

Amplify Science

Unit Internalization / Guided Planning

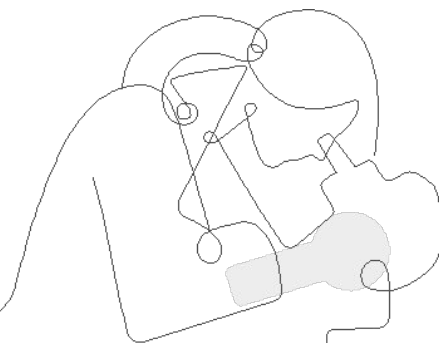
Grade 5, Unit 2: Modeling Matter

Part 1

School/District Name: LAUSD

Date:

Presented by:



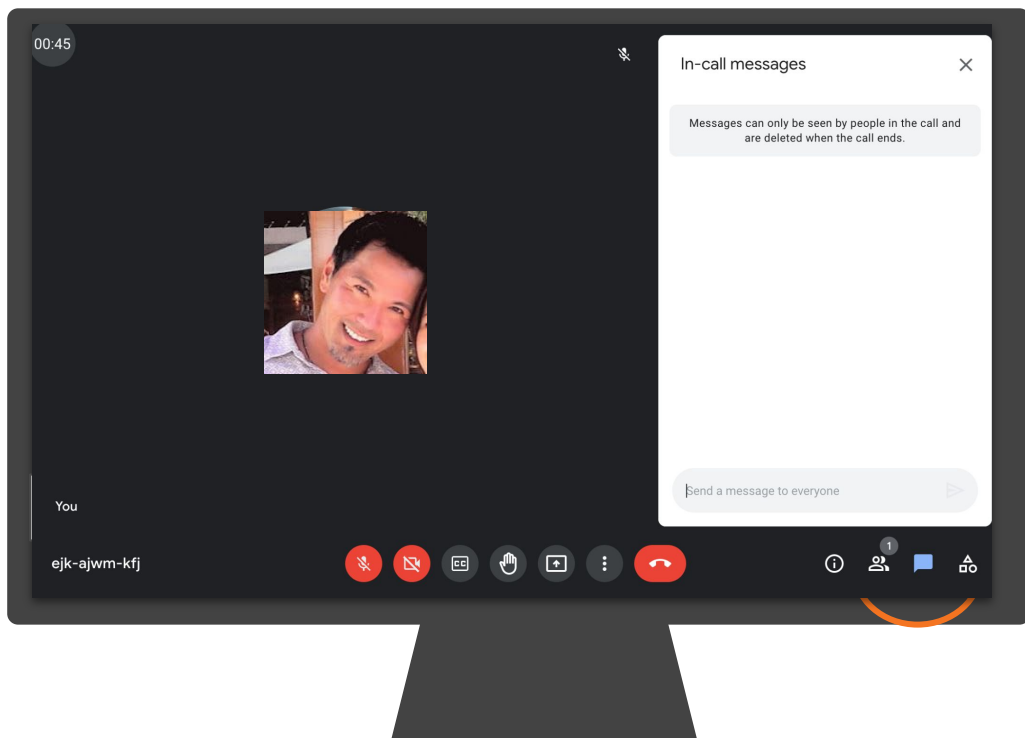
Thought Swap!

How is it going so far?

Question 1: Question 1:

What is one **success** you've had with teaching Amplify Science?

Question 2: What is something that has been **challenging** for you and how have you worked to overcome that challenge?



Amplify's Purpose Statement

Dear teachers,

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

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

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

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

Sincerely,
Amplify

Norms: Establishing a culture of learners

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

Schoolology



[← Back to Schoolology 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, Schoolology.

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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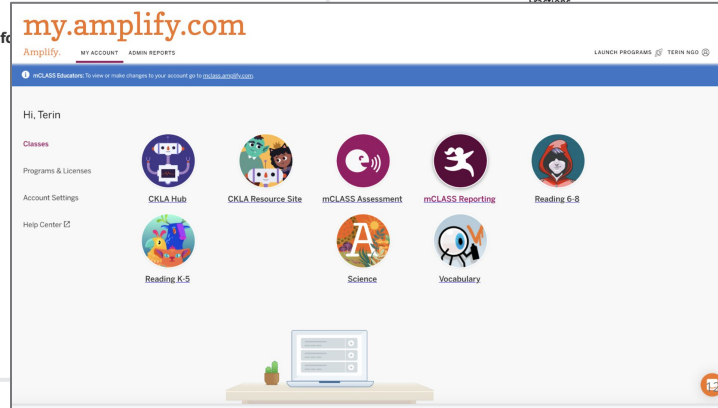
To learn more about using the LMS App Center, please refer to the following [video overview](#).

[← 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
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Textbook Title(s):
NA

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

Hi, Terin

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[CKLA Hub](#)



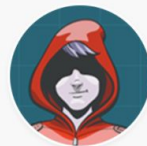
[CKLA Resource Site](#)



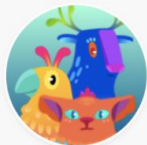
[mCLASS Assessment](#)



[mCLASS Reporting](#)



[Reading 6-8](#)



[Reading K-5](#)



[Science](#)



[Vocabulary](#)



Amplify. on Schoology

2021-2022



Join Amplify Science Schoology Group

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

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 *Modeling Matter*.
- ❑ Internalize the unit and apply your new understanding to plan for the diverse needs of your classroom and students





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

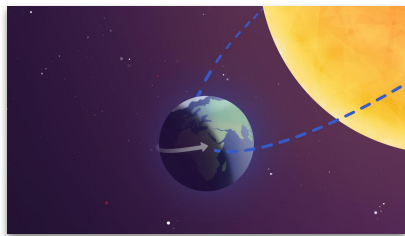
Grade 5

- 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: Grade 5



Patterns of Earth and Sky

Domain: Earth and Space Science

Unit type: Investigation

Student role:
Astronomers

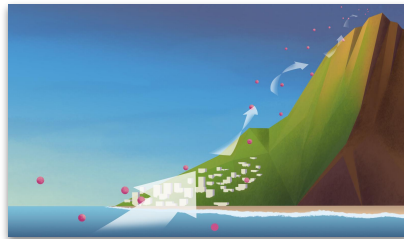


Modeling Matter

Domain: Physical Science

Unit type: Modeling

Student role: Food scientists



The Earth System

Domain: Earth and Space Science

Unit type: Engineering Design

Student role: Water resource engineers



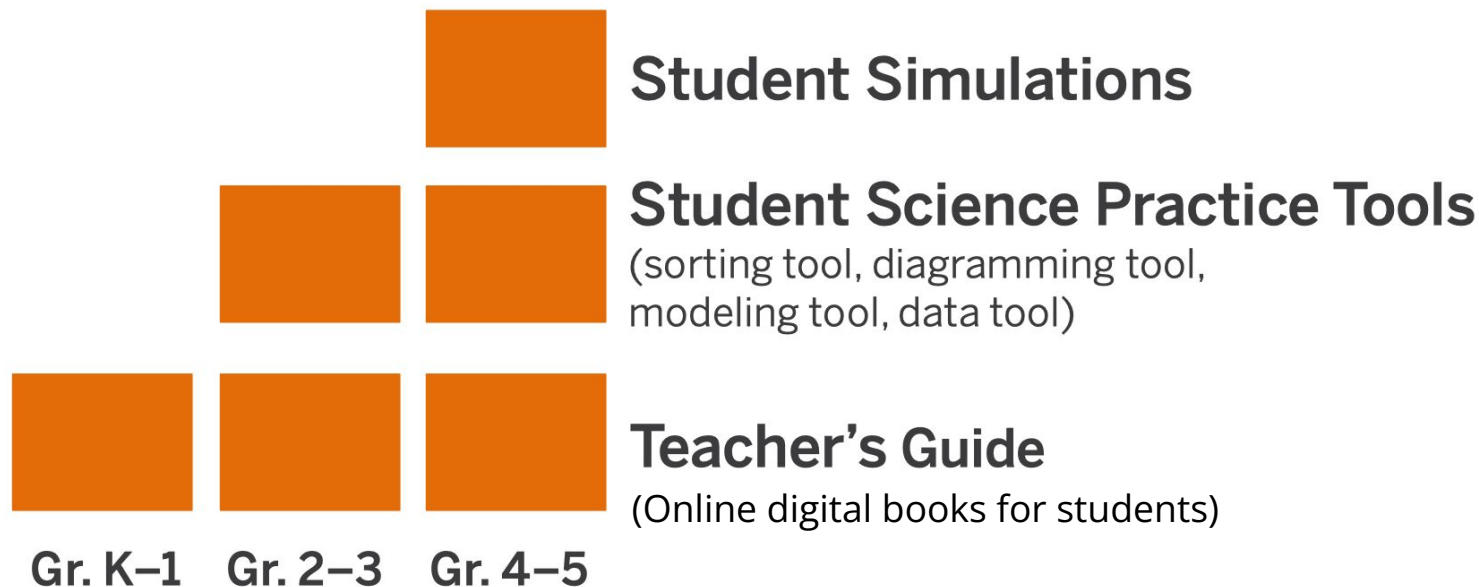
Ecosystem Restoration

Domain: Life Science

Unit type: Argumentation

Student role: Ecologists

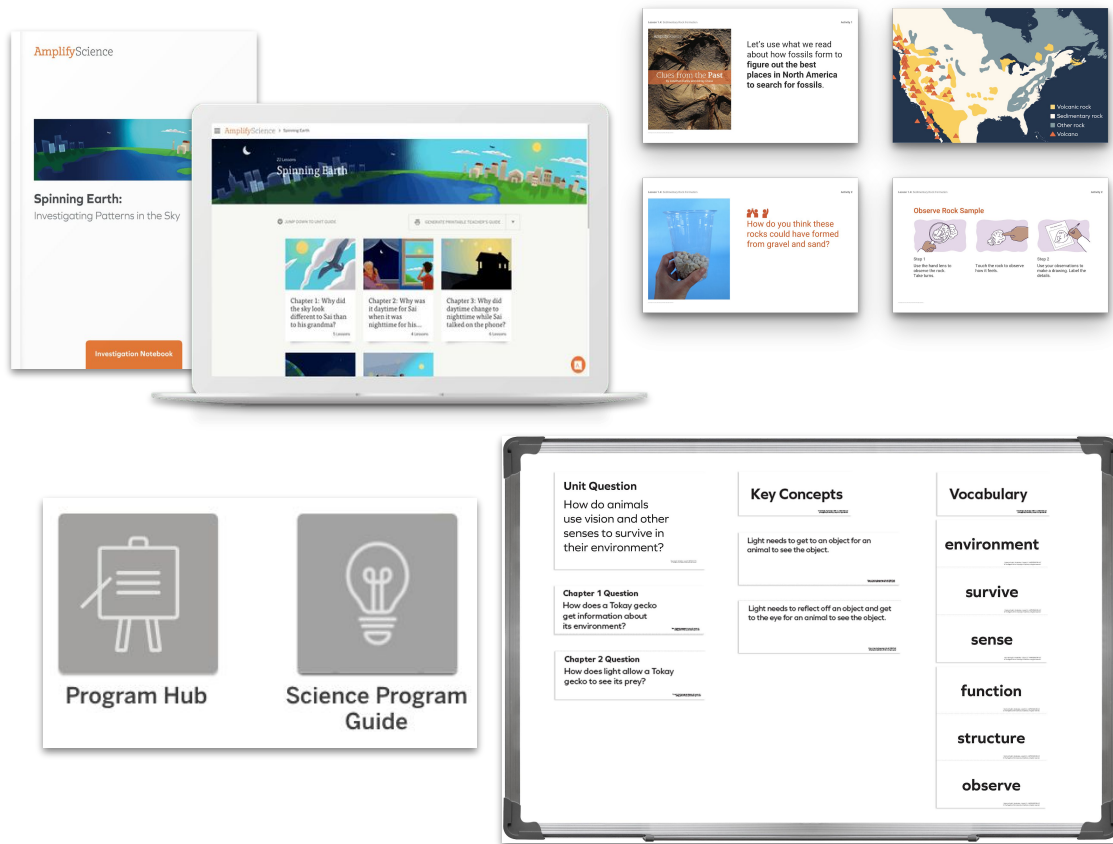
What are the digital components of Amplify Science Elementary?



K-5 Program components

Teacher materials

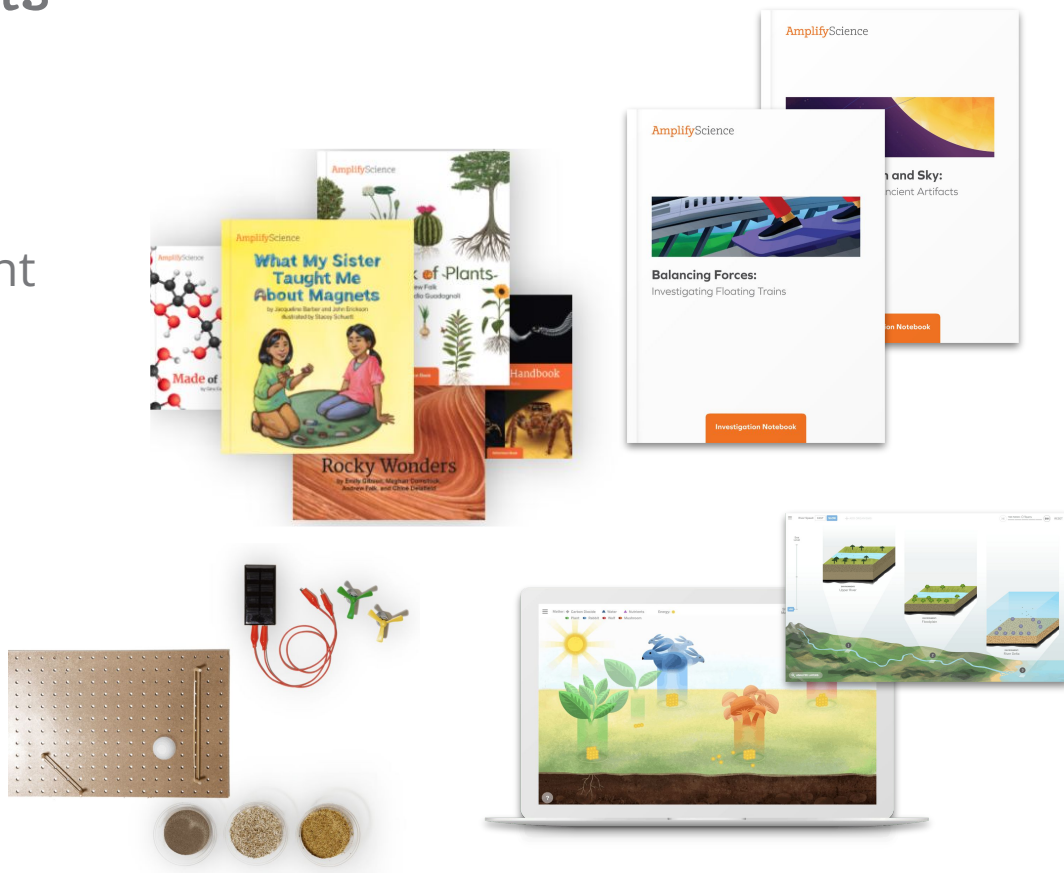
- Teacher's Guide (print and digital)
- Classroom Slides
- Classroom wall materials
- Embedded assessments
- Program Guide
- Program Hub
- Amplify Help Site



