

Amplify Science

Unit Internalization / Guided Planning

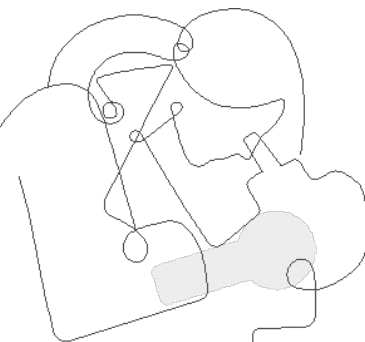
Grade K, Unit 3: Sunlight and Weather

Part 1

School/District Name: LAUSD

Date:

Presented by:



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



Please keep your camera on, if possible.

Take some time to orient yourself to the platform

- *"Where's the chat box? What are these squares at the top of my screen?, where's the mute button?"*



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



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



Make sure you have a note-catcher present



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

Schoology



[← Back to Schoology Home Page](#)

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: [udipplausd.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.

Publisher Name Starts With

Content Area All

Grade Level All

Content Type All

Textbook Title Starts With

Submit

All Amplify Products



LMS App Center

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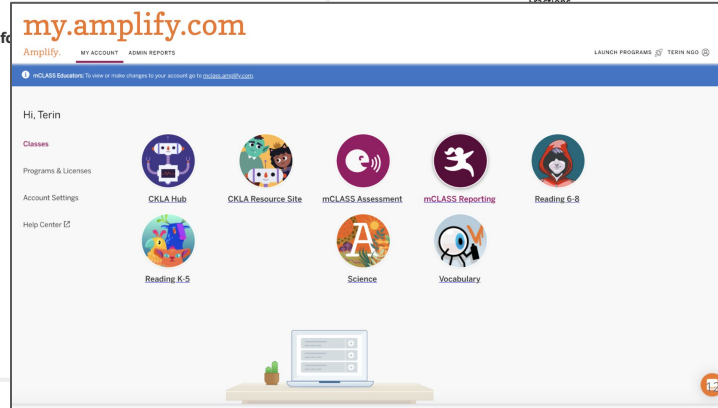
To learn more about using the LMS App Center, please refer to the following video overview.

[← 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
Creative

Vendor Support Desk:
P: 800.823.9969
E: help@amplify.com
S: amplify.com/support/
Textbook Title(s):
NA



Vendor Support Desk:
P: 800.823.9969
E: help@amplify.com
S: amplify.com/support/
Textbook Title(s):
NA

pp is for only)

 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](#)



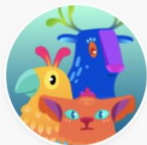
[mCLASS Assessment](#)



[mCLASS Reporting](#)



[Reading 6-8](#)



[Reading K-5](#)



[Science](#)



[Vocabulary](#)



Amplify. on Schoology

2021-2022



Schoology

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



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

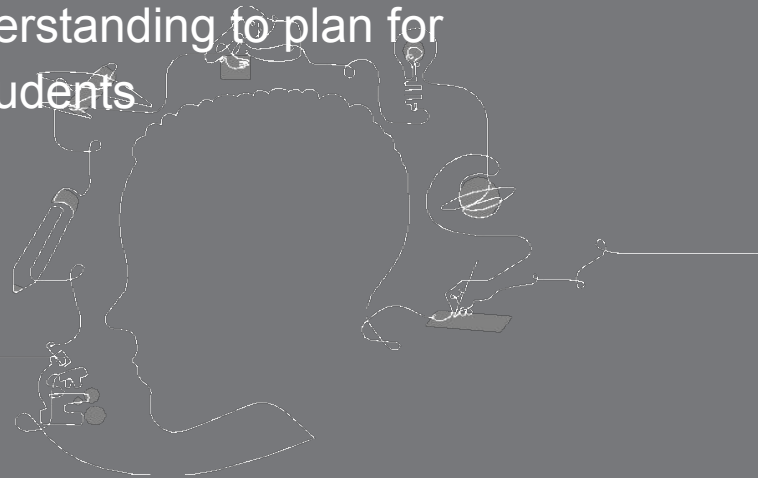
5 = Extremely Comfortable



Part 1

Overarching goals

- ❑ Explain how students engage in phenomenon based and 3D learning to construct an understanding of the science concepts introduced in *Sunlight and Weather*.
- ❑ Internalize the unit and apply your new understanding to plan for the diverse needs of your classroom and students



Opening Reflection

What are your goals
for student outcomes?

Participant Notebook

Reflection

Use the provided spaces as a place for reflection throughout the session.

Session goals and student outcomes

What Connect the workshop goal(s) to an outcome you envision for your students.	Why Reflect on why you want this outcome for your students.	How How will your students achieve the outcome? Reflect on what you learned during the workshop that will impact student outcomes.



Plan for the day: Part 1

- Introduction and Framing
- NGSS & 3D Learning
- Phenomenon-based Instruction
- Unit Internalization
- Additional Resources
- Closing



THE LAWRENCE
HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

+

Amplify.

Amplify Science

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: Kindergarten

Pg. 3

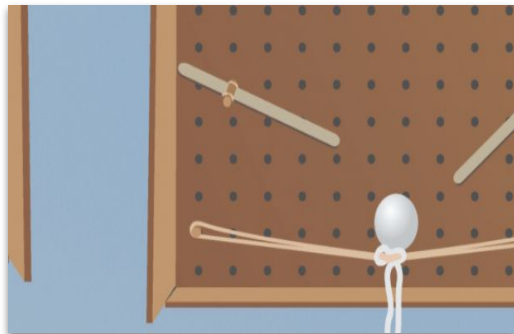


Needs of Plants and Animals

Domain: Life Science

Unit type: Investigation

Student role: Scientist

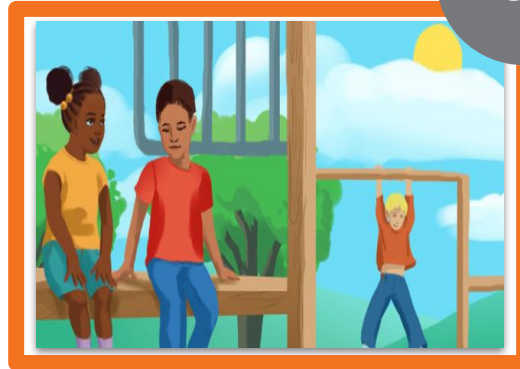


Pushes and Pulls

Domain: Physical Science

Unit type: Engineering Design

Student role: Pinball Engineer



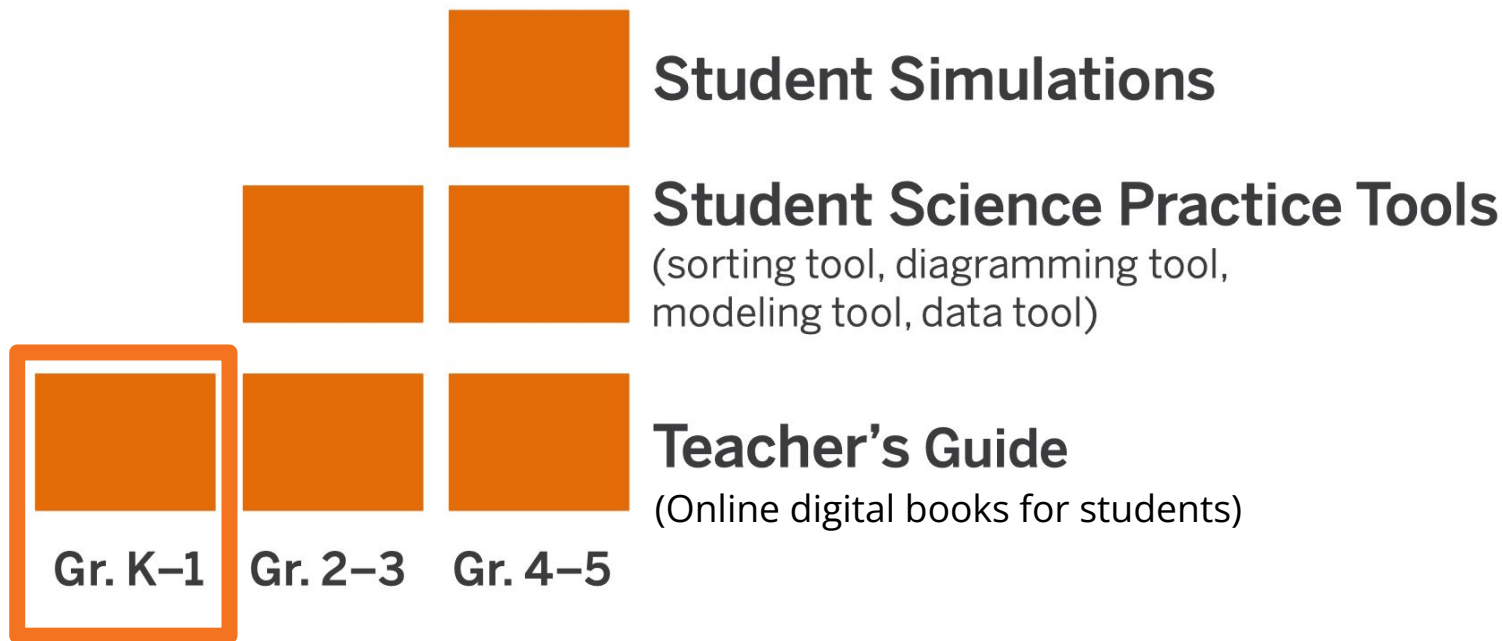
Sunlight and Weather

Domain: Earth and Space Science

Unit type: Modeling

Student role: Weather Scientist

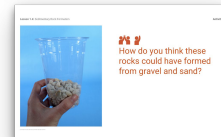
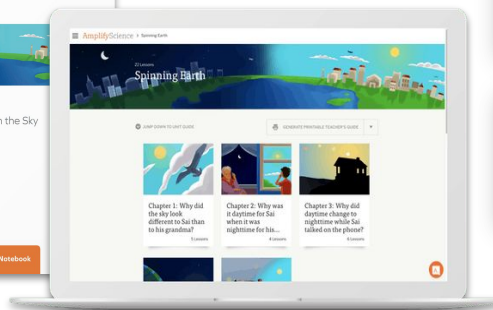
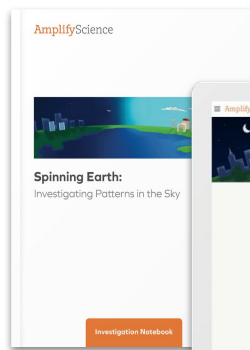
What are the digital components of Amplify Science Elementary?



K-5 Program components

Teacher materials

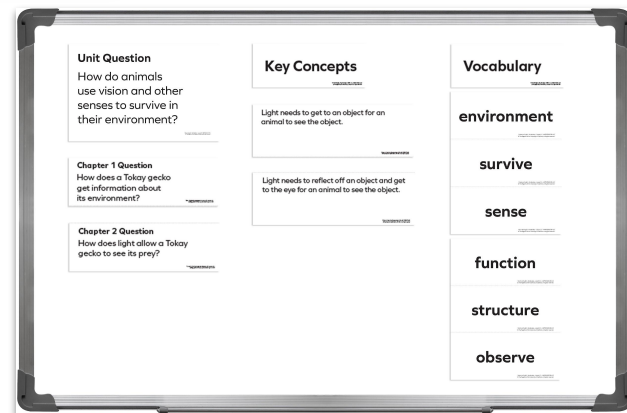
- Teacher's Guide (print and digital)
- Classroom Slides
- Classroom wall materials
- Embedded assessments
- Program Guide
- Program Hub
- Amplify Help Site



Program Hub



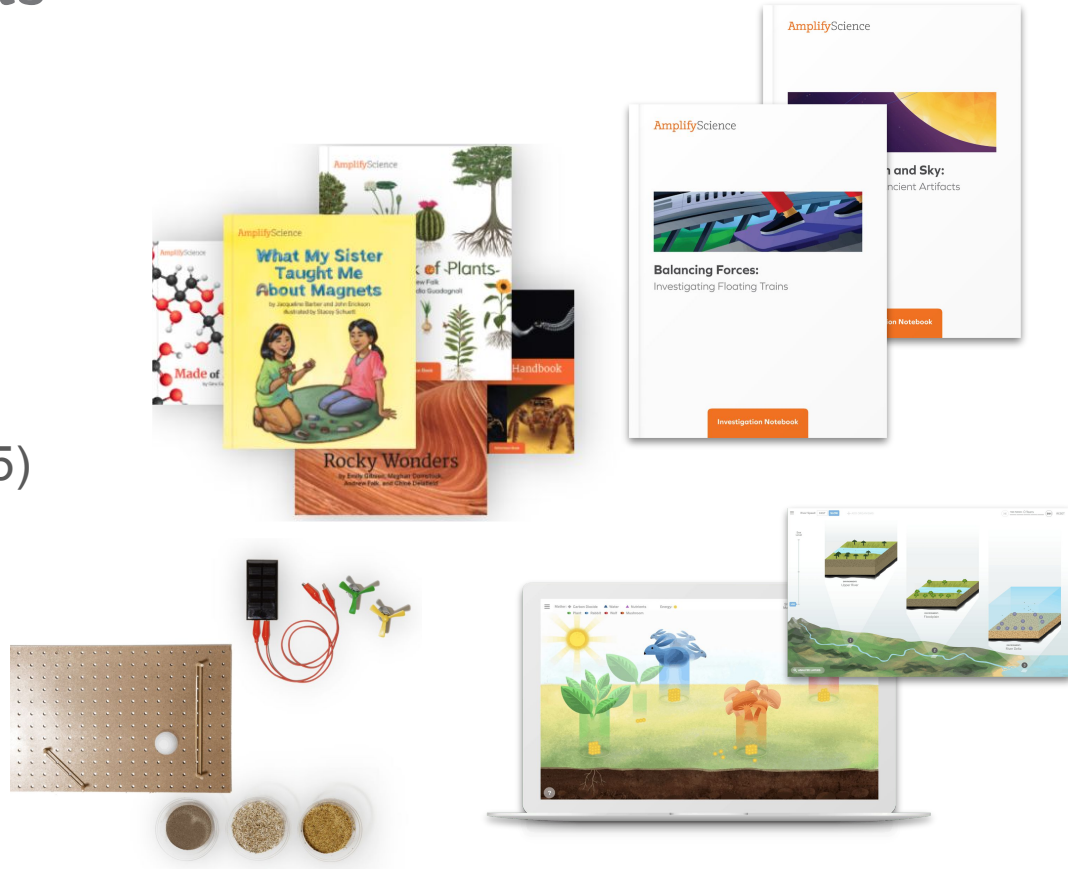
Science Program Guide



K-5 Program components

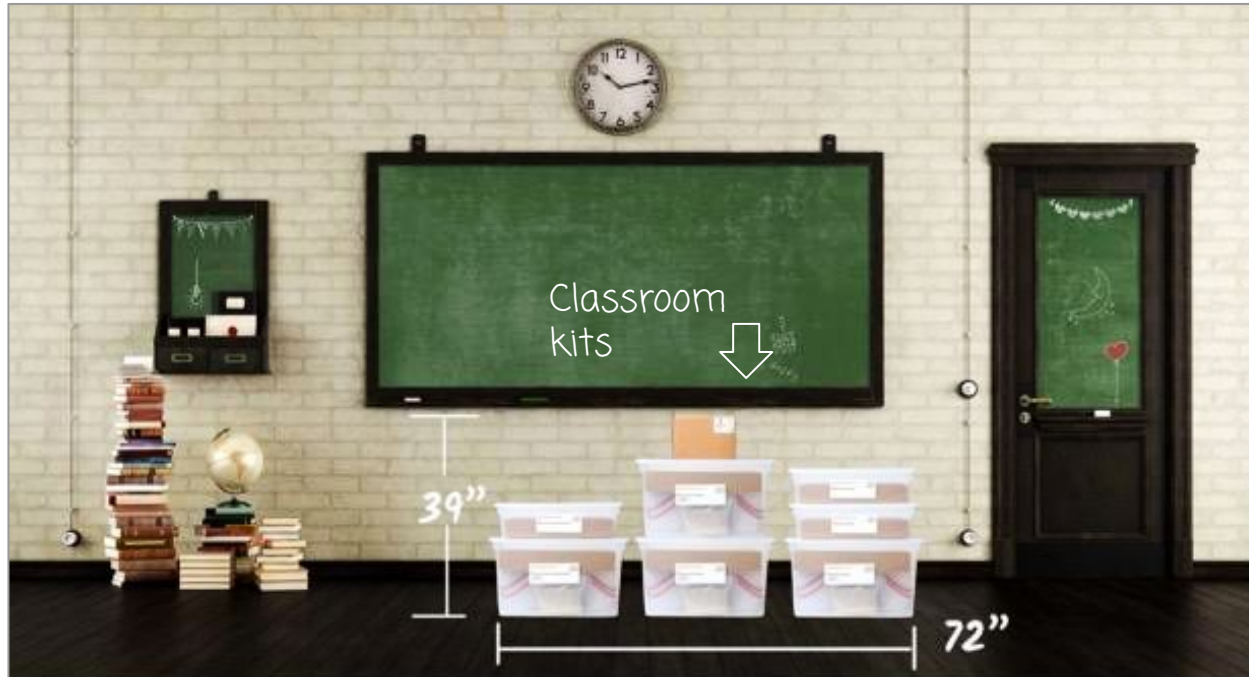
Student materials

- Hands-on materials
- Investigation Notebooks (print and digital)
- Student books
- Digital Applications (only in 2-5)



K-5 Program components

Classroom kits



Classroom kits

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

Unpacking the Kit

Unit Question

How do sunlight and different types of weather affect

Key Concepts

Vocabulary

- **Chapter 1 Question**

- What is the weather like on the playgrounds?

