sources

Build increasingly complex **explanations**

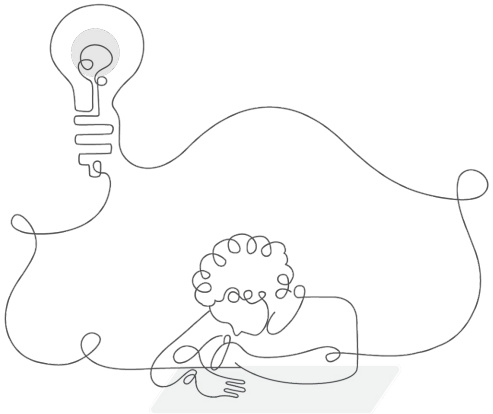
Apply knowledge to solve a different problem

Previewing the unit

Introducing the phenomenon

Amplify Science units are designed around complex phenomena that drive student learning through the unit.

Pay attention to the phenomenon, or observable event, students will figure out in your unit.



The unit we're beginning is called *Energy Conversions: Blackout in Ergstown*.

In this unit, you will **investigate why blackouts occur and come up with solutions to prevent them**.

Ergstown

This picture shows a town we'll call Ergstown.

What do you **see** in the picture?

Ergstown: a Few Moments Later

This is an image of the same town just a few moments later.

How is this picture different?

What do you think is going on in the picture?

Ergstown: Later That Night

What do you notice in this picture?

Have you ever been in a blackout? What was it like?

Why might blackouts be a problem?

To: Systems Engineers
From: Mayor Joules, Ergstown City Hall
Subject: Improvements to the Electrical System

Recently, Ergstown has been experiencing frequent blackouts. Blackouts can be dangerous and inconvenient, so I need a team to figure out how the electrical system can be improved.

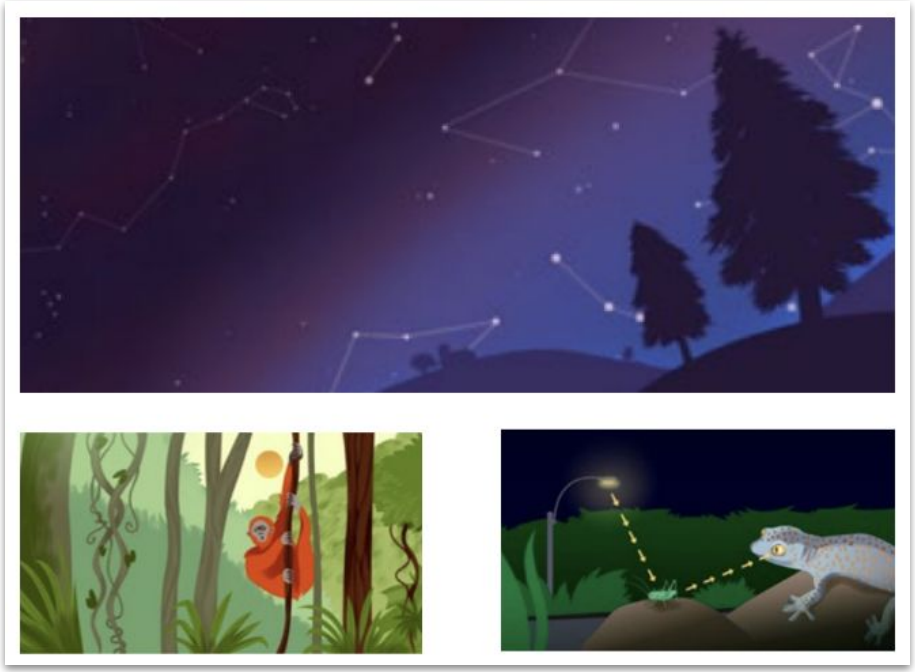
Before the team can begin to solve this problem, it will first need to figure out why the blackouts have been happening. I would like to receive updates as the team discovers possible causes of the blackouts and as the team comes up with ideas about how to improve the electrical system.

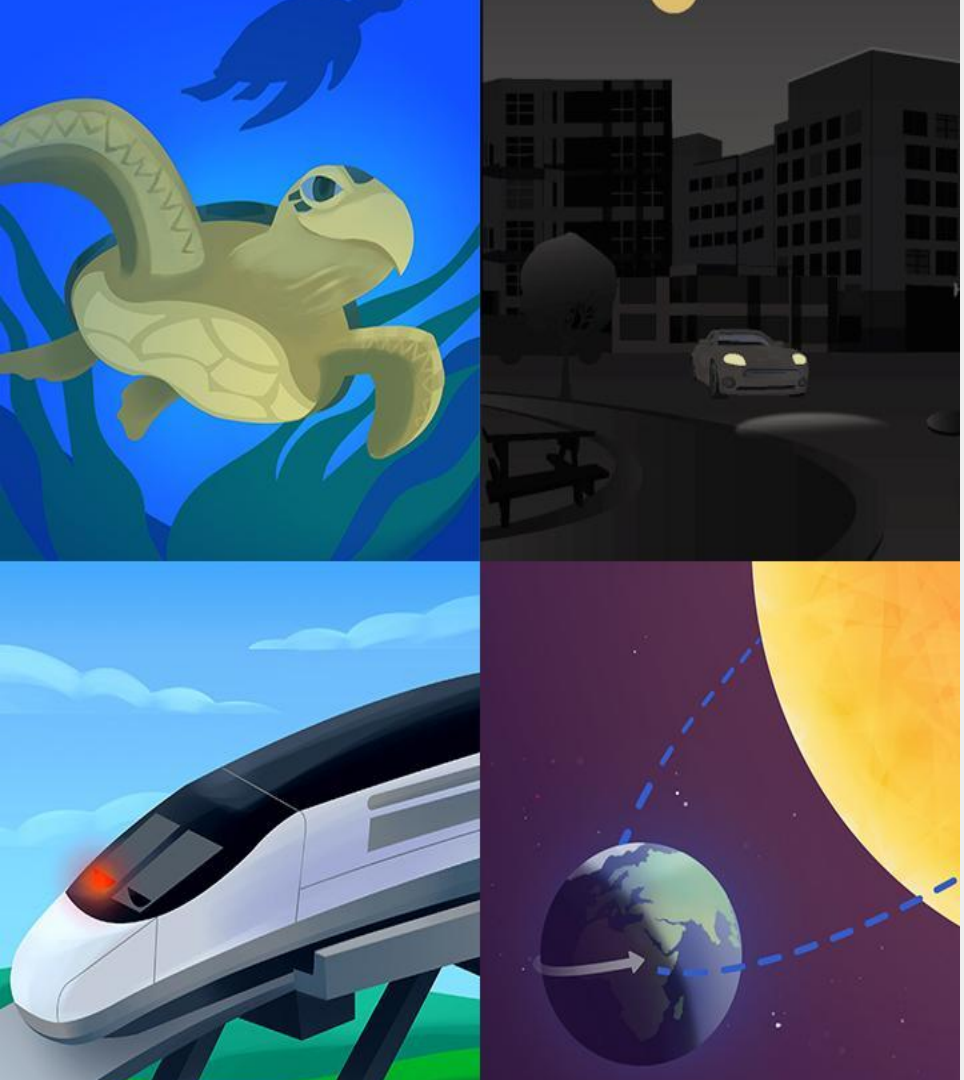
The town of Ergstown will be very grateful to anyone who can help us solve our blackout problem!

