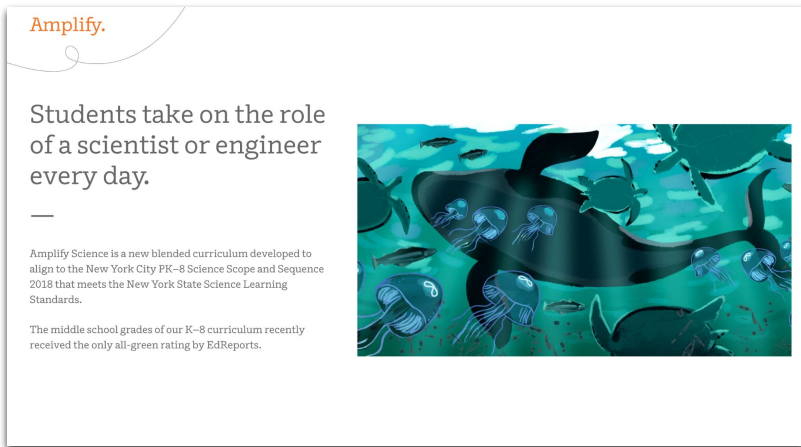


Welcome to Amplify Science!

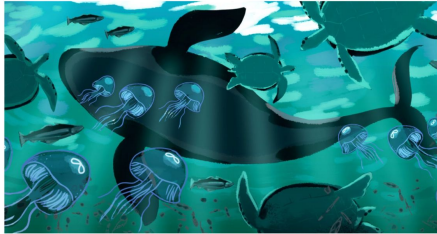
Do Now: Open auto-login site & explore as we wait to begin

Go to <https://amplify.com/amplify-science-nyc-doe-review/>



Amplify.

Students take on the role of a scientist or engineer every day.



Amplify Science is a new blended curriculum developed to align to the New York City PK–8 Science Scope and Sequence 2018 that meets the New York State Science Learning Standards.

The middle school grades of our K–8 curriculum recently received the only all-green rating by EdReports.



Begin your review

Begin your review

- What sets Amplify Science apart?
- The Amplify Science approach
- Components overview
- Review grades K–5
- Review grades 6–8
- Watch an overview
- Ready to order?

Grades K–5

Grades 6–8

What sets Amplify Science apart?

- Aligned to the New York City PK–8 Science Scope and Sequence 2018, and meets New York State Science Learning Standards.

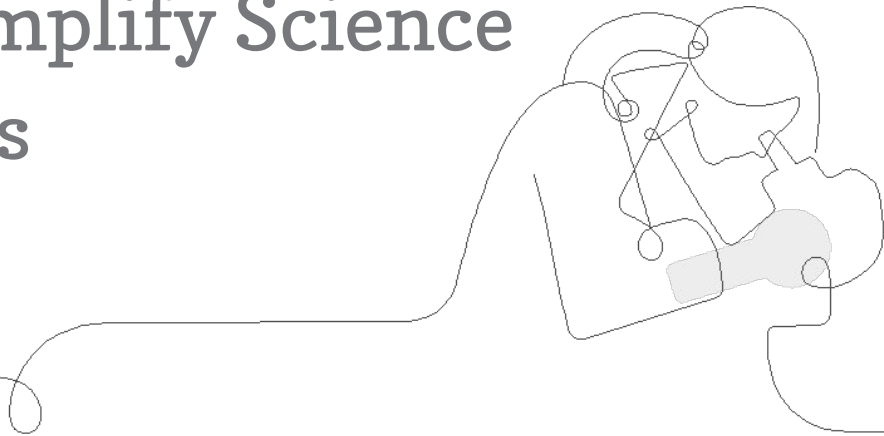
Click your grade band & then follow prompts

Amplify Science

Introduction to Amplify Science for Administrators

Grades K-5

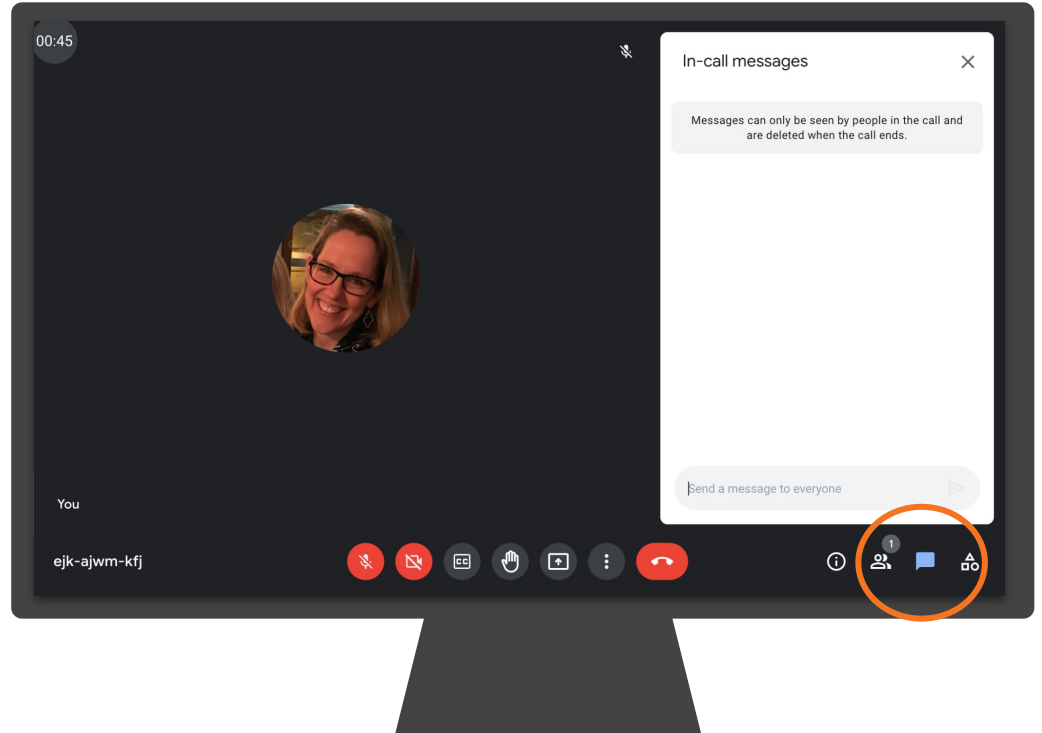
School/District Name
Date
Presented by Your Name



Ice Breaker!

Who do we have in the room today?

- **Question 1:** Which aspects of adopting a new science curriculum are you most excited or hopeful about?
- **Question 2:** What about adopting a new science curriculum makes you feel most hesitant?



Hidden slide: Establishing a questions routine

Amplify Science

Questions

- Question 1
- Question 2
- Question 3

Questions for district

- Question 1
- Question 2
- Question 3

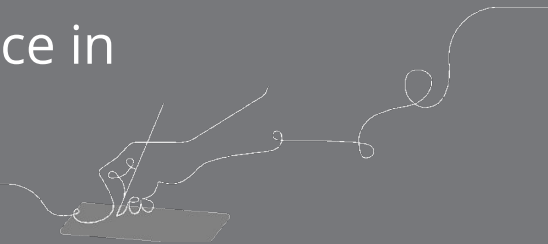
Norms: Establishing a culture of learners

- **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.

Overarching goals

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

- ❑ Recognize how lessons engage students in the three dimensions of the NYSSLS through phenomenon-based instruction.
- ❑ Understand the ways in which administrators can support phenomenon-based instruction and the implementation of Amplify Science in their schools in a variety of settings.

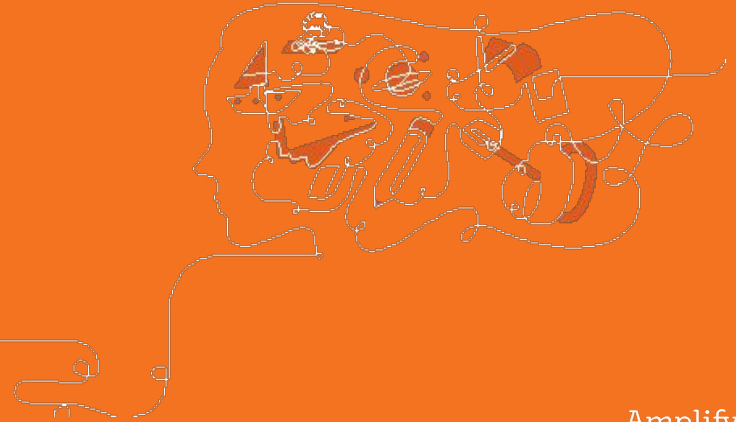




Plan for the day

- **Introduction and framing**
- Teaching and learning in Amplify Science
- Supporting instruction
- Supporting implementation
- Closing

Introducing Amplify Science





THE LAWRENCE
HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

+

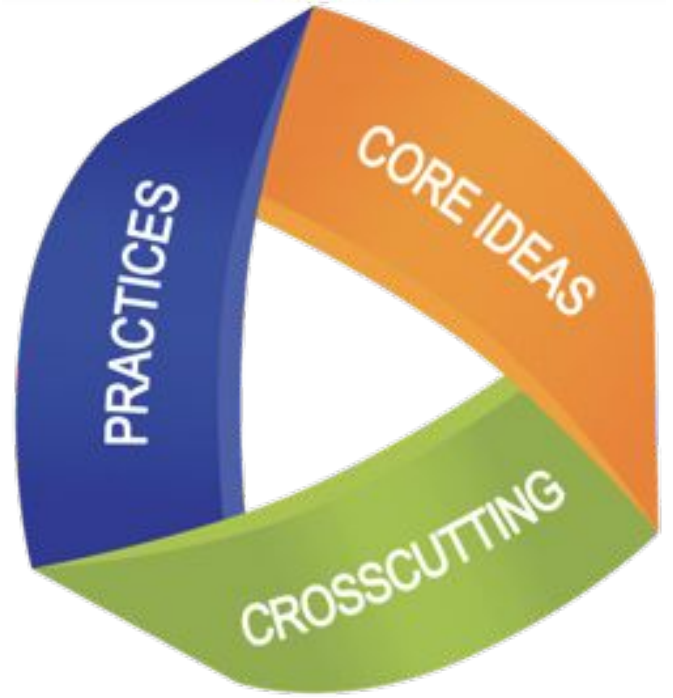
Amplify.

Amplify Science

New York State Science Learning Standards

Evaluate your knowledge

- On a scale of 0-5, how would you rate your familiarity with the NYSSLS?



3-D learning

Reflection

Disciplinary Core Ideas

- Molecules needed by the cells

Science and Engineering Practices

- Which practices did you use to figure out these ideas?

Crosscutting Concepts

- Which crosscutting concepts were useful to make sense out of what you figured out?

Three dimensions of NGSS reference



3-D learning engages students in using scientific and engineering practices and applying crosscutting concepts as tools to develop understanding of and solve challenging problems related to disciplinary core ideas.

Science and Engineering Practices

1. Asking Questions and Defining Problems
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 and Designing Solutions
7. Engaging in Argument from Evidence
8. Obtaining, Evaluating, and Communicating Information

Disciplinary Core Ideas

Earth and Space Sciences: ESS1: Earth's Place in the Universe ESS2: Earth's Systems ESS3: Earth and Human Activity	Life Sciences: LS1: From Molecules to Organisms LS2: Ecosystems LS3: Heredity LS4: Biological Evolution	Physical Sciences: PS1: Matter and its Interactions PS2: Motion and Stability PS3: Energy PS4: Waves and their Applications	Engineering, Technology and the Applications of Science: ETS1: Engineering Design ETS2: Links among Engineering, Technology, Science and Society
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Crosscutting Concepts

1. Patterns
2. Cause and Effect
3. Scale, Proportion, and Quantity
4. Systems and System Models
5. Energy and Matter
6. Structure and Function
7. Stability and Change

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

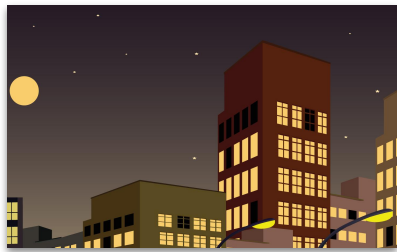
Grade 5

- 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
- Lessons at grades K-1 are 45 minutes long

Year at a Glance: Grade 4

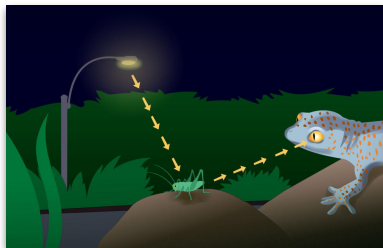


Energy Conversions

Domain: Physical Science

Unit type: Engineering Design

Student role: System engineers



Vision and Light

Domain: Life Science

Unit type: Investigation

Student role: Conservation biologists

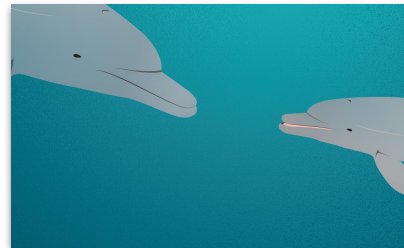


Earth's Systems

Domain: Earth and Space Science

Unit type: Argumentation

Student role: Geologists



Waves, Energy, and Information

Domain: Physical Science

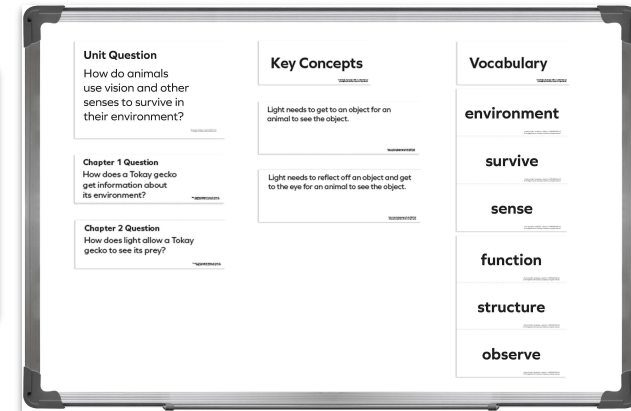
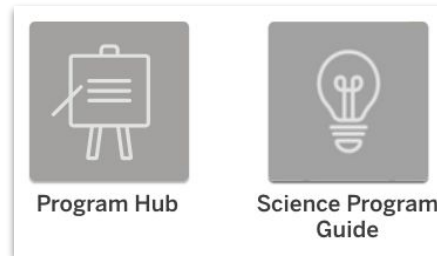
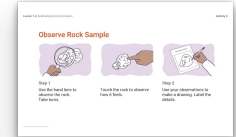
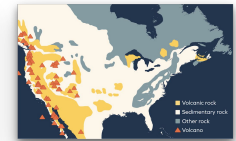
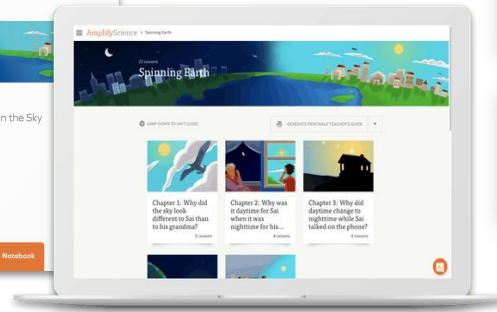
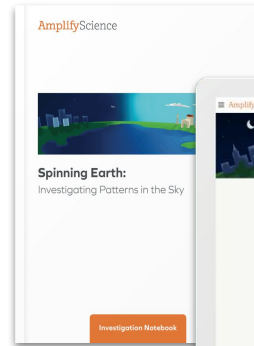
Unit type: Modeling

Student role: Marine scientists

K-5 Program components

Teacher materials

- Teacher's Guide
- 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
- Student books
- Digital Applications



Questions?

