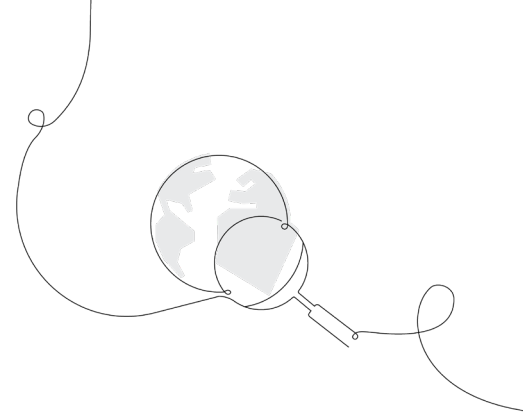


Grade 5 Classroom Slides sampler



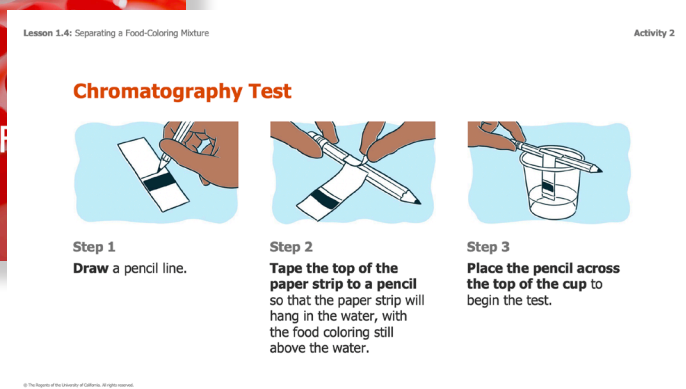
Meet your new hands-free TG!

Science time just got a whole lot easier. With our new Classroom Slides, you can put down the Teacher's Guide and focus on what matters most—your students. Plus, with Classroom Slides, lesson prep is as quick as a click!

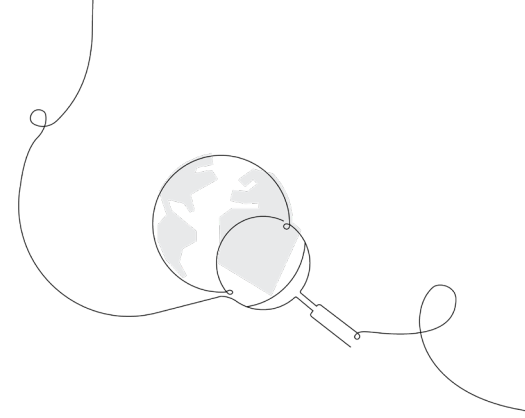
Classroom Slides are:

- **Available offline**, which means no more sweating unreliable internet connections.
- **Streamlined for easy lesson delivery**, including lesson visuals, activity instructions and transitions, animations, investigation setup videos, technology support, and more.
- **Fully editable**, allowing you to incorporate your own flavor, flair, and favorite resources, such as Mystery Science.

This sampler includes slides from one lesson from the Modeling Matter unit.