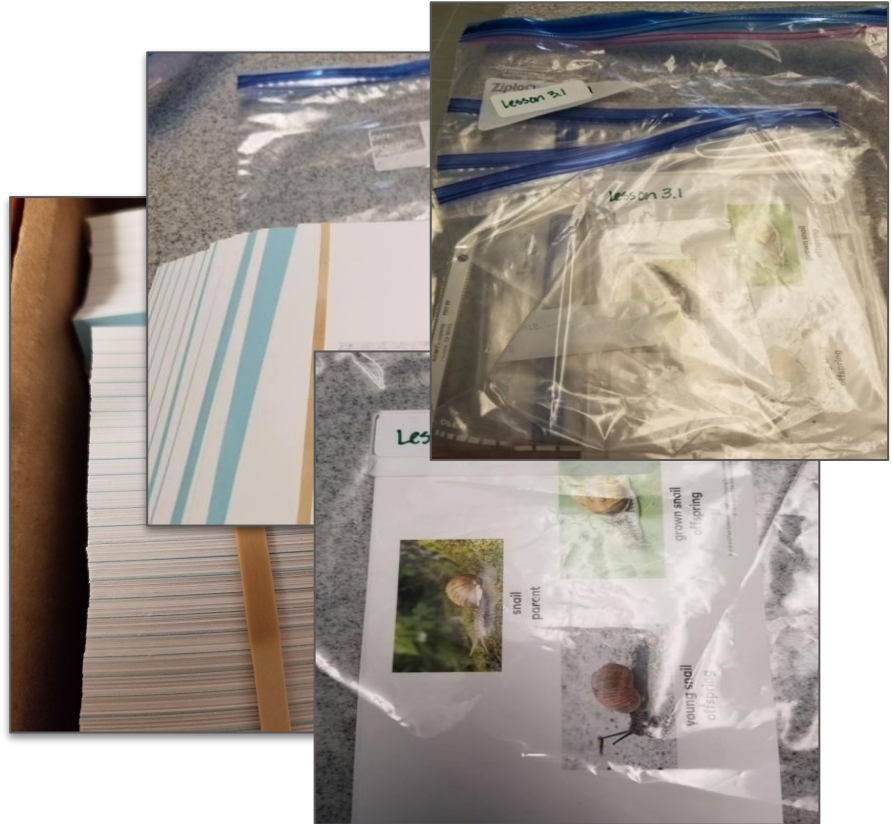
Sunlight and Weather—Chapter 1 Question—Lesson 14—AMP616604.17-KES
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so they are easily accessible.)

Cards for games, sorting or matching activities

Organization tips:

- Separate and place in envelopes or bags (or clip together)
- Label the envelopes or bags with the name and lesson # and activity # (ex. Lesson 2.4, Act. 1)
- Put each envelope or bag (1 set) into a bigger bag and label



Grades K and 1

Key Concepts are **not** printed on card stock

Lawrence Hall of Science felt the key understandings should be developed with students.

Two Suggestions:

1. Have blank sentence strips ready to use when developing the key concepts to add to the classroom wall
2. Write out key concepts on sentence strips. Label with the lesson and put them with the chapter questions. (*Note: they can be found in the lesson overview compilation*)

Weather can be sunny, cloudy, windy, rainy, or snowy.

Weather can be sunny, cloudy, windy, snowy and different temperatures.

Science California > Sunlight and Weather

Unit Overview

Unit Question

Chapters

How do sunlight and different types of weather affect places?

Printable Resources

Chapter 1: What is the weather like on the playgrounds?

Compilation

Investigation Questions

Standards and Goals

Books in This Unit

Opportunities for Unit Extensions

Offline Preparation

• Weather can be sunny, cloudy, windy, rainy, or snowy. (1.1)

• Weather can be sunny, cloudy, windy, rainy, snowy, and different temperatures. (1.2)

Chapter 2: Why do the playgrounds get warm?

Chapter Question

Why do the playgrounds get warm?

Investigation Questions

• Why does Earth's surface get warm? (2.1)

Key Concepts

^ BACK TO TOP

English Español


Grade 1

Word Relationship Cards



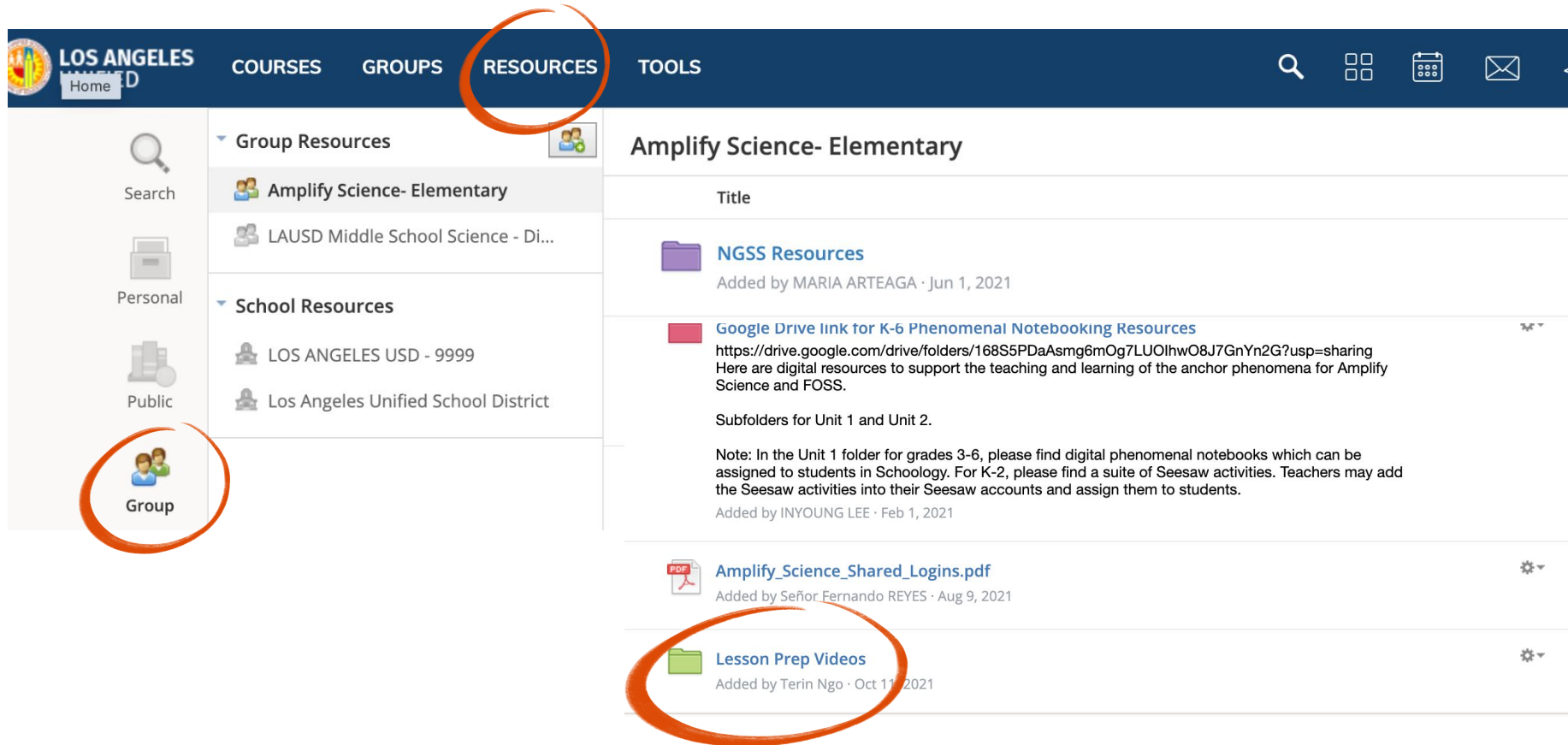
Microsite: Unit 1, K-2 Lesson Prep Videos

Classroom kits

Program Introduction	New! Lesson Prep Videos
Learn more about Amplify Science	Unit 1
LAUSD Training Sessions- Reference Materials	Grade K- Needs of Plants and Animals >
 New! Lesson Prep Videos	Grade 1- Animals and Plant Defenses >
Remote Learning Resources	Grade 2- Plant and Animal Relationships >
Onboarding: What to expect	Grade 3- Balancing Forces >
Onboarding videos	Grade 4- Energy Conversions >
Unpacking your first hands-on materials kit	Grade 5- Patterns of Earth and Sky >
Looking for help?	



LAUSD Schoology: Unit 1, 3-5 Lesson Prep Videos



The screenshot shows the LAUSD Schoology interface. The top navigation bar includes 'COURSES', 'GROUPS', 'RESOURCES' (highlighted with a red circle), and 'TOOLS'. The left sidebar contains 'Search', 'Personal', 'Public', and 'Group' (highlighted with a red circle). The main content area is titled 'Amplify Science- Elementary' and lists resources:

- Group Resources**
 - Amplify Science- Elementary
 - LAUSD Middle School Science - Di...
- School Resources**
 - LOS ANGELES USD - 9999
 - Los Angeles Unified School District

The resource list includes:

- NGSS Resources**
Added by MARIA ARTEAGA · Jun 1, 2021
- Google Drive link for K-6 Phenomenal Notebooking Resources**
<https://drive.google.com/drive/folders/168S5PDaAsmg6mOg7LUOIhwO8J7GnYn2G?usp=sharing>
Here are digital resources to support the teaching and learning of the anchor phenomena for Amplify Science and FOSS.
Subfolders for Unit 1 and Unit 2.
Note: In the Unit 1 folder for grades 3-6, please find digital phenomenal notebooks which can be assigned to students in Schoology. For K-2, please find a suite of Seesaw activities. Teachers may add the Seesaw activities into their Seesaw accounts and assign them to students.
Added by INYOUNG LEE · Feb 1, 2021
- Amplify_Science_Shared_Logins.pdf**
Added by Señor Fernando REYES · Aug 9, 2021
- Lesson Prep Videos** (highlighted with a red circle)
Added by Terin Ngo · Oct 11, 2021

LAUSD Microsite-

<https://amplify.com/lausd>



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!

[illegible]

- Open Your **Lesson Guides Only**
- Start with **Chapter 1** and look for the **hands icon**
- Go into the lesson **materials and prep**

22 Lessons

Sunlight and Weather

Printable Teacher Guide

Full Teacher's Guide
(Includes Unit Guide & all 22 Lesson Guides)

Lesson Guides Only
(Includes 22 Lesson Guides)

OPEN IN NEW TAB

Unit Overview

Chapters

Printable Resources

Planning for the Unit

Teacher References

Offline Preparation

Lesson 1.1: What Is the Weather Like Today?

Printable Lesson Guide

3 HANDS-ON Introducing Thinking Walk

4 TEACHER-LED DISCUSSION Recording New Ideas

RESET LESSON

Overview

Students are introduced to the unit, *Sunlight and Weather*. The teacher introduces students' role as weather scientists and poses the Unit Question—*How do sunlight and different types of weather affect places?*—that frames the work students will do throughout the unit. Partners use the Shared Listening routine to discuss their ideas about how to describe weather. The teacher then introduces the strategy of making and checking predictions and reads aloud the first half of *What Is the Weather Like Today?* Students participate in a Think and Walk activity to match photographs of different types of weather to corresponding illustrations and then learn the Weather Types movement routine. The teacher introduces the What We Know About Weather chart as a place to record what students learn throughout the unit. The purpose of this lesson is to provide students with an introduction to different types of weather and to their role as weather scientists in order to motivate their learning about sunlight and weather throughout the unit.

Digital Resources

- Classroom Slides 1.1 | PowerPoint
- Classroom Slides 1.1 | Google Slides
- All Projections
- What We Know About Weather chart (Completed)
- Investigation Notebook
- Questioning Strategies for Grades K-1
- Sunlight and Weather Family Connections Letter
- Crosscutting Concept Tracker
- Eliciting and Leveraging Students' Prior

Sunlight and Weather Lesson Guides

Chapter 1 Activities

Lesson 1.1: What Is the Weather Like Today?

1 Introducing the Unit

2 Reading: What Is the Weather Like Today?

STUDENT-TO-STUDENT DISCUSSION

READING

HANDS-ON

TEACHER-LED DISCUSSION

HANDS-ON

READING

HANDS-ON

TEACHER-LED DISCUSSION

HANDS-ON

WRITING

TEACHER-LED DISCUSSION

TEACHER-LED DISCUSSION

HANDS-ON

TEACHER-LED DISCUSSION


WRITING

Digital Resources

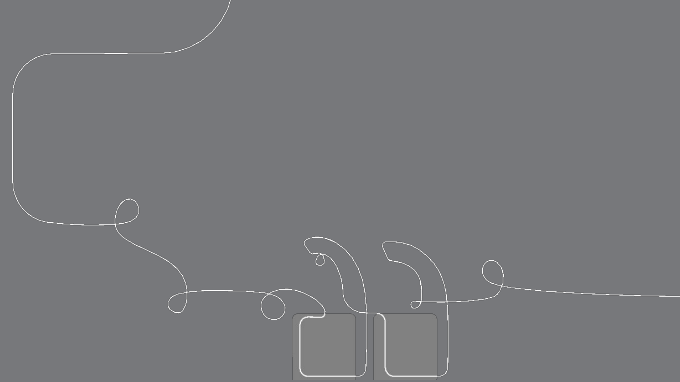
- Classroom Slides 1.1 | PowerPoint
- Classroom Slides 1.1 | Google Slides
- All Projections
- What We Know About Weather chart (Completed)
- Investigation Notebook
- Questioning Strategies for Grades K-1
- Sunlight and Weather Family Connections Letter
- Crosscutting Concept Tracker
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Hands On Material Organization

Completed for Sunlight and Weather

1	Sunlight and Weather				
2	Directions				
3	1. Open the Digital Lesson Guides Only page 7 from the Unit Landing page or go the Print TE to page 31. (Chapter 1 Activities)				
4	2. Look for the lessons with Hands On.				
5	HANDS ON 				
6	3. Note in the table below.				
7	4. Review the materials and preparation to determine if it can be prepared prior to the lesson or on the day of the lesson.				
8	5. Use this same procedure for each Chapter. (Go to the Chapter Activities Contents)				
9					
10	Chapter/Lesson	Activity	Prep Prior	Prep Day of	What to do
11	1.1	1	X		Prep plastic bags with labels A, B, C, D and M. Place 1 tsp of the following cinnamon, salt, flour, cornstarch in A,B,C, D. In bag M mix 1 tsp salt and 1 tsp cinnamon.
12	1.1	3	X		For the Class: 5 Think and Walk Weather Cards, 5 Types of Weather Icons
13	1.2	1,3		X	Pair of Students: tray, cup of warm water, cup of ice water, thermometer with colored strips attached, set of crayons-Purple, blue, green, yellow, orange, red
14	1.3	1		X	Pair of Students: set of crayons-Purple, blue, green, yellow, orange, red
15	1.4	1	X		Create Carver and Woodland Playground Weather Calendars and Graphs (see completed version in digital resources): 38 Playground Weather Calendars and Graph Illustration cards, masking tape to tape to tape the illustrations on calendar
16	2.1	2,4	X		Warming Model Stations: Screw one 60 watt lightbulb into each clamp lamp (1 per 4 students). Create "thermometer sandwiches"- place a student thermometer with attached colored strip between two pieces of black rubber or foam (1 per pair). Under each lamp place two sandwiches as directly under the bulb as possible, side by side
17	2.2	3		X	Each pair of students: Thermometer, 1 sheet of white paper
18	2.3	2,3		X	Each pair of students: Thermometer, 1 sheet of white paper, set of crayons-purple, blue, green, yellow, orange, red
19	2.4	1			N/A
20	3.1	4	X		Groups of 4 students: Surface Model Stations-See lesson 2.1, set of crayons-purple, blue, green, yellow, orange, red
21	3.3	1	X		Print out and assemble mini-books for each student, set of crayons-purple, blue, green, yellow, orange, red
22	4.1	4	X		Groups of 4 students: Surface Model Stations-See lesson 2.1, plus two pieces of white rubber/foam, set of crayons-purple, blue, green, yellow, orange, red, Pair of students: thermometer and set of crayons-purple, blue, green, yellow, orange, red.
23	4.2	3			N/A
24	4.3	1			N/A

Questions?





Plan for the day: Part 1

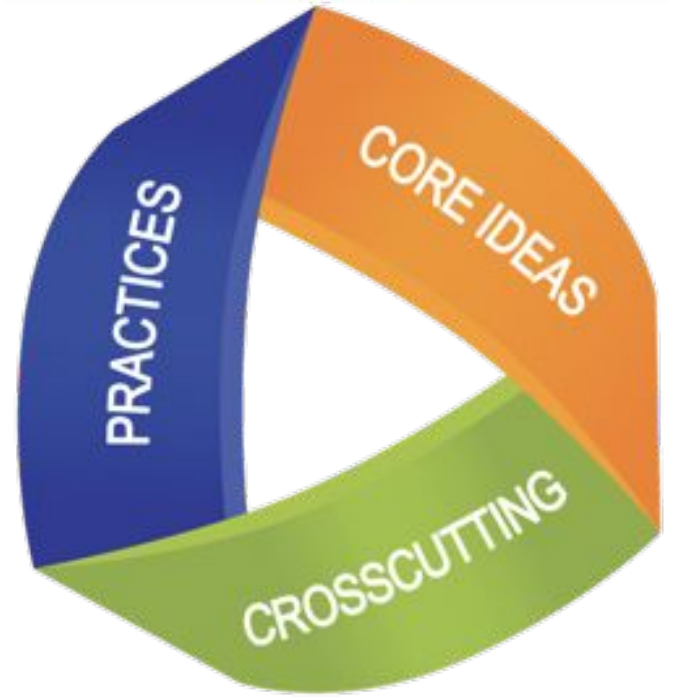
- Introduction and Framing
- **NGSS & 3D Learning**
- Phenomenon-based Instruction
- Unit Internalization
- Additional Resources
- Closing

Next Generation Science Standards

Three dimensional learning

Evaluate your knowledge

- On a scale of 0-5, how would you rate your familiarity with 3-D learning?



