Part of the Day	Timing (min)	*PLS use only* Plan for the day
Welcome	35 min	 Welcome (10) Review key aspects of the approach (10) Introduce unit phenomenon (10) Opening reflection (5)
Unit-Specific	85 min	 Unit Map (5) Unit storyline overview (5) Break (15) Experiencing and analyzing chapter 1 (35) Analyzing chapter 2 (25)
Remote/Hybrid resources	40 min	 Guided introduction/review (15) Discussions around challenges & planning (25)
Closing	20 min	 Reflection (5) Additional resources (10) Survey (5)

Welcome to Amplify Science!

Do Now





- 1. Go to learning.amplify.com
- 2. Select Log in with Amplify
- 3. Enter teacher demo account credentials
 - xxxxxx@pd.tryamplify.net
 - Password: xxxx

While you wait for others:

- Can you find the coherence flowchart?
- Can you find the Progress Build?

Amplify Science New York City

Understanding the Unit Storyline & Coherence Grade 5: Modeling Matter



Introductions!

Please introduce yourself in the chat

- Share a success or challenge you've had in implementing Amplify Science.
- Then, share a solution to a challenge posted by a colleague.



Overarching goals

Understand the unit 2 storyline
Plan for using Amplify Science@Home resources utilizing coherence as a design principle
Collaboratively problem-solve with colleagues



Plan for the day

- Welcome
- Unit storyline
 - Anchor phenomenon
 - Storyline summary
 - Break
 - Model activity
 - Evidence source analysis
- Remote and hybrid resources
 - Reviewing the resources
 - Collaborative planning
- Reflection and closing

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.

Key aspects of the Amplify Science approach



Phenomenon-based instruction A shift in science instruction



Scientific phenomenon: An observable event in the natural world you can use science ideas to explain or predict

Multimodal learning

Gathering evidence over multiple lessons



Do, Talk, Read, Write, Visualize



Coherent storylines



Opening reflection Stop and jot

Amplify Science units are designed around storylines.

What does this mean for the **student experience**?











Plan for the day

- Welcome
- Unit storyline
 - Anchor phenomenon
 - Storyline summary
 - Break
 - Model activity
 - Evidence source analysis
 - Breakout groups
- Remote and hybrid resources
 - Reviewing the resources
 - Collaborative planning
- Reflection and closing

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Grade 5 | Modeling Matter Lesson 1.1: Pre-Unit Assessment

AmplifyScience

Activity 1 Introducing the Context



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?



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

Grade 5 | Modeling Matter Lesson 1.4: Separating a Food-Coloring Mixture

AmplifyScience

Activity 1 Introducing the Harmful-Dye Context



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To: Food Science Lab **From:** Lauren Harold, President, Good Food Production, Inc. **Subject:** Test for Harmful Food Dye



Dear Food Scientists,

Customers are concerned about food products that contain Red Dye #75. Some people believe that Red Dye #75 causes health problems in children. Good Food Production, Inc. wants to make sure our customers are safe!

We need to test the food coloring that's used in many of our products to see if it might contain red food dye, so we know if we need to submit it for further testing. Please determine whether our food coloring is a pure substance or whether it is a mixture. If it is a mixture, please determine whether red dye is part of the mixture.

Sincerely, Lauren Harold, President Good Food Production, Inc.

This is the food dye that might be harmful, Red Dye #75.





This is the **food coloring** that Good Food Production, Inc. uses in many of its products.

We will **test** to find out if it is a mixture that could contain Red Dye #75.



Explaining the phenomenon piece by piece

Modeling Matter storyline Look for

As you listen to the storyline summary, **consider the student experience.**

What will it be like for students to work through the unit storyline?



Modeling Matter Chapter 1



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

Explanation: 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.

Modeling Matter Chapter 2



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

Explanation: Salad dressings with sediments contain solids that are not soluble; salad dressings without sediments contain soluble solids. The molecules of water and the molecules of different solids are different from one another. When a solid dissolves in water (it is soluble), it means that the molecules of the solid are attracted to water molecules.When a solid does not dissolve in water, it means that the molecules of the solid are not attracted to water molecules.





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

Explanation: When liquids do not mix together, they form layers. The A molecules and the B molecules are not attracted to one another, so they do not mix together. In addition to the level of attraction between A molecules and B molecules, A molecules have a level of attraction to other A molecules, and B molecules have a level of attraction to other B molecules. Liquid ingredients in a salad dressing separate after being mixed if the attraction between molecules of one liquid is greater than the attraction between molecules of different liquids. However, if an emulsifier is added, the liquids can mix because the molecules of the emulsifier are strongly attracted to both A molecules and B molecules.

Would you like to add anything to your opening reflection?



Make any updates, then take a break!



Welcome back Please respond in the chat

How do students get from the **question** at the beginning of the chapter to the **explanation** at the end of the chapter in Amplify Science? **Chapter Question:** Why did the food coloring separate into different dyes?

Explanation: 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.

Constructing science knowledge

In order to progress through a unit storyline, students figure out general science ideas they can use to explain the phenomenon.



Coherence flowchart

Respond in the chat

Share your **prior** knowledge about the coherence flowchart, and how you've used it as a tool in your planning and teaching.




Example evidence source Model Lesson with text





Students app page to access books

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



Student volunteers





Grade 5 | Modeling Matter Lesson 1.7: Break It Down

AmplifyScience



Activity 1 Readers Make Inferences



Scientists make **observations** and **inferences**.

Remember, an inference is something you figure out based on evidence.