Amplify Science

Anchoring phenomenon

- Complex and rich
- Drives learning through a whole unit
- Specific and observable
- Relatable at students' developmental level





Plan for the day: Part 1

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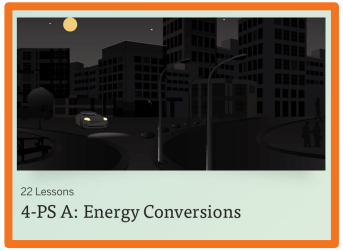
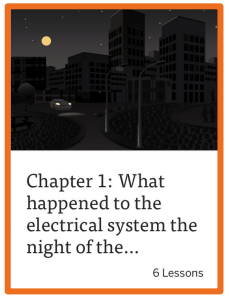
Unit

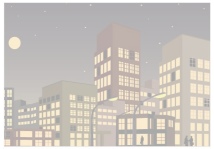
Chapters

Lessons

Activities







Lesson 1.1: Pre-Unit Assessment

Lesson 1.2: Introducing Systems

Lesson 1.3: Exploring Systems

Lesson 1.4: Electrical Energy

Lesson 1.5: Forms of Energy

Lesson 1.6: Writing an Argument About the Blackout

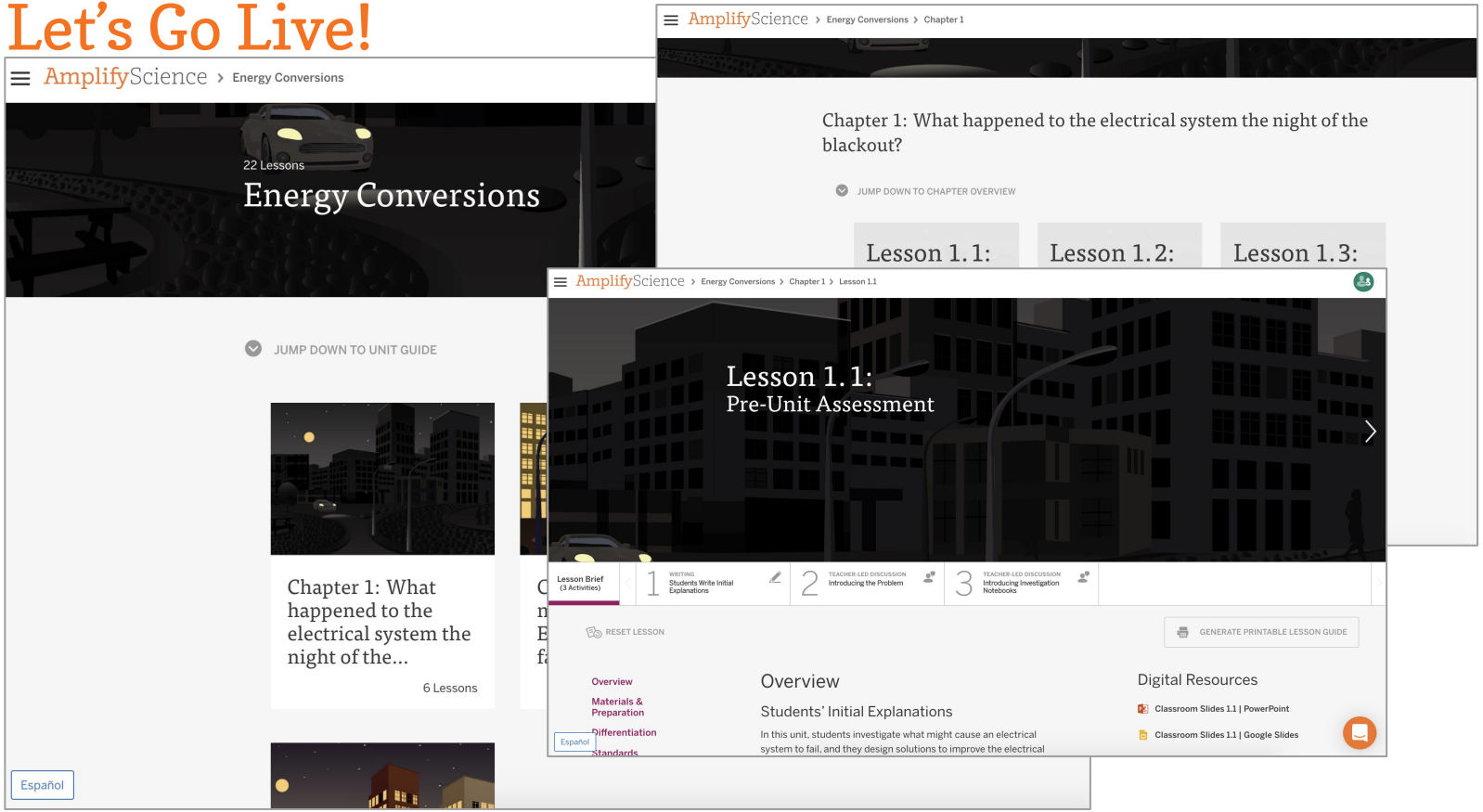
Lesson Brief (3 Activities)