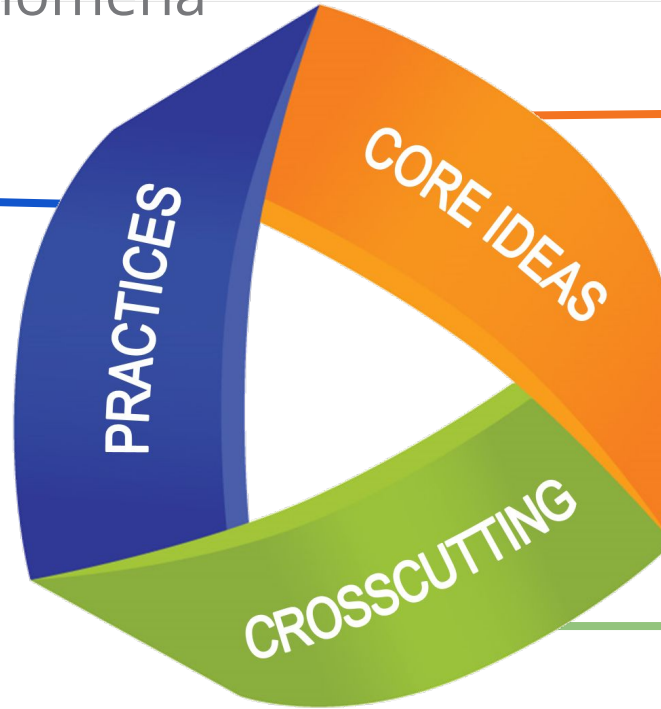
Conceptual Shifts in NGSS

1. K-12 Science Education Should Reflect the Interconnected Nature of Science as it is Practiced and Experienced in the Real World.
2. The Next Generation Science Standards are student performance expectations – NOT curriculum.
3. The science concepts in the NGSS build coherently from K-12.
4. The NGSS Focus on Deeper Understanding of Content as well as Application of Content.
5. Science and Engineering are Integrated in the NGSS from K–12.
6. The NGSS are designed to prepare students for college, career, and citizenship.
7. The NGSS and Common Core State Standards (Mathematics and English Language Arts) are Aligned.

Using 3-D teaching and learning

for figuring out phenomena

What scientists do
Science and
Engineering Practices



**What scientists
want to know**
Disciplinary Core
Ideas

**How scientists
think**
Crosscutting Concepts

Three dimensions of NGSS (CA) at a glance

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>SEP-1. Asking questions and defining problems</p> <p>SEP-2. Developing and using models</p> <p>SEP-3. Planning and carrying out investigations</p> <p>SEP-4. Analyzing and interpreting data</p> <p>SEP-5. Using mathematics and computational thinking</p> <p>SEP-6. Constructing explanations (for science) and designing solutions (for engineering)</p> <p>SEP-7. Engaging in argument from evidence</p> <p>SEP-8. Obtaining, evaluating, and communicating information</p>	<p>Physical Science</p> <p>PS1: Matter and its interactions</p> <p>PS2: Motion and stability: Forces and interactions</p> <p>PS3: Energy</p> <p>PS4: Waves and their applications in technologies for information transfer</p> <p>Life Science</p> <p>LS1: From molecules to organisms: Structures and processes</p> <p>LS2: Ecosystems: Interactions energy, and dynamics</p> <p>LS3: Heredity: Inheritance and variation of traits</p> <p>LS4: Biological evolution: Unity and diversity</p> <p>Earth and Space Science</p> <p>ESS1: Earth's place in the universe</p> <p>ESS2: Earth's systems</p> <p>ESS3: Earth and human activity</p> <p>Engineering, Technology, and Applications of Science</p> <p>ETS1: Engineering Design</p> <p>ETS2: Links among engineering, technology, science, and society</p>	<p>CCC-1. Patterns</p> <p>CCC-2. Cause and effect: Mechanism and explanation</p> <p>CCC-3. Scale, proportion, and quantity</p> <p>CCC-4. Systems and system models</p> <p>CCC-5. Energy and matter: Flows, cycles, and conservation</p> <p>CCC-6. Structure and function</p> <p>CCC-7. Stability and Change</p>

An Analogy between NGSS and a Cake



Baking a cake
(performance expectations)



**Baking Tools and
Techniques
(Science & Engineering
Practices)**

Science and Engineering Practices

inquiry

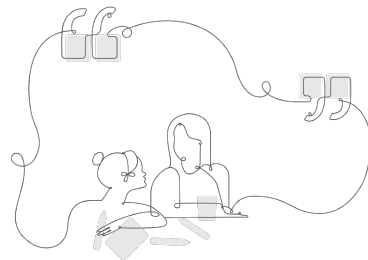
1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data

math

5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)

language

7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information



An Analogy between NGSS and a Cake



Baking a cake
(performance expectations)



**Baking Tools and
Techniques
(Science & Engineering
Practices)**



**Cake
(Disciplinary Core Ideas)**

Disciplinary Core Ideas

Life Science	Physical Science
LS1: From Molecules to Organisms: Structures and Processes	PS1: Matter and Its Interactions
LS2: Ecosystems: Interactions, Energy, and Dynamics	PS2: Motion and Stability: Forces and Interactions
LS3: Heredity: Inheritance and Variation of Traits	PS3: Energy
LS4: Biological Evolution: Unity and Diversity	PS4: Waves and Their Applications in Technologies for Information Transfer
Earth & Space Science	Engineering & Technology
ESS1: Earth's Place in the Universe	ETS1: Engineering Design
ESS2: Earth's Systems	ETS2: Links Among Engineering, Technology, Science, and Society
ESS3: Earth and Human Activity	

An Analogy between NGSS and a Cake



Baking a cake
(performance expectations)



Frosting
(Crosscutting
Concepts)



Baking Tools and
Techniques
(Science & Engineering
Practices)



Cake
(Disciplinary Core Ideas)

Crosscutting Concepts

5. Energy and Matter

Tracking energy and matter flows, into, out of, and within systems helps one understand their system's behavior.

6. Structure and Function

The way an object is shaped or structured determines many of its properties and functions.

7. Stability and Change

For both designed and natural systems, conditions that affect stability and factors that control rates of change are critical elements to consider and understand.

4. Systems and System Models

A system is an organized group of related objects or components; models can be used for understanding and predicting the behavior of systems.

NGSS Standards, Grade K

What is Assessed

a collection of
performance
expectations describing
what students should be
able to do to master the
standard



K-ESS2 Earth's Systems		
K-ESS2 Earth's Systems Students who demonstrate understanding can: K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time. [Clarification Statement: Examples of qualitative observations could include descriptions of the weather (such as sunny, cloudy, rainy, and warm); examples of quantitative observations could include numbers of sunny, windy, and rainy days in a month. Examples of patterns could include that it is usually cooler in the morning than in the afternoon and the number of sunny days versus cloudy days in different months.] [Assessment Boundary: Assessment of quantitative observations limited to whole numbers and relative measures such as warmer/cooler.] K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs. [Clarification Statement: Examples of plants and animals changing their environment could include a squirrel digs in the ground to hide its food and tree roots can break concrete.] The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i> .		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Analyzing and Interpreting Data Analyzing data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations. <ul style="list-style-type: none">Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-ESS2-1) Engaging in Argument from Evidence Engaging in argument from evidence in K-2 builds on prior experiences and progresses to comparing ideas and representations about the natural and designed world(s). <ul style="list-style-type: none">Construct an argument with evidence to support a claim. (K-ESS2-2) Connections to Nature of Science Science Knowledge is Based on Empirical Evidence <ul style="list-style-type: none">Scientists look for patterns and order when making observations about the world. (K-ESS2-1)	ESS2.D: Weather and Climate <ul style="list-style-type: none">Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time. (K-ESS2-1) ESS2.E: Biogeology <ul style="list-style-type: none">Plants and animals can change their environment. (K-ESS2-2) ESS3.C: Human Impacts on Earth Systems <ul style="list-style-type: none">Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things. (secondary to K-ESS2-2)	Patterns <ul style="list-style-type: none">Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (K-ESS2-1) Systems and System Models <ul style="list-style-type: none">Systems in the natural and designed world have parts that work together. (K-ESS2-2)
Connections to other DCIs in kindergarten: N/A		
Articulation of DCIs across grade-levels: 2.ESS2.A (K-ESS2-1); 3.ESS2.D (K-ESS2-1); 4.ESS2.A (K-ESS2-1); 4.ESS2.E (K-ESS2-2); 5.ESS2.A (K-ESS2-2)		
Common Core State Standards Connections: ELA/Literacy – RI.K.1 With prompting and support, ask and answer questions about key details in a text. (K-ESS2-2) W.K.1 Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book. (K-ESS2-2) W.K.2 Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. (K-ESS2-2) W.K.7 Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). (K-ESS2-1) Mathematics – MP.2 Reason abstractly and quantitatively. (K-ESS2-1) MP.4 Model with mathematics. (K-ESS2-1) K.CC.A Know number names and the count sequence. (K-ESS2-1) K.MD.A.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. (K-ESS2-1) K.MD.B.3 Classify objects into given categories; count the number of objects in each category and sort the categories by count. (K-ESS2-1)		

Navigate to the Unit Landing Page: [Sunlight and Weather](#)

Review the Standard and Goals and the 3-D Statements

Sunlight

22 Lessons

Printable Teacher Resources

Unit Overview

Chapters

Printable Resources

Planning for the Unit ▾

Teacher References ▲

- Lesson Overview Compilation
- Standards and Goals
- 3-D Statements**
- Assessment System
- Embedded Formative Assessments
- Books in This Unit
- Opportunities for Unit Extensions
- Offline Preparation

3-D Statements

Key

Practices [Disciplinary Core Ideas](#) [Crosscutting Concepts](#)

Unit Level

Students [use models and collect and analyze data](#) to determine [the effect of sunlight on Earth's surfaces](#). They do this to [explain what is causing two school playgrounds to be different temperatures \(cause and effect, energy and matter\)](#). Students also obtain information and communicate ideas about [severe weather and ways to prepare for it \(patterns\)](#).

Chapter Level

Chapter 1: What is the weather like on the playgrounds?

Students [obtain information](#) about [different types of weather \(patterns\)](#) and [collect, interpret, and analyze temperature data](#) from Carver and Woodland Elementary Schools to help [determine that weather is not the cause of temperature differences on the schools' playgrounds \(cause and effect; scale, proportion, and quantity\)](#).

Chapter 2: Why do the playgrounds get warm?

Students investigate, then [record and analyze](#) data from models in order to explain that [sunlight causes surfaces to get warm, and playground surfaces are warmer in the daytime than in the nighttime \(cause and effect; energy and matter\)](#).

Chapter 3: Why are the playgrounds warmer in the afternoon?

Students [obtain information](#) and use models to investigate [how sunlight causes surfaces to get warmer over time \(scale, proportion, and quantity; energy and matter\)](#). Students apply information and results from investigations to [explain why Carver's and Woodland's playgrounds are warmer in the afternoon than in the morning \(cause and effect; patterns\)](#).

Chapter 4: Why is Woodland Elementary School's playground always warmer during recess?

Students [obtain information](#) and [use models](#) to investigate [how color can affect surface temperature in the sunlight \(energy and matter\)](#). They construct explanations through a shared writing and by creating a mini-book to describe that [Woodland's playground is always warmer during recess because its surface is darker than the surface of Carver's playground \(cause and effect\)](#).

Chapter 5: Why does only Woodland Elementary School's playground flood?

Students obtain information from *Tornado! Predicting Severe Weather*, a book about the [impact of severe weather and how to stay safe](#) so they can construct explanations [\(cause and effect\)](#) about why Woodland's playground floods, and Carver's playground does not. Students [investigate by using flooding models, analyze weather data, and apply results to communicate solutions to Woodland's Elementary School, based on the discovery that rain soaks into more permeable surfaces \(cause and effect\)](#).

Lesson Level

Lesson 1.1: What Is the Weather Like Today?

3D Statements: Sunlight and Weather

Key

Practices Disciplinary Core Ideas Crosscutting Concepts

Unit Level

Students use models and collect and analyze data to determine the effect of sunlight on Earth's surfaces. They do this to explain what is causing two school playgrounds to be different temperatures (cause and effect, energy and matter). Students also obtain information and communicate ideas about severe weather and ways to prepare for it (patterns).

Chapter 1: What is the weather like on the playgrounds?

Students obtain information about different types of weather (patterns) and collect, interpret, and analyze temperature data from Carver and Woodland Elementary Schools to help determine that weather is not the cause of temperature differences on the schools' playgrounds (cause and effect; scale, proportion, and quantity).

Lesson 1.1: What Is the Weather Like Today?

Students communicate their initial ideas and obtain information from the book *What Is The Weather Like Today?* about different types of weather (cause and effect). They analyze data from illustrations of weather to describe the effects of weather (cause and effect).



Plan for the day: Part 1

- Introduction and Framing
- NGSS & 3D Learning
- **Phenomenon-based Instruction**
- Unit Internalization
- Additional Resources
- Closing

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)



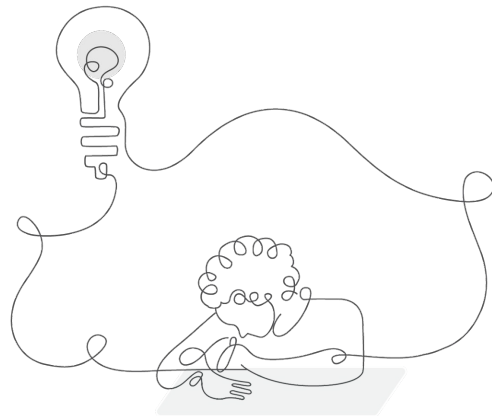
to figuring out
(like a scientist)

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 your unit.





Dear students,

Hello from Carver and Woodland Elementary! We hear that you are learning to be weather scientists, and we have an interesting weather problem for you.

Our schools are in the same area, but our students feel very different temperatures when they go out to the playgrounds during morning and afternoon recess, and it is not always comfortable for them. As principals, we want our students to be happy and comfortable. Hopefully, you can figure out why the two playgrounds get warmer in different ways!

We look forward to hearing from you,

Ms. Hood and Mr. Jenkins

I will show you a picture of the two playgrounds.



Discuss what you notice with a partner.

Carver Playground



Woodland Playground



The principals sent us pictures to describe the temperatures on each playground.

Nighttime 

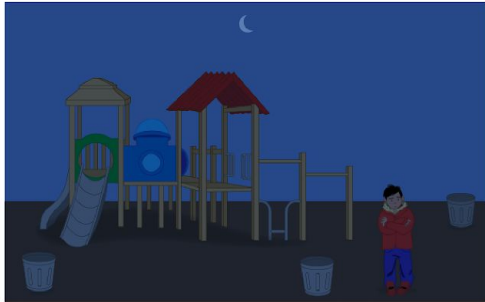
Morning 

Afternoon 

Carver Playground



Woodland Playground



When scientists have a **new problem** to figure out, they think about what **ideas they already have**.

Let's share our ideas about **why** the playgrounds get warmer in different ways.

Amplify Science

Anchoring phenomenon

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



K-5 Navigation structure

Year (each year includes 3–4 units)



Units (each unit includes 3–6 chapters)



Chapters (each chapter includes 2–10 lessons)




Lessons (each lesson includes 2–5 activities)



Let's Go Live!

22 Lessons

Sunlight and Weather

 Printable Teacher Guide ▾

Unit Overview

Chapters


Printable Resources

Planning for the Unit ▾

Teacher References ▾

Offline Preparation

Unit Overview



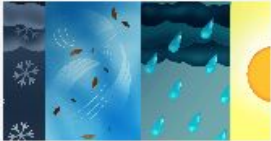
What's in This Unit?

As we experience the weather over a day or a week, it can seem somewhat random. One morning may be rainy and cool, but by afternoon the sun could be shining from a cloudless sky with temperatures being pleasantly warm. The next day's weather could be more of the same, or could bring chillier temperatures and blustery winds. But as we start to think back over the weather over the course of a year, we can often see that some periods are characteristically hot and sunny, while others are cold and snowy. If we travel, we find that the weather that is typical in another part of the world can differ markedly from the weather where we live.

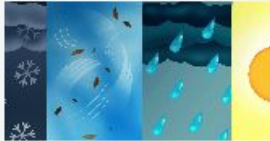
[Read more >](#)

Chapters

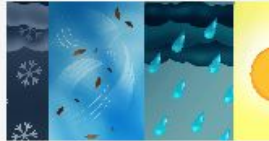
Chapter 1: What is the weather like on the playgrounds? ⓘ



LESSON 1.1
What Is the Weather Like Today?



LESSON 1.2
Introducing Temperature



LESSON 1.3
Pre-Unit Assessment

Unit Level resources

Collection of resources to support planning and day-to-day instruction in the unit:

- Printable Resources
- “Planning for the Unit” documents
- Teacher References

The screenshot displays the Amplify Science website interface. At the top, there's a navigation bar with 'Amplify' logo, 'CURRICULUM', 'CLASSWORK', and 'REPORTING'. Below this, a dark header shows 'Science > Energy Conversions'. The main content area is titled 'Unit Overview' and includes a sidebar with links: 'Unit Overview', 'Chapters', 'Printable Resources', 'Planning for the Unit', 'Teacher References', and 'Offline Preparation'. The 'What's in This Unit?' section contains a paragraph about the electrical system and a 'Read more' link. The 'Chapters' section lists 'Chapter 1: What happened to the electrical system the night of the blackout?'. Below this, six lesson cards are shown: 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, and Lesson 1.6 Writing an Argument About the Blackout. A language selector at the bottom left shows 'English' and 'Español'. An orange speech bubble icon is in the bottom right corner.

Key Unit Documents for Unit Planning

22 Lessons

Sunlight

Printable Teach

Unit Overview

Chapters

Printable Resources

Planning for the Unit

Teacher References

Offline Preparation

Unit Overview

Chapters

Printable Resource

Planning for the Unit

Unit Map

Progress Build

Getting Ready to

Materials and Pre

Science Backgrou

Standards at a Gl

Teacher References

Lesson Overview

Compilation

Standards and Go

3-D Statements

Assessment Syste

Embedded Forma

Assessments

Books in This Unit

Opportunities for

Extensions

Offline Preparation

Printable Resources

3-D Assessment Objectives

Copymaster Compilation

Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds

Multi-Language Glossary

Print Materials (8.5" x 11")

Coherence Flowcharts

Crosscutting Concept Tracker

Investigation Notebook

NGSS Information for Parents and Guardians

Print Materials (11" x 17")

Unit Map

Why are the playgrounds at two schools different temperatures? Why does one playground flood?

The students at Woodland and Carver Elementary schools are not comfortable outside during their recess times. The Carver students are too cold in the morning, and the Woodland students are too hot in the afternoon. The school principals need student weather scientists to help them explain the difference in playground temperatures. Students gather data from models of the sun

Read more

Progress Build

Guided Unit Internalization Planner

Part 1: Unit-level internalization

Unit title:

What is the phenomenon students are investigating in your unit?