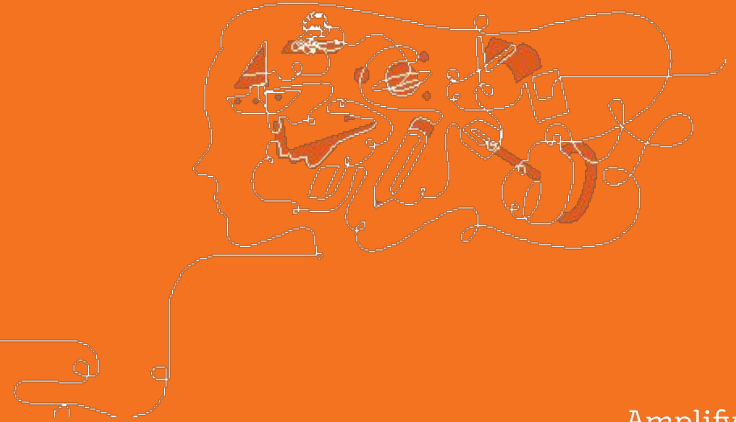




Plan for the day

- Introduction and Framing
- **Teaching and learning in Amplify Science**
- Supporting instruction
- Supporting implementation
- Closing

Teaching and learning in Amplify Science



New York State Science Learning 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
Ocean habitats	A sea turtle can survive in an ocean habitat where sharks live

New York State Science Learning Standards

How might learning be different?

Topic-based	Phenomenon-based
Ocean habitats	A sea turtle can survive in an ocean habitat where sharks live.
Electric circuits	A flashlight won't turn on, even though it used to work.
Mixtures and solutions	One substance dissolved in water but another substance didn't.

Comparing topics and phenomena

A shift in science instruction

from learning about
(like a student)



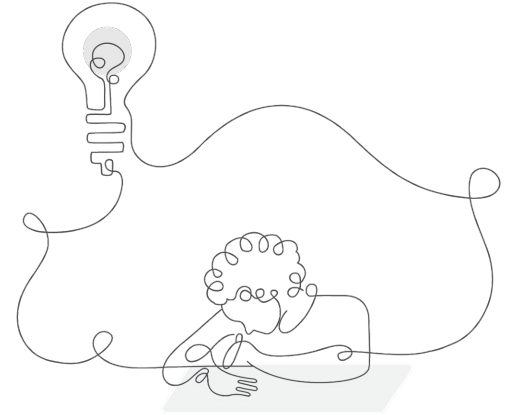
to figuring out
(like a scientist)

Previewing the unit

Introducing the phenomenon

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

Pay attention to the phenomenon, or observable event, students will figure out in this 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!

Navigation

1. **Navigation:** Finding resources and moving between lessons
2. **Classroom Slides:** Visual aids for instruction
3. **Unit Level Resources:** Supports available for instruction

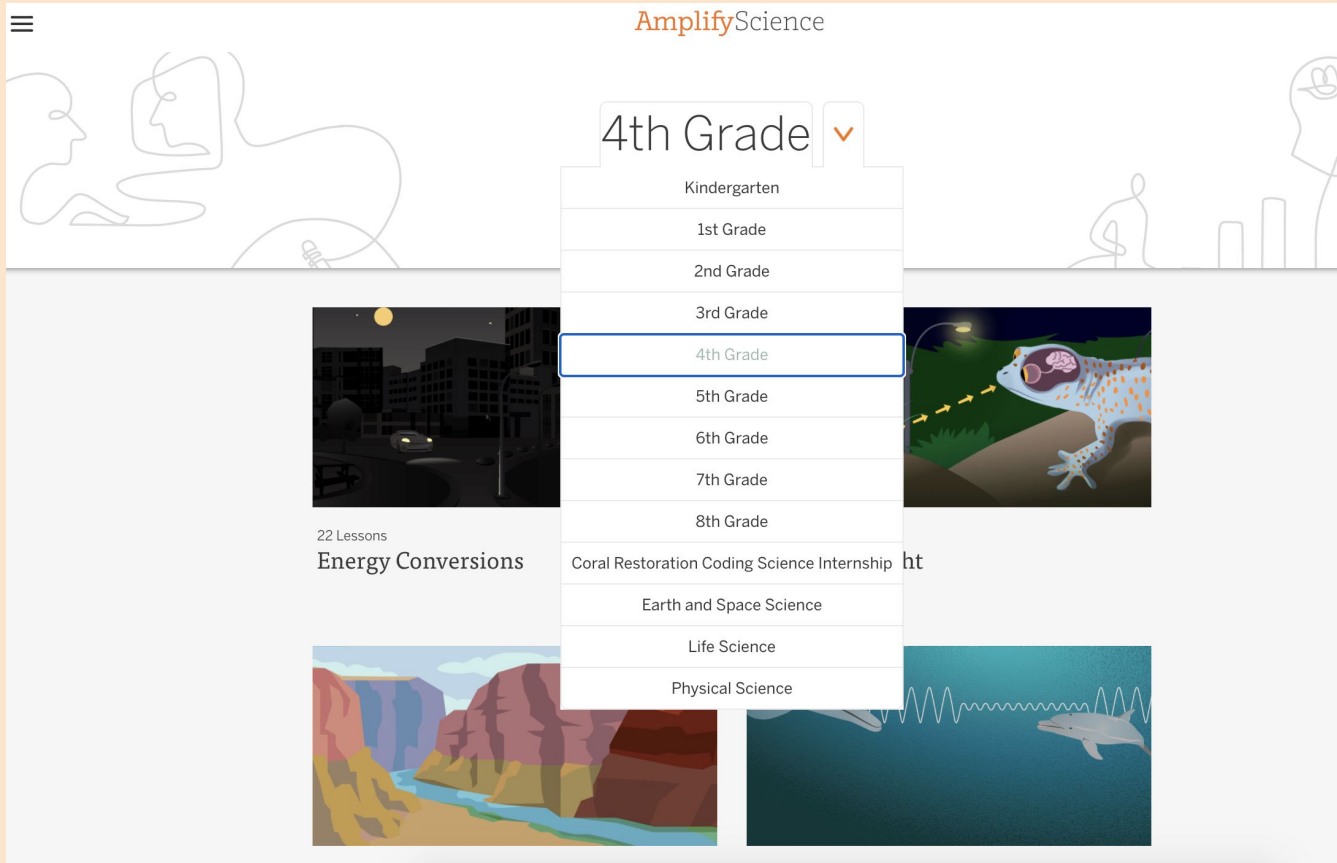


Unit structure

Unit
↓
Chapter
↓
Lesson
↓
Activity



Hidden slide: Navigating to your grade level



The screenshot shows the AmplifyScience website interface. At the top, the logo "AmplifyScience" is displayed. A navigation menu is open, showing a list of grade levels from Kindergarten to 8th Grade, with "4th Grade" highlighted. Below the menu, there are three main content areas: "Energy Conversions" (22 Lessons) with a city night scene, "Coral Restoration Coding Science Internship" with a frog illustration, and "Earth and Space Science" with a canyon landscape. The "Life Science" section is partially visible at the bottom right with a dolphin illustration.

AmplifyScience

4th Grade ▾

- Kindergarten
- 1st Grade
- 2nd Grade
- 3rd Grade
- 4th Grade
- 5th Grade
- 6th Grade
- 7th Grade
- 8th Grade

22 Lessons
Energy Conversions

Coral Restoration Coding Science Internship ht

Earth and Space Science

Life Science

Physical Science

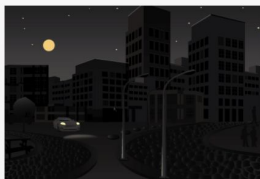
Hidden slide: Unit landing page

22 Lessons

Energy Conversions

☑ JUMP DOWN TO UNIT GUIDE

🖨 GENERATE PRINTABLE TEACHER'S GUIDE



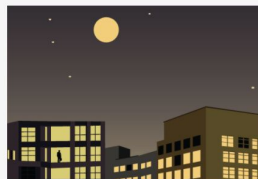
Chapter 1: What happened to the electrical system the night of the...

6 Lessons



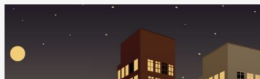
Chapter 2: What makes the devices in Ergstown output or fail to output...

4 Lessons



Chapter 3: Where does the electrical energy for the devices in Ergstown...

6 Lessons



Hidden slide: Chapter 1 landing page

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

▼ JUMP DOWN TO CHAPTER OVERVIEW

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

Hidden slide: Lesson 1.1 Lesson Brief



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

Español
Differentiation
Standards

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



Classroom Slides

Classroom Slides are a tool for easily preparing and presenting lessons.

They are editable slide decks that include activity instructions, student prompts, and other text and visuals to guide teachers and students through a lesson.



Hidden slide: locating Classroom Slides

AmplifyScience > Energy Conversions > Chapter 1 > Lesson 1.2

Lesson 1.2: Introducing Systems

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

RESET LESSON | GENERATE PRINTABLE LESSON GUIDE

Overview

To begin to tackle the problem of designing improvements to the Ergstown electrical system, students first set out to understand what a system is. They observe a simple system—a cherry pitter—and identify its parts and their functions. To broaden students' understanding of systems, the teacher introduces the *Systems* book and the reading strategy of synthesizing. Students work in pairs to synthesize their prior knowledge, what they learned from the cherry pitter system demonstration, and what they are reading in the text in order to strengthen their understanding of what a system is. The purpose of this lesson is to introduce students to the concept of systems and to prepare them to investigate the electrical system, its parts, and their functions.

Unit Anchor Phenomenon: Ergstown has frequent blackouts.
Chapter-level Anchor Phenomenon: There was a blackout in

Digital Resources

- Classroom Slides 1.2 | PowerPoint
- Classroom Slides 1.2 | Google Slides
- Partner Reading Guidelines
- Cherry Pitter System table (Completed)
- Optional: Chapter 1 Home Investigation: Blackout Interview copymaster
- Energy Conversions Investigation Notebook, pages 3–5

Español

Hidden slide: Review breadcrumb trail and digital resources

AmplifyScience > Energy Conversions > Chapter 1 > Lesson 1.2

Lesson 1.2: Introducing Systems

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

RESET LESSON

GENERATE PRINTABLE LESSON GUIDE

Digital Resources

- Classroom Slides 1.2 | PowerPoint
- Classroom Slides 1.2 | Google Slides
- All Projections
- Partner Reading Guidelines
- Cherry Pitter System table (Completed)
- Optional: Chapter 1 Home Investigation: Blackout Interview copymaster
- Energy Conversions Investigation Notebook, pages 3–5

Español

Overview

To begin to tackle the problem of designing improvements to the Ergstown electrical system, students first set out to understand what a system is. They observe a simple system—a cherry pitter—and identify its parts and their functions. To broaden students' understanding of systems, the teacher introduces the *Systems* book and the reading strategy of synthesizing. Students work in pairs to synthesize their prior knowledge, what they learned from the cherry pitter system demonstration, and what they are reading in the text in order to strengthen their understanding of what a system is. The purpose of this lesson is to introduce students to the concept of systems and to prepare them to investigate the electrical system, its parts, and their functions.

Unit Anchor Phenomenon: Ergstown has frequent blackouts.
Chapter-level Anchor Phenomenon: There was a blackout in

Lesson level resources

1. **Lesson Brief:** Overview of the lesson and timing
2. **Materials and Preparation:** Lists all materials for the lesson and prep steps
3. **Differentiation:** Suggestions to support student learning



Hidden slide: Overview

AmplifyScience > Energy Conversions > Chapter 1 > Lesson 1.2

Lesson 1.2: Introducing Systems

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

RESET LESSON

GENERATE PRINTABLE LESSON GUIDE

Overview

To begin to tackle the problem of designing improvements to the Ergstown electrical system, students first set out to understand what a system is. They observe a simple system—a cherry pitter—and identify its parts and their functions. To broaden students' understanding of systems, the teacher introduces the *Systems* book and the reading strategy of synthesizing. Students work in pairs to synthesize their prior knowledge, what they learned from the cherry pitter system demonstration, and what they are reading in the text in order to strengthen their understanding of what a system is. The purpose of this lesson is to introduce students to the concept of systems and to prepare them to investigate the electrical system, its parts, and their functions.