K-5 Program components

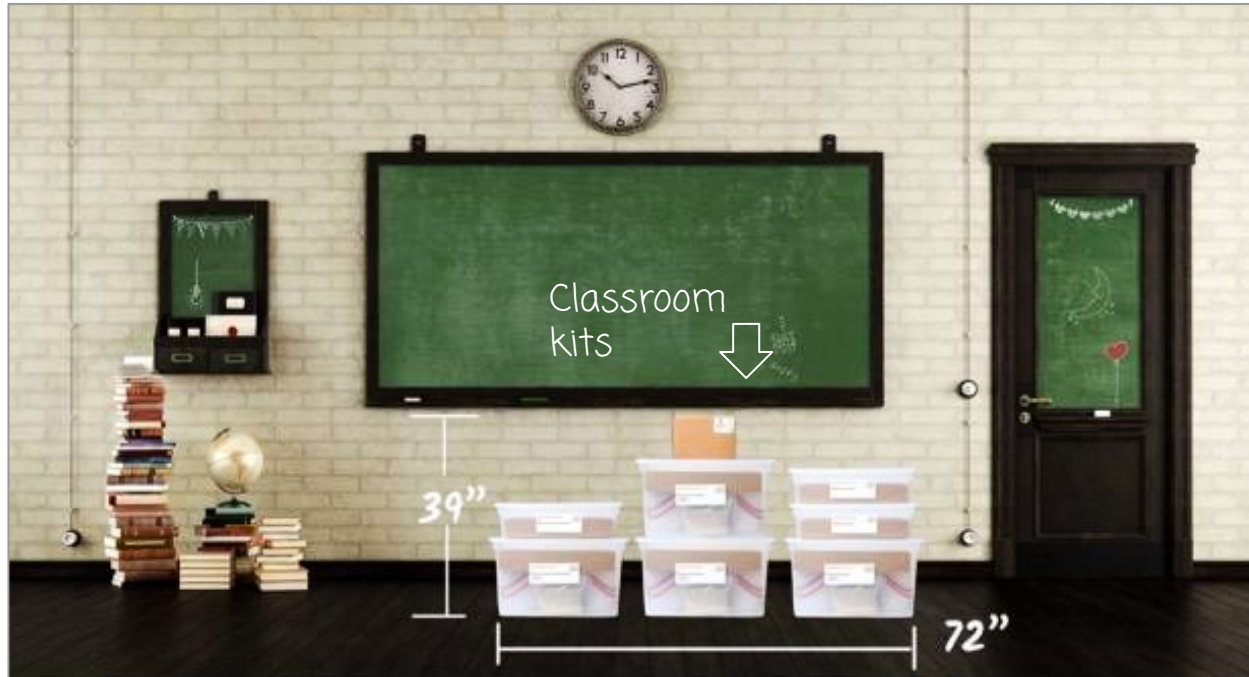
Student materials

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



K-5 Program components

Classroom kits

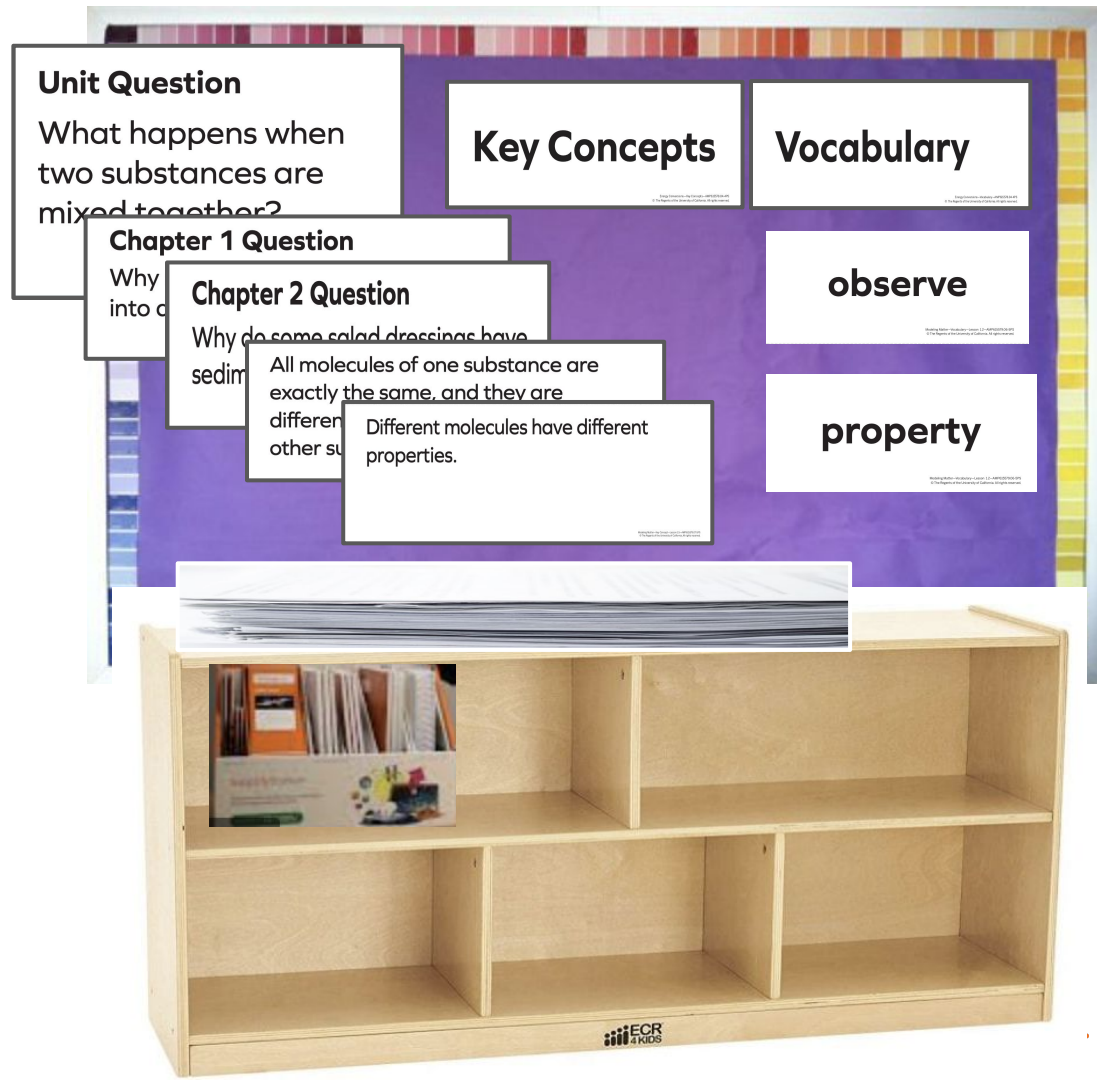


Classroom kits

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

Unpacking the Kit

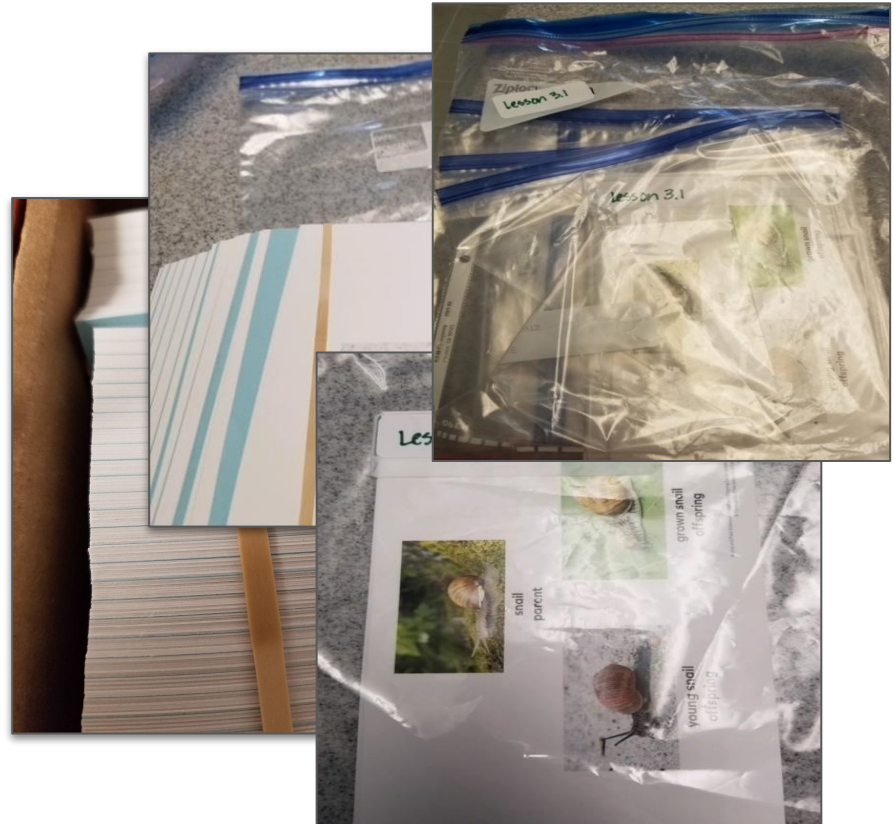
- Pull out the unit question, key concepts and vocabulary materials.
- Place them on the top of the table or bookcase below your science board
- Take books out of kit and place in the bookcase or on the table. (Always collect books after each lesson use. Return to bookcase so they are easily accessible.)



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"
 - ex." Set (Bag) 1 of 18"
- Put each bag or envelope (set) into a bigger bag (gallon size) and label
 - ex. "18 sets"



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

The screenshot shows the LAUSD Schoology interface. The top navigation bar is dark blue with the LAUSD logo on the left and icons for search, grid, calendar, and email on the right. The main navigation menu on the left includes 'Home', 'COURSES', 'GROUPS', 'RESOURCES' (circled in orange), and 'TOOLS'. Under 'RESOURCES', there are two sections: 'Group Resources' and 'School Resources'. The 'Group Resources' section is expanded, showing 'Amplify Science- Elementary' (circled in orange) and 'LAUSD Middle School Science - Di...'. The 'School Resources' section shows 'LOS ANGELES USD - 9999' and 'Los Angeles Unified School District'. The 'Group' link in the left sidebar is also circled in orange. The main content area displays the 'Amplify Science- Elementary' resource page. It has a 'Title' section and a list of resources. The first resource is 'NGSS Resources' (purple folder icon), added by MARIA ARTEAGA on Jun 1, 2021. The second resource is 'Google Drive link for K-6 Phenomenal Notebooking Resources' (pink folder icon), added by INYOUNG LEE on Feb 1, 2021. It includes a Google Drive link and a note about digital phenomenal notebooks for grades 3-6 and Seesaw activities for K-2. The third resource is 'Amplify_Science_Shared_Logins.pdf' (PDF icon), added by Señor Fernando REYES on Aug 9, 2021. The fourth resource is 'Lesson Prep Videos' (green folder icon), added by Terin Ngo on Oct 11, 2021, and is circled in orange.

LOS ANGELES USD

Home

COURSES GROUPS **RESOURCES** TOOLS

Search

Personal

Public

Group

Group Resources

Amplify Science- Elementary

LAUSD Middle School Science - Di...

School Resources

LOS ANGELES USD - 9999

Los Angeles Unified School District

Amplify Science- Elementary

Title

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

Added by Terin Ngo · Oct 11, 2021

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!

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?	

Classroom Kits


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

Directions				
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)				
2. Look for the lessons with Hands On.				
HANDS-ON				
3. Note in the table below.				
4. Review the materials and preparation to determine if it can be prepared prior to the lesson or on the day of the lesson.				
5. Use this same procedure for each Chapter. (Go to the Chapter Activities Contents)				
Chapter/Lesson	Activity	Prep Prior	Prep Day of	What to do
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.

This is an example from Properties of Materials Grade 2

Hands On Material Organization

Completed for Modeling Matter

Directions				
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)				
2. Look for the lessons with Hands On.				
HANDS-ON 				
3. Note in the table below.				
4. Review the materials and preparation to determine if it can be prepared prior to the lesson or on the day of the lesson.				
5. Use this same procedure for each Chapter. (Go to the Chapter Activities Contents)				
Chapter/Lesson	Activity	Prep Prior	Prep Day of	What to do
1.1	1	X		<p>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.</p> <p>Prepare strips of paper towels. Each group of four students will need six strips of paper towels. (You will need to provide paper towels.) Cut paper towels into strips measuring 1" x 3." You will also need a paper-towel strip for your food-mixture demonstration. In addition, you will need to provide ketchup (or a similar sauce such as mustard, mayonnaise, or ranch dressing). In Activity 1, you will model how to describe ketchup. Think of some ways you could model describing the ketchup. You will need one tray with the following materials: 1 paper-towel strip, 1 spoon, 1 small plastic cup with ketchup. (Set aside the bottle of green food coloring. You will not need it for this unit.) You will also need to provide three cups of flour, a pitcher of water, three mixing bowls, a one-cup measuring cup, a one-tablespoon measuring spoon, goggles, and newspapers.</p> <p>Prepare three labeled cups for every group of four students. Using a marker, label each group of cups: Cup 1, Cup 2, and Cup 3. We suggest preparing each of the three food mixtures in a separate bowl and pouring or spooning a small amount into each of the appropriately labeled plastic or paper cups. You can use approximate measures of the ingredients—the ratio of wet to dry ingredients is not critical as long as the ingredients are mixed into a paste or liquid. Ideally, the three mixtures will vary in thickness.</p> <p>Cup 1: Flour and vinegar mixture. Mix 1 cup of flour and $\frac{3}{4}$ cup of vinegar.</p> <p>Cup 2: Flour, food coloring, and water mixture. Mix 1 cup of flour, $\frac{3}{4}$ cup of water, and 5 drops each of red, blue, and yellow food coloring.</p> <p>Cup 3: Flour and water mixture. Mix 1 cup of flour and $\frac{3}{4}$ cup of water.</p> <p>Assemble trays of investigation materials. Prepare one tray for every group of four students. Students will work in two sets of pairs within</p>

This is an example from Properties of Materials Grade 5

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

22 Lessons

Modeling Matter

☒ Printable Teacher Guide

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

Unit Overview

Chapters

Printable Resources

Planning for the Unit

Teacher References

Offline Preparation

Most people's greatest exposure to physical and chemical changes—at least those changes involving food and cooking. Like most everything else, foods are comprised mostly of mixtures, and these mixtures are often separated, dissolved, cooled, heated, whipped, emulsified, and further transformed for some desired purpose. The science of food and its transformation has been happening since the dawn of humans, and it has continued to evolve as scientists have worked to apply scientific principles in order to better understand food. For more information, click on the [Read more](#) link.