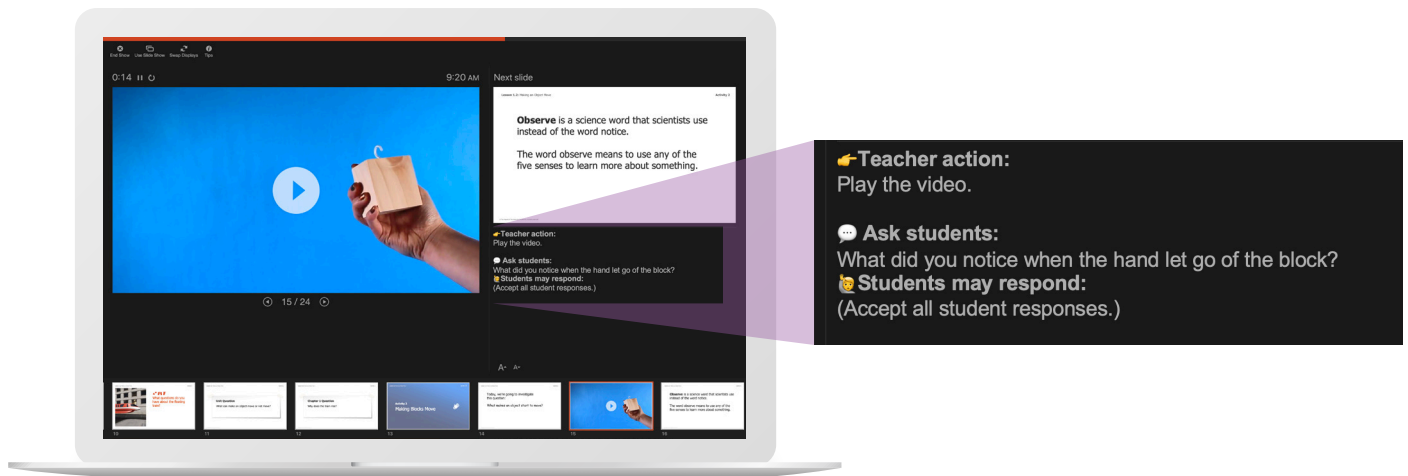


Presenter view

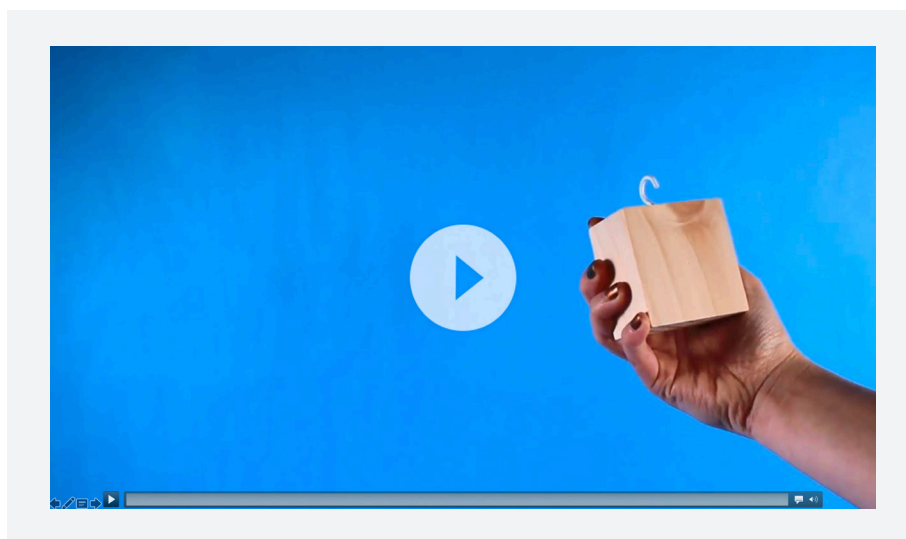


When using presenter view you can:

- **Project the student-facing content** and
- **View your teacher notes**, including teacher talk, teacher actions, and potential student responses and
- **Preview the next slide.**



Teacher view



Student view

A microscopic view of red blood cells, showing numerous red, biconcave disc-shaped cells against a reddish background. The cells are scattered across the frame, with some in sharp focus and others blurred in the background.

Grade 5 | Modeling Matter

Lesson 1.2: Introducing Food Science

AmplifyScience

Lesson purpose: To immerse students in their role as food scientists, engage them in scientific practices, and allow them to consider ideas about mixtures at an observable scale that they can later apply to thinking about ideas in the nanoscale

Please refer to this lesson's Materials & Preparation section in the digital Teacher's Guide or the Print Teacher's Guide for information about preparing to teach this lesson, including any applicable safety notes.

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.**



©The Regents of the University of California. All rights reserved.

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.**



Teacher action:

Hold up a cup with ketchup in it.