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- All Projections
- Partner Reading Guidelines
- Cherry Pitter System table (Completed)
- Optional: Chapter 1 Home Investigation: Blackout Interview copymaster
- Energy Conversions Investigation Notebook, pages 3–5

Español

Hidden slide: Lesson at a Glance and floating menu

Overview

Materials & Preparation

Differentiation

Standards

Vocabulary

Unplugged?

Lesson at a Glance

1: Reflecting on the Unit Problem (5 min.)

To prepare to begin their investigations, students reflect on the unit problem and their role as systems engineers.

2: Observing a Simple System (15 min.)

As a first step toward building an understanding of how electrical systems work, students are introduced to an example of a simple system—a cherry pitter. Students observe the cherry pitter system to identify the parts of the system and their functions.

3: Introduction to Synthesizing (15 min.)

The teacher introduces *Systems*, then introduces and models the reading strategy of synthesizing in order to prepare students to synthesize as they read the book with a partner.

4: Reading: Systems (25 min.)

Partners read *Systems* and apply the synthesizing strategy to generate new ideas to help them answer the first Investigation Question: *What is a system?* Post-reading discussion provides students with an opportunity to hear the new ideas about systems that their classmates have generated. This activity also provides an On-the-Fly Assessment of students' developing ability to synthesize information as a reading strategy.


Digital Resources


 Classroom Slides 1.2 | PowerPoint


 Classroom Slides 1.2 | Google Slides

 All Projections

 Partner Reading Guidelines

 Cherry Pitter System table (Completed)

 Optional: Chapter 1 Home Investigation: Blackout Interview copymaster

 Energy Conversions Investigation Notebook, pages 3–5

We'd love to hear from you! Submit your feedback [here](#).

Hidden slide: Materials and preparation

AmplifyScience > Energy Conversions > Chapter 1 > Lesson 1.2

Overview
Materials & Preparation
Differentiation
Standards
Vocabulary
Unplugged?

Materials & Preparation

Materials

For the Classroom Wall

- Chapter 1 Question: *What happened to the electrical system the night of the Ergstown blackout?*
- vocabulary: *function, synthesize*

For the Class

- 1 cherry pitter
- 3 cherries*
- paper towels*
- 1 sheet of chart paper*
- masking tape*
- marker*
- optional: Chapter 1 Home Investigation: Blackout Interview copymaster

For Each Pair of Students

- 1 copy of *Systems*

For Each Student

- Energy Conversions* Investigation Notebook (pages 3–5)
- optional: 1 copy of the Chapter 1 Home Investigation: Blackout Interview student sheet

*teacher provided

BACK TO TOP

Español

AmplifyScience > Energy Conversions > Chapter 1 > Lesson 1.2

Overview
Materials & Preparation
Differentiation
Standards
Vocabulary
Unplugged?

Preparation

Before the Day of the Lesson

- Gather the following materials for the classroom wall:
 - Chapter 1 Question: *What happened to the electrical system the night of the Ergstown blackout?*
 - vocabulary: *function, synthesize*
- Read Systems.** Familiarize yourself with the book that students will read in this lesson.
- Create the Partner Reading Guidelines.** On chart paper, create these guidelines. (See Digital Resources for what the poster should look like.) You will keep this posted throughout the unit. If you don't have enough wall space, you'll need to take it down and repost it during the reading lessons.
- Assign reading partners.** Throughout the unit, we recommend that students read with partners. You may choose to assign the same reading partners throughout the unit or switch reading partners with each book. (See the Differentiation section for more recommendations about reading partners.)
- Prepare for the Observing a Simple System activity.** Locate the cherry pitter (in your *Energy Conversions* kit). In addition, you will need to provide cherries and paper towels. Familiarize yourself with the function of the cherry pitter. You may wish to practice using it to remove a cherry pit before doing so in front of your class. You will need one tray with the following materials:
 - 1 cherry pitter
 - several cherries
 - paper towels
- Prepare for On-the-Fly Assessment.** There is an On-the-Fly Assessment included in this lesson. In Activity 4, the assessment provides an opportunity to informally assess students' first attempts at synthesizing as a reading strategy. Select the

BACK TO TOP

Español

Hidden slide: Differentiation



Overview

Materials & Preparation

Differentiation

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Unplugged?

Differentiation

Embedded Supports for Diverse Learners

Partner Reading. Reading with a partner provides opportunities for students to assist each other with reading—with using the reading strategy modeled by the teacher, with decoding, and with comprehension. Partner reading encourages discussion of the text during reading, which aids comprehension and engagement.

Supportive visuals in the book. The diagrams and tables in *Systems* are designed to clarify the meaning of the text and should support students' comprehension of concepts and ideas.

Potential Challenges in This Lesson

Reading-centered. Reading science texts is challenging, and the strategy of synthesizing may be unfamiliar to many students. Students who struggle with reading in general may struggle with the reading in this lesson.

Synthesizing across activities. Synthesizing information from a variety of sources is a complex cognitive task and can be challenging for students. The synthesizing reading comprehension strategy may be new to students. Some students may find it difficult to incorporate new information from the reading into their growing understanding of systems. Keep in mind that students will have many opportunities over the course of the unit to learn to use this complex strategy.

Specific Differentiation Strategies for English Learners

Digital Resources

Classroom Slides 1.2 | PowerPoint

Classroom Slides 1.2 | Google Slides

All Projections

Partner Reading Guidelines

Cherry Pitter System table (Completed)

Optional: Chapter 1 Home Investigation: Blackout Interview copymaster

Energy Conversions Investigation Notebook, pages 3–5



Hidden slide: Materials and preparation

Overview

Materials & Preparation

Differentiation

Standards

Vocabulary

Unplugged?

Materials & Preparation

Materials

For the Classroom Wall

- Unit Question: *How do the trillions of cells in the human body get what they need to function, and what do the cells do with the things they absorb?*
- Chapter 1 Question: *Why does Elisa feel tired all the time?*
- Section headers: Key concepts, Vocabulary
- vocabulary card: *metabolism*

For the Class

- masking tape*

For Each Student

- optional: *Metabolism* Investigation Notebook, pages 5–8*

Digital Tools

- [Metabolism Simulation](#) (Healthy Body)

*teacher provided

Overview

Materials & Preparation

Differentiation

Standards

Vocabulary

Unplugged?

Preparation

Before the Day of the Lesson

1. **Familiarize yourself with the unit-level references.** If you haven't yet checked out Getting Ready to Teach, you can find it under Planning for the Unit at the unit level. Also included at the unit level are a number of references and resources to which you may want to refer over the course of the unit. They address what students learn, why it's important, and how they learn it.
2. **Prepare an area of the classroom wall for posting the Unit Question, Chapter Questions, key concepts, and vocabulary.** You will add items to this wall throughout the unit.
3. **Locate the following materials (in your *Metabolism* kit) and set them aside until needed.**
 - Unit Question
 - Chapter Questions (4)
 - section headers: Key Concepts, Vocabulary
 - key concepts (11)
 - vocabulary cards (11)
4. **Plan for an area of the classroom wall to be used as the scientific argumentation wall.** If you previously taught a unit that featured the scientific argumentation wall, locate and repost these items if they are not already posted. Your students will be engaging in argumentation throughout this unit, and you may wish to reference these items. Use the Completed Scientific Argumentation Wall Diagram (in Digital Resources) for help with placement.
5. **Review any Flexensions for this unit and decide if you will teach them.** See Flexensions in This Unit (under Teacher References) and Flexension Compilation (under Printable Resources), both at the unit level. If additional materials are required to teach Flexensions in this unit, they will be listed in Materials and Preparation under Planning for the Unit at the unit

Teaching a lesson

Instructional Guide

The Instructional Guide includes the steps for teaching each activity, as well as Teacher Support notes and, when applicable, Possible Responses.

The screenshot shows the AmplifyScience interface for a lesson. At the top, the breadcrumb trail reads: AmplifyScience > Energy Conversions > Chapter 1 > Lesson 1.2. Below this is a navigation bar with four tabs: 'Lesson Brief (4 Activities)', '1 TEACHER-LED DISCUSSION Reflecting on the Unit Problem', '2 TEACHER-LED DISCUSSION Observing a Simple System', and '3 TEACHER-LED DISCUSSION Introduction to Synthesizing'. A fourth tab, '4 READING Reading Systems', is partially visible. The main content area is titled 'Reflecting on the Unit Problem' and includes the instruction: 'Students reflect on the previous lesson's activities. (5 min)'. On the right side of this section is an 'INSTRUCTIONAL GUIDE' icon. Below the instruction are three tabs: 'Step-by-step', 'Teacher Support', and 'My Notes'. The 'Step-by-step' tab is active and contains the following text:

1. Revisit the unit problem. Refer to your discussion from the previous lesson. Ask students to recall the problem Ergstown has been having and review their role as systems engineers.

What will your job be as systems engineers?

[To understand how the electrical system works and to help Ergstown try to prevent so many blackouts from happening.]

2. Post the Chapter 1 Question to the classroom wall and lead a discussion to leverage prior knowledge and experiences. Explain that over the next few lessons, students will focus on answering this question.

Before we can answer our big question—*How does the electrical system work?*—there is a lot we need to discover and understand.

To begin, we need to make sense of what happened in Ergstown. Why did all the lights go out?

Read the question aloud.

What happened to the electrical system the night of the Ergstown blackout?

As we think about this question we can refer to the Our Experiences and What We Think We Know charts to see if any of our ideas might help us understand what happened to the electrical system of Ergstown.

Hidden Slide: Lesson Map to Instructional Guide

AmplifyScience > Energy Conversions > Chapter 1 > Lesson 1.2

Lesson 1.2: Introducing Systems

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

RESET LESSON

GENERATE PRINTABLE LESSON GUIDE

Overview

Materials & Preparation

To begin to tackle the problem of designing improvements to the Ergstown electrical system, students first set out to understand what a system is. They observe a simple system—a cherry pitter—and identify its parts, and discuss its function. To understand its purpose...

Digital Resources

- Classroom Slides 1.2 | PowerPoint
- Classroom Slides 1.2 | Google Slides

Español

AmplifyScience > Energy Conversions > Chapter 1 > Lesson 1.2

Reflecting on the Unit Problem

Students reflect on the previous lesson's activities. (5 min)

INSTRUCTIONAL GUIDE

Step-by-step Teacher Support My Notes

1. Revisit the unit problem. Refer to your discussion from the previous lesson. Ask students to recall the problem Ergstown has been having and review their role as systems engineers.
 - What will your job be as systems engineers?

[To understand how the electrical system works and to help Ergstown try to prevent so many blackouts from happening.]
2. Post the Chapter 1 Question to the classroom wall and lead a discussion to leverage prior knowledge and experiences. Explain that over the next few lessons, students will focus on answering this question.
 - Before we can answer our big question—*How does the electrical system work?*—there is a lot we need to discover and understand.

To begin, we need to make sense of what happened [Scroll for more] did all the lights go out?

Español

Next Up: 2 Observing a Simple System

Next Activity

Navigation Temperature Check

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

1 = Extremely Uncomfortable

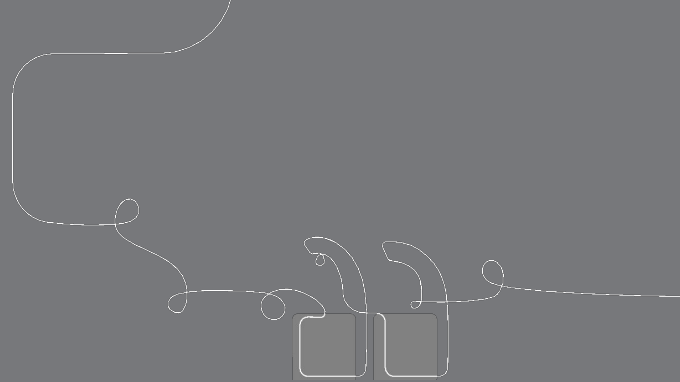
2 = Uncomfortable

3 = Mild

4 = Comfortable

5 = Extremely Comfortable

Questions?



Student apps page

To prepare for our model lesson, you'll need to open a digital student book through the Student Apps page.