[Read more](#)

Chapters

Chapter 1: Why did the food coloring separate into different

Chapter 1 Activities

Modeling Matter Lesson Guides

Chapter 1 Activities

Lesson 1.1: Pre-Unit Assessment

1 Introducing the Context	TEACHER-LED DISCUSSION
2 Students Write Initial Explanations	WRITING
3 Introducing Investigation Notebooks	TEACHER-LED DISCUSSION
4 Providing the Context of Food Science	READING

Lesson 1.2: Introducing Food Science

1 Preparing to Investigate	TEACHER-LED DISCUSSION
2 Food-Mixture Investigations	HANDS ON
3 Debriefing Properties of Food	STUDENT-TO-STUDENT DISCUSSION

Lesson 1.3: Made of Matter

1 Introducing the Nanoscale	SIM
2 Previewing Made of Matter	STUDENT-TO-STUDENT DISCUSSION
3 Partner Reading	READING
4 Discussing Models and Matter	TEACHER-LED DISCUSSION

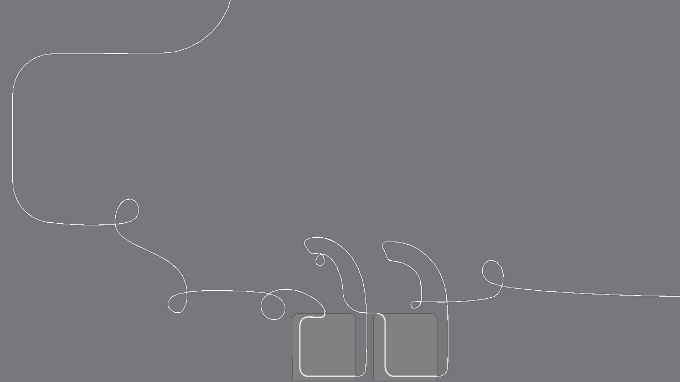
Lesson 1.4: Separating a Food-Coloring Mixture

1 Introducing the Harmful-Dye Context	TEACHER-LED DISCUSSION
2 Separating the Food Coloring	HANDS ON
3 Making the Pasta Model	HANDS ON
4 Discussing Chromatography Results	TEACHER-LED DISCUSSION
5 Writing About Molecules	WRITING

Lesson 1.5: Exploring Another Model of Chromatography

1 Reading the President's Emails	TEACHER-LED DISCUSSION
2 Thinking About Chromatography	TEACHER-LED DISCUSSION
3 Introducing the Fan Model	HANDS ON
4 Reflecting on Fan Model and Properties of Molecules	TEACHER-LED DISCUSSION
5 Scientists Make Observations and Inferences	TEACHER-LED DISCUSSION

Questions?





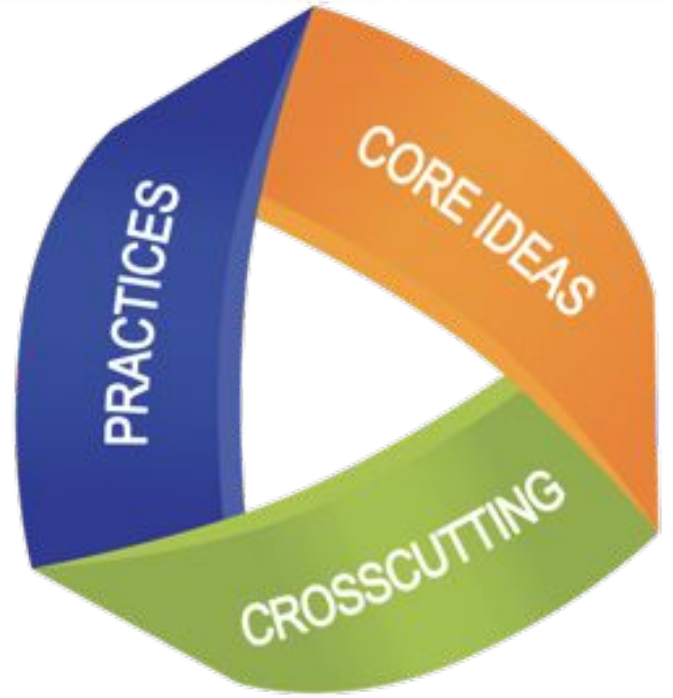
Plan for the day: Part 1

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

NGSS - Three dimensional learning

Evaluate your knowledge

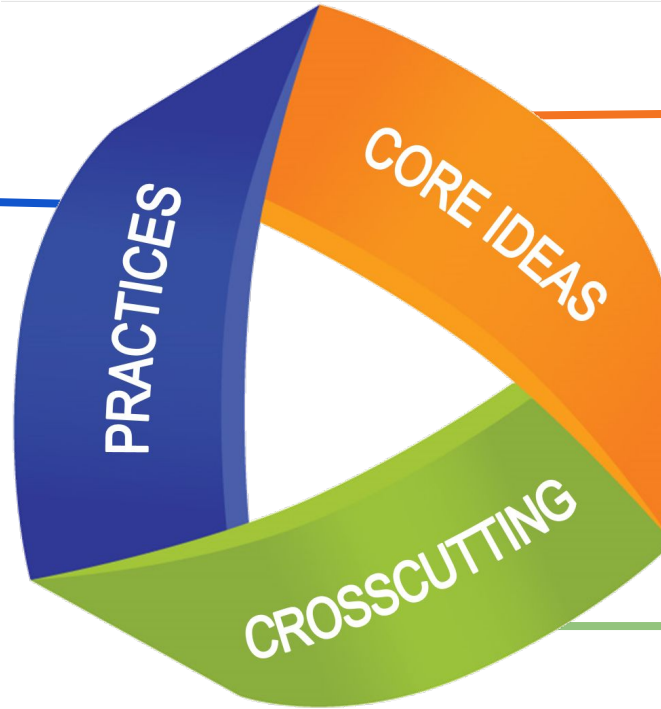
- On a scale of 0-5, how would you rate your familiarity with 3-D learning?



Figuring out Phenomena

Using 3-D teaching and learning

What scientists do
Science and
Engineering Practices



What scientists
want to know
Disciplinary Core
Ideas

How scientists
think
Crosscutting Concepts



Three-dimensional learning

Reflection

In the video, how did students engage in three-dimensional learning to think like scientists?

Lesson 3.2

Students use a model to figure out the relationship between different parts of a habitat system in order to construct their understanding about how animals can help move seeds around a habitat (systems and system models).



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

math

4. Analyzing and interpreting data

5. Using mathematics and computational thinking

language

6. Constructing explanations (for science) and designing solutions (for engineering)

7. Engaging in argument from evidence

8. Obtaining, evaluating, and communicating information



Plan for the day: Part 1

- Introduction and Framing
- NGSS & 3D Learning
- Phenomenon-based Instruction
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- 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)



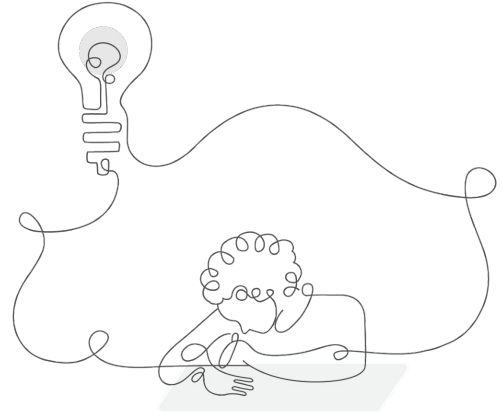
to figuring out
(like a scientist)

Previewing the unit

Introducing the phenomenon

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

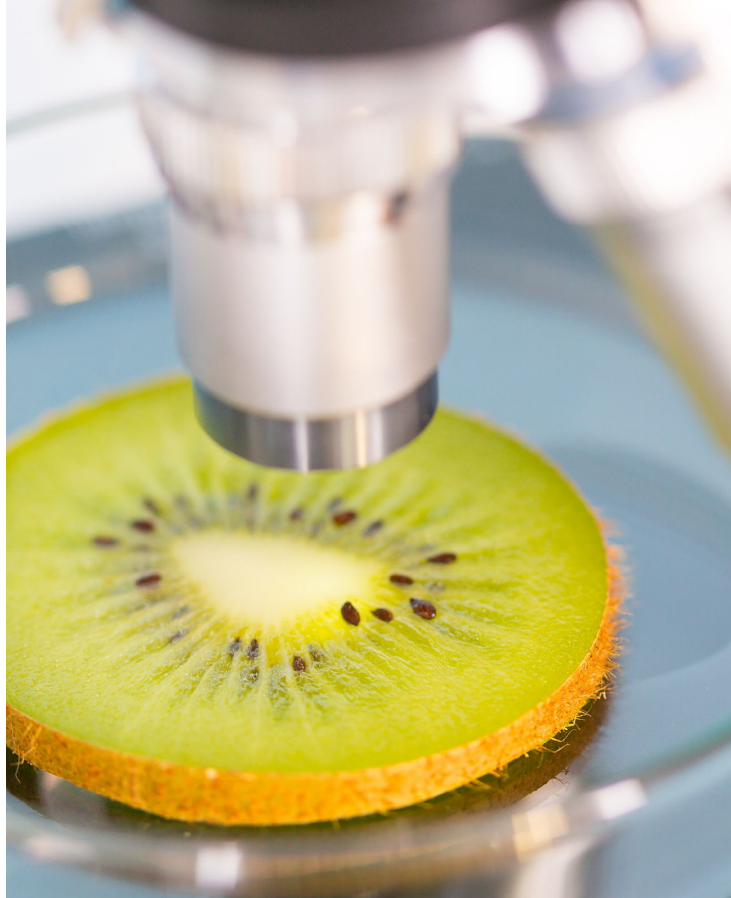
Pay attention to the phenomenon, or observable event, students will figure out in your unit.





We are starting a unit called *Modeling Matter: The Chemistry of Food*.

This unit is about **matter**, which is the stuff that everything around us is made of, including food!



We will take a **close look at food**, not just as something tasty to eat, but also as something interesting to study.

Let's think about what **food scientists** do.



Take a moment to look at these pictures of food scientists.



Where do you think a food scientist **works**?





Take a moment to look at these pictures.



What do you think food scientists **want to find out** about the food they study?



Good Food Production, Inc.

For the next few weeks,
we are going to take on
the role of **food
scientists** for a company
called Good Food
Production, Inc.

Amplify Science

Anchoring phenomenon

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





Plan for the day: Part 1

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

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)



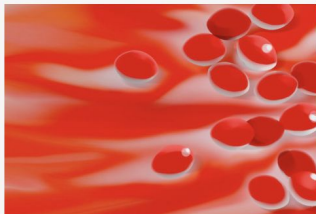
Let's Go Live!

22 Lessons

Modeling Matter

▼ JUMP DOWN TO UNIT GUIDE

GEN



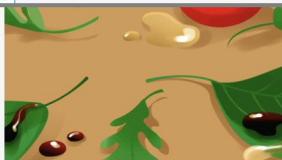
Chapter 1: Why did the food coloring separate into different dyes?

10 Lessons



Chapter 2: Why do some salad dressings have sediments, and others do not?

5 Lessons



Chapter 3: Why can salad-dressing ingredients separate again after being...

7 Lesson

Classroom Slides are now available for this report.
Find them in the Digital Resources below.

Lesson 1.2: Introducing Food Science

Lesson Brief (2 Activities) | 1 TEACHER LED DISCUSSION Preparing to Investigate | 2 HANDS ON Food Mixture Investigations | 3 STUDENT TO STUDENT PROCEEDINGS Delineating Properties of Food

RESET LESSON | GENERATE PRINTABLE LESSON GUIDE

Overview

Students launch into the unit and their role as food scientists working in the research lab at Good Food Production, Inc. Students learn that many foods are mixtures. Pairs then practice their scientific-observation skills as they describe properties and perform simple tests on food mixtures. The purpose of this lesson is twofold: 1) to immerse students in their role as food scientists and 2) for students to engage in scientific practices and consider ideas about mixtures at an observable scale that they can later apply to thinking about ideas

Digital Resources

- Classroom Slides 1.2 | PowerPoint
- Classroom Slides 1.2 | Google Slides
- All Projections
- Properties of Matter Chart: Completed

▼ JUMP DOWN TO CHAPTER OVERVIEW

Lesson 1.1:
Pre-Unit Assessment

Lesson 1.2:
Introducing Food
Science

Lesson 1.3:
Made of Matter

Lesson 1.4:
Separating a Food-
Coloring Mixture


Lesson 1.5:
Exploring Another
Model of
Chromatography


Lesson 1.6:
Nanovision Models
of Chromatography

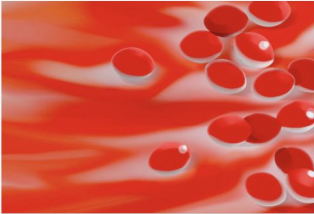
Explore the Program Essentials

22 Lessons

Modeling Matter


 JUMP DOWN TO UNIT GUIDE

 GENERATE PRINTABLE LESSON GUIDE




Chapter 1: Why did the food coloring separate into different dyes?

10 Lessons



Chapter 2: Why do some salad dressings have sediments, and others do not?

5 Lessons




Chapter 3: Why can salad-dressing ingredients separate again after being...


7 Lessons

Classroom Guides are now available for this reason. Find them in the Digital Resources below.

Lesson 1.2: Introducing Food Science




Lesson Brief (3 Activities) | 1 Preparing to Investigate | 2 Food-Mixture Investigations | 3 REVISION: Densifying Properties of Food


 BEST LESSON

Overview
Materials & Preparation
Differentiation
Standards
Vocabulary
Unplugged?


Overview

Students launch into the unit and their role as food scientists working in the research lab at Good Food Production, Inc. Students learn that many foods are mixtures. Pairs then practice their scientific observation skills as they describe properties and perform simple

 AmplifyScience ©2018 Amplify Education, Inc. > Modeling Matter > Chapter 1



Chapter 1: Why did the food coloring separate into different dyes?

 JUMP DOWN TO CHAPTER OVERVIEW

Lesson 1.1: Pre-Unit Assessment	Lesson 1.2: Introducing Food Science	Lesson 1.3: Made of Matter
Lesson 1.4: Separating a Food-Coloring Mixture	Lesson 1.5: Exploring Another Model of Chromatography	Lesson 1.6: Nanovision Models of Chromatography

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:

Modeling Matter

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?

What happens when two substances are mixed together?

Student Role:

Food Scientists

Unit Question:

What happens when two substances are mixed together?