1 HANDS-ON Building a Simple Electrical System

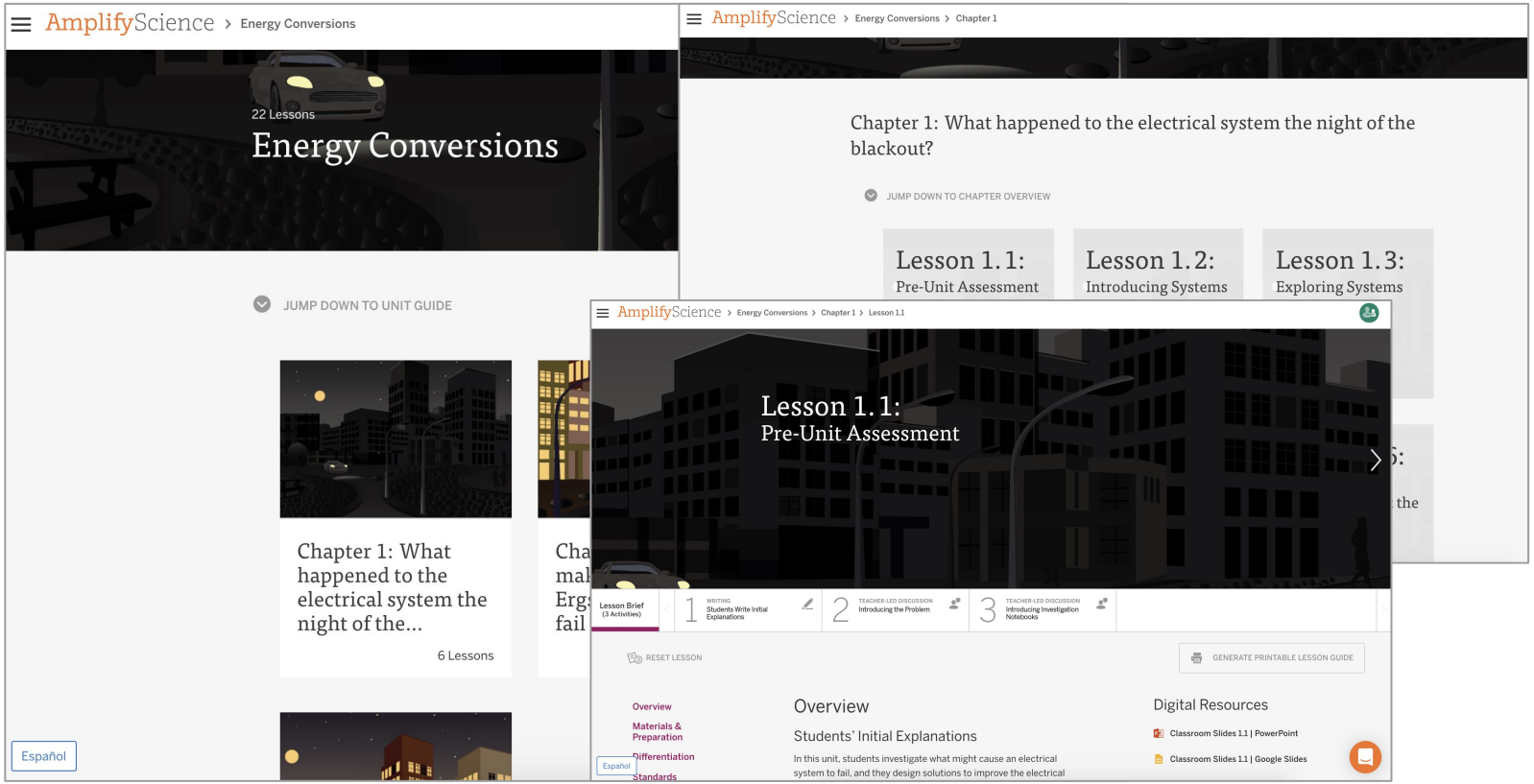
2 TEACHER-LED DISCUSSION Parts of a Simple Electrical System

3 STUDENT-TO-STUDENT DISCUSSION Parts and Functions

Let's Go Live!


AmplifyScience > Energy Conversions
22 Lessons
Energy Conversions
JUMP DOWN TO UNIT GUIDE
Chapter 1: What happened to the electrical system the night of the...
6 Lessons
Español
AmplifyScience > Energy Conversions > Chapter 1
Chapter 1: What happened to the electrical system the night of the blackout?
JUMP DOWN TO CHAPTER OVERVIEW
Lesson 1.1:
Lesson 1.2:
Lesson 1.3:
AmplifyScience > Energy Conversions > Chapter 1 > Lesson 1.1
Lesson 1.1:
Pre-Unit Assessment
Lesson Brief (3 Activities)
1 WRITING Students Write Initial Explanations
2 TEACHER-LED DISCUSSION Introducing the Problem
3 TEACHER-LED DISCUSSION Introducing Investigation Notebooks
RESET LESSON
GENERATE PRINTABLE LESSON GUIDE
Overview
Materials & Preparation
Differentiation
Standards
Español
Overview
Students' Initial Explanations
In this unit, students investigate what might cause an electrical system to fail, and they design solutions to improve the electrical
Digital Resources
Classroom Slides 1.1 | PowerPoint
Classroom Slides 1.1 | Google Slides

Explore the Essentials!