Energy Conversions

BACK

Simulation

1
Energy Conversions

Science Practice Tools

1
2.2 Energy Form Conversions

2
3.2 Energy Converters

Student Books

1
Blackout!

2
Energy Past and Present

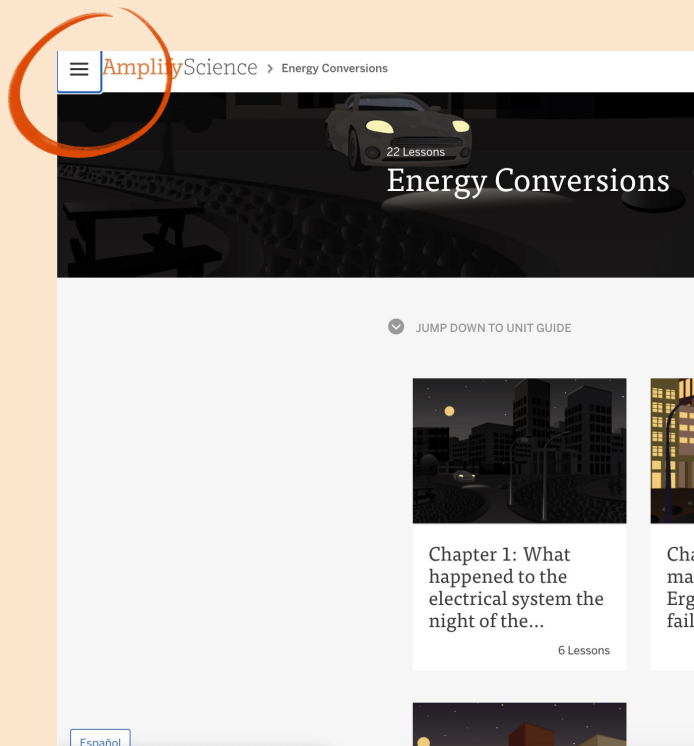
3
It's All Energy

4
Sunlight and Showers

5
Systems

6
Who Thinks About Systems

Hidden slide: Navigating to the Student Apps page



AmplifyScience > Energy Conversions

22 Lessons

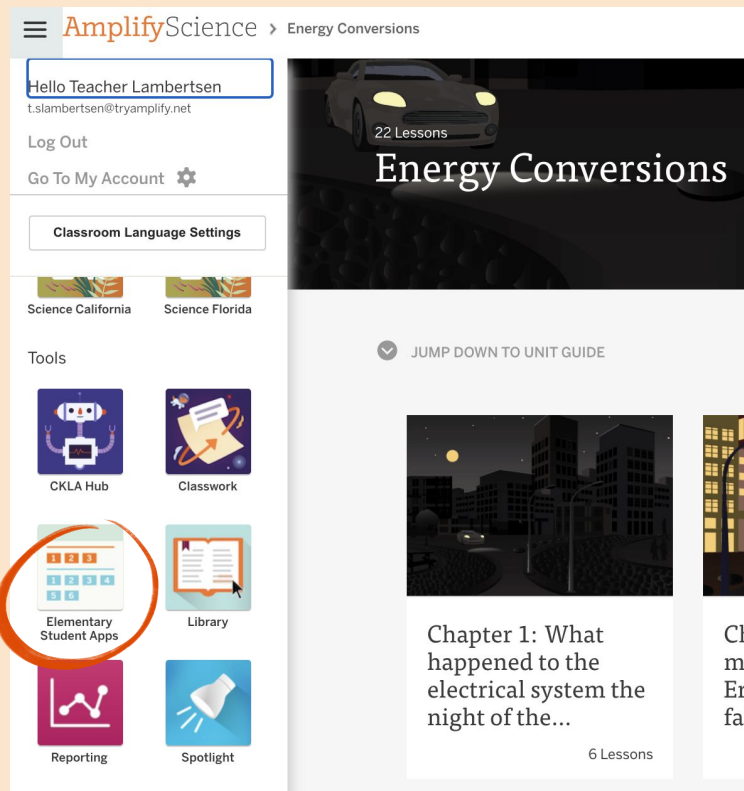
Energy Conversions

JUMP DOWN TO UNIT GUIDE

Chapter 1: What happened to the electrical system the night of the...
6 Lessons

EspaPol

This screenshot shows the AmplifyScience interface for the 'Energy Conversions' unit. The navigation menu (three horizontal lines) is circled in orange. Below the unit title, there is a 'JUMP DOWN TO UNIT GUIDE' button. The main content area displays a preview for 'Chapter 1: What happened to the electrical system the night of the...' with '6 Lessons'.



AmplifyScience > Energy Conversions

Hello Teacher Lambertsen
t.slambertsen@tryamplify.net

Log Out

Go To My Account ⚙

Classroom Language Settings

Science California Science Florida

Tools

- CKLA Hub
- Classwork
- Elementary Student Apps
- Library
- Reporting
- Spotlight

22 Lessons

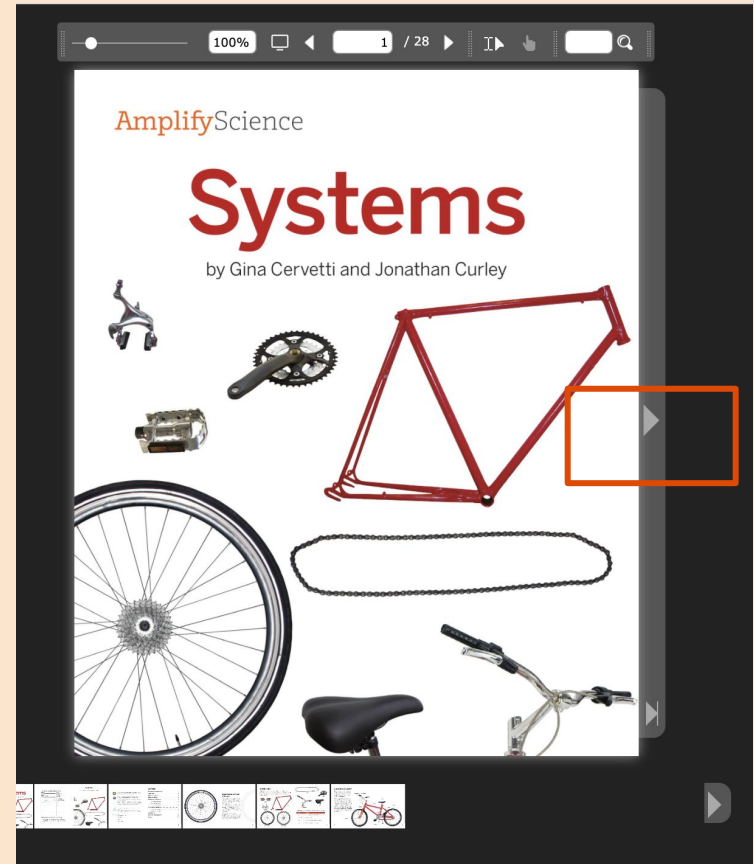
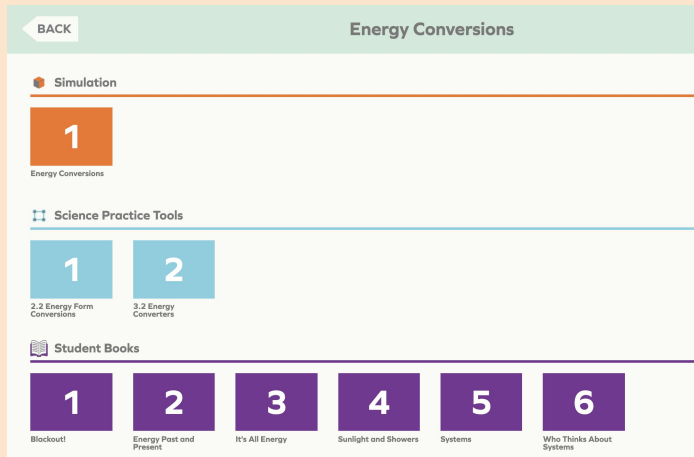
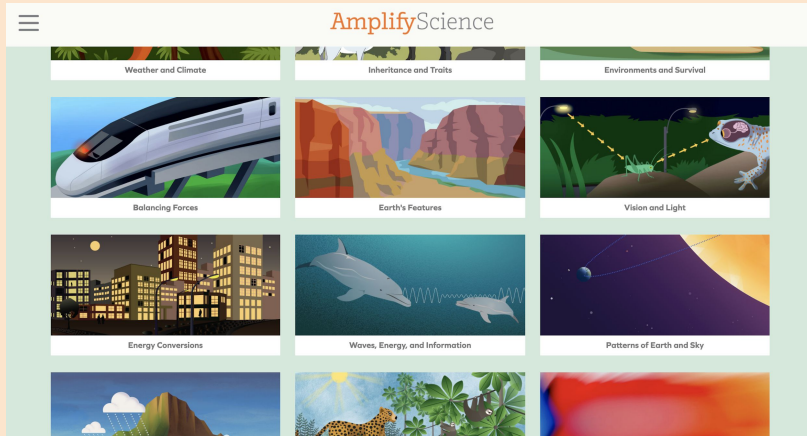
Energy Conversions

JUMP DOWN TO UNIT GUIDE

Chapter 1: What happened to the electrical system the night of the...
6 Lessons

This screenshot shows the AmplifyScience interface for the 'Energy Conversions' unit, viewed from a teacher's perspective. The navigation menu is circled in orange. Below the unit title, there is a 'JUMP DOWN TO UNIT GUIDE' button. The main content area displays a preview for 'Chapter 1: What happened to the electrical system the night of the...' with '6 Lessons'. The 'Tools' section is visible, with the 'Elementary Student Apps' icon circled in orange.

Hidden slide: Student Apps page and accessing the book

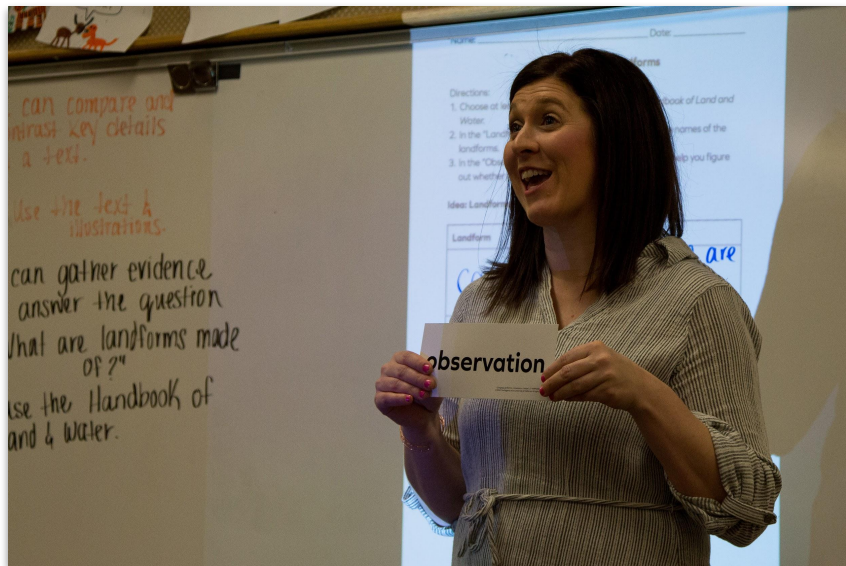


Example lesson

Experiencing instruction as a student

During the example lesson, you'll take on the role of a student.

However, we'll pause a few times to share insights about the teaching and learning in this lesson.



Energy Conversions Classroom Wall

Unit Question

How does the electrical system work?

Chapter 1 Question

What happened to the electrical system the night of the Ergstown blackout?

Investigation Question

What is a system?

Key Concepts

Vocabulary

engineer

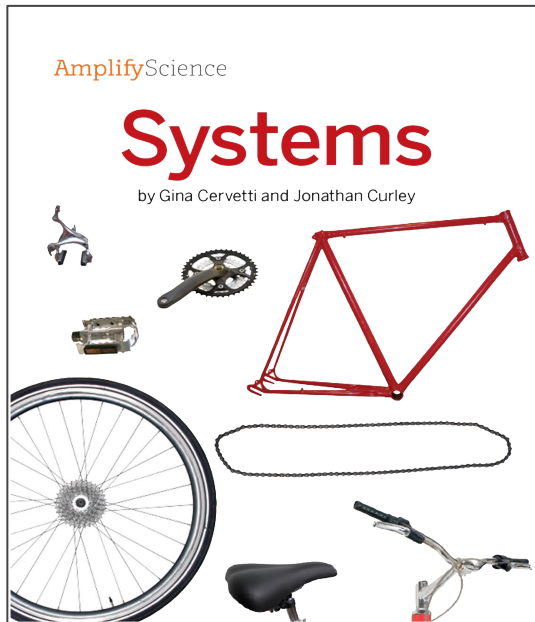
function

synthesize

In the last lesson...

Lesson 1.2

Students gathered evidence to figure out the Investigation Question: What is a system?



Activity 1

Building a Simple Electrical System





It will be your job to figure out a way to put these materials together into a functioning system.

Electrical Safety Guidelines

- Only attach the clips to the electrical devices that are part of the lesson.
- Keep the moving fan away from your face.
- Keep all electrical investigation materials away from electrical outlets.
- Keep all electrical investigation materials away from water.

Scientists and engineers are careful to do their investigations in a safe way.



Name: _____ Date: _____

Building a Simple Electrical System

1. With your group, use a solar panel, a fan, and two wires to build an electrical system that functions. (The fan will spin when it functions.)
2. Predict what you can do to make the fan spin more quickly or slowly. Test your ideas, and then discuss what caused the fan to spin more quickly or slowly.
3. Predict what you can do to make the fan spin in a different direction. Test your ideas, and then discuss what caused the fan to spin in a different direction.
4. In the space below, draw your functioning system. Be sure to label every part. (Hint: In order to function, the system needs one part that was not included in your bag of materials.)