Relationship between the Unit Phenomenon and Unit Question:

Students will understand that there is a connection between observable properties and the properties of the molecules of which those materials are composed

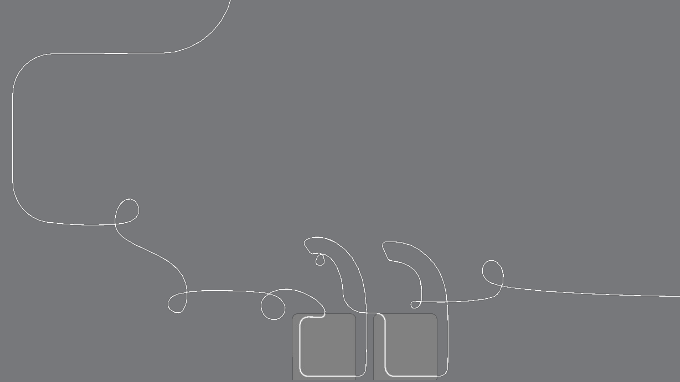
By the end of the unit, students figure out...

If molecules of a substance are more attracted to other molecules of their own kind, two substances won't mix. However, a third substance, whose molecules are attracted to both, can cause them all to mix.

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

Students use digital models and create their own diagram models in order to explain the microscale phenomena of liquids mixing, separating and being mulsified

Questions?





Plan for the day: Part 1

- Introduction and Framing
- Phenomenon-based Instruction
- Unit Internalization
- **Additional Resources**
- Closing

Navigating to the Student Apps page

The screenshot displays the Amplify website interface. The top navigation bar includes links for CURRICULUM, CLASSWORK, REPORTING, and PROGRAMS & APPS (circled in orange). The user is logged in as CALIFORNIASCI17 TEACHER. The main content area shows the 'Modeling Matter' unit overview, which includes a sidebar with links like Unit Overview, Chapters, and Printable Resources. A callout box on the right highlights the 'Tools' section, which contains the 'Elementary Student Apps' link (circled in orange).

Amplify. CURRICULUM CLASSWORK REPORTING PROGRAMS & APPS CALIFORNIASCI17 TEACHER

Science California > Modeling Matter

22 Lessons

Modeling Matter

Printable Teacher Guide

Unit Overview

Chapters

Printable Resources

Planning for the Unit

Teacher References

Offline Preparation

Unit Overview

What's in This Unit?

Most people's greatest exposure to physical and chemical change is through food and cooking. Like most everything else, foods are comprised of separate, dissolve, cool, heat, whip, emulsify, and further transform. Foods and their transformation has been happening since the dawn of time. Scientists have worked to apply scientific principles in order to better understand the process.

[Read more](#)

Chapters

Chapter 1: Why did the food coloring separate?

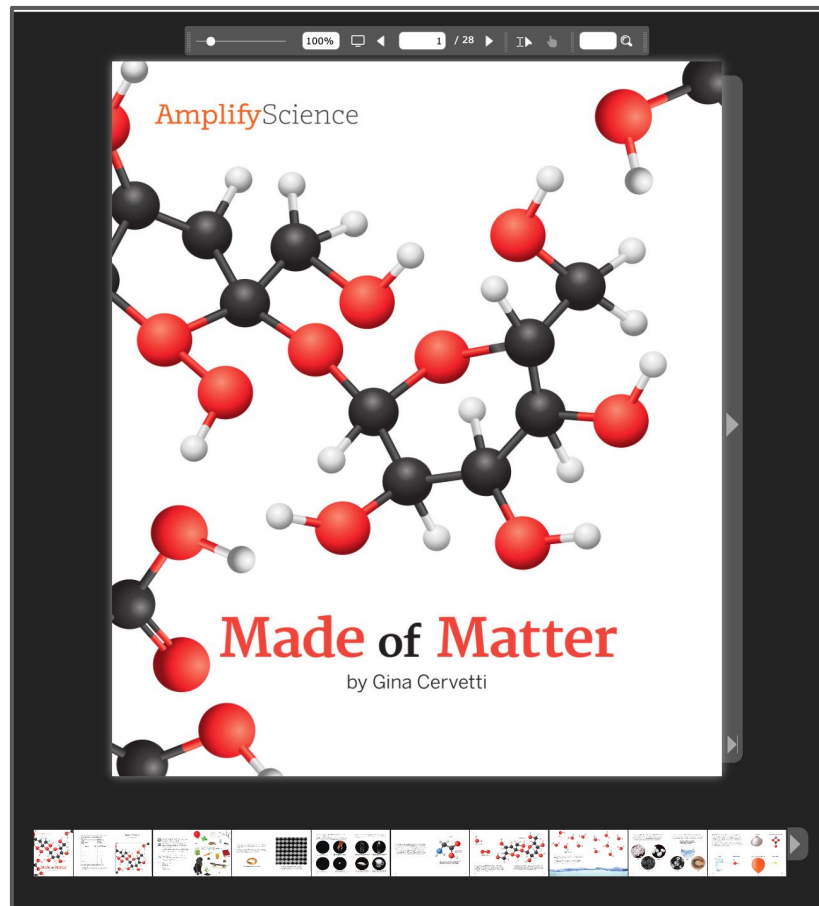
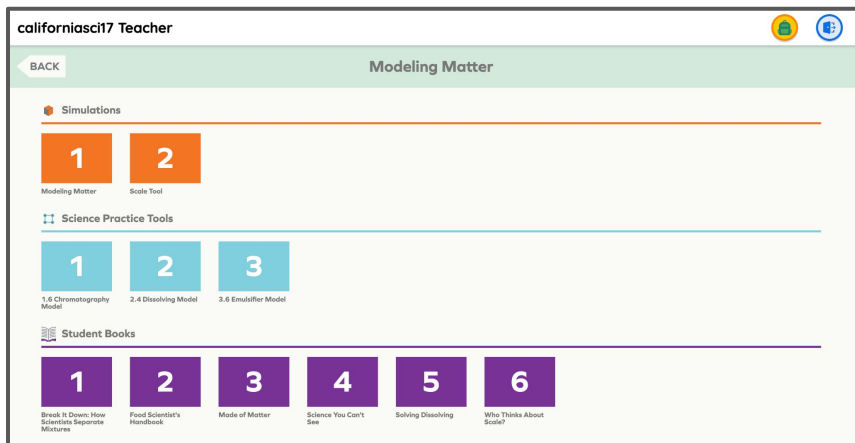
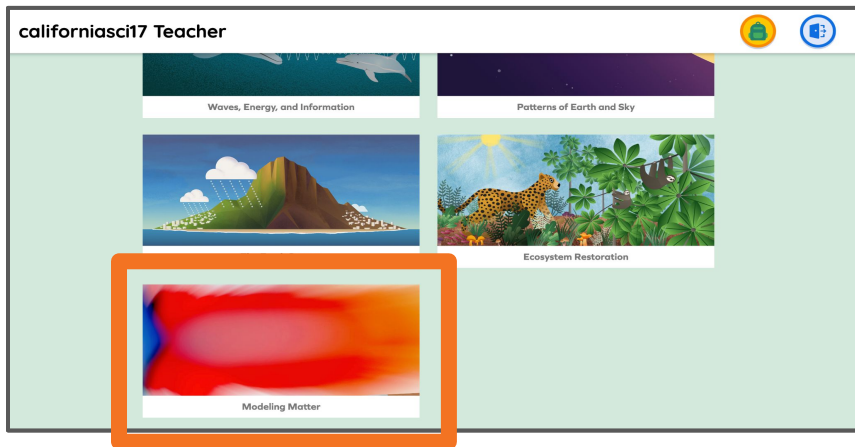
Tools

- 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
- 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 and accessing the book



Program Hub

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

This screenshot shows the Amplify Science Program Hub for the 'Modeling Matter' unit. The top navigation bar includes 'Amplify.', 'CURRICULUM', 'CLASSWORK', 'REPORTING', and 'PROGRAMS & APPS' (highlighted with an orange circle). Below the navigation bar, the page title 'Modeling Matter' is displayed with '22 Lessons' and a 'Printable Teacher Guide' button. A sidebar on the left lists navigation options: 'Unit Overview', 'Chapters', 'Printable Resources', 'Planning for the Unit', 'Teacher References', and 'Offline Preparation'. The main content area is titled 'Unit Overview' and 'What's in This Unit?', followed by a paragraph about food and cooking. A 'Read more' link is visible. At the bottom, there is a 'Chapters' section with the title 'Chapter 1: Why did the food coloring separate into different dyes?'.

Amplify. CURRICULUM CLASSWORK REPORTING PROGRAMS & APPS

Science California > Modeling Matter

22 Lessons

Modeling Matter

Printable Teacher Guide

Unit Overview

Chapters

Printable Resources

Planning for the Unit

Teacher References

Offline Preparation

Unit Overview

What's in This Unit?

Most people's greatest exposure to physical and chemical changes—at least those changes that are easy to observe in the kitchen—is food and cooking. Like most everything else, foods are comprised mostly of mixtures, and the kitchen is the place where we separate, dissolve, cool, heat, whip, emulsify, and further transform foods for some desired outcome. When we cook, we are applying scientific principles to transform raw ingredients into the foods we eat. Food scientists have been working to apply scientific principles in order to better understand food. Food scientists work to create new foods and to improve existing ones.

Read more >

Chapters

Chapter 1: Why did the food coloring separate into different dyes?

This screenshot shows the Amplify Science Program Hub for the '4th Grade Science Eng/Esp' unit. The top navigation bar includes 'Amplify.', 'CURRICULUM', 'CLASSWORK', 'REPORTING', and 'PROGRAMS & APPS' (highlighted with an orange circle). Below the navigation bar, the page title '4th Grade Science Eng/Esp' is displayed. The main content area is titled 'Units' and features two unit cards: 'Energy Conversions' and 'Vision and Light'. A large orange circle highlights the 'On-demand resources' section, which includes a link to 'Learn more about how to use On-demand resources.' and a button for 'Additional Unit Materials'. The 'Professional Learning Resources' section is also visible, with a link to 'Let's get started!'.

Amplify CURRICULUM CLASSWORK REPORTING PROGRAMS & APPS NATIONALSCIENCE200 TEACHER

Science

Units

Program: 4th Grade Science Eng/Esp

AmplifyScience

Units

Energy Conversions

Vision and Light

Welcome Science Educators!

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

On-demand resources

Learn more about how to use On-demand resources.

Professional Learning Resources

Let's get started!

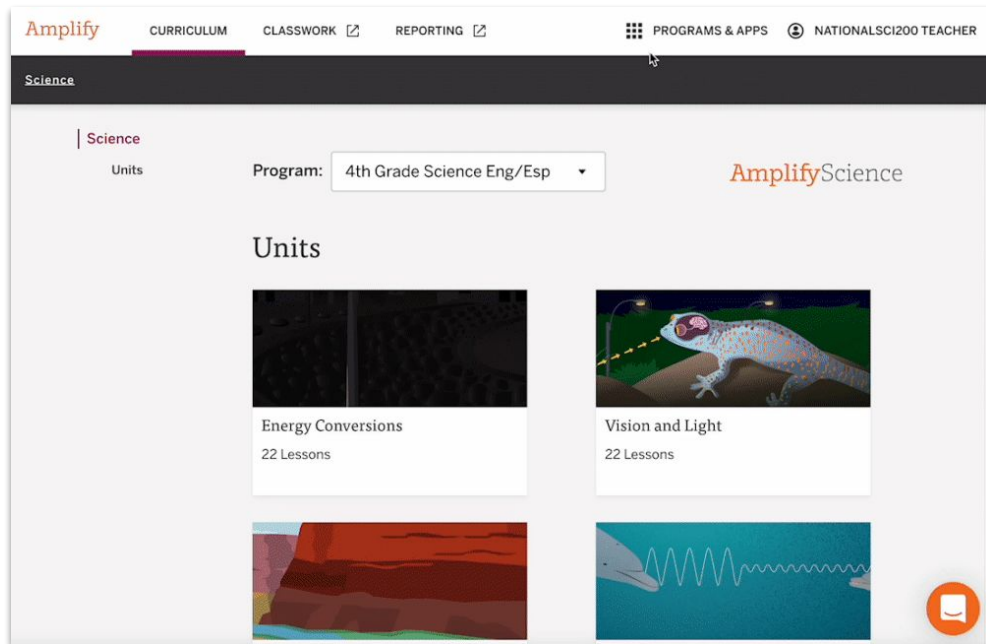
Additional Unit Materials

Additional resources to complement the units you're teaching.

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.

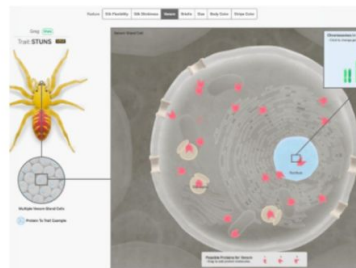
[Para acceder a este sitio en español haga clic aquí.](#)

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!



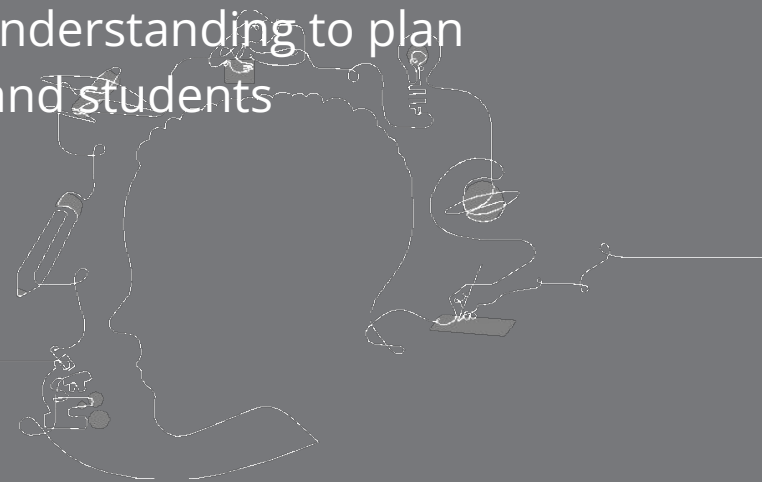


Plan for the day: Part 1

- Introduction and Framing
- 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 *Modeling Matter*.
- ✓ 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

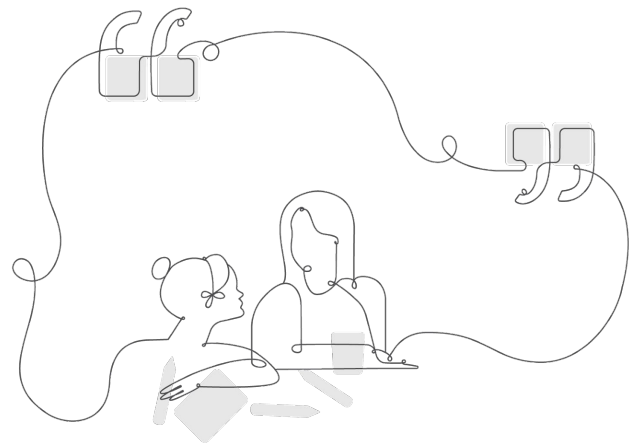
Heart: something you're feeling

Feet: something you're planning to do

Onsite Upcoming Professional Development!

Part 3: Unit 2 - with a focus on assessments

- December 3 (grades 3-6)
- December 12 (grades K-2)



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!