Vocabulary



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

© The Regents of the University of California. All rights reserved.

Teacher action:

Post the *observe* vocabulary card to the classroom wall. Point out the area of the classroom wall where you posted the vocabulary and explain that this is where the class will keep track of questions, ideas, and vocabulary during this unit.

Suggested teacher talk:

Scientists don't just look at the things they are investigating. They carefully observe. The word *observe* means to use any of the five senses to gather information about something. By using multiple senses, you can notice many things about a food item.



© The Regents of the University of California. All rights reserved.

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.

 **Teacher action:**

Before allowing students to observe, demonstrate how to smell food in the same way that a scientist smells it by taking the cup of ketchup and moving your hand over the cup, pushing the air toward your nose. Walk around the room and give students a few moments to observe the ketchup. Invite them to make observations about the texture and help a few students make observations of the smell.



Suggested teacher talk (if students bring up taste or flavor):

You will get a chance to taste foods later on, but we won't taste anything in our investigations today. However, you have probably tasted ketchup before. What does it taste like?



Students may respond:

Tastes like tomatoes; tastes tangy.



© The Regents of the University of California. All rights reserved.

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



What did you observe?

👉 Teacher action:

Call on a few volunteers to share their observations and record their descriptive words on the board. If students do not mention *texture* (how thick, pourable, or smooth the ketchup is), ask if the ketchup is bumpy or smooth, thick or thin, and record their responses on the board.

👉 Teacher action:

On the board, above the list of students' observations, write the title "Properties of Food."

Vocabulary



property

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

© The Regents of the University of California. All rights reserved.



Suggested teacher talk:

We just made careful observations of a food, just as food scientists do. We were observing the properties of ketchup.



Teacher action:

Post the *property* vocabulary card to the classroom wall.



Suggested teacher talk:

A property is what you can observe or measure about something that helps you figure out what it is. For example, the red color is a property of ketchup. The thick texture is a property of ketchup.

Activity 2

Food-Mixture Investigations





© The Regents of the University of California. All rights reserved.

Food scientists make new food creations by combining different ingredients.

We call these combinations **mixtures**.

Vocabulary



mixture



Suggested teacher talk:

A mixture is anything that is made of more than one substance.



Teacher action:

Post the *mixture* vocabulary card to the classroom wall.

Vocabulary



substance



Suggested teacher talk:

A substance is a single part of a mixture—one ingredient.



Teacher action:

Post the *substance* vocabulary card to the classroom wall.

Today, we are going to investigate this question:

How are different substances different?



Teacher action:

Point out the Investigation Question written on the board.



© The Regents of the University of California. All rights reserved.

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



What do you think ketchup is a mixture of?



Students may respond:

Tomatoes, water, vinegar, sugar, and salt.



Suggested teacher talk:

Food scientists work with mixtures so they can know what ingredients, or substances, are in them. That can help them change the flavor, color, or texture of many of the foods we eat.



© The Regents of the University of California. All rights reserved.

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?



Students may respond:

You could smell them, pour them out, or stir them around.



Suggested teacher talk:

You're going to observe and record the properties of these three mixtures in order to try and figure out the properties of the ingredients, or substances, that make up each of the mixtures. This will help us answer our Investigation Question: *How are different substances different?*



Suggested teacher talk:

Each group of four will share a tray of materials, but you will work in pairs.

Name: _____ Date: _____

WARNING—This activity requires chemicals that may be harmful if released. 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

- 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.
- With that same food mixture, use the spoon to carefully do the Pour Test. Record your observations in the "Pour Test observations" column.
- With that same food mixture, use the paper towel to do the Dip Test. Record your observations in the "Dip Test observations" column.
- 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 Matter—Lesson 1.2

3

© 2018 University of California. All rights reserved. Permission is granted to reproduce this material.

Turn to page 3 in your notebooks.