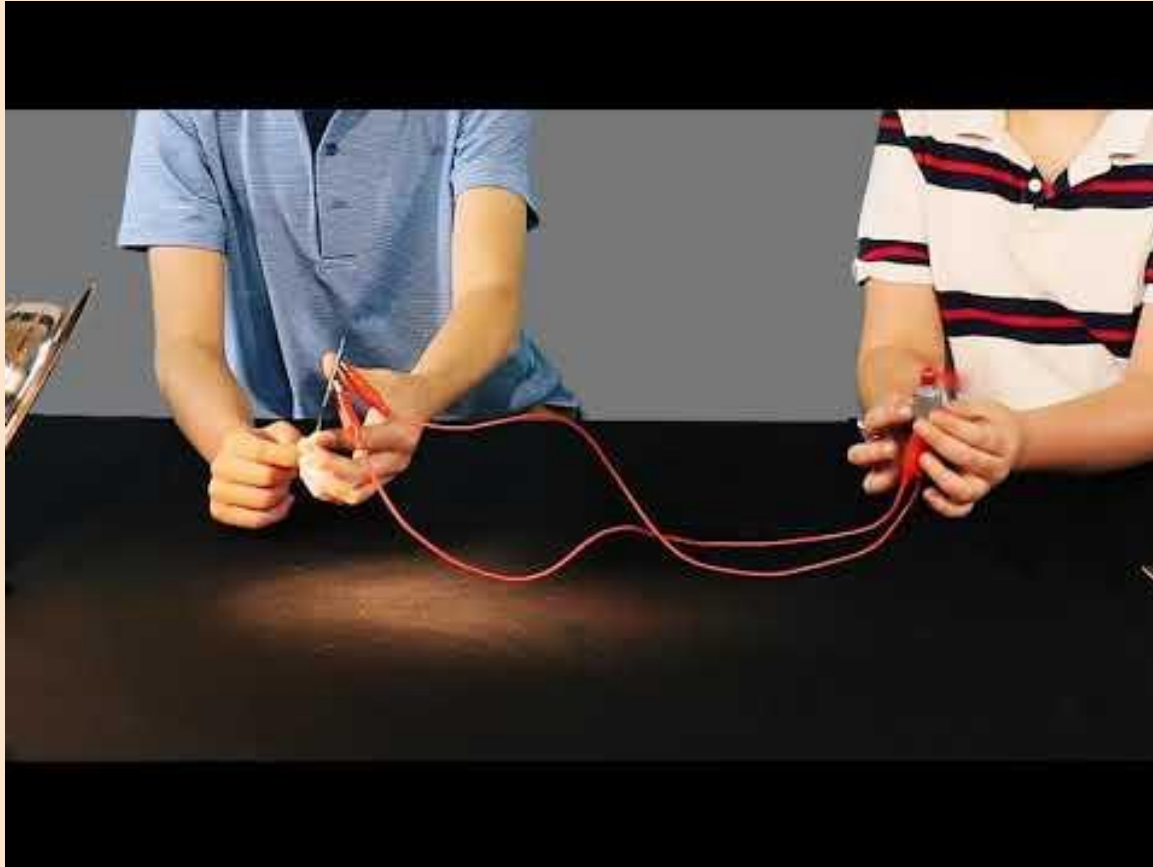


Turn to page 7, Building a Simple Electrical System, in your notebooks.



Build your simple electrical system and then **draw** what your system looks like.

Hidden slide: Hands-on Video





How did your group make a simple electrical system?

What are the parts of your system?

Activity 2

Parts of a Simple Electrical System



Cherry Pitter System

Part	handle	cherry cup	poker	spring
Function	to hold and squeeze	to hold the cherry in place	to push the pit out of the cherry	to open the handle after you squeeze it closed

System function: To take the pits out of the cherries.

The Cherry Pitter System table showed the parts of the system and the function of each part.

Now we will complete a table about a **simple electrical system.**

Simple Electrical

System

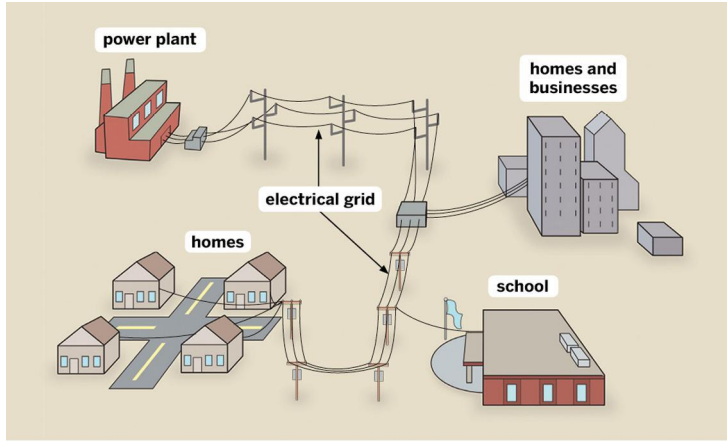
Part	sun	solar panel	wire	motor with fan
Function	to provide energy to the system	to send electrical energy throughout the system	to move electrical energy from one place to another	to use electrical energy to run



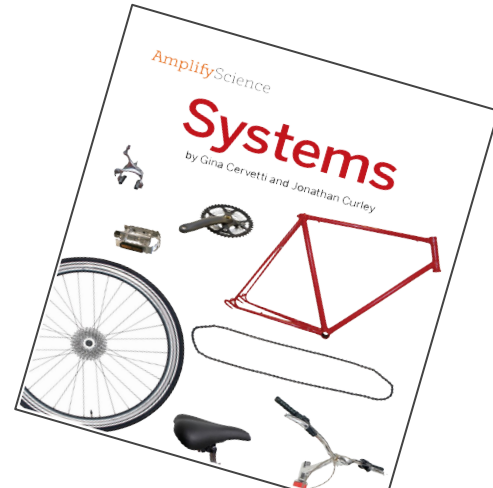
System

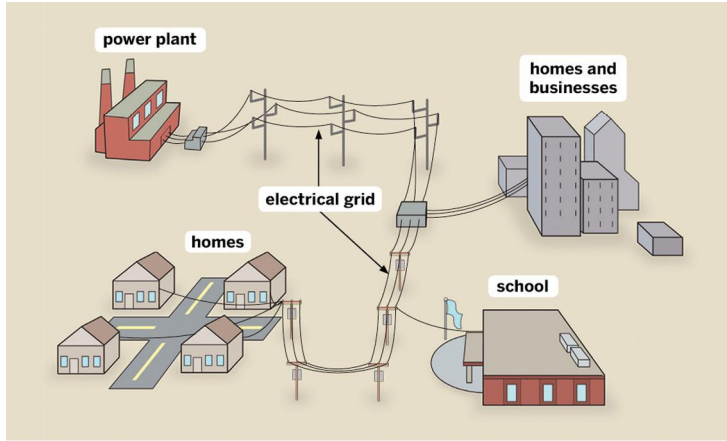
Part				
Function				

Function of both systems: _____

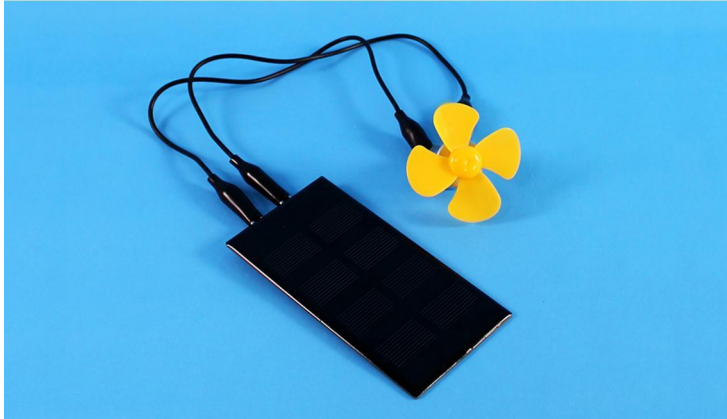


In many ways, the **simple electrical system** you built is a lot like the **larger electrical system**.





How are the diagram of the system and the simple system that we built **similar**?



Simple Electrical

System

Part	sun	solar panel	wire	motor with fan
Function	to provide energy to the system	to send electrical energy throughout the system	to move electrical energy from one place to another	to use electrical energy to run



System

Part				
Function				

Function of both systems: _____

Simple Electrical

System

Part	sun	solar panel	wire	motor with fan
Function	to provide energy to the system	to send electrical energy throughout the system	to move electrical energy from one place to another	to use electrical energy to run

Electrical Energy

System

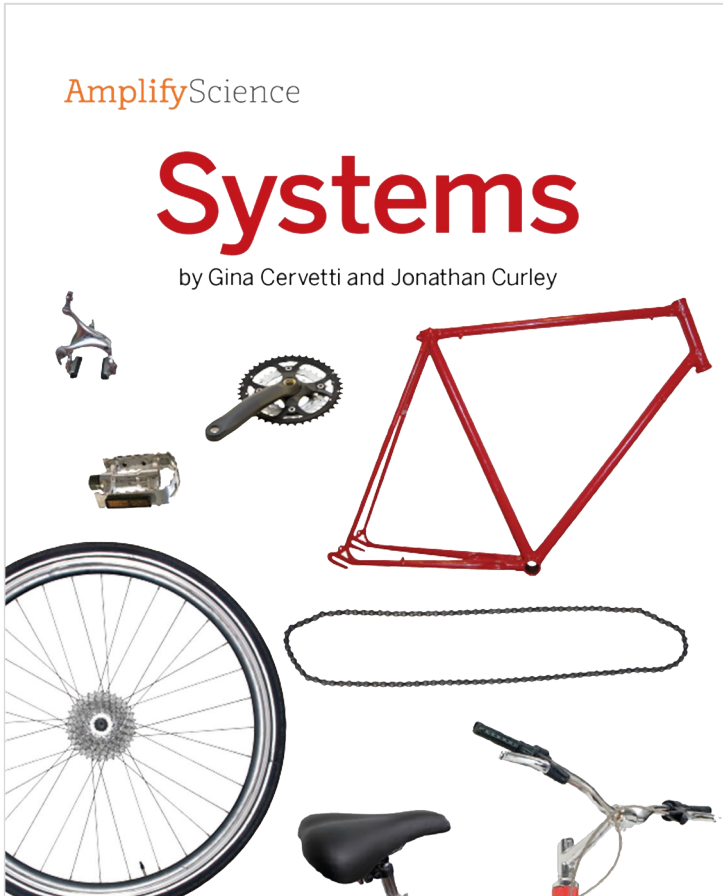
Part	?	power plant	wires (the grid)	devices in homes, etc.
Function		to send electrical energy throughout the system	to move electrical energy from one place to another	to use electrical energy to run

Function of both systems: to provide electricity to power devices

Activity 3

Parts and Functions





You'll use the *Systems* book again with your reading partners and fill out tables for different systems in the book.

Contents

What Makes a Wheel a Wheel?	5
Bicycle Parts	6
A Bicycle Is a System	8
A Home Is a System	10
Systems Made of Systems	12
Home Plumbing System	14
Home Heating System	15
Home Electrical System	16
Part of a Larger System	17
Public Water System	18
Electrical Energy System	19
System Failure	20
Why Think About Systems?	22
Glossary	24

Turn to page 3.

The **table of contents** lists sections of the book. We can use it to find out what page a section starts on.

Name: _____ Date: _____

Parts of a System

1. With your partner, look through *Systems* and choose one of the systems described in the book.
2. Write the name of the system and its function on the two lines below.
3. Record each part of the system in the left column of the table below.
4. Beside each part, record the part's function.
5. Use as many rows as you need.

_____ System

Function: _____

Part	Function

Turn to page 10, **Parts of a System**, in your notebooks.



Choose a system from the book *Systems* and record its parts and functions.

Name: _____ Date: _____

Parts of a System

1. With your partner, look through *Systems* and choose one of the systems described in the book.
2. Write the name of the system and its function on the two lines below.
3. Record each part of the system in the left column of the table below.
4. Beside each part, record the part's function.
5. Use as many rows as you need.

_____ System

Function: _____

Part	Function



How are the systems we read about **similar**?

What do they have **in common**?

We have been investigating the question: *What is a system?*



What do you think a system is now?

Key Concept

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

Vocabulary



system

a group of parts that work together

Energy Conversions Classroom Wall

Unit Question

How does the electrical system work?

Chapter 1 Question

What happened to the electrical system the night of the Ergstown blackout?

Investigation Question

What is a system?

Key Concepts

A system is a collection of interacting parts that work together. Each part in the system plays a role to perform an overall system function. (1.3)

Vocabulary

engineer

function

synthesize

system

End of Lesson

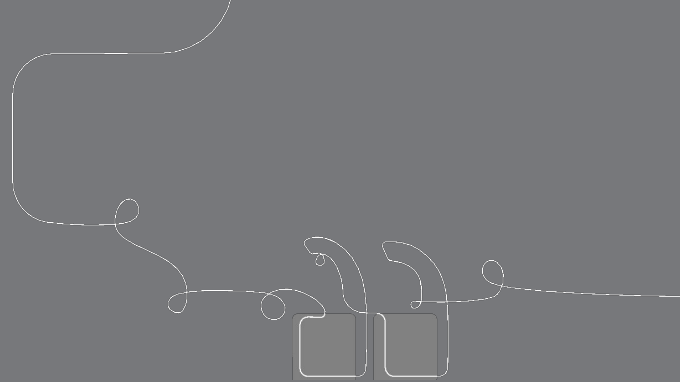


THE LAWRENCE
HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

Amplify.

Published and Distributed by Amplify. www.amplify.com

Questions?