1

Unit Question:

2

Student role:

1

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

3

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

4

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:		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?	Student Role:	2 3
Unit Question:	Relationship between the Unit Phenomenon and Unit Question:	4 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

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:

Sunlight and Weather

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?

The school principals of Carver and Woodland Elementary schools need students to explain the difference in the temperatures of the playgrounds. One is too cold in the morning and the other is too hot in the afternoon.

Student Role:

Weather Scientist

Unit Question:

How do sunlight and different types of weather affect places?

Relationship between the Unit Phenomenon and Unit Question:

As students figure out the problem between the two schools, they learn how sunlight and different types of weather affects places, therefore explains the temperature of the playgrounds.

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

Students figure out what causes the differences in temperature on the playground and why one schools' playground is always warmer during recess.

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

Students use models and collect and analyze data to determine the effect of sunlight on Earth's surfaces. They do this to explain what is causing two school playgrounds to be different temperatures (cause and effect, energy and matter). Students also obtain information and communicate ideas about severe weather and ways to prepare for it (patterns).

Questions?





Plan for the day: Part 1

- Introduction and Framing
- NGSS & 3D Learning
- Phenomenon-based Instruction
- Unit Internalization
- **Additional Resources**
- Closing

Student Apps Page

Click on Programs & Apps (waffle)

Scroll down and click on the
“Elementary Student Apps” icon

The screenshot displays the Amplify website interface. At the top, the navigation bar includes the Amplify logo, links for CURRICULUM, CLASSWORK, and REPORTING, and a 'PROGRAMS & APPS' link highlighted with an orange circle. The user is logged in as 'NATIONALSCI200 TEACHER'. The main content area is titled 'Science' and shows a dropdown menu for 'Program: 4th Grade Science Eng/Esp'. Below this, a 'Units' section features two cards: 'Energy Conversions' (22 Lessons) and 'Vision and Light' (22 Lessons). An inset window shows a grid of resources categorized into 'Tools' and 'Other Resources'. In the 'Tools' section, the 'Elementary Student Apps' icon is circled in orange. Other icons include Rock Transformations Sim, Scale Tool, Sound Waves Sim, Thermal Energy Sim, Traits and Reproduction Sim, Vision and Light Sim, Weather Patterns Sim, Admin Portal, Classwork, Library, My Account, and Science Reporting. The 'Other Resources' section includes Benchmark Assessments, CA Science Program Guide, CA Science Program Guide, Help, Science Program Guide, and Science Program Hub.

Amplify CURRICULUM CLASSWORK REPORTING PROGRAMS & APPS NATIONALSCI200 TEACHER

Science

Units Program: 4th Grade Science Eng/Esp

AmplifyScience

Units

Energy Conversions
22 Lessons

Vision and Light
22 Lessons

Rock Transformations Sim

Scale Tool

Sound Waves Sim

Thermal Energy Sim

Traits and Reproduction Sim

Vision and Light Sim

Weather Patterns Sim

Tools

Admin Portal

Classwork

Elementary Student Apps

Library

My Account

Science Reporting

Other Resources

Benchmark Assessments

CA Science Program Guide

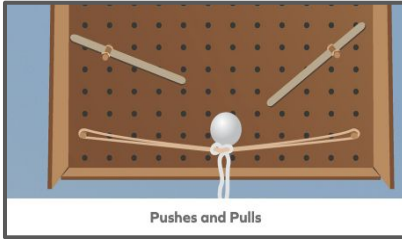
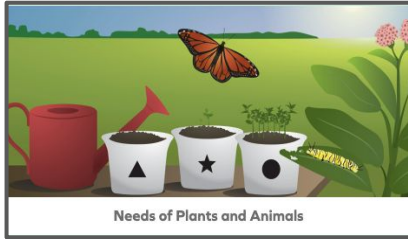
CA Science Program Guide

Help

Science Program Guide

Science Program Hub

Student Apps page



californiasci17 Teacher

BACK

Sunlight and

 Student Books

1

Cool People in Hot Places

2

Getting Warm in the Sunlight

3

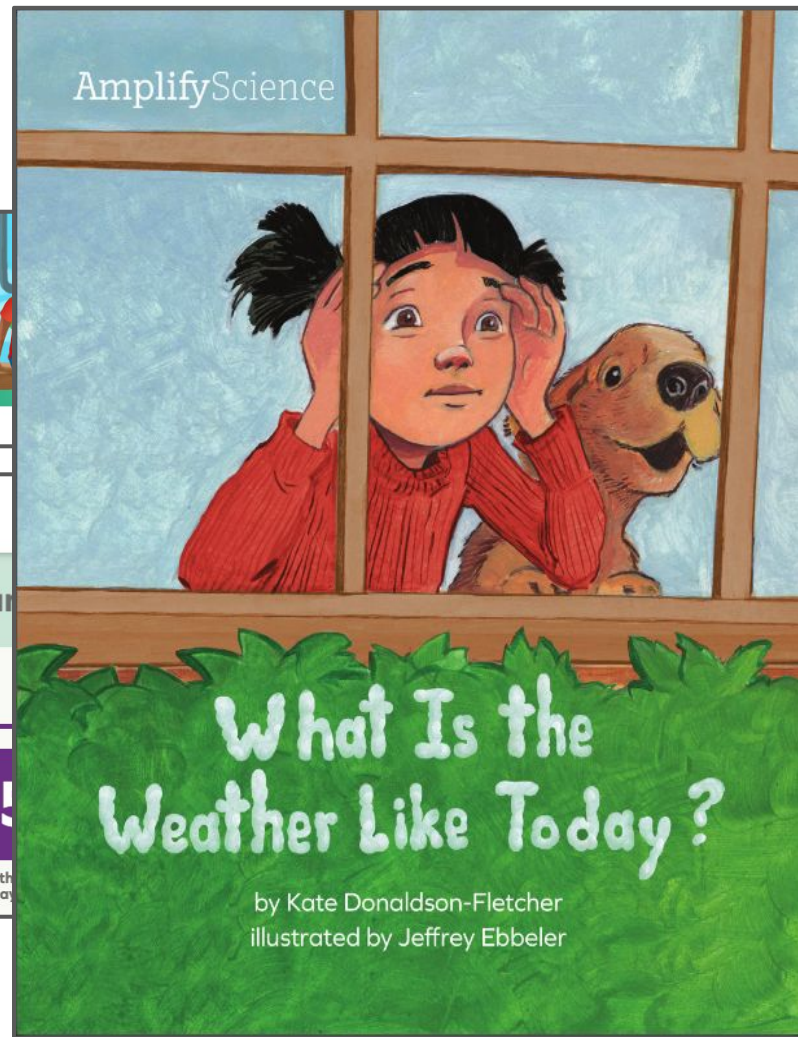
Handbook of Models

4

Tornado! Predicting Severe Weather

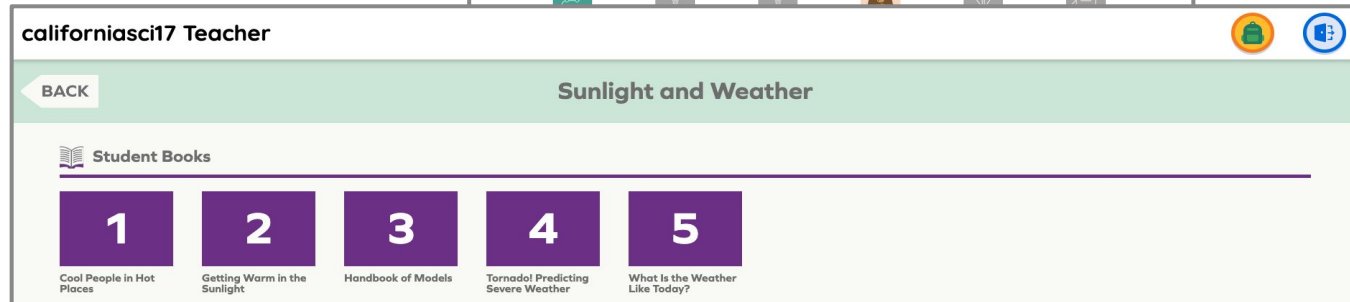
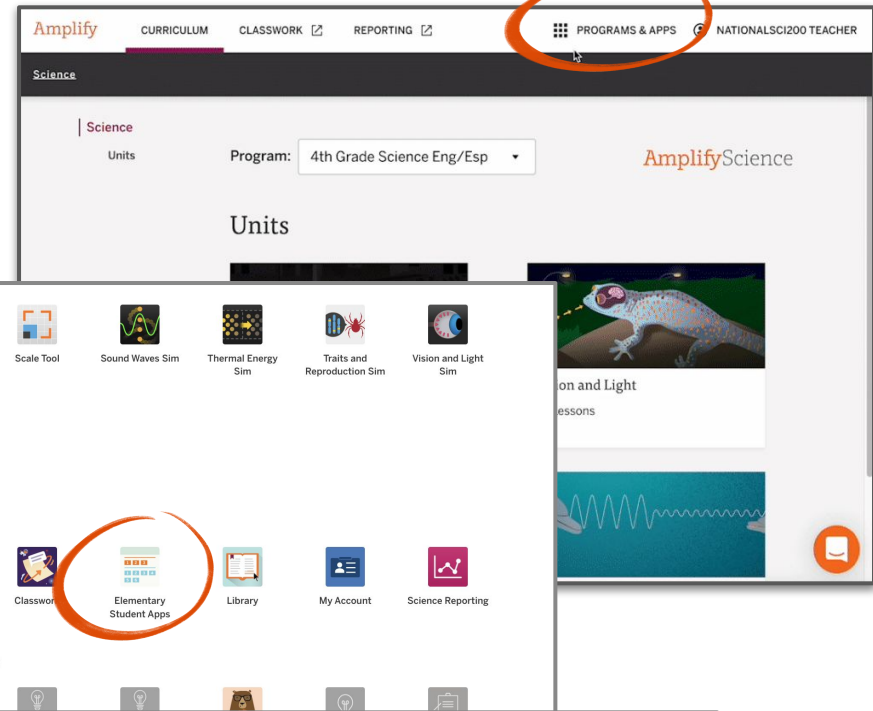
5

What Is the Weather Like Today?



Explore the Student Apps Page

Familiarize yourself with the digital books on the Student Apps Page.



Program Hub

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

WORK REPORTING PROGRAMS & APPS CALIFORNIA SCIENCE 17 TEACHER

Sunlight and Weather

22 Lessons

Printable Teacher Guide

Unit Overview

What's in This Unit?

As we experience the weather over a day or a week, it can seem somewhat random. One morning may be rainy and cool, but by afternoon the sun could be shining from a cloudless sky with temperatures being pleasantly warm. The next day's weather could be more of the same, or could bring chillier temperatures and blustery winds. But as we start to think back over the weather over the course of a year, we can often see that some periods are characteristically hot and sunny, while others are cold and snowy. If we travel, we find that the weather that is typical in another part of the world can differ markedly from the weather where we live.

[Read more](#)

Chapters

Chapter 1: What is the weather like on the playgrounds?

LESSON 1.1 LESSON 1.2 LESSON 1.3

PROGRAMS & APPS

Tools

Weather Patterns Sim

Admin Portal Administrator Reports Classwork Elementary Student Apps Library My Account

Science Reporting

Other Resources

Benchmark Assessments CA Science Program Guide CA Science Program Guide Help Science Program Guide Science Program Hub

Welcome Science Educators!

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

On-demand resources

Learn more about how to use On-demand resources.

Professional Learning Resources

Let's get started!

Additional Unit Materials

Additional resources to complement the Amplify Science program

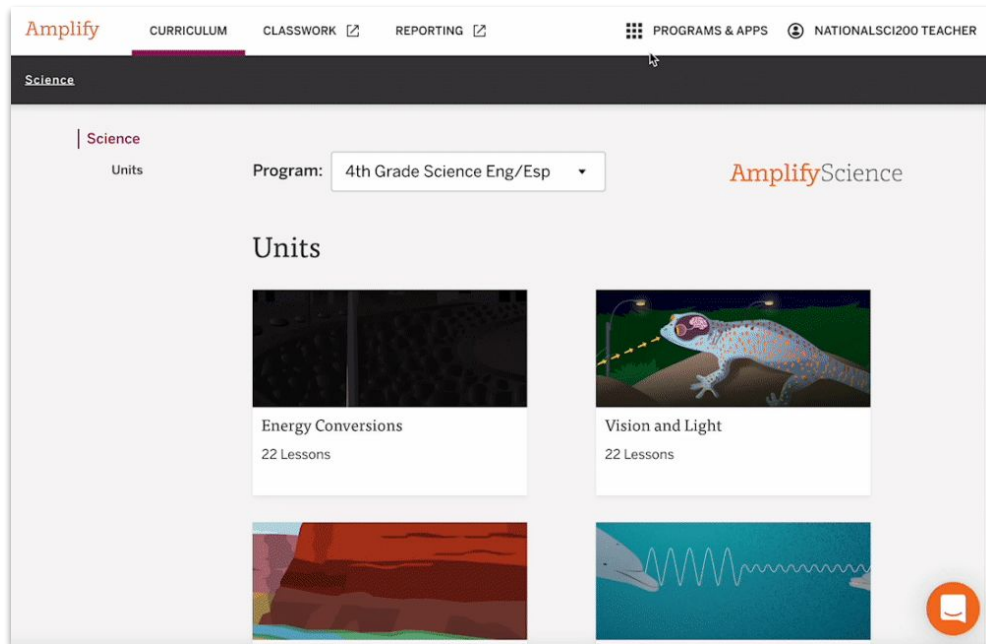
PD Library

Video collection to learn about your Amplify program

Explore the Program Hub

Familiarize yourself with the Program Hub.

Be ready to share one resource you've found that you'll use while planning and teaching.



Additional resources

Welcome, caregivers!

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

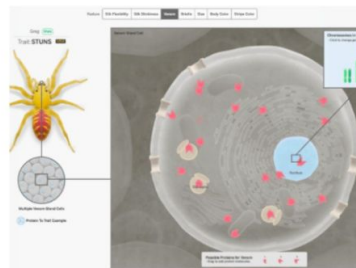
[Para acceder a este sitio en español haga clic aquí.](#)

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](#)



Grades 6-8



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!



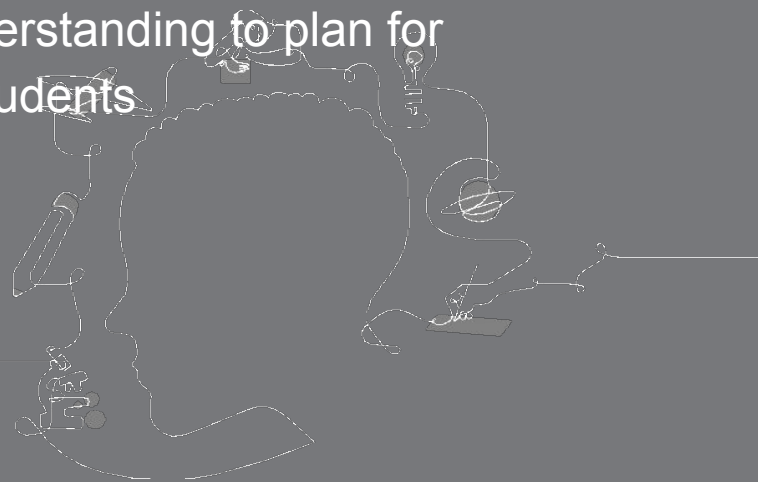


Plan for the day: Part 1

- Introduction and Framing
- NGSS & 3D Learning
- Phenomenon-based Instruction
- Unit Internalization
- Additional Resources
- Closing

Overarching goals

- ✓ Explain how students engage in phenomenon based and 3D learning to construct an understanding of the science concepts introduced in the unit *Sunlight and Weather*
- ✓ Internalize the unit and apply your new understanding to plan for the diverse needs of your classroom and students



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 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.



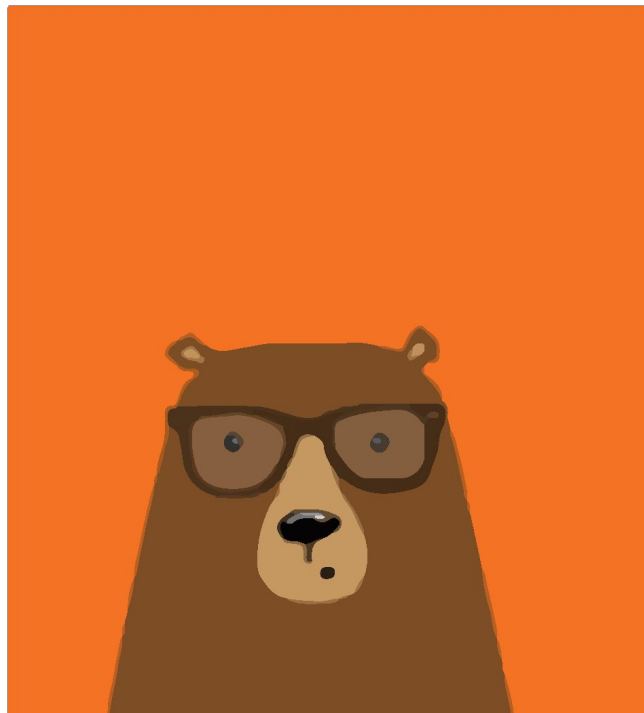
help@amplify.com



800-823-1969



Amplify Chat



Please provide feedback!

Presenter name:

Workshop title:

Part 1: Unit 3 Internalization

Part 2: Guided Planning (Planning for a Lesson)

Modality:

Remote

Welcome to Amplify Science!

or use Demo Account

1. Go to **learning.amplify.com**
2. Select **Log in with Amplify**
3. If you're already logged in with other Google accounts, click **Use another account**
4. Enter teacher demo account credentials
 - xxxxxxxx@pd.tryamplify.net
 - Password: xxxx
5. Explore as we wait to begin

Do Now: Log in through your Schoology account

Welcome to **Amplify**

G

Log In with Google

C

Log In with Clever

A.