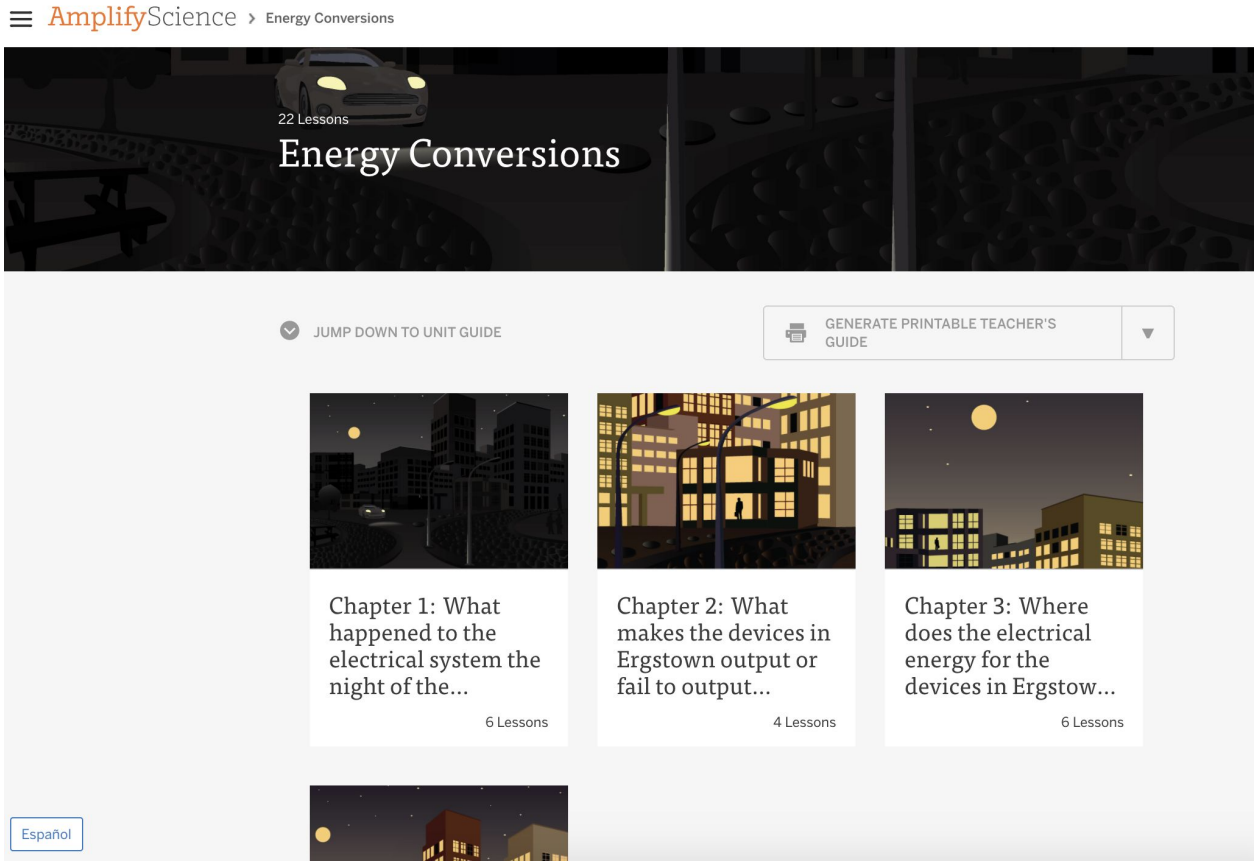


Navigation summary

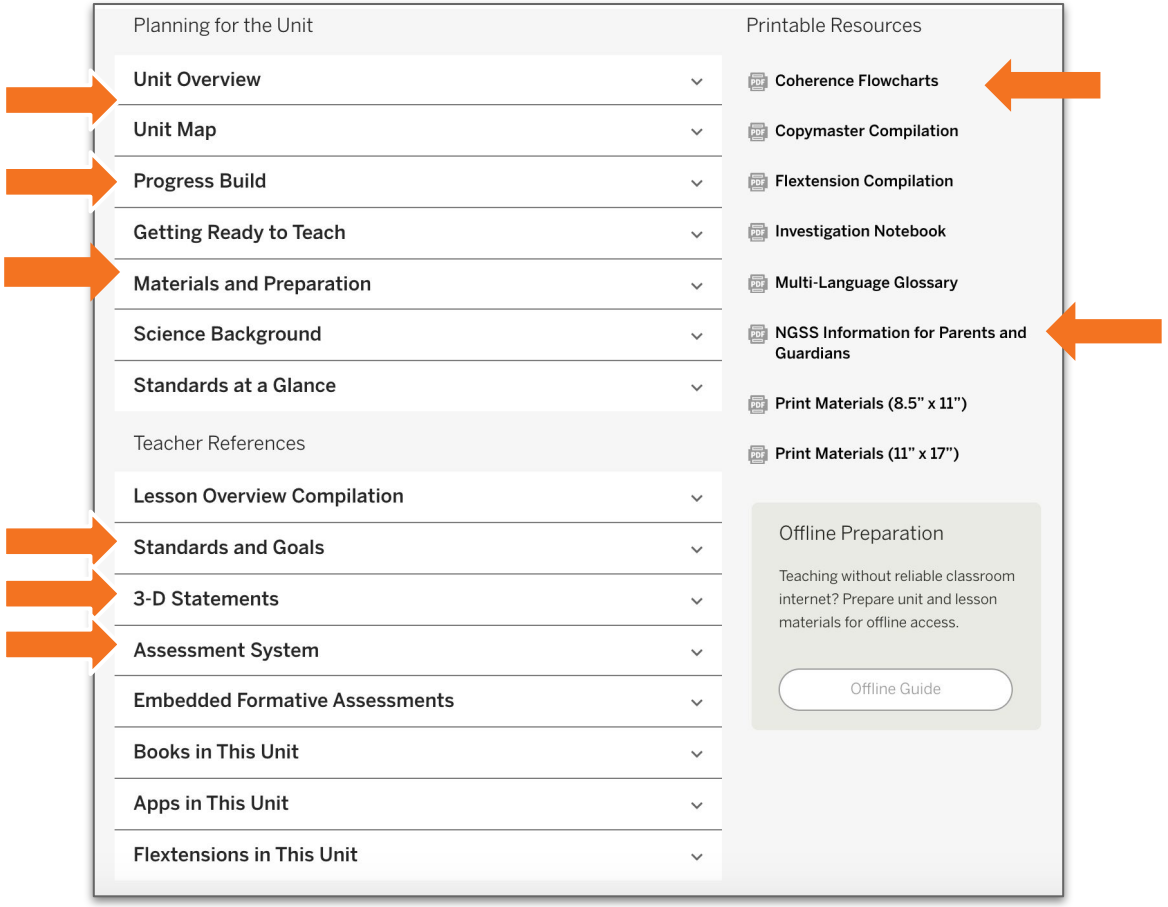
1. Select your first unit
   a. You are now on the Unit Landing Page.