Type:

Strengthen

Session title:

Unit Internalization / Guided Planning

(Part 1)

Professional Learning Specialist name:

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

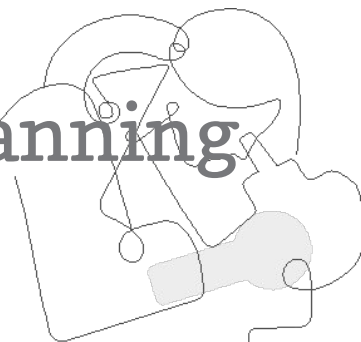
Grade 4, Unit 2: Modeling Matter

Part 2

School/District Name: LAUSD

Date:

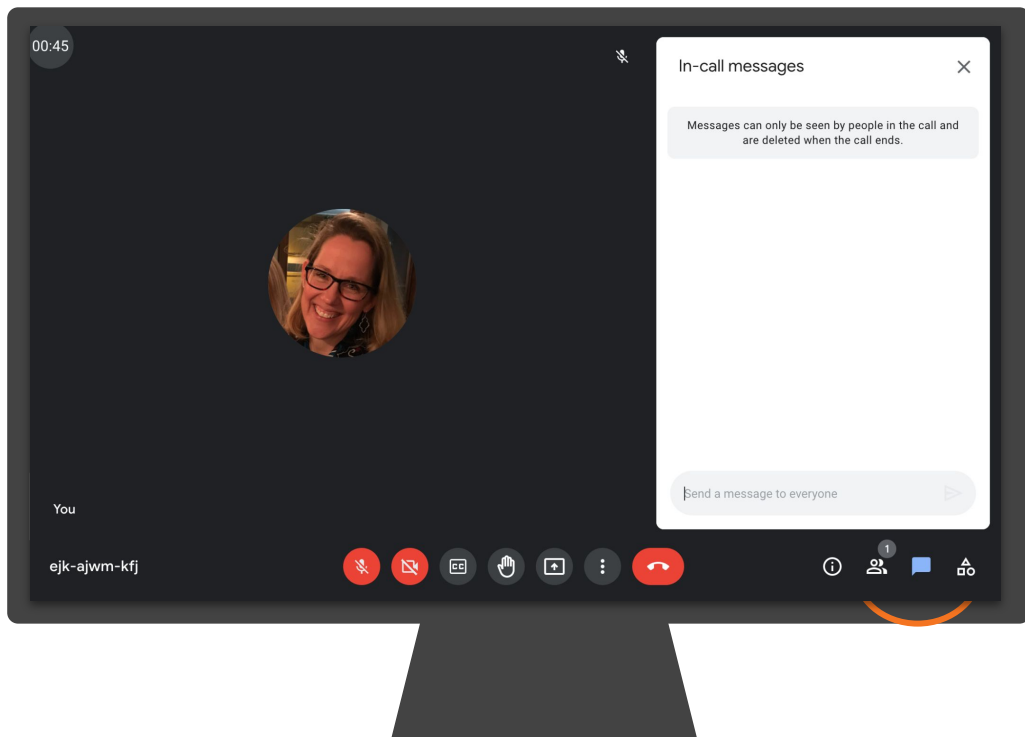
Presented by:



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.

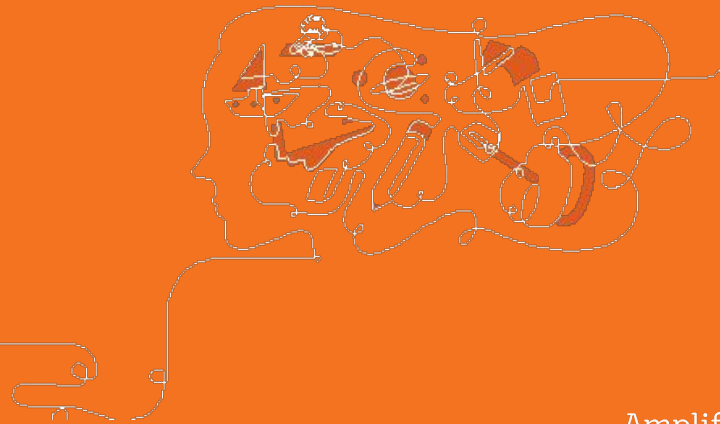
We share your goal of **inspiring all students to think deeply, creatively, and for themselves**.

Sincerely,
Amplify

Norms: Establishing a culture of learners

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

Part 2: Guided Planning

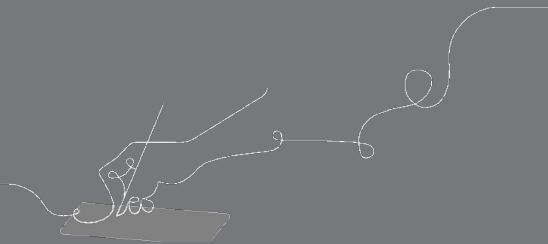


Overarching goals

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



Modeling Matter

Problem: Why is the food coloring from Good Food Production, Inc. not exactly the same as Red Dye #75 and may include a harmful dye?

Role: Food Scientists

engage in two investigations, one to identify a potentially hazardous food dye in a mixture, and the other to create a good-tasting and visually appealing salad dressing that does not separate into layers and contains no sediment.

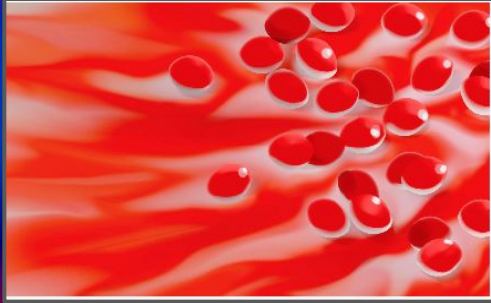
Modeling Matter

Unit Question:

What happens when two substances are mixed together?

Students will understand that there is a connection between the observable properties of materials and the properties of the molecules of which those materials are composed. They will also be able to explain a variety of things that can happen when two substances are mixed, at both the observable scale and the nanoscale.

Coherent Storylines



Why did the food coloring separate into different dyes?



Why do some salad dressings have sediments, and others do not?



Why can salad-dressing ingredients separate again after being mixed?

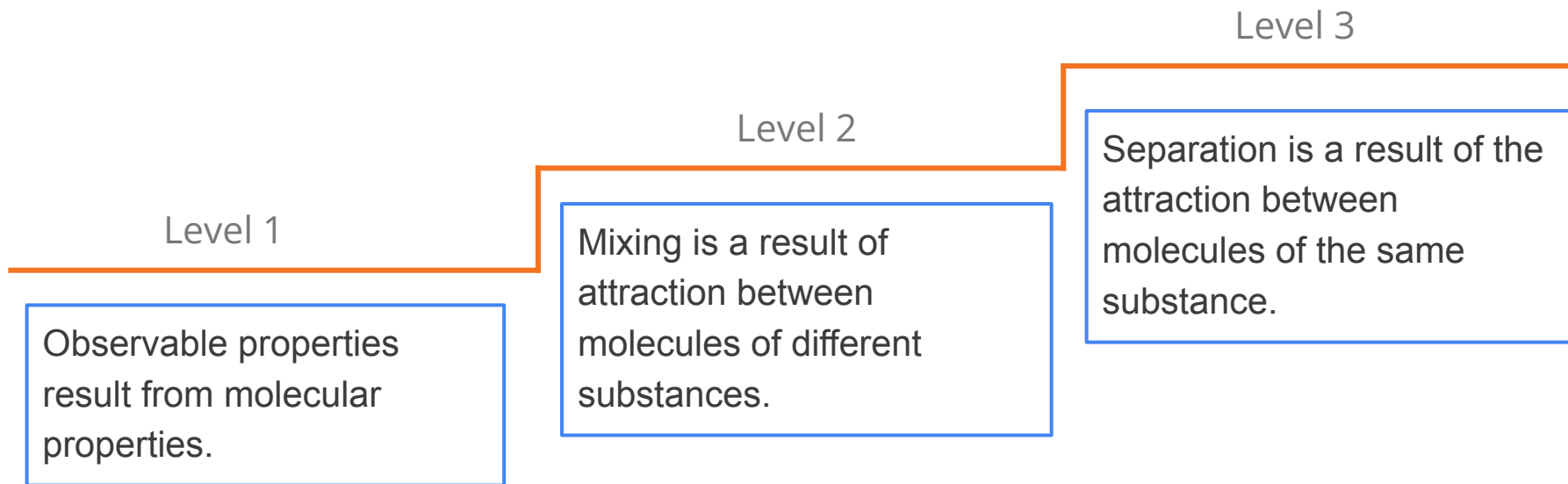
Explaining the phenomenon: Science Concepts

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

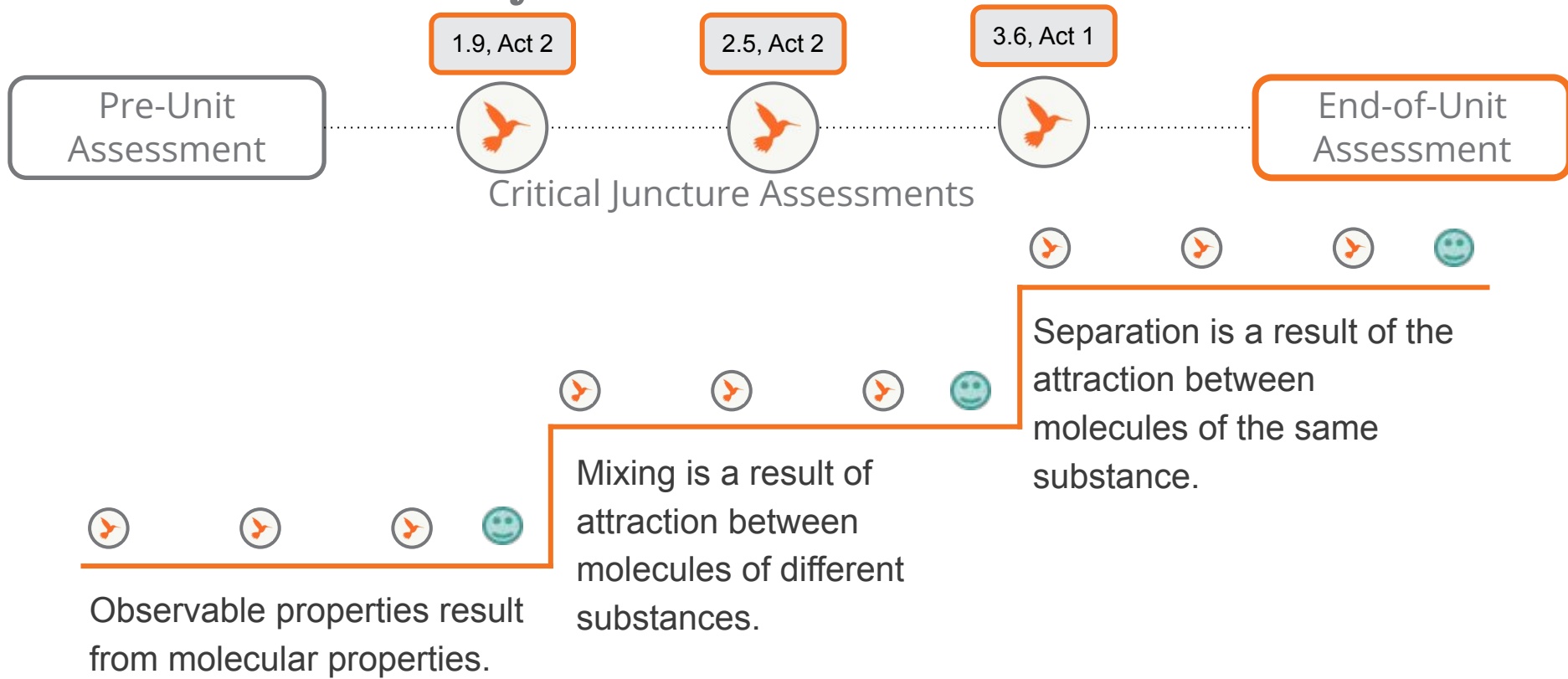
Progress Build

Modeling Matter

Assumed prior knowledge (preconceptions): Students are likely to have encountered the idea that matter is made up of particles that are too small to see individually. They will also likely recognize that there exist different materials that have different characteristics.



K-5 Assessment System



Beginning the Unit

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

AmplifyScience CALIFORNIA EDITION > Modeling Matter > Chapter 1

Chapter 1: Why did the food coloring separate into different dyes?

✓ JUMP DOWN TO CHAPTER OVERVIEW

Lesson 1.1: Pre-Unit Assessment	Lesson 1.2: Introducing Food Science	Lesson 1.3: Made of Matter
Lesson 1.4: Separating a Food-Coloring Mixture	Lesson 1.5: Exploring Another Model of Chromatography	Lesson 1.6: Nanovision Models of Chromatography

Modeling Matters Family Connection

Classroom
Find the

Lesson
Introduct

<

Lesson Brief
(3 Activities)

1

TEACHER-LED DISCUSSION
Preparing to Investigate

2

HANDS-ON
Food-Mixture Investigations

RESET LESSON

Overview
Materials & Preparation
Differentiation
Standards
Vocabulary
Unplugged?

Español

Name: _____ Date: _____

Modeling Matter Family Connections Homework

1. Choose a member of your household and tell them about what we are investigating in science class.
2. Ask them about their experiences, ideas, and questions related to our investigations.
3. Write notes about what you learn.

Summary of our investigation you can share:
In science class, we are working as food scientists to help a company create and test its food products. We will be answering the question, *What happens when two substances are mixed together?*

Ask questions such as:

- What does our investigation make you think of?
- Do you have any memories, stories, expertise, or experiences about something like what we're investigating?
- What have you heard or learned about these topics?
- What do you wonder about what we are investigating?

Write notes here about what you learn:

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GENERATE PRINTABLE LESSON GUIDE

Digital Resources

Classroom Slides 1.1 | PowerPoint

Classroom Slides 1.1 | Google Slides

All Projections

Pre-Unit Writing: Explaining Mixtures copymaster

Assessment Guide: Interpreting Students' Pre-Unit Explanations About Mixtures

Investigation Notebook

Questioning Strategies for Grades 2-5

Modeling Matter Family Connections Homework

Crosscutting Concept Tracker

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

Beginning the Unit

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

AmplifyScience CALIFORNIA EDITION > Modeling Matter > Chapter 1

Chapter 1: Why did the food coloring separate into different dyes?

🔍 JUMP DOWN TO CHAPTER OVERVIEW

Lesson 1.1:
Pre-Unit Assessment

Lesson 1.2:
Introducing Food
Science

Lesson 1.3:
Made of Matter

Lesson 1.4:
Separating a Food-
Coloring Mixture

Lesson 1.5:
Exploring Another
Model of
Chromatography

Lesson 1.6:
Nanovision Models
of Chromatography

The background of the slide is a vibrant red with a wavy, liquid-like texture. Numerous bright red droplets of varying sizes are scattered across the surface, some appearing to be in motion or about to burst. The lighting creates highlights and shadows on the droplets, giving them a three-dimensional appearance.