Log In with Amplify



SSO login

Amplify Science

Unit Internalization / Guided Planning

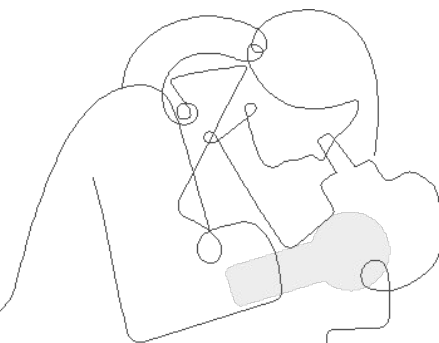
Grade K Unit 3: Sunlight and Weather

Part 2

School/District Name: LAUSD

Date:

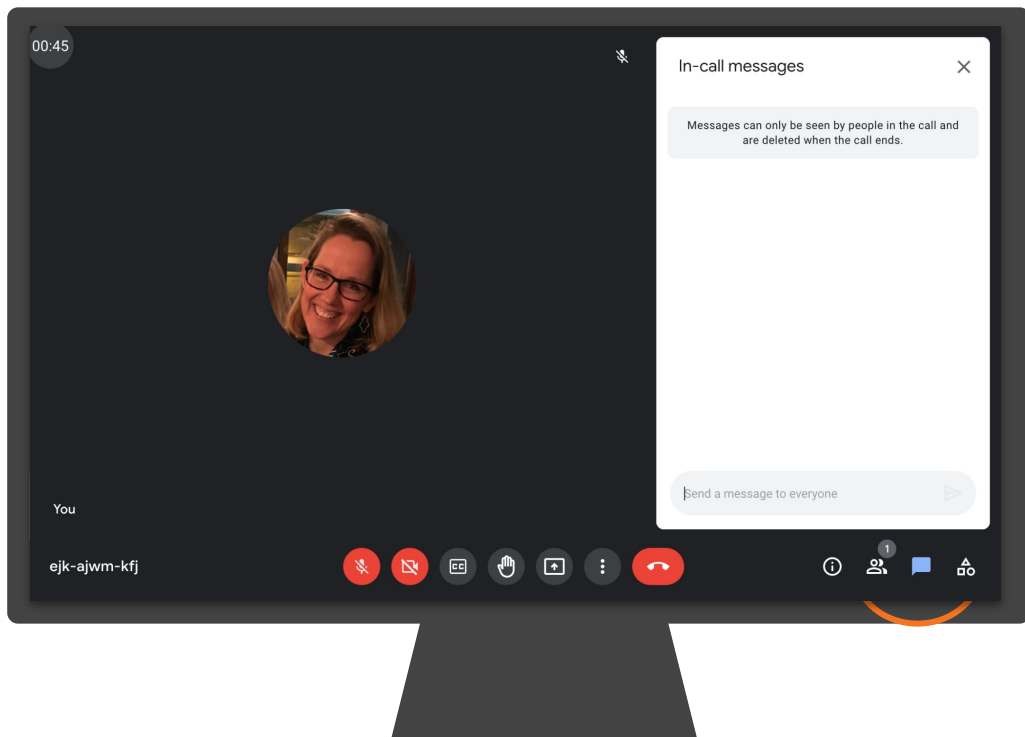
Presented by:



Ice Breaker!

Who do we have in the room today?

- **Question:** Now that we have gone through Part 1, which aspects of Amplify Science do you feel more comfortable with or have a greater understanding of?



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



Please keep your camera on, if possible.

Take some time to orient yourself to the platform

- *"Where's the chat box? What are these squares at the top of my screen?, where's the mute button?"*



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



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

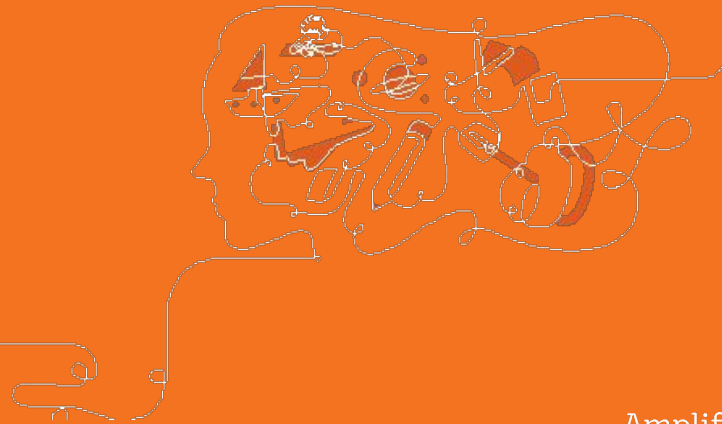


Make sure you have a note-catcher present



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

Part 2: Guided Planning

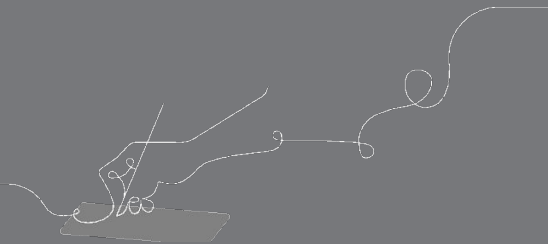


Overarching goals

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

- ❑ Describe what teaching and learning look like in Amplify Science.
- ❑ Prepare to teach using Amplify Science resources.

e





Plan for the day: Part 2

- Teaching and Learning in an Amplify Science Lesson
- Instructional Approach Reflection
- Planning a Lesson
- Closing

Amplify Science Approach



Sunlight and Weather

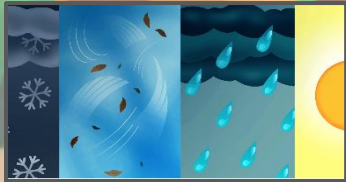


Problem: Students at Carver Elementary School are too cold during morning recess, while students at Woodland elementary School are too hot during afternoon recess.

Role: Weather Scientists

Sunlight and Weather

Coherent Storylines



What is the weather like on the playgrounds?



Why do the playgrounds get warm?



Why are the playgrounds warmer in the afternoon?



Why is Woodland Elementary School's playground always warmer during recess?



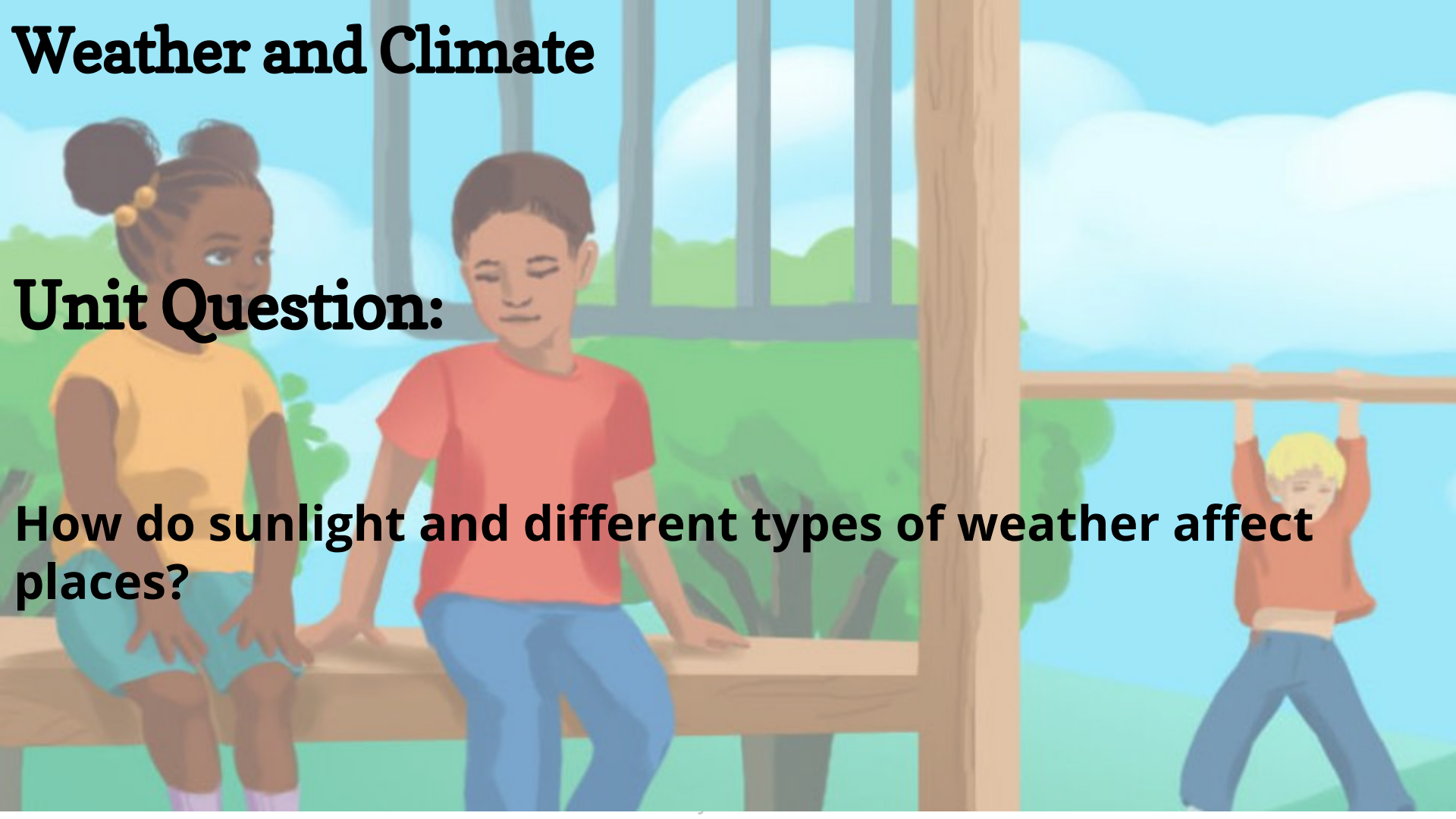
Why does only Woodland Elementary School's playground flood?



Weather and Climate

Unit Question:

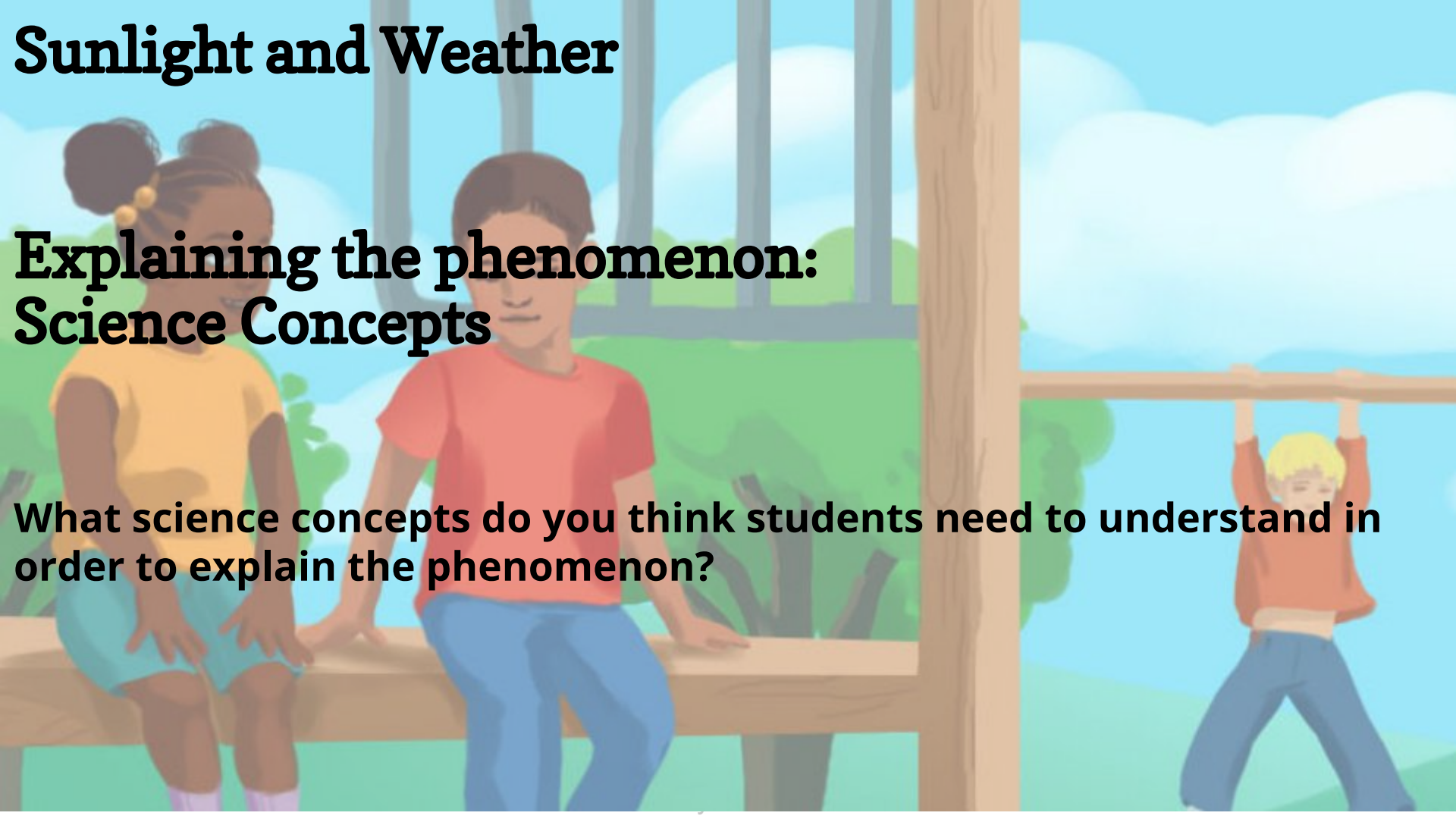
How do sunlight and different types of weather affect places?



Sunlight and Weather

Explaining the phenomenon: Science Concepts

What science concepts do you think students need to understand in order to explain the phenomenon?



Sunlight and Weather: Progress Build

Assumed prior knowledge (preconceptions): Students are assumed to be generally aware that the sun is in the sky during the daytime. They may have some experience with different aspects of weather and have some experiences with touching or walking on surfaces that are very hot due to sunlight and/or darker colors.

Level 3

If the surface is a dark color, it will get warmer than a surface that is a pale color when sunlight shines on it.

Level 2

The longer that sunlight shines on the surface, the warmer it gets.

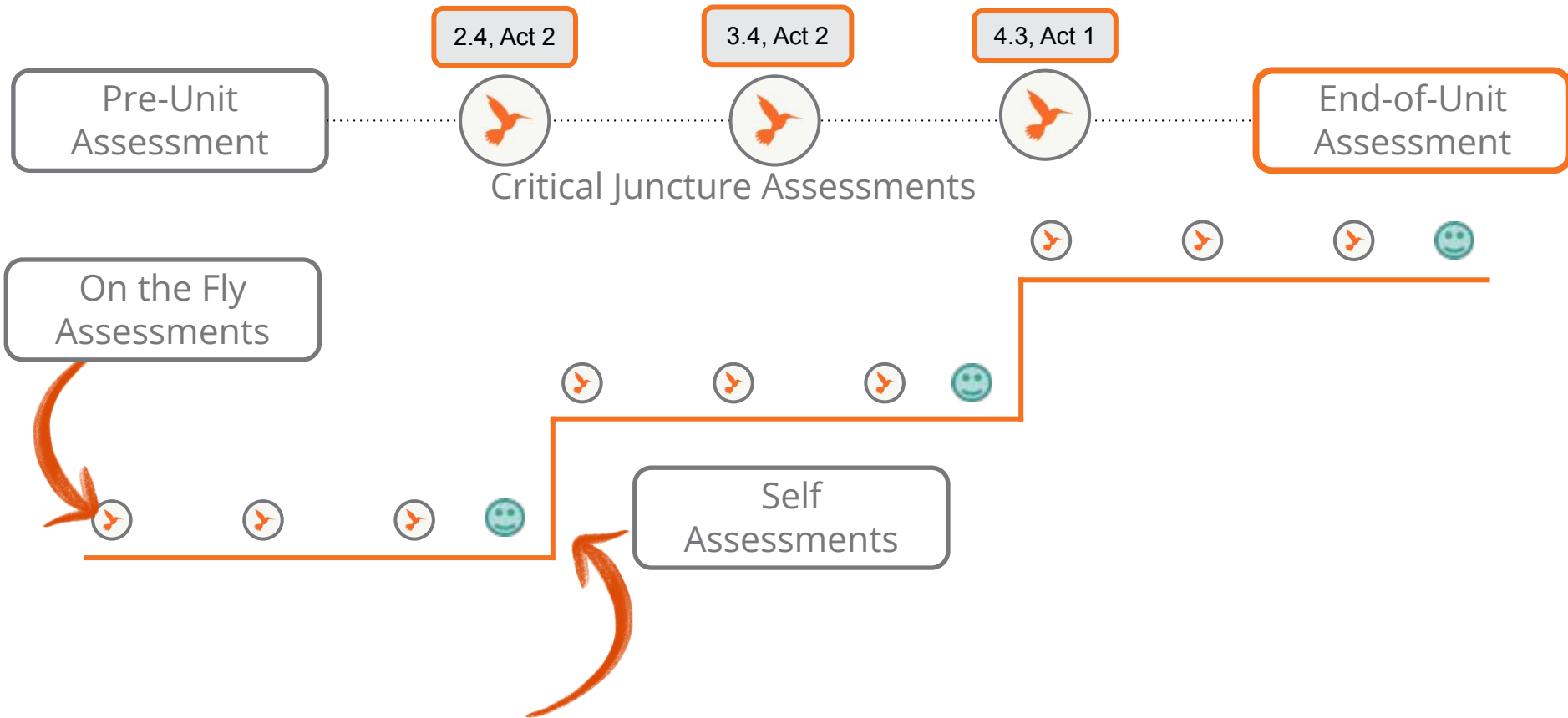
Level 1

When light from the sun shines on a surface, the surface gets warmer.

Prior knowledge

Deep, causal understanding

K-5 Assessment System




Beginning the Unit

The first lesson of every Unit is a pre-unit assessment.

22 Lessons

Sunlight and Weather

 Printable Teacher Guide ▾

Unit Overview

Chapters

Printable Resources

Planning for the Unit ▾

- 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
- Opportunities for Unit Extensions

Offline Preparation

Unit Overview

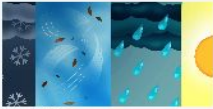
What's in This Unit?