2. Select **JUMP DOWN TO UNIT GUIDE.**
   a. **Or scroll down the page to *Planning for the Unit* and *Teacher References***

Unit Landing Page



Key Unit Guide Documents for Unit Planning



Core Unit Planning & Internalization

Unit Title: 1

Overview

[Resources: Unit Overview, Teacher's Guide, Coherence Flowchart, Unit Map, 3-D Statements]

What is the phenomenon/real-world problem students are investigating in your unit? 2	Student Role: 3
Unit Question: 4	Relationship between the Unit Phenomenon and Unit Question: 5
By the end of the unit, students figure out... 6	
How do students engage with three-dimensional learning to figure out the phenomenon/real-world problem in your unit? 7	

1

Unit Guide resources:
- Unit Overview
- Unit Map
- Coherence Flowchart

Unit Guide resources:
- Lesson Overview Compilation
- Unit Overview

Unit Guide resources:
- Unit Map

Unit Guide resources:
- 3D Statements at the Unit Level

Core Unit Planning & Internalization

Unit Title: Energy Conversions

Overview

[Resources: Unit Overview, Teacher's Guide, Coherence Flowchart, Unit Map, 3-D Statements]

What is the phenomenon/real-world problem students are investigating in your unit?	Student Role:
Why does Ergstown keep having blackouts?	Systems Engineers
Unit Question:	**Relationship between the Unit Phenomenon and Unit Question:**
How does the electrical system work?	Understanding Ergstowen electrical system provides a unique context for students to learn about how energy is converted from one form to another, how it can be transferred from place to place, and the variety of energy sources that exist.

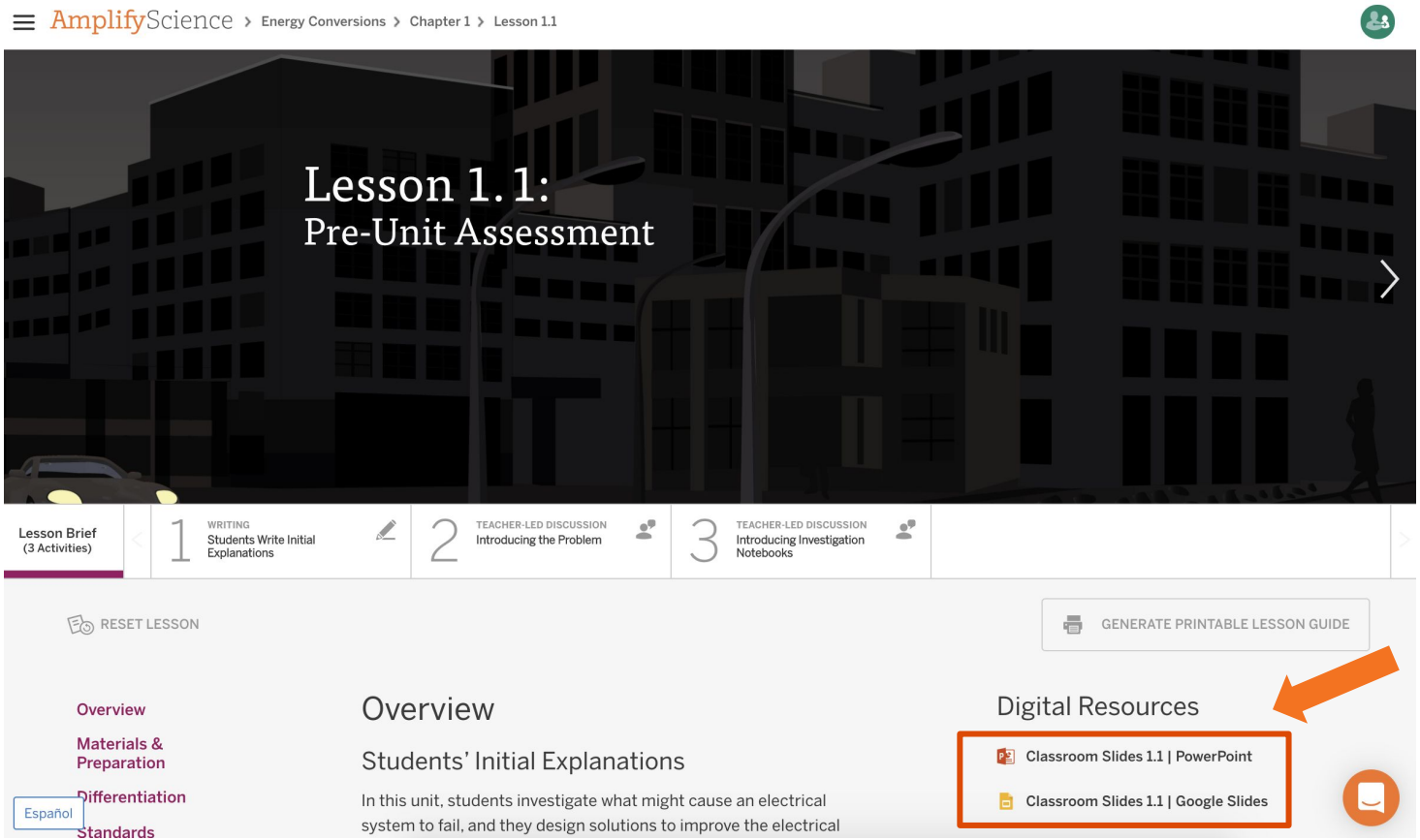
By the end of the unit, students figure out...