Grade 5 | Modeling Matter

**Lesson 1.2: Introducing
Food Science**

Activity 1

Preparing to Investigate





Good Food Production, Inc.

Remember, you have taken on the role of **food scientists** at Good Food Production, Inc.

Today, you will **investigate ingredients**.



Inside this cup is a food you have probably seen before.



Take a moment to think of a few **words to describe** the food in this cup.

Vocabulary



observe

to use any of the five senses to gather information
about something



I'll bring the food closer so you can use other senses, like smell, to observe it.



Observe the ketchup.

Keep thinking of words to describe it.



Let's record some of the words you thought of to describe the ketchup.



What did you observe?

Vocabulary



property

what you can observe or measure about something
that helps you identify or describe it

Activity 2

Food-Mixture Investigations





Food scientists make new food creations by combining different ingredients.

We call these combinations **mixtures**.

Vocabulary



mixture

Vocabulary



substance

Today, we are going to investigate this question:

How are different substances different?



Ketchup and most other foods we eat are mixtures of different substances.



What do you think **ketchup** is a mixture of?



Your first task as food scientists will be to investigate these mixtures.



What could you do to **observe more about the mixtures** other than just looking at them?

Name: _____ Date: _____

WARNING—This activity requires chemicals that may be harmful if misused. Read caution on containers carefully. Not to be used by children except under direct adult supervision.

The chemical used in this activity is vinegar.

Investigating Properties

- 1. With your partner, choose one cup from the tray and observe the properties of that food mixture, but do not taste anything. Record your observations in the “Observations of properties” column of the table.
- 2. With that same food mixture, use the spoon to carefully do the Pour Test. Record your observations in the “Pour Test observations” column.
- 3. With that same food mixture, use the paper towel to do the Dip Test. Record your observations in the “Dip Test observations” column.
- 4. When your teacher signals, place the cup back on the tray and choose another cup. Repeat Steps 1–3 for the second and third cups.

Food mixture	Observations of properties <ul style="list-style-type: none">• color• smell• texture	Pour Test observations <ul style="list-style-type: none">• Does it stick to the spoon?• How long does it take to pour?• Is it runny or thick?	Dip Test observations <ul style="list-style-type: none">• Does it stick to the paper?• Does it move up the paper?
Cup 1			
Cup 2			
Cup 3			

Turn to page 3 in your notebooks.

Let’s go over the directions for investigating the mixtures and recording your observations.

Investigating Each Mixture



Observing Properties

Use your senses to observe the mixture and notice its color, smell, and texture.



Pour Test

Scoop up some of the mixture onto a spoon and let it drip back into the cup.



Dip Test

Dip a strip of paper towel into the mixture and then observe the paper towel.

Activity 3

Debriefing Properties of Food





We have been making a list of the properties of food. Since we observed and tested food mixtures, let's title our list

Properties of Food Mixtures.

Name: _____ Date: _____

WARNING—This activity requires chemicals that may be harmful if misused. Read caution on containers carefully. Not to be used by children except under direct adult supervision.

The chemical used in this activity is vinegar.

Investigating Properties

- 1. With your partner, choose one cup from the tray and observe the properties of that food mixture, but do not taste anything. Record your observations in the “Observations of properties” column of the table.
- 2. With that same food mixture, use the spoon to carefully do the Pour Test. Record your observations in the “Pour Test observations” column.
- 3. With that same food mixture, use the paper towel to do the Dip Test. Record your observations in the “Dip Test observations” column.
- 4. When your teacher signals, place the cup back on the tray and choose another cup. Repeat Steps 1–3 for the second and third cups.

Food mixture	Observations of properties <ul style="list-style-type: none">• color• smell• texture	Pour Test observations <ul style="list-style-type: none">• Does it stick to the spoon?• How long does it take to pour?• Is it runny or thick?	Dip Test observations <ul style="list-style-type: none">• Does it stick to the paper?• Does it move up the paper?
Cup 1			
Cup 2			
Cup 3			



What **properties** did you notice when you observed the food mixtures?

Shared Listening



Step 1

I will ask a question.

Partner A shares for one minute while **Partner B listens**.



Step 2

Partner B restates what they heard Partner A say. **Partner A can correct misstatements**, if necessary, but not add any new information.



Step 3

Partners switch roles for the second question. (Partner B will share and Partner A will listen, then restate Partner B's ideas.)



Shared Listening Question 1:



How were these mixtures
different?



Shared Listening Question 2:



What **ingredients** do you think might have been in each mixture?



These mixtures are made of **flour**, **vinegar**, **water**, and **food coloring**.

Each mixture had a different combination of ingredients, but none of them had all four.



Vinegar has a strong smell and can change the flavor of foods.



Which mixture do you think had the **vinegar**?

How do you know?



What did the **flour** do?

How do you know?




What did the **water** do?

How do you know?



What did the **food coloring** do?

Properties of substances	
color smell texture 	

Different substances have different properties, including color, smell, and texture.

Let's **record** some of the properties we observed.



Unit Question

What happens when two substances are mixed together?



End of Lesson



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HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

Amplify.

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Plan for the day: Part 2

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

Gathering evidence

Modeling Matter 1.2

Why did the food coloring separate into different dyes?

How are different substances different?



Name: _____ Date: _____	
Investigating Properties	
1. With your partner, choose one cup from the cups and observe the color and texture of the substance. Record your observations in the table below.	
2. With your partner, choose another cup and observe the color and texture of the substance. Record your observations in the table below.	
3. With your partner, choose a third cup and observe the color and texture of the substance. Record your observations in the table below.	
4. How are the substances different? How are they the same?	
5. How are the substances different? How are they the same?	
6. How are the substances different? How are they the same?	

Shared Listening



Step 1
I will ask a question.
Partner A shares for one minute while **Partner B** listens.



Step 2
Partner B restates what they heard **Partner A** say. **Partner A** can correct misstatements, if necessary, but not add any new information.



Step 3
Partners switch roles for the second question. (**Partner B** will share and **Partner A** will listen, then restate **Partner B**'s ideas.)



Properties of substances	
color	
smell	
texture	

What have students figured out so far?

Investigating and discussing observations

work together to

Investigation Question: How are different substances different?



Name: _____	Date: _____															
<p>Directions: Read the passage and answer the questions that follow. Write your answers in the space provided. Use the space on the back of the page if you need it.</p>																
<p>Observing Properties</p> <p>1. Tell your partner: choose any two objects that are different in the properties of their front covers, but do not look at them. Place your two objects in the "Observations of properties" column of the table.</p> <p>2. Without naming the two objects, use the given words carefully in the "True Test" column to record your observations in the "True Test observations" column.</p> <p>3. With-out naming the two objects, use the given words in the "Do Not Test" column to record your observations in the "Do Not Test observations" column.</p> <p>4. When your teacher signals, place the objects back on the desk and choose another pair. Repeat steps 1-3 for the second and third pairs.</p>																
Read Passage	<table border="1"> <thead> <tr> <th>Observations of properties</th> <th>True Test observations</th> <th>Do Not Test observations</th> </tr> </thead> <tbody> <tr> <td>• color</td> <td>• Touch it and feel its texture</td> <td>• Does it attract the magnet?</td> </tr> <tr> <td>• smell</td> <td>• Does it sink or float?</td> <td>• Does it attract the paper?</td> </tr> <tr> <td>• taste</td> <td>• Does it burn or melt?</td> <td>• Does it attract the object?</td> </tr> <tr> <td></td> <td>• Is it heavy or light?</td> <td></td> </tr> </tbody> </table>	Observations of properties	True Test observations	Do Not Test observations	• color	• Touch it and feel its texture	• Does it attract the magnet?	• smell	• Does it sink or float?	• Does it attract the paper?	• taste	• Does it burn or melt?	• Does it attract the object?		• Is it heavy or light?	
Observations of properties	True Test observations	Do Not Test observations														
• color	• Touch it and feel its texture	• Does it attract the magnet?														
• smell	• Does it sink or float?	• Does it attract the paper?														
• taste	• Does it burn or melt?	• Does it attract the object?														
	• Is it heavy or light?															
Cap 1																
Cap 2																
Cap 3																

Middle School – Lesson 1.2

3



Shared Listening



Step 1
I will ask a question.
Partner A shares for one
minute while **Partner B**
listens.



Step 2
Partner B restates what they




Step 3

Partners switch roles for on.

are and

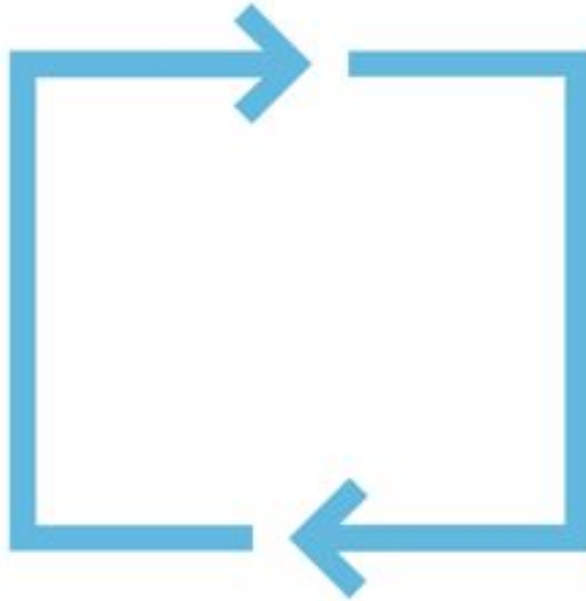
en, then

s ideas.)

Properties of substances	
color smell texture 	

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!



Shared Listening



Step 1
I will ask a question.
Partner A shares for one minute while **Partner B listens**.



Step 2
Partner B restates what they heard Partner A say. **Partner A can correct misstatements**, if necessary, but not add any new information.



Step 3
Partners switch the second question (Partner B will ask Partner A will restate Partner B's question).



Name: _____ Date: _____

The chemical waste:
No water to dispose

Investigating Properties

1. With your partner, choose one cup from the tray and observe the properties of the food mixture, but do not taste anything. Record your observations in the "Observations of properties" column of the table.

2. With that same food mixture, use the spoon to carefully do the Pour Test. Record your observations in the "Pour Test observations" column.

3. With that same food mixture, use the paper bowl to do the Dip Test. Record your observations in the "Dip Test observations" column.

4. When your teacher signals, place the cup back on the tray and choose another cup. Repeat Steps 1-3 for the second and third cups.

Food mixture	Observations of properties • color • smell • texture	Pour Test observations • Does it stick to the spoon? • How long does it take to pour? • Is it runny or thick?	Dip Test observations • Does it stick to the paper? • Does it move up the paper?
Cup 1			
Cup 2			
Cup 3			

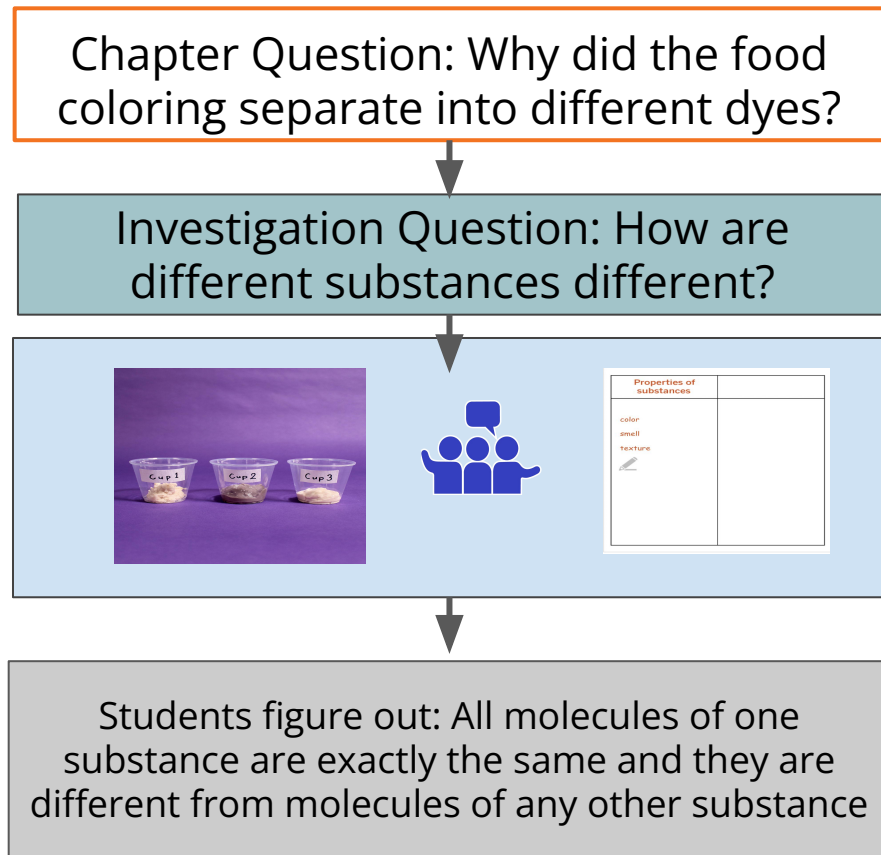
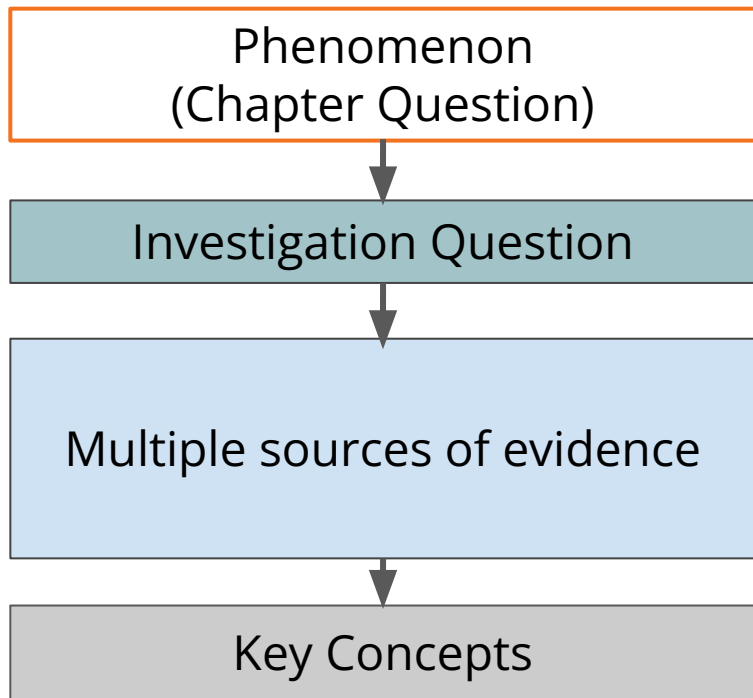
Modeling Science—Lesson 12