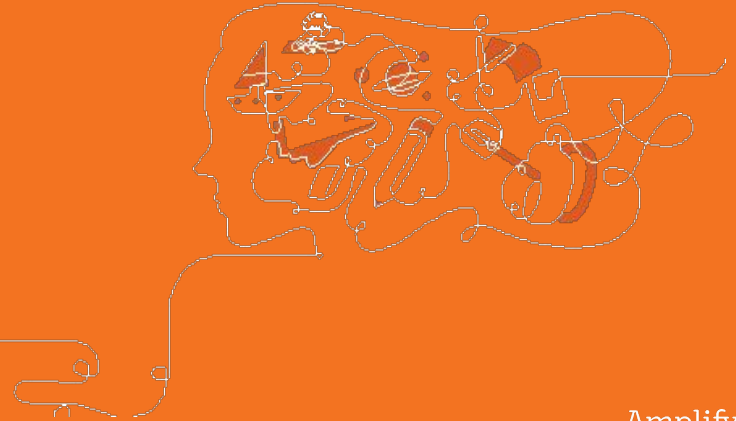




Plan for the day

- Introduction and Framing
- Teaching and learning in Amplify Science
- **Supporting instruction**
- Supporting implementation
- Closing

Supporting instruction

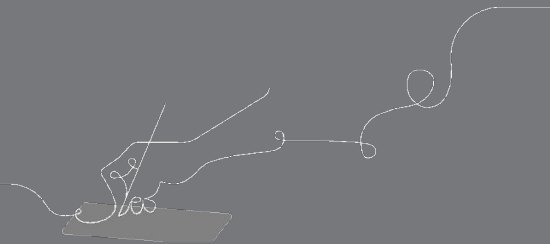


Supporting Instruction

In this section you will learn:

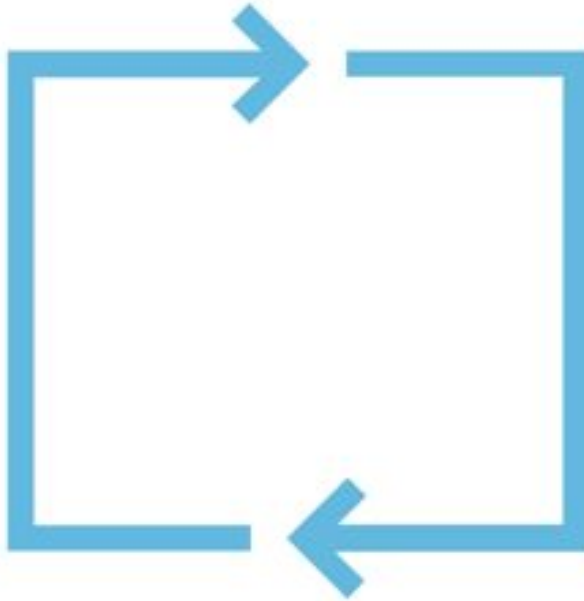
- ❑ Amplify Science's multimodal approach
- ❑ Assessment System

e



Multimodal learning

Gathering evidence over multiple lessons



**Do,
Talk,
Read,
Write,
Visualize**

Unit Guide

The Unit Guide is a collection of resources to support planning and day-to-day instruction in the unit.

You can access the Unit Guide on the Unit landing page below the chapter buttons.

The screenshot shows the AmplifyScience website interface for the 'Energy Conversions' unit. At the top, the navigation bar includes the AmplifyScience logo and the unit title 'Energy Conversions'. Below the navigation bar is a large banner image with the text '22 Lessons' and 'Energy Conversions'. Underneath the banner, there are two buttons: 'JUMP DOWN TO UNIT GUIDE' and 'GENERATE PRINTABLE TEACHER'S GUIDE'. The main content area features four chapter cards, each with a night cityscape image and a title. Chapter 1 is titled 'Chapter 1: What happened to the electrical system the night of the...' and has 6 lessons. Chapter 2 is titled 'Chapter 2: What makes the devices in Ergstown output or fail to output...' and has 4 lessons. Chapter 3 is titled 'Chapter 3: Where does the electrical energy for the devices in Ergstown...' and has 6 lessons. Chapter 4 is titled 'Chapter 4: How does energy get to the devices all over Ergstown?' and has 6 lessons.

Unit Guide

Key resources

Progress Build: Summary of how science concepts build through the unit

Science Background: Adult-level summary of unit science content

Assessment System: Summary of Assessment System components and list of all unit assessments

Apps in This Unit: Introduction to digital tools in the unit (grades 2-5)

AmplifyScience > Energy Conversions

Planning for the Unit

- Unit Overview
- Unit Map
- Progress Build
- Getting Ready to Teach
- Materials and Preparation
- Science Background
- Standards at a Glance

Teacher References

- Lesson Overview Compilation
- Standards and Goals
- 3-D Statements
- Assessment System
- Embedded Formative Assessments
- Books in This Unit
- Apps in This Unit
- Flextensions in This Unit

Printable Resources

- 3-D Assessment Objectives
- Coherence Flowcharts
- Copymaster Compilation
- Flextension Compilation
- Investigation Notebook
- Multi-Language Glossary
- NGSS Information for Parents and Guardians
- Print Materials (8.5" x 11")
- Print Materials (11" x 17")

Offline Preparation

Teaching without reliable classroom internet? Prepare unit and lesson materials for offline access.

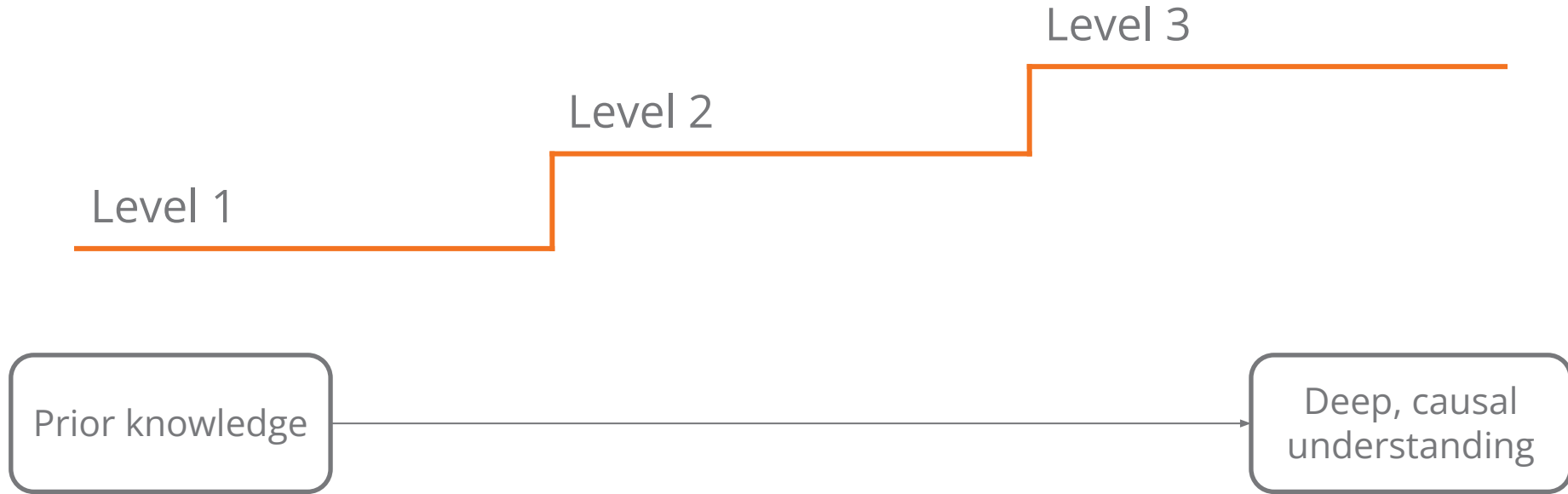
Offline Guide

Español

015269BF9DC2782F REV.46678

Progress Build

A unit-specific learning progression



Energy Conversions Progress Build

Level 1

Devices work by converting electrical energy to another form.

Level 2

Energy must be supplied from a source and converted or there is no electrical energy available to convert.

Level 3

Electrical energy can be transferred by wires connecting the source converter to the device.

Prior knowledge

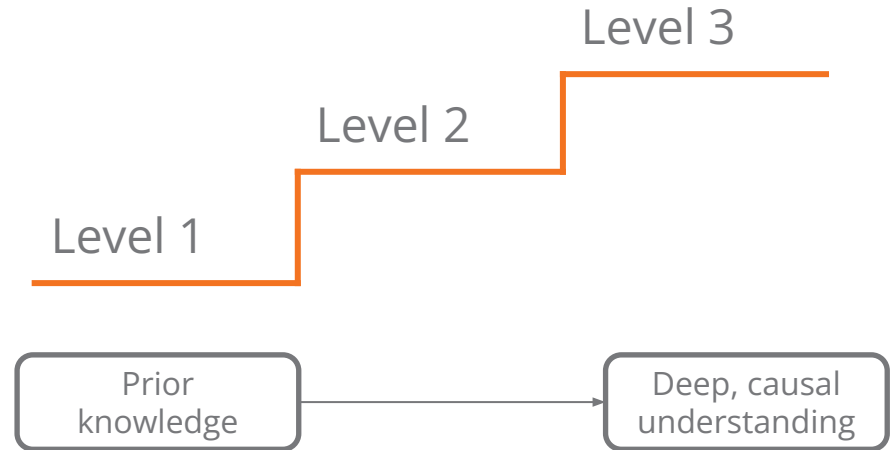
Deep, causal understanding

Assessment System

The Amplify Science Assessment System is built around the Progress Build.

Frequent formative assessments provide insight into students' progress along the Progress Build.

The summative End-of-Unit Assessment evaluates which level(s) of the Progress Build students understand at the end of the unit.