The devices won't function if the wires that connect the source converter and the devices are broken. The connections between the grid and the converters aren't strong enough, if the wires aren't in a secure location, or if there aren't enoughTbackup wires.

How do students engage with three-dimensional learning to figure out the phenomenon/real-world problem in your unit?

Students investigate—through firsthand experiences, a digital model, and by obtaining information by reading—how electrical systems convert and transfer energy. They use what they learn to design, test, and evaluate improvements to cause the electrical system to be more reliable, even during natural hazards and to make arguments based on evidence for the best improvements (cause and effect).

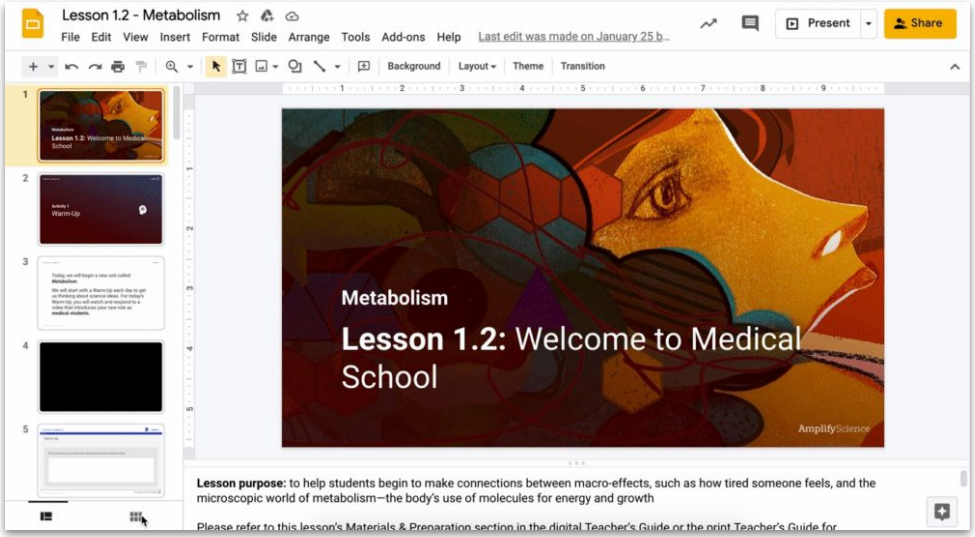
Navigate to a lesson page



Using Classroom Slides as a planning tool

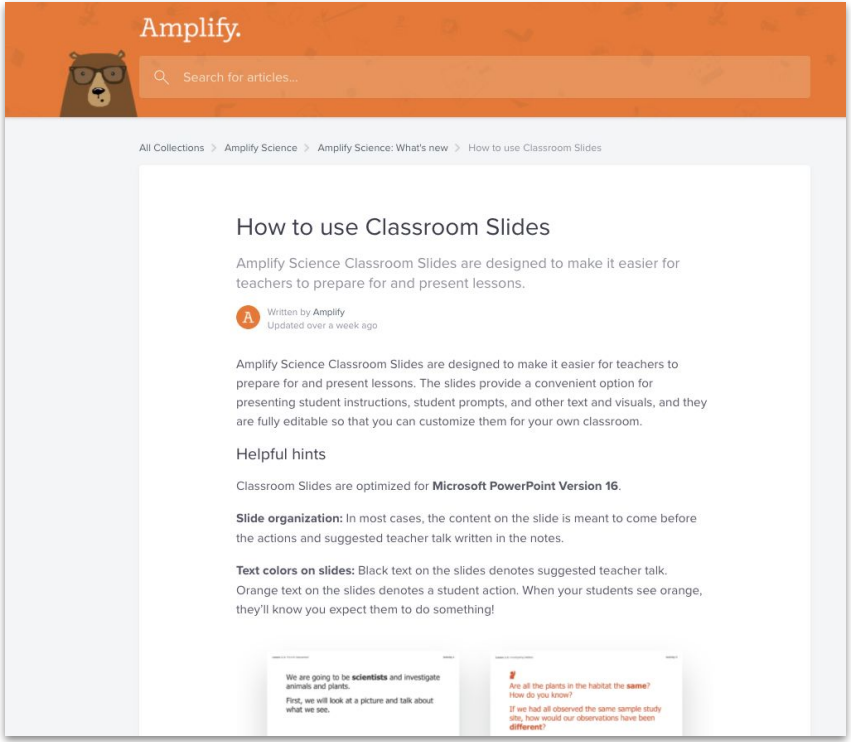
Teacher tip: Classroom Slides are a great visual summary of a lesson. Many teachers download and flip through a lesson's Classroom Slides deck to preview what happens in the lesson.

This is a useful first step for preparing to teach the lesson.



Teaching with Classroom Slides

This detailed guide on the Amplify Science Help Site includes tips for teaching with Classroom Slides and information about the different symbols and activity types you'll find in the slide deck.