3

Properties of substances	
color	
smell	
texture	

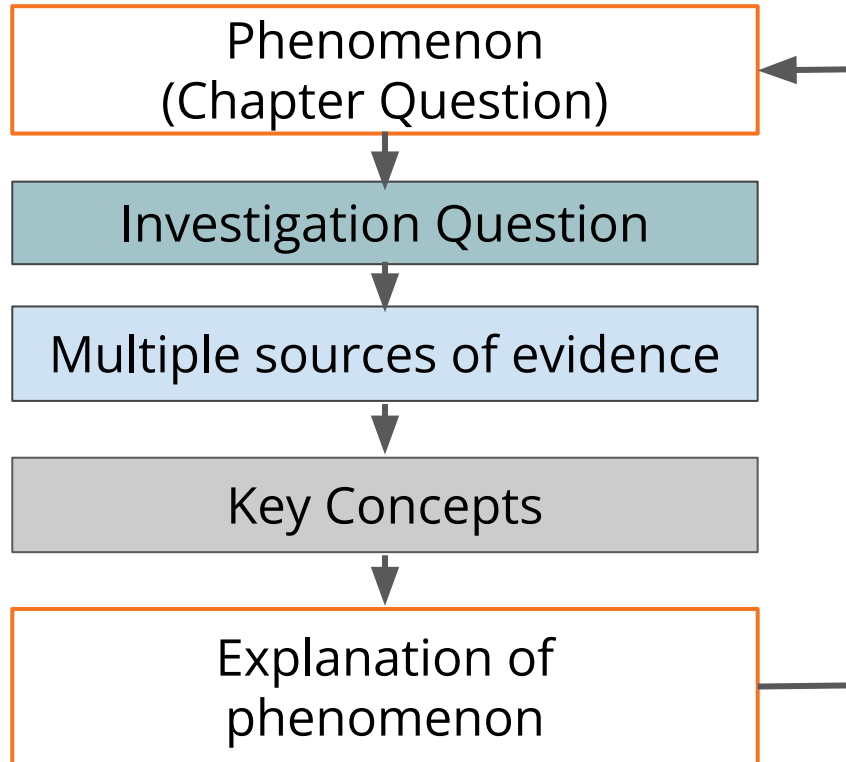
Coherence Flowchart

A diagram of student learning

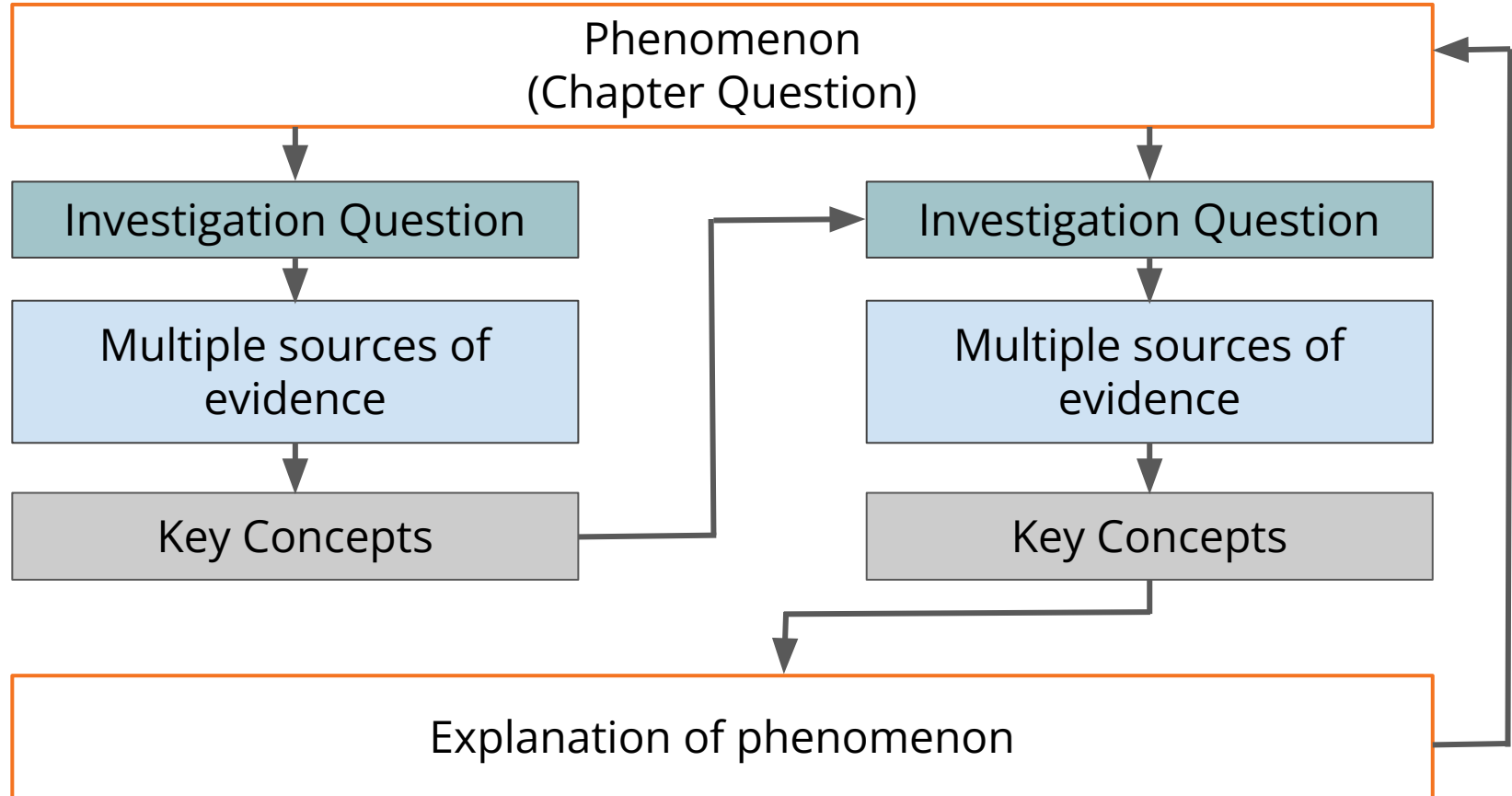


Coherence Flowchart

A diagram of student learning



Coherence Flowchart



Unit Anchor Phenomenon

Problem students work to solve

Chapter-level Anchor Phenomenon

Chapter 1 Question

Investigative Phenomena

Investigation Questions

Evidence sources and reflection opportunities

Key concepts

Application of key concepts to the problem

Explanation that students can make to answer the Chapter 1 Question

Modeling Matter: The Chemistry of Food

The food coloring from Good Food Production, Inc., is not exactly the same as Red Dye #75.
How can we help Good Food Production, Inc. figure out if their food coloring includes a harmful dye?

Good Food Production, Inc.'s food coloring separated into different dyes.
Why did the food coloring separate into different dyes? (introduced in 1.5)

There are different substances in the world.
How are different substances different? (1.2)

- Observe and record properties of food mixtures (1.2)

Different substances have different properties.
How are different kinds of molecules different?
How are molecules similar? (1.3-1.4)

- Observe digital Scale Tool to view nanoscale objects (1.3)
- Read *Made of Matter* (1.3)
- Use chromatography to separate food coloring mixture (1.4)
- Observe the Pasta Model and discuss in relation to chromatography (1.4)
- Write about how molecules can be similar and different (1.4)

- All molecules of one substance are exactly the same, and they are different from molecules of any other substance. (1.4)

Sometimes substances separate.
How do differences in molecules cause substances to separate? (1.5-1.7)

- Use and discuss the Fan Model of chromatography (1.5)
- Make and evaluate nanovision models of chromatography first by drawing, then with digital tool (1.6)
- Read *Break it Down* (1.7)
- Revisit *Break it Down* to analyze how scientists focus on properties of molecules to separate mixtures (1.8)
- Evaluate example nanovision models of chromatography (1.8)

- Different molecules have different properties. (1.5)
- The properties of a substance are determined by the properties of its molecules. (1.8)

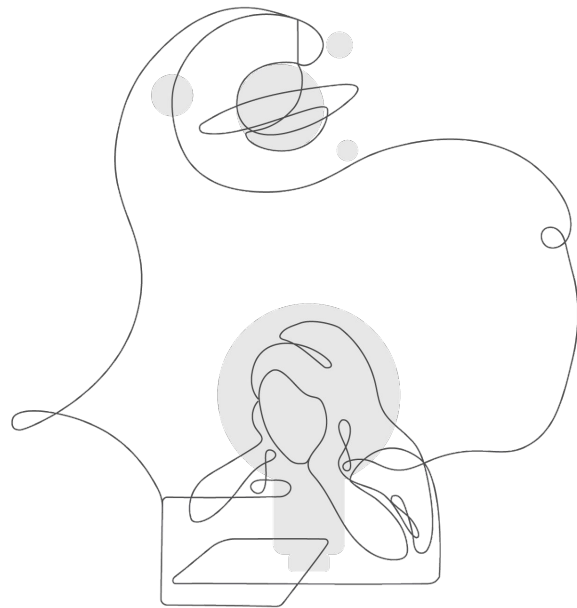
- Revise nanovision models (1.9)
- Write explanations to answer the Chapter 1 Question (1.10)

The different dyes that are mixed together have different properties (colors), so they are made of different molecules. The molecules in the mixture that are carried up the paper by the water are attracted to the water and mix with it. As the water travels up the paper, different kinds of molecules travel different distances because their molecules are different sizes or have a different attraction to the paper.

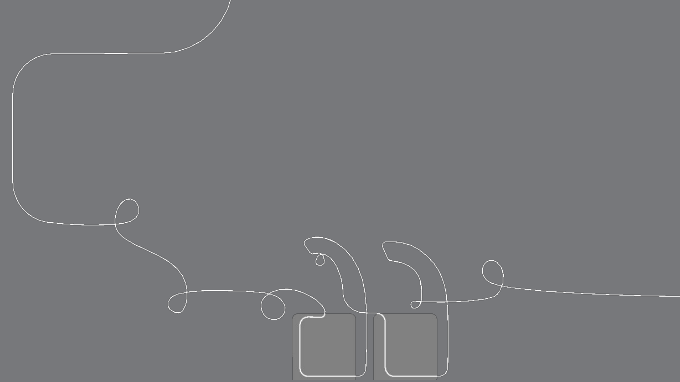
Explore the Coherence Flowchart

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

Classroom Slides are now available for this lesson!
Find them in the [Digital Resources](#) below.

Lesson 1.2: Introducing Food Science

Lesson Brief
(3 Activities)

1
TEACHER-LED DISCUSSION
Preparing to Investigate

2
HANDS-ON
Food-Mixture Investigations

3
STUDENT-TO-STUDENT
DISCUSSION
Debriefing Properties of Food

RESET LESSON

Overview
Materials & Preparation
Differentiation
Standards
Vocabulary
Unplugged?

Overview

Students launch into the unit and their role as food scientists working in the research lab at Good Food Production, Inc. Students learn that many foods are mixtures. Pairs then practice their scientific-observation skills as they describe properties and perform simple tests on food mixtures. The purpose of this lesson is twofold: 1) to immerse students in their role as food scientists and 2) for students to engage in scientific practices and consider ideas about mixtures at an observable scale that they can later apply to thinking about ideas

Digital Resources

Classroom Slides 1.2 | PowerPoint

Classroom Slides 1.2 | Google Slides

All Projections

Properties of Matter Chart: Completed

Español

4 Steps for Starting 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 shows a lesson overview page. At the top, there's a red header with three tabs: '1. PLANNED DISCUSSION', '2. HANDS-ON', and '3. STUDENT-TO-STUDENT'. Below the header, there's a sidebar on the left with links: 'Overview', 'Materials & Preparation', 'Differentiation', 'Standards', 'Vocabulary', and 'Unplugged?'. The main content area is titled 'Overview' and contains text about students launching into the unit as food scientists. On the right, there's a 'Digital Resources' section with links to 'Classroom Slides 1.2 | PowerPoint', 'Classroom Slides 1.2 | Google Slides', 'All Projections', and 'Properties of Matter Chart: Completed'. An orange arrow points to the 'Classroom Slides 1.2 | Google Slides' link, with a large orange number '1' next to it.

RESET LESSON

GENERATE PRINTABLE LESSON GUIDE

Overview

Students launch into the unit and their role as food scientists working in the research lab at Good Food Production, Inc. Students learn that many foods are mixtures. Pairs then practice their scientific-observation skills as they describe properties and perform simple tests on food mixtures. The purpose of this lesson is twofold: 1) to immerse students in their role as food scientists and 2) for students to engage in scientific practices and consider ideas about mixtures at an observable scale that they can later apply to thinking about ideas

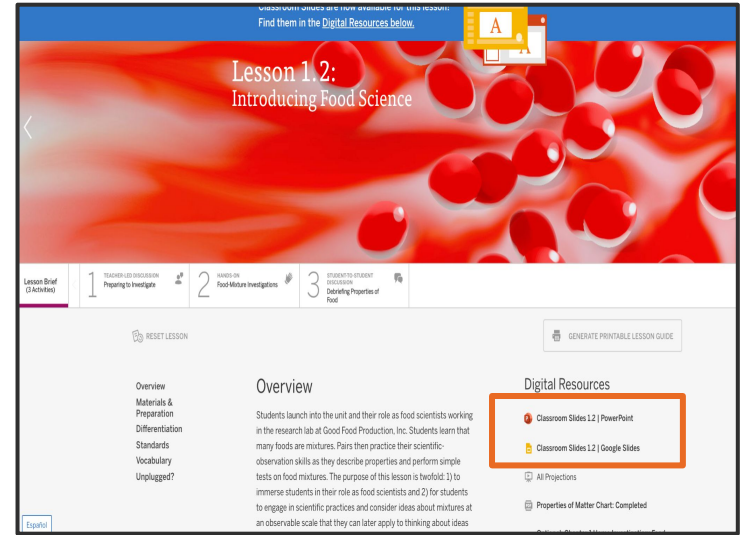
Digital Resources

- Classroom Slides 1.2 | PowerPoint
- Classroom Slides 1.2 | Google Slides
- All Projections
- Properties of Matter Chart: Completed

Preparing to teach

Classroom Slides

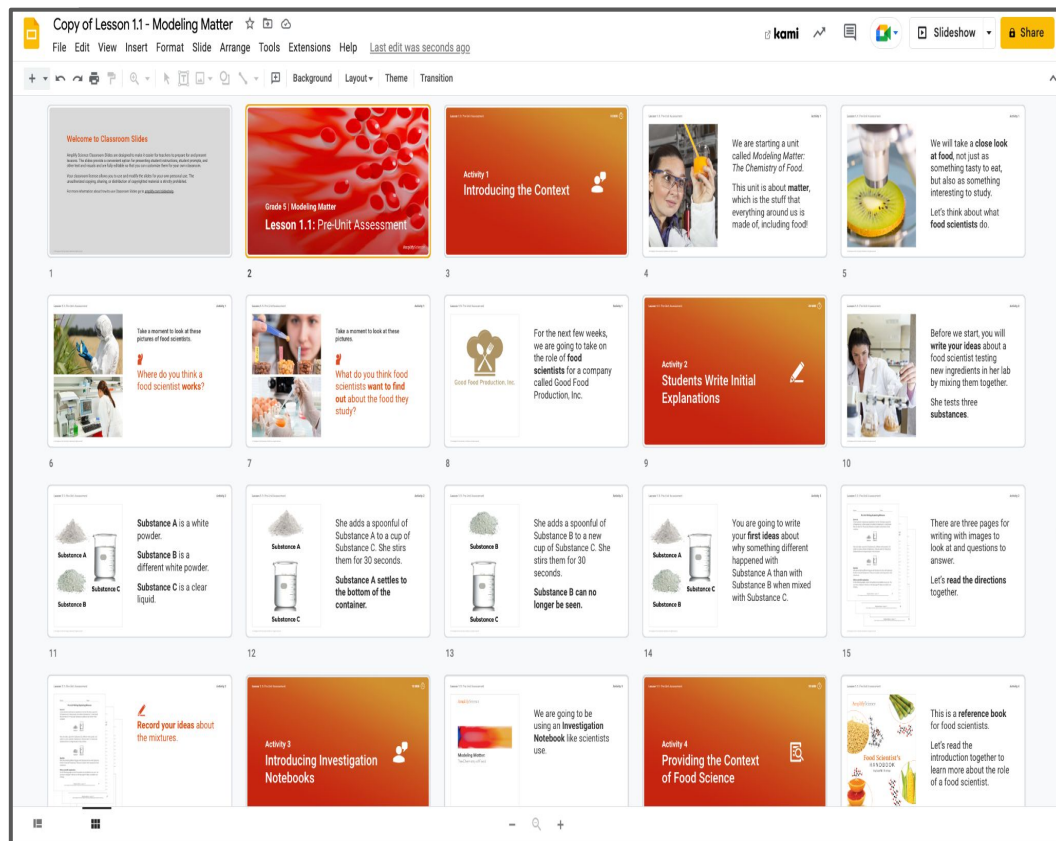
1. Open the Classroom Slides under the Digital Resources.
2. Read through the Classroom Slides including the **presenter notes** to gain a better understanding of the lesson.
3. Consider:
 - What features of the Classroom Slides will support you in teaching this lesson?