As we experience the weather over a day or a week, it can seem somewhat random. One morning may be rainy and cool, but by afternoon the sun could be shining from a cloudless sky with temperatures being pleasantly warm. The next day's weather could be more of the same, or could bring chillier temperatures and blustery winds. But as we start to think back over the weather over the course of a year, we can often see that some periods are characteristically hot and sunny, while others are cold and snowy. If we travel, we find that the weather that is typical in another part of the world can differ markedly from the weather where we live.


Read more >

Chapters

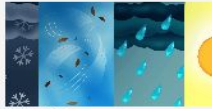
Chapter 1: What is the weather like on the playgrounds? ⓘ



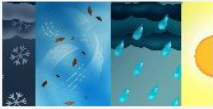
LESSON 1.1
What Is the Weather Like Today?



LESSON 1.2
Introducing Temperature



LESSON 1.3
Pre-Unit Assessment



LESSON 1.4
Weather and the Playgrounds

Changing Landforms Family Connections Homework

Lesson 1.1: What Is the Weather Like Today?

Printable Lesson Guide

HANDS ON
Introducing Think and Walk

4

TEACHER-LED DISCUSSION
Recording New Ideas

RESET LESSON

Overview
Materials &
Preparation
Differentiation
Standards
Vocabulary

Overview

Students are introduced to the unit, *Sunlight and Weather*. The teacher introduces students' role as weather scientists and poses the Unit Question—*How do sunlight and different types of weather affect places?*—that frames the work students will do throughout the unit. Partners use the Shared Listening routine to discuss their ideas about how to describe weather. The teacher then introduces the strategy of making and checking predictions and reads aloud the first half of *What Is the Weather Like Today?* Students participate in a Think and Walk activity to match photographs of different types of weather to corresponding illustrations and then learn the Weather Types movement routine. The teacher introduces the What We Know About Weather chart as a place to record what students learn throughout the unit. The purpose of this lesson is to provide students with an introduction to different types of weather and to their role as weather scientists in order to motivate their learning about sunlight and weather throughout the unit.

Unit Anchor Phenomenon: Students at Carver Elementary School are too cold during morning recess, while students at Woodland Elementary School are too hot during afternoon recess.

Digital Resources

- Classroom Slides 1.1 | PowerPoint
- Classroom Slides 1.1 | Google Slides
- All Projections
- What We Know About Weather chart (Completed)
- Investigation Notebook
- Questioning Strategies for Grades K-1
- Sunlight and Weather Family Connections Letter
- Crosscutting Concept Tracker
- Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds

Sunlight and Weather Family Connections Letter

Dear Families,

In science class, we are working as weather scientists to figure out why the playgrounds at two schools are different temperatures during recess. We'll be working to answer the question, *How do sunlight and different types of weather affect places?*

Sharing some of your own ideas, connections, expertise, or stories related to what we will be learning about can help prepare students for their work in science class. It can help students see that what we study in science is connected to their lives, families, and communities.

Use the following questions to think about your personal connections to students' science learning, then share them with your student.

- What does our work in science make you think of?
- Do you have any memories, stories, or experiences about something related to what we will be investigating?
- What have you heard or learned about these topics?
- What do you wonder?

Beginning the Unit

We will be looking at
Chapter 1, Lesson 2
for our model lesson.

22 Lessons

Sunlight and Weather

Printable Teacher Guide

Unit Overview

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Printable Resources

Planning for the Unit ^

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3-D Statements

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Unit Overview

What's in This Unit?

As we experience the weather over a day or a week, it can seem somewhat random. One morning may be rainy and cool, but by afternoon the sun could be shining from a cloudless sky with temperatures being pleasantly warm. The next day's weather could be more of the same, or could bring chillier temperatures and blustery winds. But as we start to think back over the weather over the course of a year, we can often see that some periods are characteristically hot and sunny, while others are cold and snowy. If we travel, we find that the weather that is typical in another part of the world can differ markedly from the weather where we live.

Read more >

Chapters

Chapter 1: What is the weather like on the playgrounds? ⓘ

LESSON 1.1

What Is the Weather Like Today?

LESSON 1.2

Introducing Temperature

LESSON 1.3

Pre-Unit Assessment

LESSON 1.4

Weather and the Playgrounds



Grade K | Sunlight and Weather

Lesson 1.2: Introducing Temperature

Activity 1

Observing Local Weather



What We Know About Weather

Types of Weather



sunny



cloudy



rainy



windy



snowy

Last time, we found out that we are learning to be weather scientists.



What have we found out about **weather** so far?

We have found out that weather is _____.

Weather Observations

Step 1

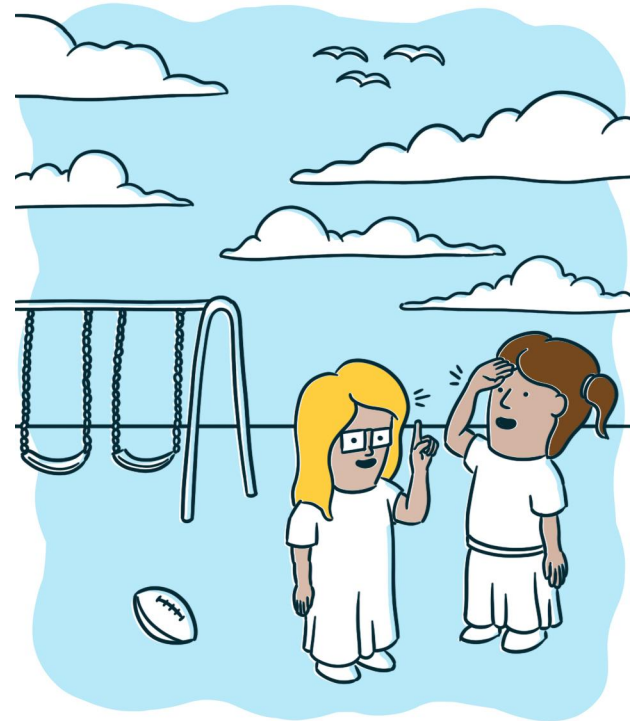
Go outside.

Step 2

Look up at the sky. **Discuss the weather** with your partner.

Step 3

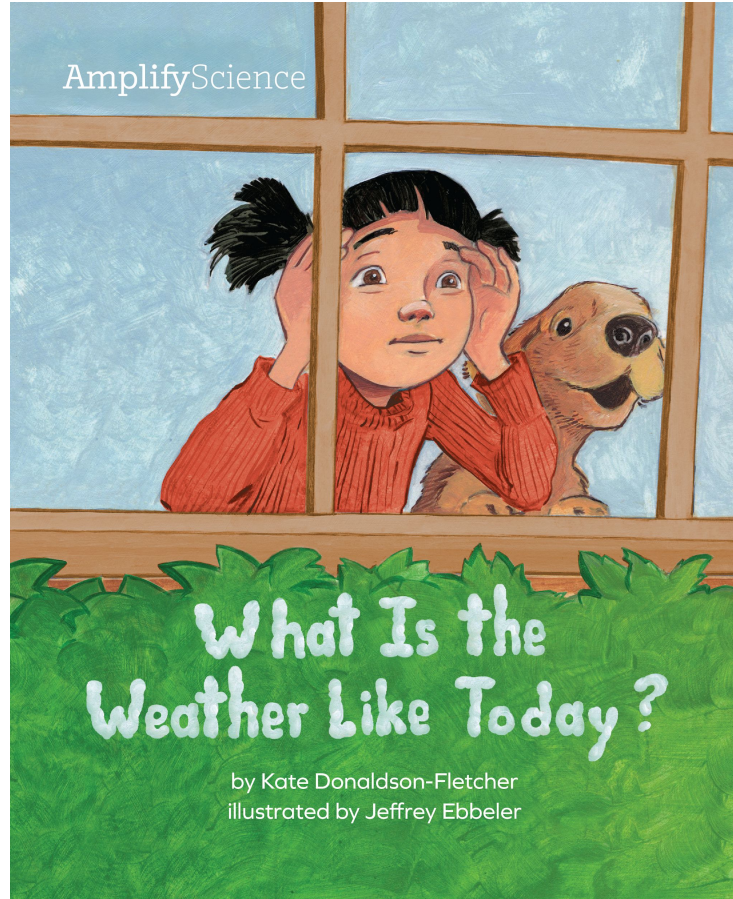
Tell your partner **how hot or cold it is today.**



Activity 2

Revisiting What Is the Weather Like Today?





What did we **learn** from this book in the last lesson?

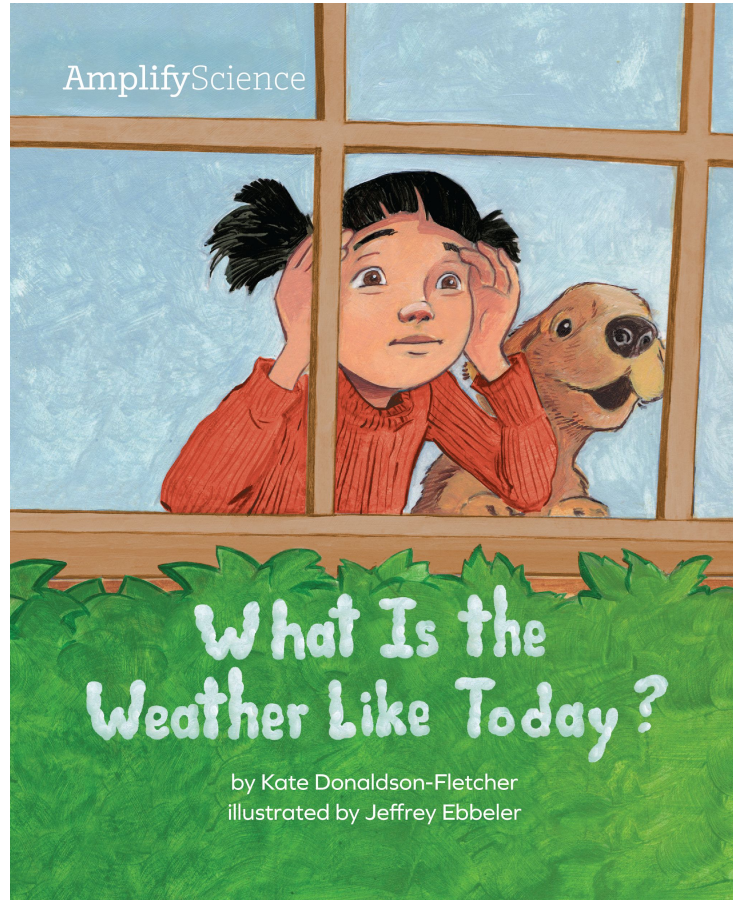
We learned that _____.

Vocabulary



temperature

how hot or cold something is



We will read the second half of this book to figure out how we can **describe temperature**.



After breakfast, I am dressed and ready to go to school, but I have another question.

Every day before I leave for school, I always ask, "What is the **temperature** today?"

Days can be different temperatures. For example, the temperature can be cold, cool, warm, or hot.



I open the door and step out on the porch.

Brrr! I am glad I have my coat and hat.

What is the temperature today?



The temperature today is cold.

The air feels like the inside of my refrigerator! On cold days, I like to puff air out and form little clouds with my breath.



Today is a little warmer than before. I am going to leave my hat at home, but I still need to wear my coat.

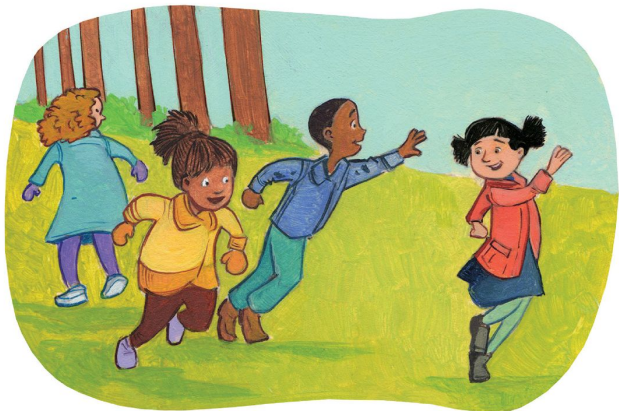
What is the temperature today?



I can make a prediction.

The girl said it is a bit warmer than the cold day.

She does not need a hat, but she needs a coat.



The temperature today is cool.

On cool days, I like to run around on the playground to stay warm. If I stand still, I feel too cold! I need to ask my teacher to help me zip up my coat again.



I don't need a coat today! I am going to school wearing my favorite sweatshirt.

What is the temperature today?



I don't need a coat today! I am going to school wearing my favorite sweatshirt.

What is the temperature today?



What do you **predict** the temperature is?

I predict that the temperature is _____.





The temperature today is warm.

On warm days, I like to play in the **shade** of the big oak tree on our playground. We pretend that the branches are the roof of our house.

!0

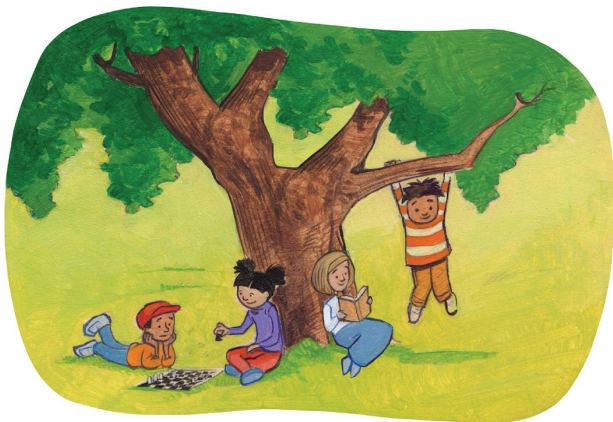
Let's read the page together to check your predictions.



What did we find out from reading?

We found out that _____.

Did your prediction match what we read?



The temperature today is warm.

On warm days, I like to play in the **shade** of the big oak tree on our playground. We pretend that the branches are the roof of our house.



Today I don't even need long sleeves! I'm wearing shorts and a T-shirt. I even put on my sandals.

What is the temperature today?



The temperature today is hot.

On hot days, I like to lie around in the shade of the oak tree. I look at shadows and sunlight on the leaves above me.



The weather where I live can be different on different days. The weather can be sunny, cloudy, windy, rainy, or snowy. Temperature is part of weather, too. The temperature can be cold, cool, warm, or hot. I wonder what the weather will be like tomorrow.

What is the weather like where you are today? What is the temperature where you are today?



We have four new words to describe different temperatures.



What are our new temperature words?

Our new temperature words are _____, _____, _____, and _____.



Which word would you use to describe the temperature outside today, and why?

I would use the word _____ to describe the temperature outside today.

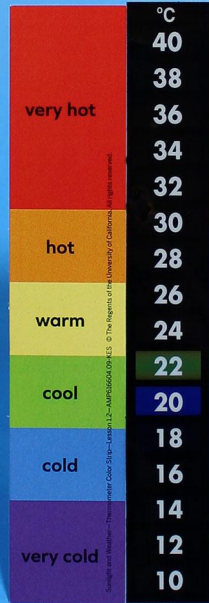
Activity 3

Measuring Temperature



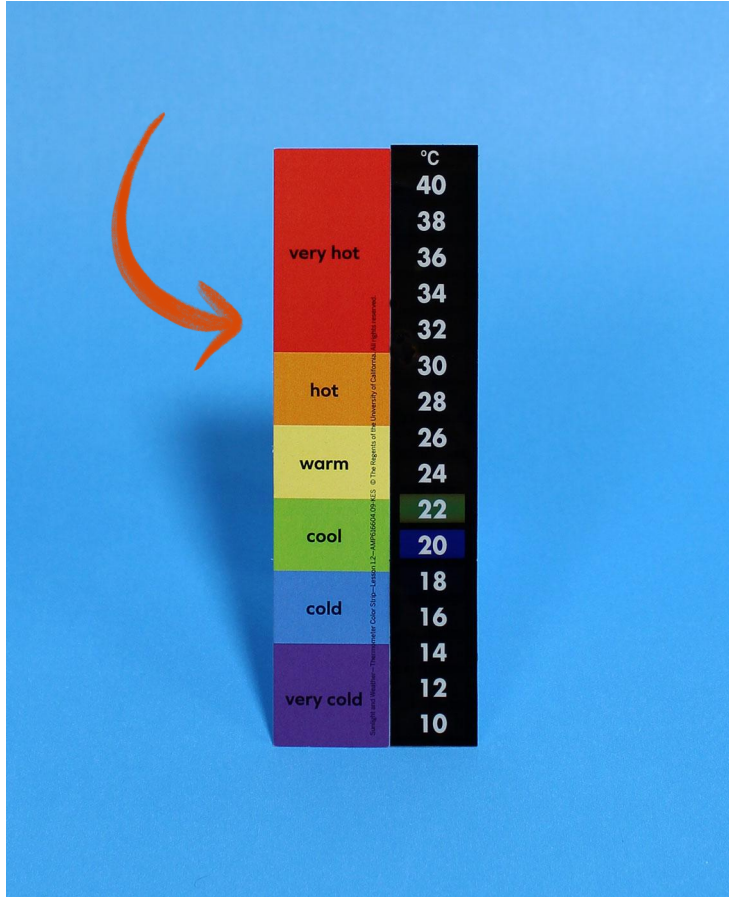


Describing the temperature can be challenging. People do not always agree.



Scientists use **tools** to help them measure and describe things.

This tool is called a **thermometer**. Scientists use it to **measure and describe temperature**.



The **colors** on the thermometers will help us tell **what temperature something is**.



There are also **numbers** on the thermometer. The numbers change color.

We will pay attention to the **colors**.

I will show you how.



Today we will use **thermometers** to measure the temperature of water in two cups.

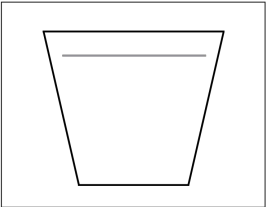
We will **make predictions** before we measure.

Name: _____ Date: _____

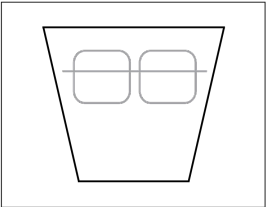
What Is the Temperature?