AmplifyScience > Energy Conversions > Chapter 1 > Lesson 1.2

Lesson 1.2:
Introducing Systems

4 Easy Steps to Teaching an Amplify Lesson

Lesson Brief (4 Activities)

1 TEACHER-LED DISCUSSION Reflecting on the Unit Problem

2 TEACHER-LED DISCUSSION Observing a Simple System

3 TEACHER-LED DISCUSSION Introduction to Synthesizing

4 READING Reading: Systems

Step 1: Download the Classroom Slides

Step 2: Read the Overview Section

Step 3: Read the Materials & Preparation Section

Step 4: Read the Differentiation Section

RESET LESSON

GENERATE PRINTABLE LESSON GUIDE

Lesson Brief

- Overview (2)
- Materials & Preparation (3)
- Differentiation (4)
- Standards
- Vocabulary
- Unplugged?

Digital Resources

- Classroom Slides 1.2 | PowerPoint (1)
- All Projections
- Classroom Videos 1.2 | Zip
- Partner Reading Guidelines
- Cherry Pitter System table (Completed)
- Optional: Chapter 1 Home Investigation: Blackout Interview copymaster

Navigation Temperature Check

Rate yourself on your comfort level accessing Amplify Science materials and navigating a digital curriculum.

1 = Extremely Uncomfortable

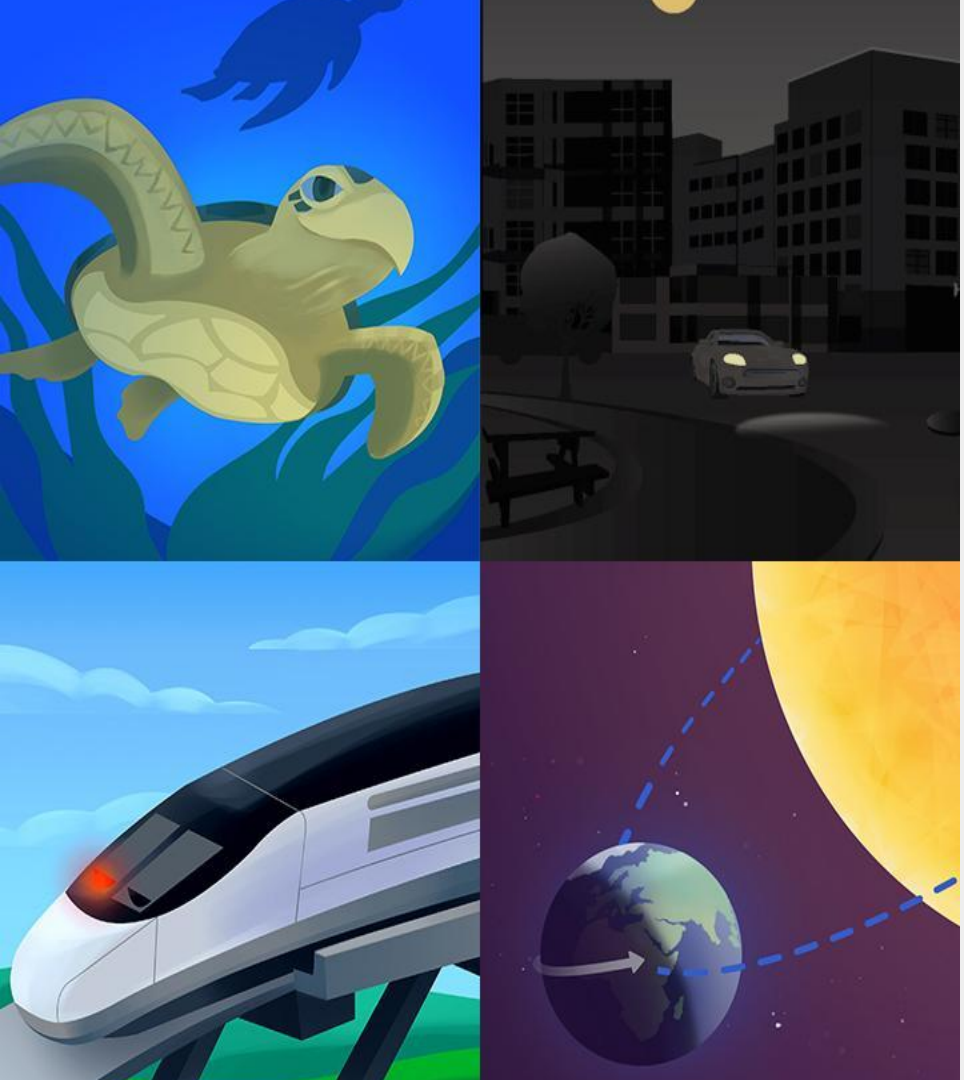
2 = Uncomfortable

3 = Mild

4 = Comfortable

5 = Extremely Comfortable

Questions?



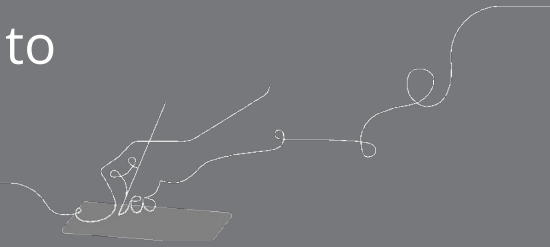
Plan for the day: Part 1

- Introduction and Framing
- Phenomenon-based Instruction
- Program Essentials
- Closing

Overarching goals

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

- ✓ Navigate the full Amplify Science standard curriculum.
- ✓ Understand the program's phenomenon-based approach.
- ✓ Apply the program essentials to prepare to teach.



Closing reflection

Based on our work in Part 1, share:

Head: something you'll keep in mind

Heart: something you're feeling

Feet: something you're planning to do

Additional resources

Welcome, caregivers!

We hope you enjoy learning more about Amplify Science and what students are learning in science this year.