Pre- and End-of-Unit Assessment

Pre-Unit
Assessment

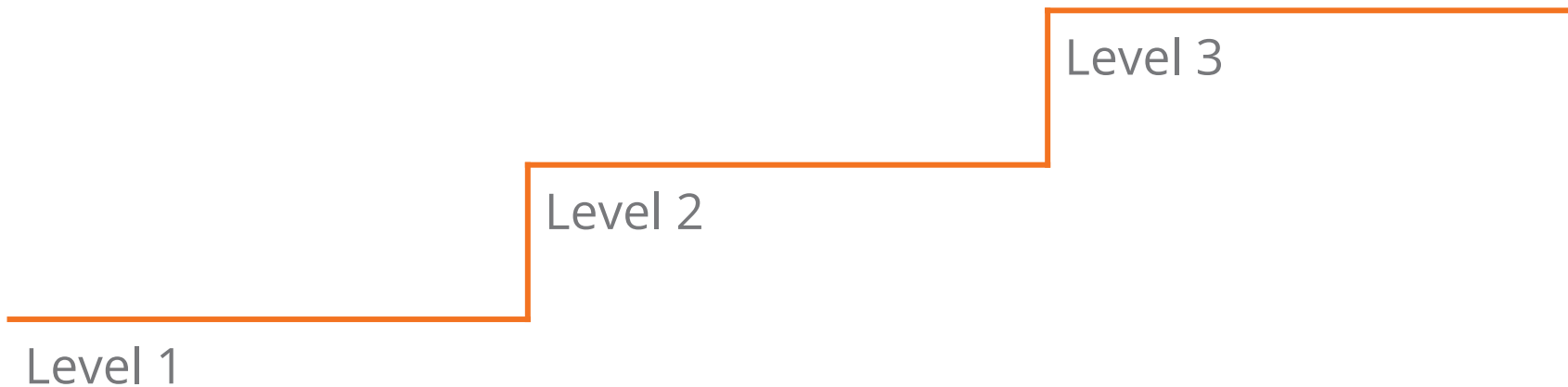
End-of-Unit
Assessment

Level 3

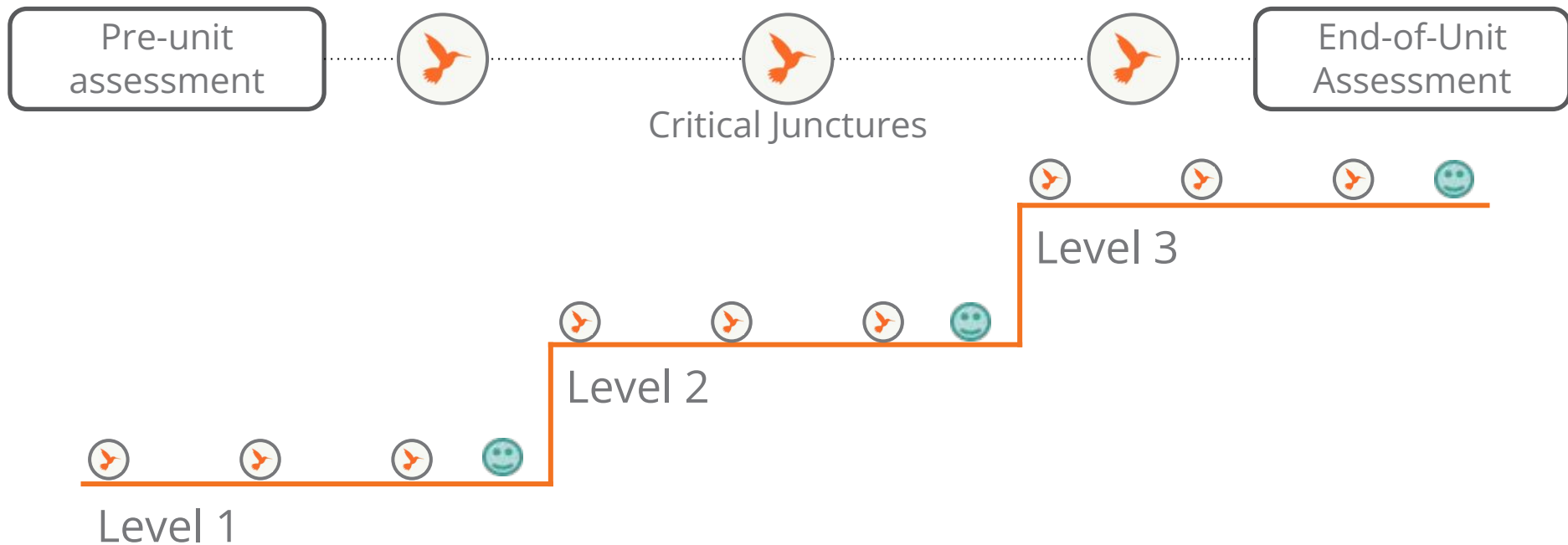
Level 2

Level 1

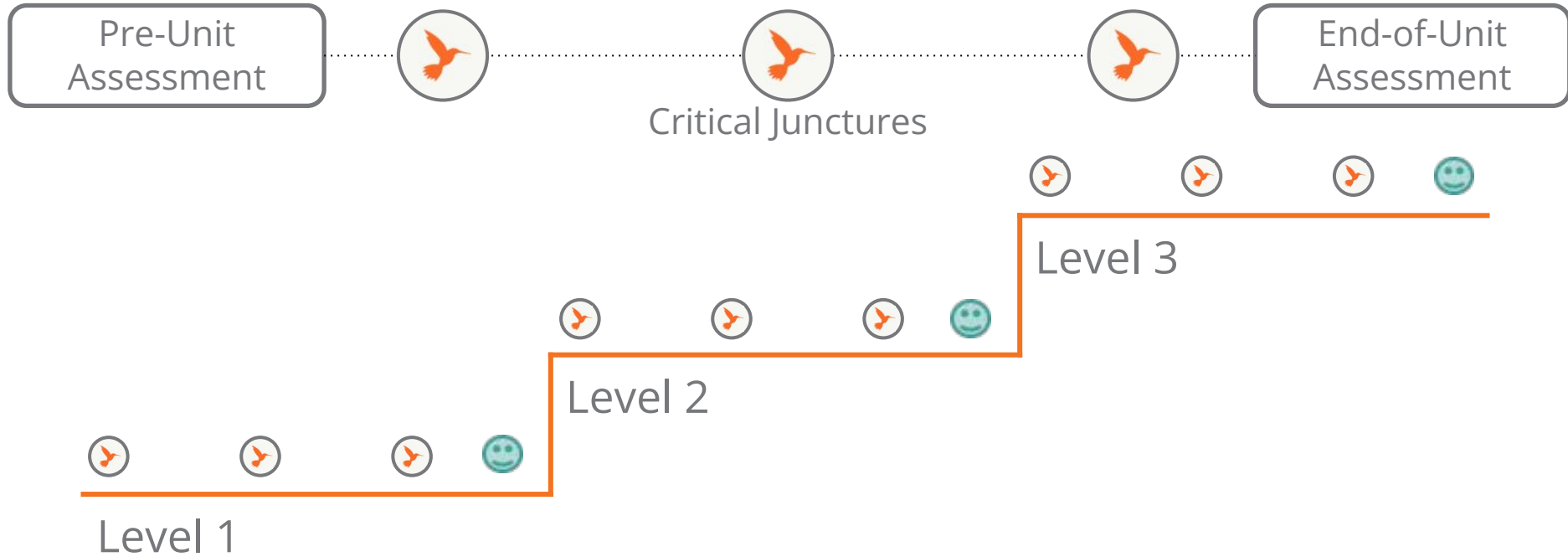
Critical Juncture Assessments



On-the-Fly Assessments and Student Self-Assessments



Assessment System



Assessment System

In the first year with Amplify Science, Teachers don't need to collect data for every assessment in the Assessment System.

Choose which assessments you want to prioritize, and as they become more comfortable teaching the program, they can start collecting more data.



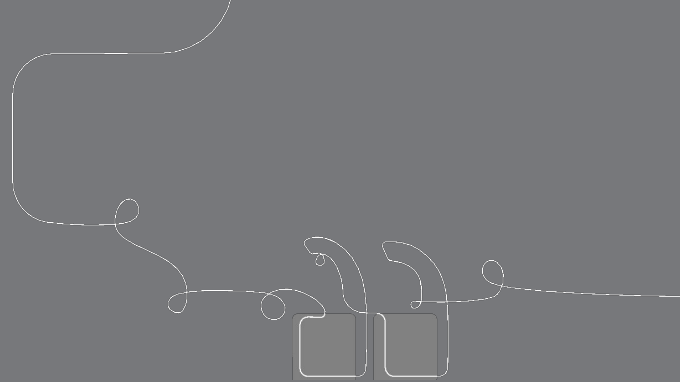
Assessment System Reflection

Consider which type of assessment and supports you would like to explore:

- Pre-Unit Assessment
- On-the-Fly Assessment
- Critical Juncture
- End-of-Unit Assessment



Questions?



Observing Amplify Science

Amplify Science involves less...	Amplify Science involves more...
Teachers providing information to the whole class	Students discussing and synthesizing ideas in small and whole group
Teachers posing questions with only one right answer	Students solving problems through multimodal learning
Students reading textbooks and answering questions at the end of the chapter	Gathering evidence from scientific text
Rote memorization of facts and terminology	Purposeful construction of key concepts and uncovering vocabulary through exploration
Pre-planned labs to confirm already “found” science	Students engage in authentic hands-on learning to figure out the phenomenon
Technology use is led by the teacher to present information.	Students navigate digital tools to collect firsthand data and visualize models.

Administrator solution hunt

Consider 5 challenges that teachers may face, you may want to use the following resources to craft your response:

- Unit Guide
- Lesson level resources
- Instructional Guide
- Printable Resources

Administrator solution hunt

The purpose of this activity is to practice utilizing resources in Amplify Science to support teachers and their instruction. Practising now will help you determine which resources to use when questions arise with your teachers. Read each scenario and consider whether a program feature or Unit Guide resource we've worked with in today's workshop would be useful. You can also refer to the Unit Guide reference, which provides a short synopsis of each Unit Guide document. List the program feature or Unit Guide document you would use to provide support in each scenario. For additional practice, draft a response to each scenario.

Scenario 1: You notice in an observation that a teacher is behind in the pacing of the unit. How could you support that teacher with their pacing of each lesson to fit it into a science block?

Program feature or Unit Guide resource:	Response to scenario:

Scenario 2: A teacher is struggling to get the big picture for the unit and doesn't see how all the activities build on each other. They are tempted to skip activities. What resource would show that each activity is important for gathering evidence?

Program feature or Unit Guide resource:	Response to scenario:

Scenario 3: A teacher feels they are not meeting the needs of their students, and now that they need to employ differentiation strategies. How might they get suggestions to differentiate or divide students into groups based on proficiency so far?

Program feature or Unit Guide resource:	Response to scenario:

Scenario 4: Several students in Mr. Smith's class have read-aloud as an accommodation on their IEP. How can Amplify Science help support this?

Program feature or Unit Guide resource:	Response to scenario:

Scenario 5: [GRADES 6-8] Students are complaining they never know when or what assignments are due in their Student Platform. How can the teacher signal to the students when various activities are due?

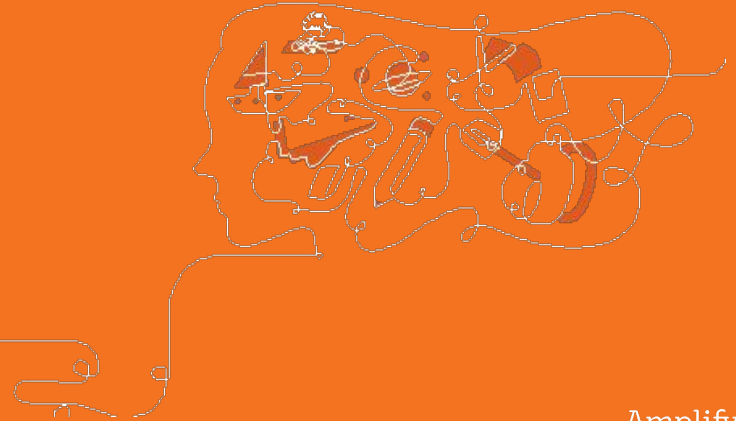
Program feature or Unit Guide resource:	Response to scenario:



Plan for the day

- Introduction and Framing
- Teaching and learning in Amplify Science
- Supporting instruction
- **Supporting implementation**
- Closing

Supporting implementation

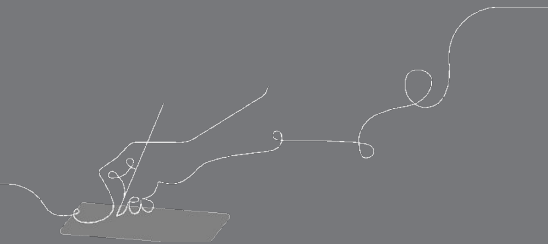


Supporting Implementation

In this section you will explore:

- ❑ Program Hub
- ❑ Setting priorities for implementation
- ❑ Specific scenario support

e



Program Hub

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

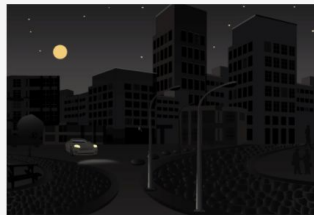
The Program Hub also contains remote and hybrid learning resources.

The screenshot shows the Amplify Science Program Hub website. The header includes the logo "AmplifyScienceProgramHub", a "HELP CENTER" link, and user information "LAUNCH PROGRAMS" and "TEACHER LAMBERTSEN". The main content area features a welcome message: "Welcome Science Educators! The Amplify Science Program Hub was created to provide you with resources, tools, and advice for all stages of your implementation. Want a tour? Click [here!](#)". Below this are three resource cards: "Remote and hybrid learning resources" with a laptop icon, "Professional Learning Resources" with a group of people icon, and "Additional Unit Materials" with a folder icon. A small orange chat icon is visible in the bottom right corner.

22 Lessons

Energy Conversions

▼ JUMP DOWN TO UNIT GUIDE



Chapter 1: What happened to the electrical system the night of the...

6 Lessons

Hello Teacher Lambertsen

t.slambertsen@tryamplify.net

Log Out

Go To My Account ⚙️

Classroom Language Settings

CA Science Program Guide



ELA Resources

ELA Professional Learning



Interim Assessments



Program Hub



Science Program Guide



Standards Map



Help

22 Lessons

Energy Conve

▼ JUMP DOWN TO UNIT GUIDE



Chapter 1: What happened to the electrical system night of the...

6 L

Welcome Science Educators!

The Amplify Science Program Hub was created to provide you with resources, tools, and advice for all stages of your implementation. Want a tour? Click [here!](#)

Remote and hybrid learning resources

Amplify Science@Home makes remote and hybrid learning easier.



Professional Learning Resources

Let's get started!



Additional Unit Materials

Additional resources to complement the units you're teaching.



Additional Unit Materials ▼

Grade Level Units



Transiti

Grade TK ▲

Grade K Grade 6 NYC Grade 6

Grade 1 Grade 7 NYC Grade 7

Grade 2 Grade 8 NYC Grade 8

Grade 3 Earth

Grade 4 Life

Grade 5 Physical

Energy Conversions ▼

[Hands-on investigations videos](#)[Read-Aloud Videos](#)[Unit Extensions](#)[Unit Orientation](#)

Hands-on investigations videos

The playlist below contains videos of this unit's hands-on activities.

[EC Hands-on Playlist](#)

Welcome Science Educators!

The Amplify Science Program Hub was created to provide you with resources, tools, and advice for all stages of your implementation. Want a tour? Click [here!](#)

Remote and hybrid learning resources

Amplify Science@Home makes remote and hybrid learning easier.



Additional Unit Materials

Additional resources to complement the units you're teaching.



Professional Learning Resources

Let's get started!



Professional Learning Resources

This section will provide you with the knowledge and skills you need to start teaching with Amplify Science. You'll find **self-study** professional learning videos and resources.



Getting started



Planning

Videos and resources to help you plan

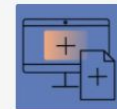


Assessment

Student Assessments and Work



Unit Orientation



Additional Support

Planning

The videos you'll find in this section provide Science instructional resources for Science units, highlighting helpful next steps.

We recommend you watch the Unit Level video, and finally

Grade K

Grade 1

Grade 7

NYC Grade 7

Grade 2

Grade 8

NYC Grade 8

Grade 3

Earth

Grade 4

Life

Grade 5

Physical

Grade 6

NYC Grade 6

**Unit Level Walkthrough (K-5)**

Learn how students work throughout a whole unit to explain an anchor phenomenon.

**Chapter Level Walkthrough (K-5)**

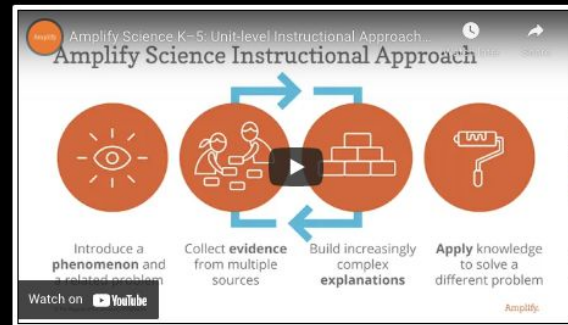
Dig into how students gather evidence from multiple sources through coherent, multimodal instruction.

**Lesson Level Walkthrough (K-5)**

Explore strategies for internalizing Amplify Science lessons.

Lesson Planning Template

Unit Level Walkthrough (K-5)



Additional resources to support implementation

Participant Notebook

Pgs.
23-28

Amplify Science: Getting started look-for tool

Look for #1: Students are accessing the resources: This category is intended to highlight visible signs of using the Amplify Science curriculum. These observations can be made over 5-10 minutes or longer.

Sample evidence through observations and questions	Notes and observations
Classroom environment look-fors: <ul style="list-style-type: none"> Classroom wall Co-constructed charts Established routines for ease of access to resources Projections and posters are clear 	

Student look-fors:

- Referencing classroom appropriate
- Accessing digital tool with ease

Look for #2: Students are engaged in gathering evidence from multiple sources to Investigate Phenomena. This category is intended to highlight how students are accessing the curriculum in a way that promotes three-dimensional learning. These look-fors need at least 15 minutes to a full lesson, or multiple lessons, to observe.

Tip: Reference the 3-D statement and the "Standards and Goals" section in the specific lesson you are observing for the specific core ideas, crosscutting concepts and science and engineering practices in the lesson.

Indicators of engaging with multiple sources of evidence may include students figuring out phenomena like a scientist, engaged in 3-D learning. You will notice students participating in multiple modalities (do, read, talk, write and/or visualize), during which they use academic language and unit words to access and convey ideas. Over time, you will notice students having multiple opportunities to construct understanding.