Directions:

- 1. Make a prediction.
- 2. Use the thermometer to measure the temperature of each cup.
- 3. Next to each cup, color in the temperature that you measured.



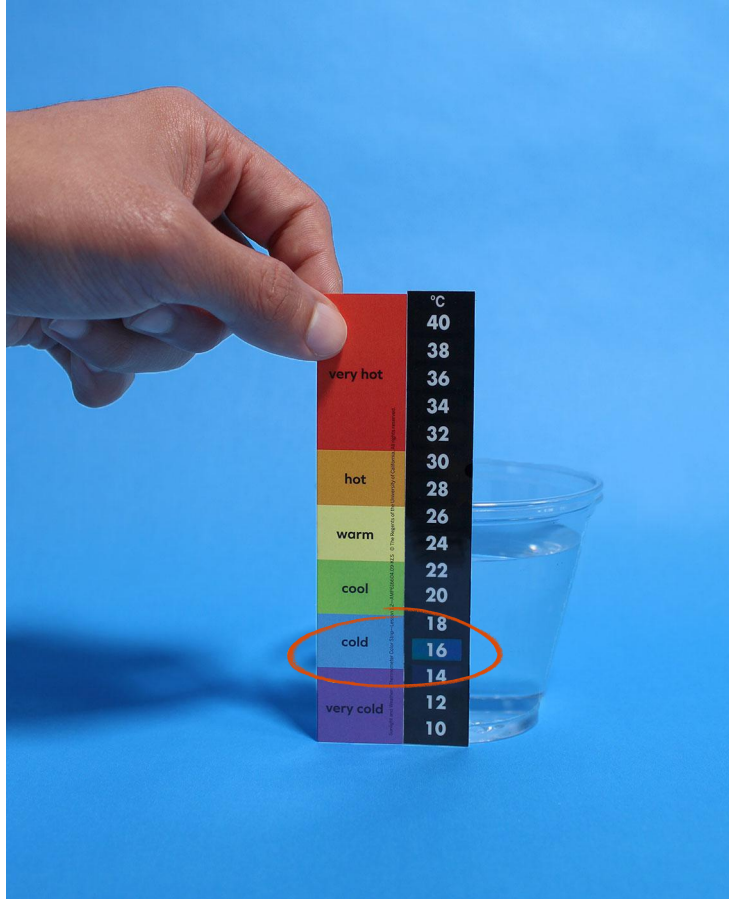
very hot
hot
warm
cool
cold
very cold



very hot
hot
warm
cool
cold
very cold

We will follow the directions on the notebook page.

First, we will **make a prediction.**



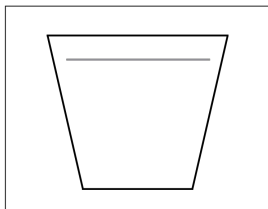
Then, we will **measure the temperature** of each cup.

Name: _____ Date: _____

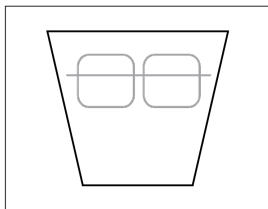
What Is the Temperature?

Directions:

1. Make a prediction.
2. Use the thermometer to measure the temperature of each cup.
3. Next to each cup, color in the temperature that you measured.



very hot
hot
warm
cool
cold
very cold



very hot
hot
warm
cool
cold
very cold

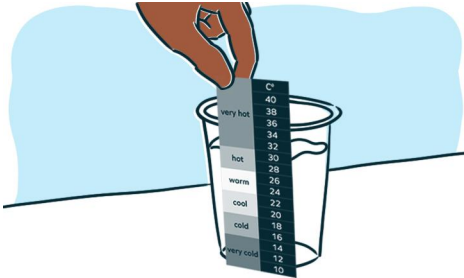
You will **color in** the temperature you see on the thermometer.

Then, you will **check** your prediction.

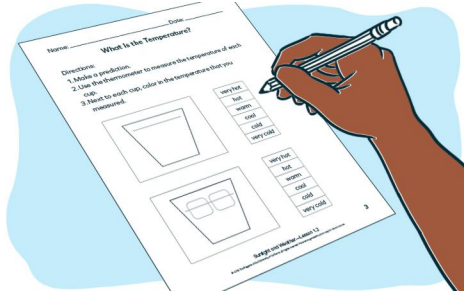
What Is the Temperature?



1.
Make a prediction.



2.
Measure the temperature.



3.
Record the temperature.

Activity 4

Recording Ideas About Temperature





What did we learn from the book and the cup investigation to help us describe how **hot** or **cold** it is outside?

We learned that _____.

What We Know About Weather

Types of Weather



sunny



cloudy



rainy



windy



snowy

Last time, we recorded what we learned about **different** types of **weather**.

Now we know **temperature** is a part of weather, too.

What We Know About Weather

Types of Weather

Temperature



sunny



cloudy



rainy



windy



snowy

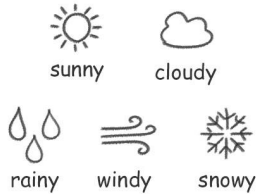


How can we show what we have learned about **temperature**?

We can show what we learned about temperature by

What We Know About Weather

Types of Weather



Temperature

very hot
hot
warm
cool
cold
very cold

Now we know that **temperature** is another part of describing weather.

Key Concept

Weather can be sunny, cloudy, windy, rainy,
snowy, and different temperatures.

Vocabulary



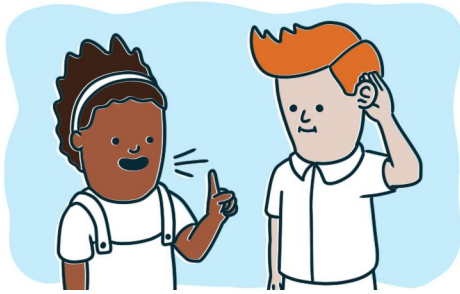
weather

what is happening outside with the air and sky and
temperature

Let's think about the **new ideas** we have learned.

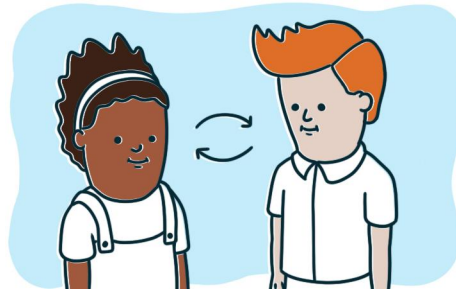
We have new ideas about **types of weather** and about **temperature**.

Self-Assessment: Share a new idea you learned.



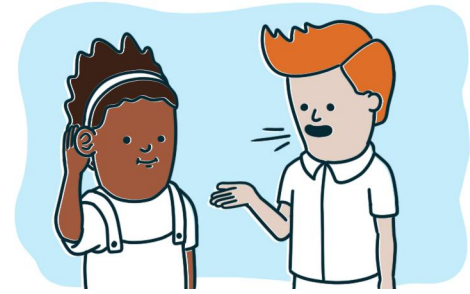
1.

Partner A shares.
Partner B listens.



2.

Partners switch.



3.

Partner B shares.
Partner A listens.

End of Lesson



THE LAWRENCE
HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

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Gathering evidence

Sunlight and Weather, 1.2

What is the weather like on the playgrounds?

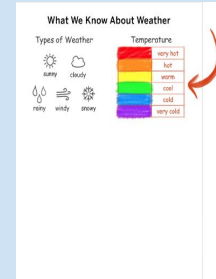
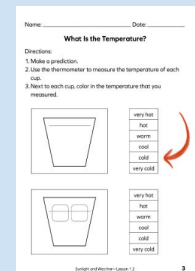
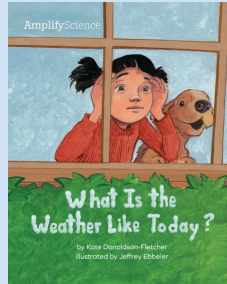
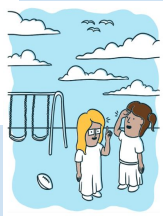
How do we describe weather?

Weather Observations

Step 1
Go outside.

Step 2
Look up at the sky. Discuss the weather with your partner.

Step 3
Tell your partner how hot or cold it is today.



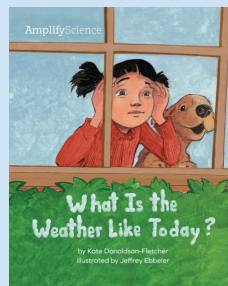
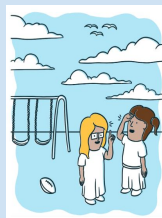
What have students figured out so far?

Evidence sources work together

Investigating and discussing observations

How do these activities **work together** to support understanding of what we can see in the sky at different times?

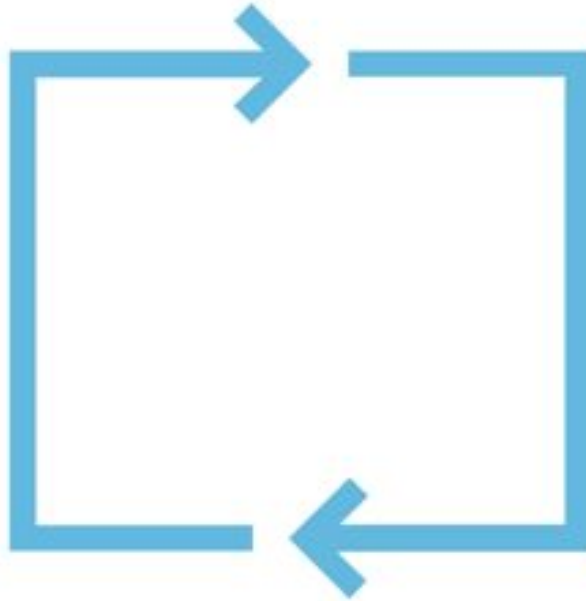
Investigation Question: How do we describe weather?



What We Know About Weather	
Types of Weather	Temperature
sunny	very hot
cloudy	hot
warm	warm
cool	cool
cold	cold
very cold	very cold

Multimodal learning

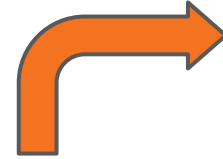
Gathering evidence over multiple lessons



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

Evidence sources work together

Teacher tip: Every evidence source plays an important role in student learning. Be sure to teach every activity in order!



What We Know About Weather

Types of Weather

☀️ sunny	☁️ cloudy
💧 rainy	💨 windy
⚡️ stormy	

Temperature

red	very hot
orange	hot
yellow	warm
green	cool
blue	cold
purple	very cold



Name: _____ Date: _____

What Is the Temperature?

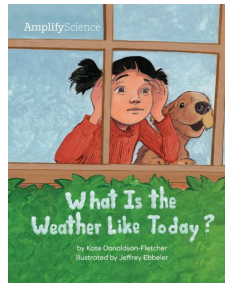
Directions:

1. Make a prediction.
2. Use the thermometer to measure the temperature of each cup.
3. Next to each cup, color in the temperature that you measured.

very hot
hot
warm
cool
cold
very cold

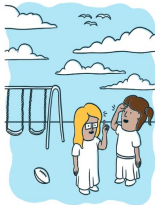
very hot
hot
warm
cool
cold
very cold

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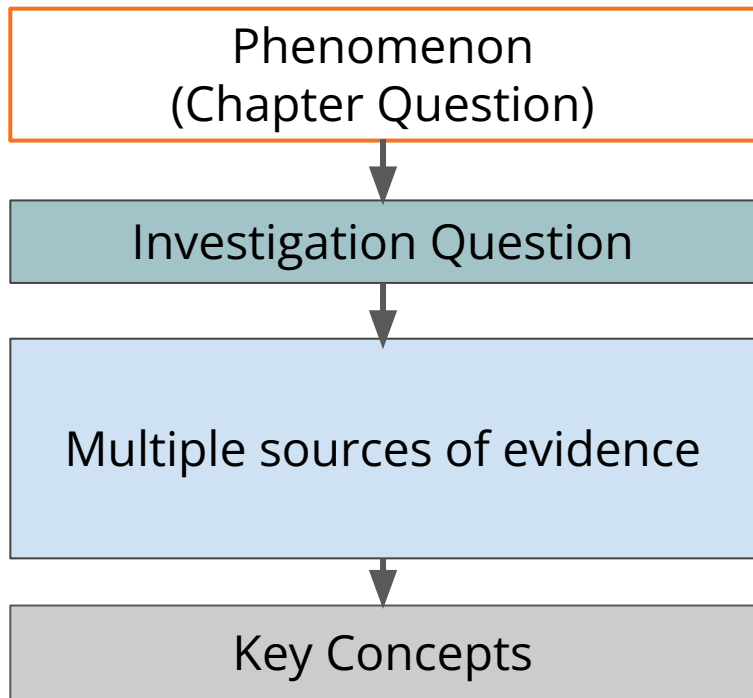
Weather Observations

- Step 1**
Go outside.
- Step 2**
Look up at the sky. Discuss the weather with your partner.
- Step 3**
Tell your partner how hot or cold it is today.



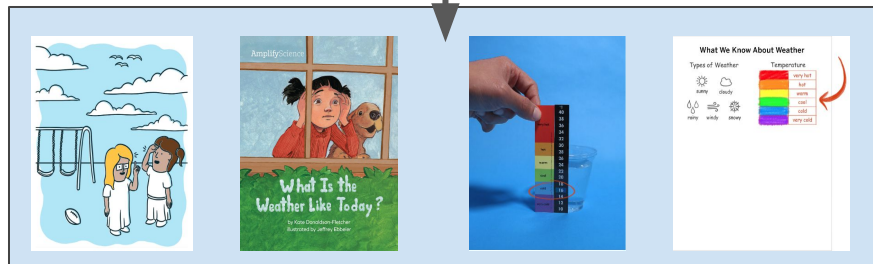
Coherence Flowchart

A diagram of student learning



Chapter Question: How did the edge of the cliff get to be so close to the flagpole?

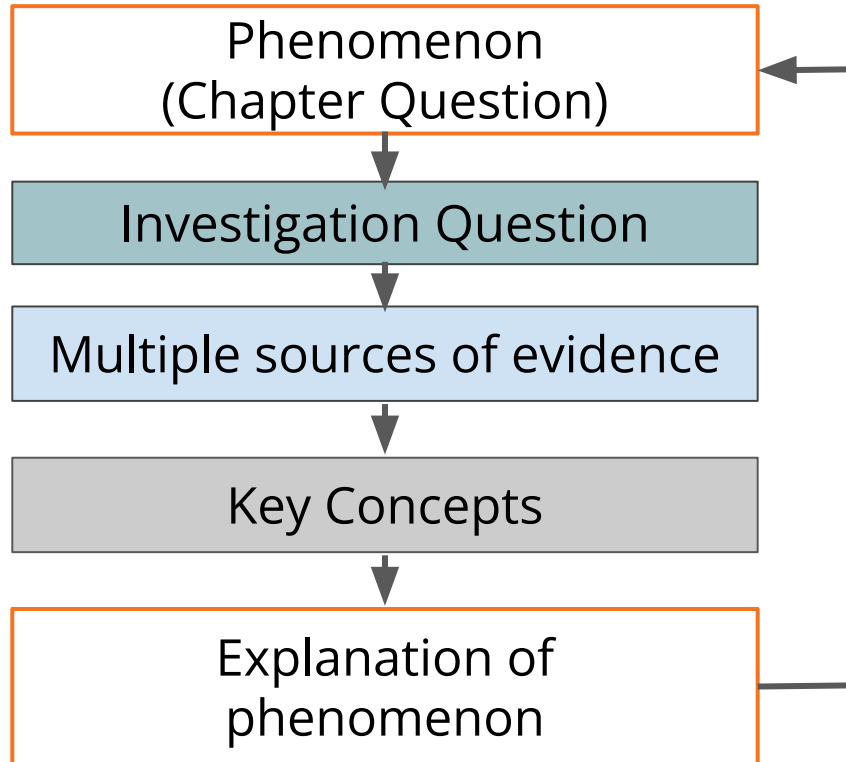
Investigation Question: What are landforms made of? (1.2)



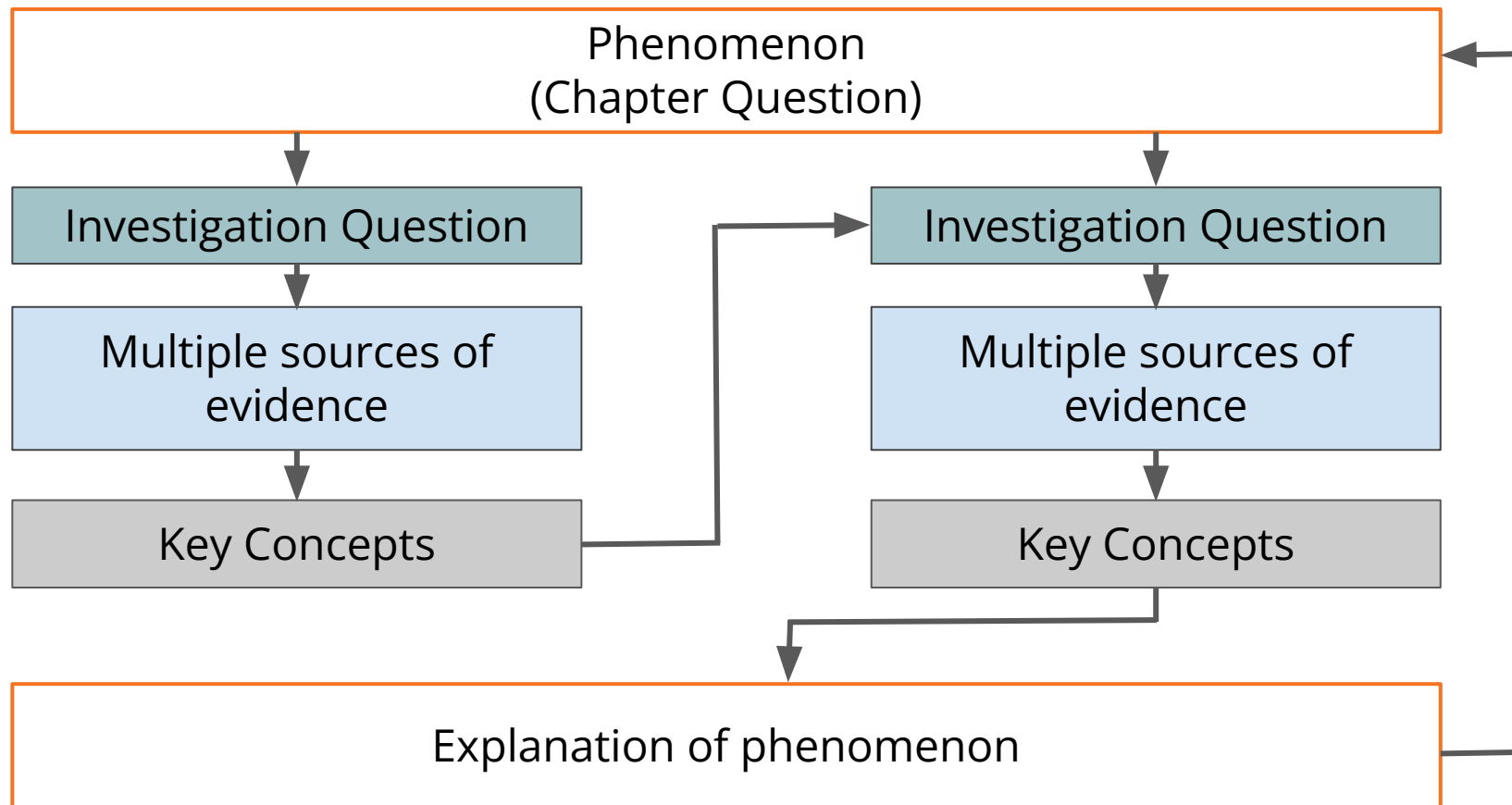
Students figure out: Landforms are made of rock. (1.2)

Coherence Flowchart

A diagram of student learning



Coherence Flowchart



**Unit Anchor
Phenomenon**

*Problem students
work to solve*

**Chapter-level Anchor
Phenomenon
Chapter 1 Question****Investigation
Questions****Evidence sources
and reflection
opportunities****Key concepts****Application of key
concepts to problem****Explanation that
students can make
to answer the
Chapter 1 Question**

Sunlight and Weather: Solving Playground Problems

Students at Carver Elementary School are too cold during morning recess, while students at Woodland Elementary School are too hot during afternoon recess.