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



Suggested teacher talk:

Since one pair in each group will be sharing the food mixtures with the other pair, you don't need to observe the food mixtures in any special order. Just make sure that you observe each mixture. Even though you are working in pairs, each of you should record observations in your own notebooks. Make sure to record the observations for each food mixture in the correct row.

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.



SAFETY NOTE:

Caution students to not taste any of the ingredients. Be aware of any students who might have allergies to wheat and/or gluten and caution them not to get too close to the mixtures.



Suggested teacher talk:

Even though nothing in this investigation is unsafe, in general we do not taste anything in science class, and you should not taste these mixtures.



Teacher action:

Review the investigating steps with students, modeling each procedure using the cup of ketchup to demonstrate.

- Observing Properties: Look closely and do a Smell Test (smell the ketchup the way a scientist would by taking the cup of ketchup and moving your hand over the cup, pushing the air toward your nose). Note such things as color, texture, and smell.
- Pour Test: Test how thick the mixture is by scooping some ketchup onto a spoon and “pouring” it back into the cup.

[View your online Teacher’s Guide for more resources](#)

Activity 3

Debriefing Properties of Food





© The Regents of the University of California. All rights reserved.

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.**

👉 **Teacher action:**

Add "Mixtures" to the title of the list on the board.

Name: _____ Date: _____

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

The chemical used in this activity is vinegar.

Investigating Properties

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

Modeling Matter—Lesson 1.2 **3**

A 2018 trademark of the Regents of the University of California. All rights reserved. Permission granted to educators for noncommercial use.



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



Teacher action:

Call on students to share properties and test results they recorded in their notebooks. Responses should include colors, smells, and textures they observed. As students share, add their descriptive words to the list. As needed, prompt students with questions about the observable properties, such as *Which mixtures were thicker? Which mixtures were thinner? Which mixtures smelled stronger?*

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.)



Suggested teacher talk:

We will use this routine called Shared Listening to discuss some questions. During this routine, you will have a chance to talk and listen to a partner. The routine will require you to be good listeners, to speak clearly, and to follow directions.



© The Regents of the University of California. All rights reserved.

Shared Listening Question 1:



How were these mixtures
different?



© The Regents of the University of California. All rights reserved.

Shared Listening Question 2:



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



© The Regents of the University of California. All rights reserved.

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.



© The Regents of the University of California. All rights reserved.

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



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

How do you know?



Students may respond:

- The one that smelled strong or different.
- Because vinegar by itself smells strong.



© The Regents of the University of California. All rights reserved.



What did the **flour** do?

How do you know?



Students may respond:

- It made things thicker.
- When you put flour in mixtures, it makes them thicker.



© The Regents of the University of California. All rights reserved.



What did the **water** do?

How do you know?



Students may respond:

- It made things thinner.
- Water makes things watery.



© The Regents of the University of California. All rights reserved.



What did the **food coloring** do?




Students may respond:

It made the mixture turn a different color.



Suggested teacher talk:

We observed that the different substances have different properties. That is why mixing different substances together made the mixtures different.

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.

 **Teacher action:**

Post the blank T-chart on the classroom wall and record some properties:

- On the left side of the T-chart, record the subhead. Write “Properties of substances.”
- Under this subhead, leave some extra space and then write “color,” “smell,” and “texture” in a list.
- Add any other words that students generated.



Unit Question

What happens when two substances are mixed together?

© The Regents of the University of California. All rights reserved.

Teacher action:

Post the Unit Question to the classroom wall and read it out loud.

Suggested teacher talk:

In figuring out the substances in these mixtures today, we are actually starting to think about this bigger question. We will be working toward our unit question, with many other examples, throughout the unit.

Suggested teacher talk:

Today, you were student food scientists. You made and recorded observations of the properties of food mixtures. You also shared ideas about ways that the substances in each mixture might be used to change the color, smell, and texture of foods we eat. We will continue to explore these properties with other substances and mixtures in the coming weeks to help answer the Unit Question.

End of Lesson



Amplify.

Published and Distributed by Amplify. www.amplify.com