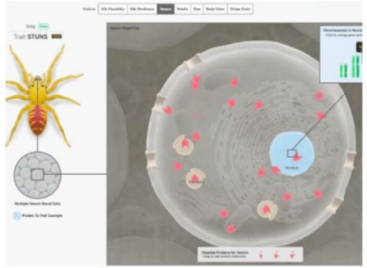
Para acceder a este sitio en español haga clic aquí.

Amplify welcomes you and your learner to the Science program for the new school year. We are very excited to provide you with exceptional learning opportunities through Science. Below are resources and helpful guides for enabling your student to have the most productive experience with our platform throughout the year.

Contact Us

TOP RATED BY EDREPORTS

Grades 6-8



Caregivers

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

Welcome to Amplify Science!

—

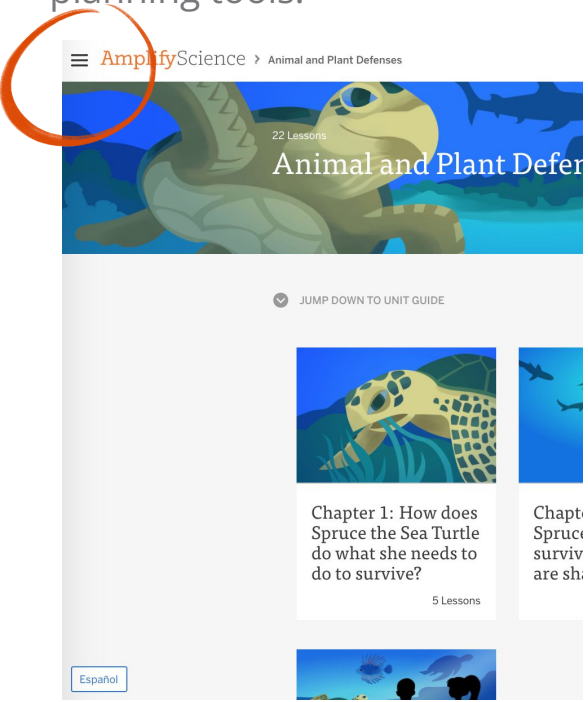
This site contains supporting resources designed for the LAUSD Amplify Science adoption for grades TK–8.

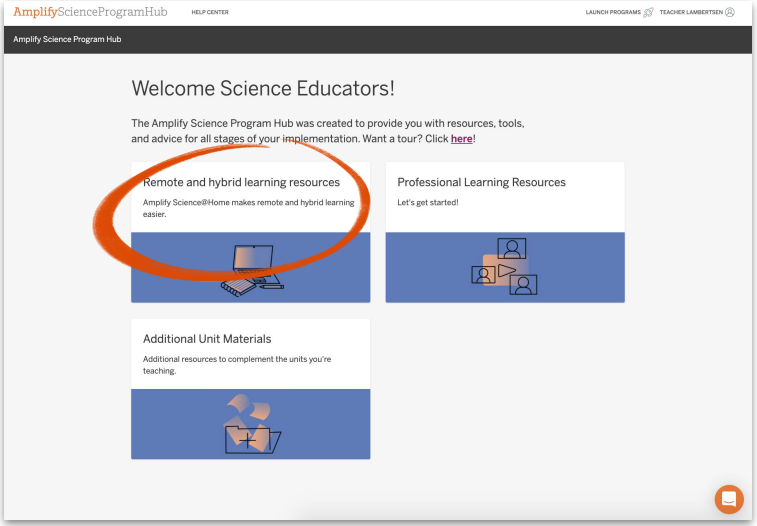
- Access the Amplify Science Program Hub (To help orient you to the new design, watch this video and view this reference guide.)
- Find out more about Amplify Science@Home
- Share the Caregiver Hub (Eng/Span) with your families
- For LAUSD ES Teachers- Amplify Science & Benchmark Advance Crosswalk
- Instructional guidance for a Responsive Relaunch of Amplify Science in 21-22

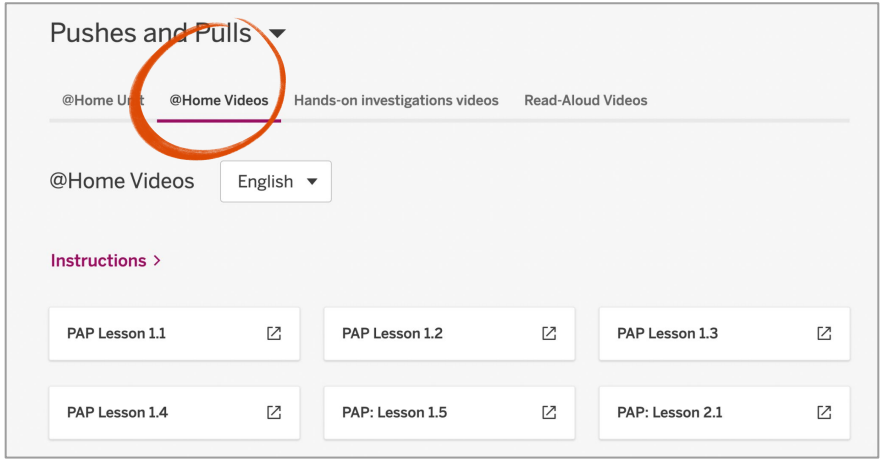
Click the button below to preview the digital Teacher's Guide, and check back for exciting updates to this site!

Program Hub

Use the Amplify Science Program Hub to find useful resources for implementing Amplify Science, including unit overview videos and planning tools.







Additional resources and ongoing support

Customer Care

Seek information specific to enrollment and rosters, technical support, materials and kits, and teaching support, weekdays 7AM-10PM EST and weekends 10AM-6PM EST.

help@amplify.com

800-823-1969

Amplify Chat

Please provide feedback on today's session!

Presenter name:

Workshop title:

Part 1: Navigating Program Essentials

Part 2: Guided Planning

Modality:

Remote

End of Part 1