Why are the playgrounds at two schools different temperatures?

Different playgrounds have different weather on different days
What is the weather like on the playgrounds? (introduced in 1.4)

How do we describe weather? (1.1-1.3)
(Note: See Lesson Overviews for lesson-level Investigative Phenomena)

- Read the first half of What Is the Weather Like Today? (1.1)
- Participate in Think and Walk to label photographs with appropriate weather icons (1.1)
- Participate in Weather Types movement routine (1.1)
- Observe and describe local weather using weather words (1.2)
- Read the second half of What Is the Weather Like Today? (1.2)
- Measure temperature in cups of water (1.2)
- Observe, measure, and record local weather, including temperature (1.3)

- Weather can be sunny, cloudy, windy, rainy, or snowy. (1.1)
- Weather can be sunny, cloudy, windy, rainy, snowy, and different temperatures. (1.2)

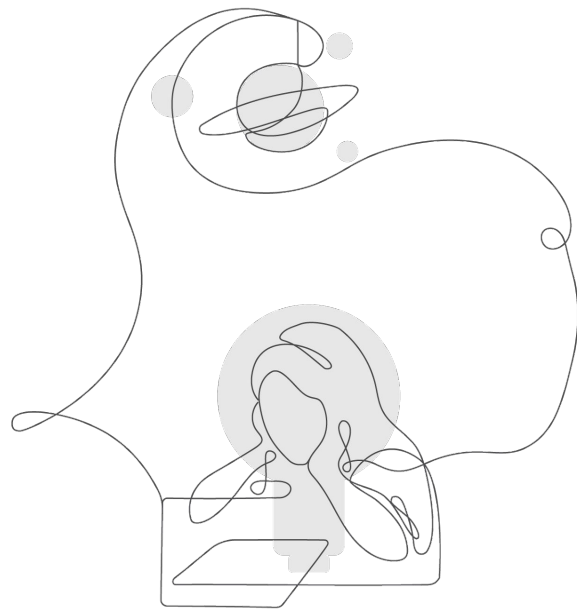
- Graph playground weather data from Woodland and Carver Elementary Schools (1.4)
- Shared Writing to answer the Chapter 1 Question (1.4)

The weather at Carver Elementary and Woodland Elementary is similar. Both schools have many sunny days and some cloudy, windy, or rainy days. The type of weather at each school must not be causing the difference in their playgrounds' temperatures.

Explore the Coherence Flowchart

Skim the Chapter 1 Coherence Flowchart of your first unit.

How can the Coherence Flowchart serve you as a planning tool as you begin teaching Amplify Science?



Questions?





Plan for the day: Part 2

- Teaching and Learning in an Amplify Science Lesson
- Instructional Approach Reflection
- **Planning a Lesson**
- Closing

Navigate to the Lesson Brief

Lesson 1.2: Introducing Temperature

Printable Lesson Guide

1 Local Weather

2 READING
Revisiting What Is the Weather Like Today?

3 HANDS-ON
Measuring Temperature

4 TEACHER-LED DISCUSSION
Recording Ideas About Temperature

RESET LESSON

Overview

Materials & Preparation

Differentiation

Standards

Vocabulary

Overview

Students go outside and use their new weather words to observe and describe the local weather, and they discover that they do not have specific ways to describe how hot or cold it is. Next, they read the second half of *What Is the Weather Like Today?* and are introduced to temperature and new ways to describe it. The teacher introduces the thermometer as a tool to measure temperature, and students practice using thermometers to measure the temperature of warm and cold water cups. They add their new ideas about temperature to the What We Know About Weather chart and update the key concept from the previous lesson. This lesson introduces students to the idea that temperature is an important part of weather and that it can be measured and described using thermometers.

Unit Anchor Phenomenon: Students at Carver Elementary School are too cold during morning recess, while students at Woodland Elementary School are too hot during afternoon recess.

Chapter-level Anchor Phenomenon: Different playgrounds have different weather on different days.

Digital Resources

- Classroom Slides 1.2 | PowerPoint
- Classroom Slides 1.2 | Google Slides
- All Projections
- Thermometer Assembly Guide
- What We Know About Weather Chart: Completed
- Optional: Chapter 1 Home Investigation: Observing Weather copymaster
- Extension: California Temperature Data Chart
- Sunlight and Weather Investigation Notebook, page 3

4 Steps for Planning Your Lesson

1. Download **Classroom Slides** and review them.
2. Read the **Overview**.
3. Review the **Materials & Preparation** document.
4. Read the **Differentiation** document.

The screenshot displays the 'Lesson 1.2: Introducing Temperature' interface. At the top, there's a header with the lesson title and a 'Printable Lesson Guide' button. Below this is a navigation bar with four tabs: '1. READING Revisiting What is the Weather Like Today?', '2. HANDS-ON Measuring Temperature', '3. TEACHER-LED DISCUSSION Recording Ideas About Temperature', and '4. TEACHER-LED DISCUSSION Recording Ideas About Temperature'. The main content area is divided into three sections: 'Overview', 'Materials & Preparation', and 'Differentiation'. The 'Overview' section is currently selected and shows a paragraph about students using weather words to observe and describe the local weather. To the right of the 'Overview' section is a 'Digital Resources' section with links to 'Classroom Slides 1.2 | PowerPoint', 'Classroom Slides 1.2 | Google Slides', 'All Projections', and 'Thermometer Assembly Guide'. Four orange arrows with numbers 1, 2, 3, and 4 point to specific elements: Arrow 1 points to the 'Classroom Slides 1.2 | PowerPoint' link in the Digital Resources section. Arrow 2 points to the 'Overview' link in the left sidebar. Arrow 3 points to the 'Materials & Preparation' link in the left sidebar. Arrow 4 points to the 'Differentiation' link in the left sidebar.

Lesson 1.2:
Introducing Temperature

Printable Lesson Guide

1. READING Revisiting What is the Weather Like Today?

2. HANDS-ON Measuring Temperature

3. TEACHER-LED DISCUSSION Recording Ideas About Temperature

4. TEACHER-LED DISCUSSION Recording Ideas About Temperature

RESET LESSON

Overview

Materials & Preparation

Differentiation

Standards

Vocabulary

Digital Resources

Classroom Slides 1.2 | PowerPoint

Classroom Slides 1.2 | Google Slides

All Projections

Thermometer Assembly Guide

Preparing to teach

Classroom Slides

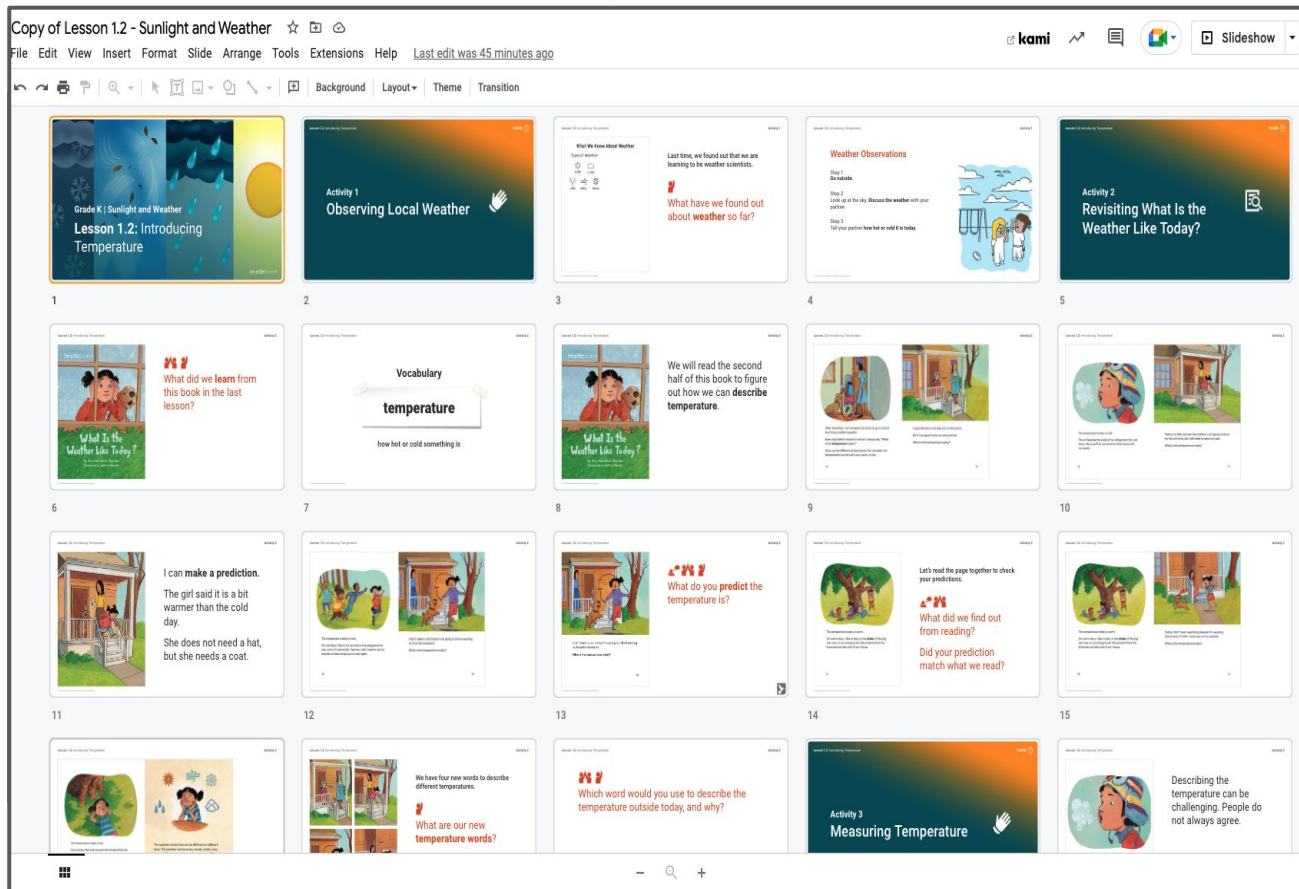
1. Open the **Classroom Slides** under the **Digital Resources**.
2. Read through the Classroom Slides including the **presenter notes** to gain a better understanding of the lesson.
3. **Consider:**
 - What features of the Classroom Slides will support you in teaching this lesson?

The screenshot displays the 'Lesson 1.2: Introducing Temperature' interface. At the top, there's a header with the lesson title and a 'Printable Lesson Guide' button. Below this is a navigation bar with four tabs: '1. Local Weather', '2. READING: Revisiting What is the Weather Like Today?', '3. HANDS-ON: Measuring Temperature', and '4. TEACHER-LED DISCUSSION: Recording Ideas About Temperature'. The main content area is divided into three sections: 'Overview' (with a 'RESET LESSON' button), 'Materials & Preparation', and 'Digital Resources'. The 'Digital Resources' section is highlighted with an orange border and contains two items: 'Classroom Slides 1.2 | PowerPoint' and 'Classroom Slides 1.2 | Google Slides'. Below these are links for 'All Projections' and 'Thermometer Assembly Guide'.

Using Classroom Slides as a planning tool

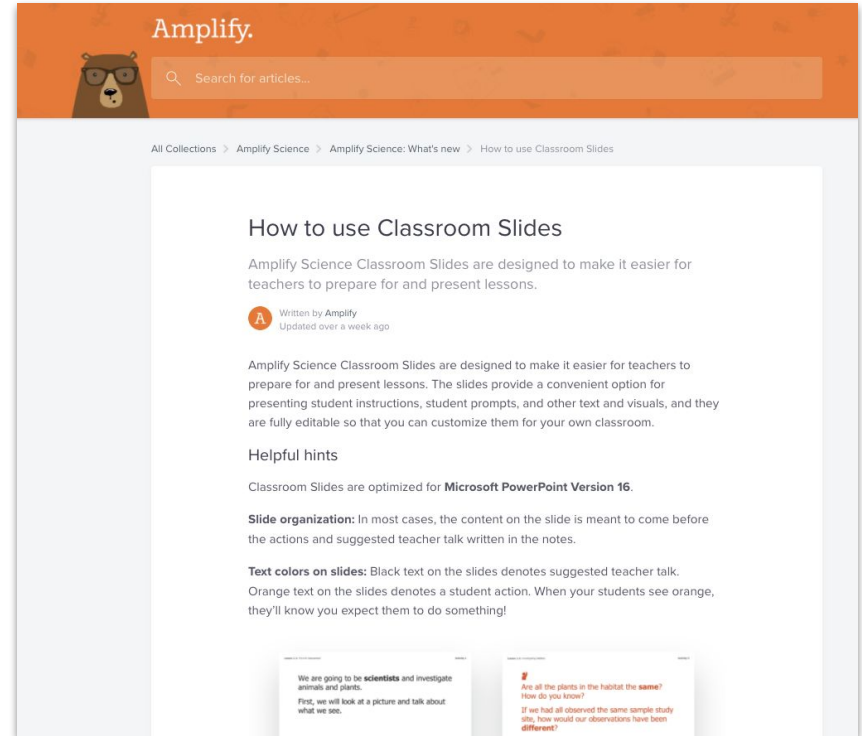
Teacher tip: Classroom Slides are a great visual summary of a lesson. Many teachers download and flip through a lesson's Classroom Slides deck to preview what happens in the lesson.

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.



Lesson ____		Activity Overview		From the Lesson at a glance in the overview
What is the purpose of this lesson?		Activity 1 (##min)		
	From the lesson overview			
What will students learn?		Activity 2 (##min)		
3-D Statement (identify SEP, CCC, and DCI):	From the lesson standards	Activity 3 (##min)		
Student Resources:	From the lesson materials and preparation	Activity 4 (##min)		
Assessment Opportunities:	From the lesson at a glance in the overview or classroom slides	Activity 5 (##min)		

Lesson 1.2	Activity Overview	
<p>What is the purpose of this lesson?</p> <p>To introduce students to the idea that temperature is an important part of weather and that it can be measured and described using thermometers.</p>	<p>Activity 1 (15 min)</p>	<p>Observing Local Weather - going outside</p>
<p>What will students learn?</p> <ul style="list-style-type: none"> • Temperature is a measure of how hot or cold something is. • Weather can be sunny, cloudy, windy, rainy, snowy, and different temperatures. • A thermometer is a tool that measures temperature. • Thermometers can help people use the same words to describe temperature 	<p>Activity 2 (10 min)</p>	<p>Revisiting "What Is the Weather Like Today?"</p>
<p>3-D Statement (identify SEP, CCC, and DCI):</p> <p>Students make observations about weather outside their classroom and discover temperature as an aspect of weather (cause and effect). Students collect, interpret, and record temperature data and use patterns to predict temperatures (patterns).</p>	<p>Activity 3 (15 min)</p>	<p>Measuring Temperature</p>
<p>Student Resources: Hands-on investigation materials: cup warm water and cup ice water, thermometer strip, crayons, Investigation Notebook (pages 1-3)</p>	<p>Activity 4 (5 min)</p>	<p>Recording Ideas About Temperature</p>
<p>Assessment Opportunities: Activity 2 - On-the-Fly assessment</p>	<p>Activity 5 (##min)</p>	

Questions?





Plan for the day: Part 2

- Teaching and Learning in an Amplify Science Lesson
- Instructional Approach Reflection
- Planning a Lesson
- Closing

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



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!

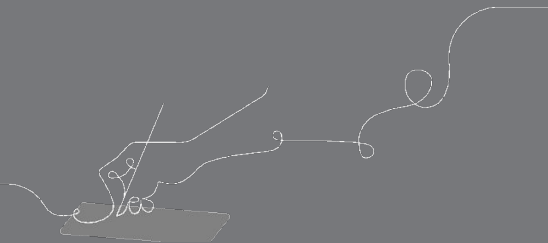


Overarching goals

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

- ❑ Describe what teaching and learning look like in Amplify Science.
- ❑ Prepare to teach using Amplify Science resources.

e



Closing reflection

Based on our work today in Part 2, share:

Head: something you'll keep in mind

Heart: something you're feeling

Feet: something you're planning to do

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