Using Classroom Slides as a planning tool

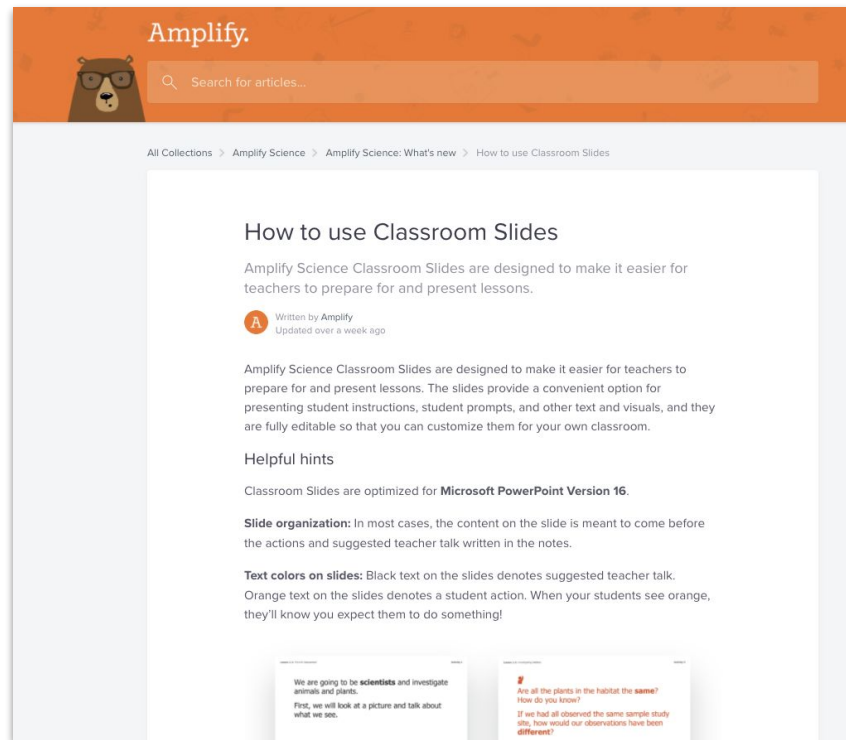
Teacher tip: Classroom Slides are a great visual summary of a lesson. Many teachers download and flip through a lesson's Classroom Slides deck to preview what happens in the lesson.

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.



4 Steps for Starting Your Lesson

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

A screenshot of a lesson plan interface. At the top, there's a red header with three tabs: '1. LIVED DISCUSSION: Food to Investigate', '2. HANDS-ON: Food-Mixture Investigations' (which is selected), and '3. STUDENT-TO-STUDENT DISCUSSION: Debriefing Properties of Food'. Below the tabs, there's a 'RESET LESSON' button on the left and a 'GENERATE PRINTABLE LESSON GUIDE' button on the right. The main content area is titled 'Overview' and contains a paragraph about students launching into the unit as food scientists. On the left side of the main content area, there's a vertical menu with links: 'Overview', 'Materials & Preparation', 'Differentiation', 'Standards', 'Vocabulary', and 'Unplugged?'. On the right side, there's a 'Digital Resources' section with links to 'Classroom Slides 1.2 | PowerPoint', 'Classroom Slides 1.2 | Google Slides', 'All Projections', and 'Properties of Matter Chart: Completed'.

1 LIVED DISCUSSION: Food to Investigate

2 HANDS-ON: Food-Mixture Investigations

3 STUDENT-TO-STUDENT DISCUSSION: Debriefing Properties of Food

RESET LESSON

GENERATE PRINTABLE LESSON GUIDE

Overview

Students launch into the unit and their role as food scientists working in the research lab at Good Food Production, Inc. Students learn that many foods are mixtures. Pairs then practice their scientific-observation skills as they describe properties and perform simple tests on food mixtures. The purpose of this lesson is twofold: 1) to immerse students in their role as food scientists and 2) for students to engage in scientific practices and consider ideas about mixtures at an observable scale that they can later apply to thinking about ideas

- Overview
- Materials & Preparation
- Differentiation
- Standards
- Vocabulary
- Unplugged?

Digital Resources

- Classroom Slides 1.2 | PowerPoint
- Classroom Slides 1.2 | Google Slides
- All Projections
- Properties of Matter Chart: Completed

4 Steps for Starting Your Lesson

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



DISCUSSION Investigate

2 HANDS-ON Food-Mixture Investigations

3 STUDENT-TO-STUDENT DISCUSSION Debriefing Properties of Food

RESET LESSON

GENERATE PRINTABLE LESSON GUIDE

Overview

Materials & Preparation

Differentiation

Standards

Vocabulary

Unplugged?

Overview

Students launch into the unit and their role as food scientists working in the research lab at Good Food Production, Inc. Students learn that many foods are mixtures. Pairs then practice their scientific-observation skills as they describe properties and perform simple tests on food mixtures. The purpose of this lesson is twofold: 1) to immerse students in their role as food scientists and 2) for students to engage in scientific practices and consider ideas about mixtures at an observable scale that they can later apply to thinking about ideas

Digital Resources

- Classroom Slides 1.2 | PowerPoint
- Classroom Slides 1.2 | Google Slides
- All Projections
- Properties of Matter Chart: Completed

Optional: Chapter 1 Home Investigation: Food

4 Steps for Starting 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 shows a lesson planning interface. At the top, there are three tabs: 1. PLANNED DISCUSSION (to Investigate), 2. HANDS-ON (Food-Mixture Investigations), and 3. STUDENT-TO-STUDENT DISCUSSION (Debriefing Properties of Food). Below the tabs, there is a 'RESET LESSON' button and a 'GENERATE PRINTABLE LESSON GUIDE' button. The main content area is titled 'Overview' and contains a paragraph about students launching into the unit as food scientists. On the left sidebar, there is a list of links: Overview, Materials & Preparation, Differentiation, Standards, Vocabulary, and Unplugged?. An orange arrow with the number '4' points to the 'Differentiation' link. On the right sidebar, there is a section titled 'Digital Resources' with links to 'Classroom Slides 1.2 | PowerPoint', 'Classroom Slides 1.2 | Google Slides', 'All Projections', and 'Properties of Matter Chart: Completed'.

Overview

Students launch into the unit and their role as food scientists working in the research lab at Good Food Production, Inc. Students learn that many foods are mixtures. Pairs then practice their scientific-observation skills as they describe properties and perform simple tests on food mixtures. The purpose of this lesson is twofold: 1) to immerse students in their role as food scientists and 2) for students to engage in scientific practices and consider ideas about mixtures at an observable scale that they can later apply to thinking about ideas

Digital Resources

- Classroom Slides 1.2 | PowerPoint
- Classroom Slides 1.2 | Google Slides
- All Projections
- Properties of Matter Chart: Completed

4 Steps for Starting 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 shows a lesson plan interface with a red header. Below the header, there are three tabs: '1. LEARNER-LED DISCUSSION: Getting to Investigate', '2. HANDS-ON: Food-Mixture Investigations', and '3. STUDENT-TO-STUDENT DISCUSSION: Debriefing Properties of Food'. The main content area is titled 'Overview' and contains text about students launching into the unit as food scientists. To the left of the main content is a sidebar with a 'RESET LESSON' button and a list of sections: 'Overview', 'Materials & Preparation', 'Differentiation', 'Standards', 'Vocabulary', and 'Unplugged?'. To the right of the main content is a 'Digital Resources' section with links to 'Classroom Slides 1.2 | PowerPoint', 'Classroom Slides 1.2 | Google Slides', 'All Projections', and 'Properties of Matter Chart: Completed'. Four orange arrows with numbers 1, 2, 3, and 4 point to the 'Classroom Slides 1.2 | Google Slides' link, the 'Overview' section, the 'Materials & Preparation' section, and the 'Differentiation' section, respectively.

RESET LESSON

GENERATE PRINTABLE LESSON GUIDE

Overview

Students launch into the unit and their role as food scientists working in the research lab at Good Food Production, Inc. Students learn that many foods are mixtures. Pairs then practice their scientific-observation skills as they describe properties and perform simple tests on food mixtures. The purpose of this lesson is twofold: 1) to immerse students in their role as food scientists and 2) for students to engage in scientific practices and consider ideas about mixtures at an observable scale that they can later apply to thinking about ideas

Digital Resources

- Classroom Slides 1.2 | PowerPoint
- Classroom Slides 1.2 | Google Slides
- All Projections
- Properties of Matter Chart: Completed

Lesson ____	Activity Overview	
What is the purpose of this lesson? Access prior knowledge about rocks. Make observations of rocks.	Activity 1 (##min)	
What will students learn?	Activity 2 (##min)	
3-D Statement (identify SEP, CCC, and DCI):	Activity 3 (##min)	
Student Resources:	Activity 4 (##min)	
Assessment Opportunities:	Activity 5 (##min)	

Lesson 1.2

Activity Overview

What is the purpose of this lesson?

The purpose of this lesson is twofold: 1) to immerse students in their role as food scientists and 2) for students to engage in scientific practices and consider ideas about mixtures at an observable scale that they can later apply to thinking about ideas in the nanoscale

Activity 1
(10 min)

Preparing to Investigate

What will students learn?

- A property is what you can observe or measure about something that helps you identify or describe it.
- A mixture is made of more than one substance.
- Different substances have different observable properties

Activity 2
(30 min)

Food-Mixture Investigations

3-D Statement (identify SEP, CCC, and DCI):

Students **investigate** various mixtures of food substances in order to **identify similarities and differences in the mixtures and classify mixtures based on their properties (e.g., thickness, color) (patterns).**

Activity 3
(20 min)

Debriefing Properties of Food

Student Resources: 1 tray* Cup 1 (with flour and vinegar mixture), Cup 2 (with flour, food coloring, and water mixture), Cup 3 (with flour and water mixture), 6 paper-towel strips*, 3 spoons, 4 pairs of goggles*, optional: Chapter 1 Home Investigation: Food Mixtures student sheet, *Modeling Matter Investigation Notebook* (pages 1, 3)

Activity 4
(# min)

Assessment Opportunities:
On The Fly Assessment, Activity 2

Activity 5
(##min)

Remember to plan for...

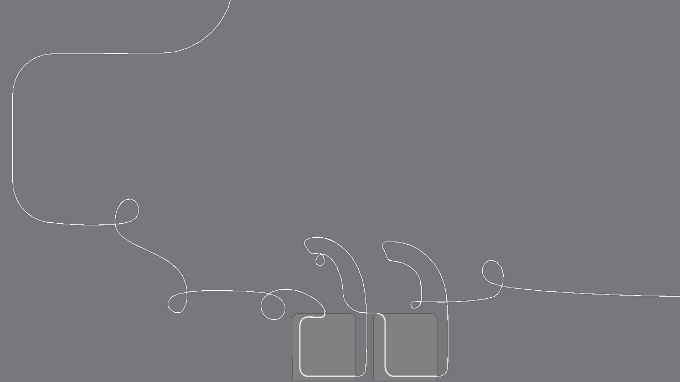
Student work:

- How do you plan to collect evidence of student work?

Differentiation:

- How do you plan to differentiate the lesson for diverse learners?

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!

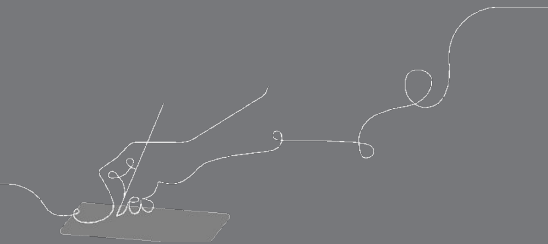


Overarching goals

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

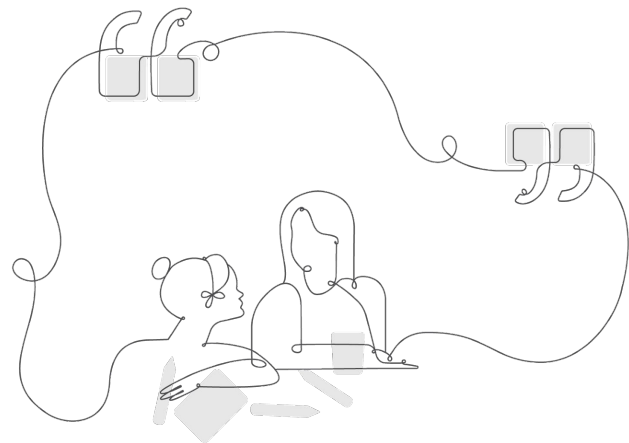
Heart: something you're feeling

Feet: something you're planning to do

Onsite Upcoming Professional Development!

Part 3: Unit 2 - with a focus on assessments

- December 3 (grades 3-6)
- December 10 (grades K-2)



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!

surveymonkey.com/r/InitialAmplifySciPL

Presenter name:

Workshop title:

Part 1: Relaunching the Standard Curriculum

Part 2: Guided Planning (Planning for a Lesson)

Modality:

Remote