Sample evidence through observations and questions	Notes and observations
Classroom environment look-fors: <ul style="list-style-type: none"> Students engaged in their work in pairs, in small groups, as a full class, or individually. Students engaged in one or more of the Science and Engineering Practices to figure out core ideas, and/or applying crosscutting concepts to connect what they are learning to other ideas in science. 	
Student look-fors <ul style="list-style-type: none"> Students writing or drawing Students engaged in hands-on investigations, modeling or design Students engaged in digital investigations or modeling Students reading Students discussing 	
Student Questions to ask: <ul style="list-style-type: none"> What are you figuring out today? What can you tell me about the chapter question? How did you figure that out? What is your evidence? 	

Amplify Science: Getting started with remote and hybrid learning look-for tool

Goal: Students gather evidence from multiple sources, make explanations and arguments through multiple modalities (do, talk, read, write, visualize), and engage with the science and engineering practices to figure out phenomena.

Sample evidence through observations	Notes and observations
Look for #1: Logistical aspects of distance learning are well-planned to ensure student access. <ul style="list-style-type: none"> Students have access to the @Home student materials: @Home Slides, Student Sheets, @Home Packets, and/or @Home Videos. Students have access to the student books, articles, Sims, and/or Digital Apps via the Elements App, Home Science Wall, or Amplify Library. 	
Family resource they guide students	

Look for #2: Multitasking

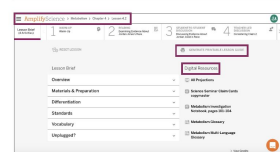
- Students are writing
- Students are engaged in hands-on activities
- Students are reading
- Students are discussing

Sample evidence through observations	Notes and observations
Look for #3: Instructional routines are established and supported to ensure student sense-making. <ul style="list-style-type: none"> Established expectations for discourse. Examples include: <ul style="list-style-type: none"> Talking to an assigned partner. Talking to someone in their household, a friend, or a stuffed animal about their ideas. Talking in breakout groups in a video class meeting. Using asynchronous discussion options on technology platforms. Established expectations for writing. Examples include: <ul style="list-style-type: none"> Writing in a designated science notebook. Submit audio or video responses digitally, rather than a written response. 6-8: For students with technology access, complete written work in the students' Amplify accounts. Established routines to enhance students' experience of the @Home Science Wall (a complete list of Chapter Questions, key concepts, and vocabulary that have been introduced so far are provided in the last lesson of each chapter). Examples include: <ul style="list-style-type: none"> Drawing or writing ideas on @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. Established routines for students to submit work and receive feedback. Examples include: <ul style="list-style-type: none"> Photograph writing and submit digitally. Record and a video of the student's oral response and submit digitally. Leverage other teacher-created methods for submitting work, i.e. digital investigation notebook, collaborative document or slide deck, or other technology platforms. 	

Navigation within a lesson



Navigation within a lesson cont.



- Selecting the drop-down arrow expands each tabular.
 - The Overview includes a summary of the lesson, describes what students will learn, and provides activity summaries and timing.
 - Materials and Preparation provides a list of materials to the lesson, and how to prepare for teaching.
 - Differentiation provides resources and strategies for differentiation.
 - Standards lists which standards the lesson is aligned to.
 - Weekly work lists activities and preparation for the lesson.
 - Unplugged lists recommendations for working offline.
- Some **GENERATIVE RESOURCES LESSON GUIDE** is an accessible downloadable PDF that includes all of the content in digital format, including teacher supports, possible responses, and On the Fly Assessments.
- Digital Resources** provide all of the resources for a lesson, which may include projections, computers, tablets, and electronic substitutes for teacher resources. Each resource can be downloaded before each lesson.
- The **Lesson Map** shows all of the resources for a lesson, which may include projections, computers, tablets, and electronic substitutes for teacher resources. Each resource can be downloaded before each lesson.
- Activity Files** in the Lesson Map are numbered to help teachers navigate through the lesson.

Getting started with K-5 Amplify Science: Administrator's Guide

Organizational area	Points to remember
<p>INITIAL TRAINING & PROFESSIONAL LEARNING OPPORTUNITIES</p> <ul style="list-style-type: none"> □ Schedule time for teachers to receive training □ Provide an opportunity for teachers to understand your school's vision for implementing Amplify Science prior to their training □ Devise and deliver messaging to parents 	<ul style="list-style-type: none"> • Teacher buy-in • PD Catalog: bit.ly/AmplifySciPD • NGSS for Parents: bit.ly/AmplifySciNGSS
<p>PACING UNITS THROUGHOUT THE SCHOOL YEAR</p> <ul style="list-style-type: none"> □ In collaboration with the science lead or grade-level leads, determine: <ul style="list-style-type: none"> ■ Time allocated for daily science instruction for each grade level ■ Pacing/scope and sequence of units ■ Any schedule modifications that are needed to support full implementation 	<ul style="list-style-type: none"> • Grades K-1 <ul style="list-style-type: none"> ○ 45 min. lessons • Grades 2-5 <ul style="list-style-type: none"> ○ 60 min. lessons • Year at a glance in Participant Notebook
<p>TECHNOLOGY READINESS & ACCESS</p> <ul style="list-style-type: none"> □ Identify a technology support person (school & district level) who will support teacher needs and coordinate accounts with Amplify □ Test internet connection speeds to ensure successful internet access □ Ensure all teachers have account log-ins and accessed the digital Teacher's Guide and no content filters block access (learning.amplify.com) □ Ensure all teachers establish routines and logistics for device management in their classroom (if applicable) □ Ensure that all teachers are using either Chrome or Safari web browsers □ Devices in-use by teachers (and students) are: iPad 3 or more recent models, MacBooks, Chromebooks, or Windows laptops or desktops □ Verify onsite technology policies support learning with a digital curriculum 	<ul style="list-style-type: none"> • Contact help@amplify.com if you have any teacher login issues • Technology readiness will support teachers' ability to teach all units and address all standards
<p>MANAGING SCIENCE RESOURCES</p> <ul style="list-style-type: none"> □ Appoint a point-of-contact to organize and distribute kit resources for immediate teacher access based on unit order and pacing □ Ensure kit resources are provided to the teacher at least 1 week prior to the expected start of instruction □ Review the materials list inside of each kit, at each grade level, and identify the items on the list that are "teacher provided items"; secure these items at least 1 week prior to the expected start of instruction □ Ensure all teachers establish routines for managing kit resources in their classrooms (manipulatives, Investigations Notebooks, etc.) □ Establish a plan for materials: teacher provided materials and management from year to year to refill kit materials and inventory 	<ul style="list-style-type: none"> • The Amplify Science curriculum integrates hands-on materials and classroom wall resources. Some items are provided in the kit and others are "teacher provided."
<p>MONITORING INITIAL IMPLEMENTATION</p> <ul style="list-style-type: none"> □ Schedule time to observe initial implementation, at least two weeks after the units' start date (pacing, routines for technology and materials management) □ Visit classes to identify successes/challenges and provide feedback □ Identify successes and coordinate opportunities for peer-to-peer supports to build capacity and consistency of routines □ Devise an ongoing Professional Learning Plan 	<ul style="list-style-type: none"> • Amplify Science: Getting started look-for tool in Participant Notebook • Amplify Science: Getting started with remote and hybrid learning look-for tool in Participant Notebook
<p>SUPPORTING REMOTE LEARNING</p> <ul style="list-style-type: none"> □ Amplify Science@Home Units are a solution if you have significantly less time to teach science than usual. You can choose between print-based and tech-based student materials. □ Amplify Science@Home Videos are a solution if you have about the same amount of time for teaching science as you normally would. Students need consistent access to internet-connected digital devices to use @Home Videos. 	<ul style="list-style-type: none"> • Program Hub <ul style="list-style-type: none"> ○ Access@Home Videos and @Home Units • Amplify Anywhere amplify.com/anywhere/amplify-science <ul style="list-style-type: none"> ○ Resources for using Amplify programs remotely

What is your highest priority?

- Read through and rank each organizational area from 1 to 6:
 - 1 = Highest priority for my school/district
 - 6 = Lowest priority for my school/district

Getting started with K-5 Amplify Science: Administrator's Guide

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Capture your thinking!

After exploring your highest priority organizational area, what is your biggest takeaway or next step for a successful implementation of Amplify Science?

Getting started with K-5 Amplify Science: Administrator's Guide

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Common implementation scenarios

Scenario 1

A teacher asks how Amplify Science aligns to our school/district goals.

Scenario 2

Since I don't have time in the school day to teach 60-minute lessons (45 for K-1). I will probably skip some parts. Some of the lessons seem to repeat ideas anyway.

Scenario 3

I have never taught this science content before. I am concerned that students will ask me questions I don't know the answers to.

Common implementation scenarios (cont.)

Scenario 4

I need a grade every week. There aren't enough gradable assignments.

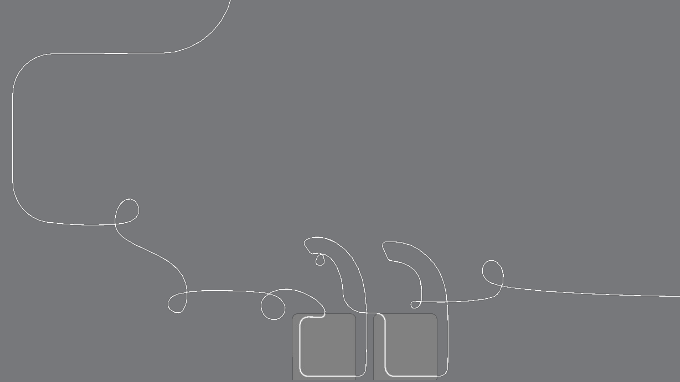
Scenario 5

My students can't do this work, this is too hard for them. How am I supposed to get them to do the work?

Scenario 6

Our students need to focus on reading, how will this support our reading goals and literacy?

Questions?





Plan for the day

- Introduction and Framing
- Teaching and learning in Amplify Science
- Supporting instruction
- Supporting implementation
- **Closing**

Additional Amplify resources



Program Guide

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

my.amplify.com/programguide

Amplify Help

Find lots of advice and answers from the Amplify team.

my.amplify.com/help

Additional Amplify resources



Professional learning

Offer additional professional development for your staff to support their instruction.

amplify.com/professional-development/

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



New York City Resources Site

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



Amplify.

Amplify Science Resources for NYC (K-5)

Welcome! This site contains supporting resources designed for the New York City Department of Education Amplify Science adoption for grades K-5.

UPDATE: Summer 2020

Introduction

Getting started resources

Planning and implementation resources

Admin resources

Parent resources

COVID-19 Remote learning resources 2020

Professional learning resources

Questions

UPDATE: Summer 2020

Account Access: It's an exciting time for Amplify Science! We have access to the many updates and upgrades in our curriculum until late August/early September when we update our rosters from STARS.

Any schools or teachers new to Amplify Science in 20/21 are encouraged to contact our Help Desk (1-800-823-1969) for access to your temporary login for summer planning.

Upcoming PL Webinars: Join us for our Summer 2020 Professional Learning opportunities in July for NEW teachers and administrators and August for RETURNING teachers and administrators. Links to register coming soon!

Site Resources

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

Hidden slide: Amplify Chat

AmplifyScience > Energy Conversions > Chapter 1 > Lesson 1.2



Overview

Materials & Preparation

Differentiation

Standards

Vocabulary

Unplugged?

Differentiation

Embedded Supports for Diverse Learners

Partner Reading. Reading with a partner provides opportunities for students to assist each other with reading—with using the reading strategy modeled by the teacher, with decoding, and with comprehension. Partner reading encourages discussion of the text during reading, which aids comprehension and engagement.

Supportive visuals in the book. The diagrams and tables in *Systems* are designed to clarify the meaning of the text and should support students' comprehension of concepts and ideas.

Potential Challenges in This Lesson

Reading-centered. Reading science texts is challenging, and the strategy of synthesizing may be unfamiliar to many students. Students who struggle with reading in general may struggle with the reading in this lesson.

Synthesizing across activities. Synthesizing information from a variety of sources is a complex cognitive task and can be challenging for students. The synthesizing reading comprehension strategy may be new to students. Some students may find it difficult to incorporate new information from the reading into their growing understanding of systems. Keep in mind that students will have many opportunities over the course of the unit to learn to use this complex strategy.

Specific Differentiation Strategies for English Learners

Digital Resources


 Classroom Slides 1.2 | PowerPoint


 Classroom Slides 1.2 | Google Slides

 All Projections

 Partner Reading Guidelines

 Cherry Pitter System table (Completed)

 Optional: Chapter 1 Home Investigation: Blackout Interview copymaster

 Energy Conversions Investigation Notebook, pages 3–5

BACK TO TOP

Español

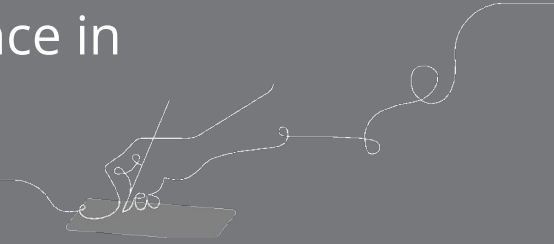


Overarching goals

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

- ☑ Recognize how lessons engage students in the three dimensions of the NYSSLS through phenomenon-based instruction.
- ☑ Understand the ways in which administrators can support phenomenon-based instruction and the implementation of Amplify Science in their schools in a variety of settings.

e



Please provide feedback!

<https://www.surveymonkey.com/r/5DQW2T6>

Presenter name:

XX

Please select K-5 grade band

Modality:

Remote

Amplify.

Thank you & be well!