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Break It Down

How Scientists Separate Mixtures

by Jonathan Curley and Ashley Chase



This book is about scientists who separate mixtures in their work.

As we read, we will **make inferences** to understand the work the scientists are doing.

AmplifyScience

Break It Down

How Scientists Separate Mixtures

by Jonathan Curley and Ashley Chase



Preview the **photos** and **diagrams** and read some of the **captions** beneath them.

Look for clues that help you make inferences.

Activity 2 Partner Reading







X Read pages 4–9 and think about how the text connects to what you already know about mixtures.



What is a fact about mixtures that you already knew?

What **new information** did you learn?

Making Inferences in Break It Down: How Scientists Separate Mixtures Record in the table below as you read Break It Down. Use the images,		
Section in book	Make an inference to answer a question	What helped you make the inference? • what you already know • which image, caption, or text? (Include page.)
Break It Down to Solve Problems: pages 10-11	In ocean water, are water molecules attracted to the atoms that make up salt? Yes No	
Break It Down to Save Lives: pages 12–15	Are there different kinds of molecules in blood? Yes No	
Break It Down to Uncover the Past: pages 16–21	Are the different molecules in goat meat, lentils, honey, wine, and olive oil all the same size? Yes No	
Mixtures and Properties: pages 22-23	What properties of molecules might you be able to use to separate pollution from other substances? Answer:	

Turn to page 18 in your notebooks.

You'll make **inferences** to answer questions. Then, record the parts of the text that helped you.

Let's do one together.

Break It Down to Solve Problems

Most of the water on Earth is in the ocean. Ocean water is a mixture of water and different kinds of salt, and it is much too salty for people to drink.

In some parts of the world, there is very little water for drinking, but plenty of ocean water is available. Making salty ocean water safe to drink helps people in these places. However, the water must be separated from the rest of the mixture.

This city is in a desert that is next to the ocean. Drinking water for the city comes from separated ocean water.

Water and salt have different **properties**—things about matter that people can see, feel, smell, hear, taste, or measure. Differences in the properties of matter are caused by differences in the properties of the atoms and molecules that make up that matter. For example, water molecules are smaller than many other kinds of molecules. Scientists have figured out how to use this property of water molecules to separate pure water from the salty ocean water mixture.

Ocean water is pumped through pipes, and then pushed through a **filter** with holes in it that are much too small to see. The tiny water molecules in the ocean water mixture are small enough to pass through the filter, but the atoms that make the water salty remain trapped. Only pure water comes out on the other side of the filter, and this water is safe for people to drink.



This **diagram** shows how the water can be separated from a mixture of water and salt using a kind of filter.

Making Inferences in Break It Down: How Scientists Separate Mixtures Record in the table below as you read Break It Down. Use the images, continues and text in the back to belo you make inferences		
Section in book	Make an inference to answer a question	What helped you make the inference? • what you already know • which image, caption, or text? (Include page.)
Break It Down to Solve Problems: pages 10-11	In ocean water, are water molecules attracted to the atoms that make up salt? Yes No	
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Mixtures and Properties: pages 22-23	What properties of molecules might you be able to use to separate pollution from other substances? Answer:	

Now let's make an **inference** about the first question.

We'll use clues from the text, images, captions, and what we already know about molecules.

Making Inferences in Break It Down: How Scientists Separate Mixtures Record in the table below as you read Break It Down. Use the images, captions, and text in the book to help you make inferences		
Section in book	Make an inference to answer a question	What helped you make the inference? • what you already know • which image, caption, or text? (Include page.)
Break It Down to Solve Problems: pages 10–11	In ocean water, are water molecules attracted to the atoms that make up salt?	
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Mixtures and Properties: pages 22-23	What properties of molecules might you be able to use to separate pollution from other substances? Answer:	

What do you already **know about water molecules** that could help you answer the question? Water and salt have different **properties**—things about matter that people can see, feel, smell, hear, taste, or measure. Differences in the properties of matter are caused by differences in the properties of the atoms and molecules that make up that matter. For example, water molecules are smaller than many other kinds of molecules. Scientists have figured out how to use this property of water molecules to separate pure water from the salty ocean water mixture.

Ocean water is pumped through pipes, and then pushed through a **filter** with holes in it that are much too small to see. The tiny water molecules in the ocean water mixture are small enough to pass through the filter, but the atoms that make the water salty remain trapped. Only pure water comes out on the other side of the filter, and this water is safe for people to drink.



What part of the text helps us know that water molecules stick to, or are attracted to, the atoms that make up salt?

Making Inferences in Break It Down: How Scientists Separate Mixtures Record in the table below as you read Break It Down. Use the images,		
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Mixtures and Properties: pages 22-23	What properties of molecules might you be able to use to separate pollution from other substances? Answer:	



Remember to include the page number.

Making Inferences in Break It Down: How Scientists Separate Mixtures ecord in the table below as you read Break It Down. Use the images, aptions, and text in the book to help you make inferences		
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Break It Down to Uncover the Past: pages 16-21	Are the different molecules in goat meat, lentils, honey, wine, and olive oil all the same size? Yes No	
Mixtures and Properties: pages 22-23	What properties of molecules might you be able to use to separate pollution from other substances? Answer:	

Read pages 12–23, make inferences, and complete the rest of the notebook page.





Activity 3 Reflecting on the Book

Making Inferences in Break It Down: How Scientists Separate Mixtures Record in the table below as you read Break It Down. Use the images, continues and text in the back to belo you make inferences		
Section in book	Make an inference to answer a question	What helped you make the inference? • what you already know • which image, caption, or text? (Include page.)
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Mixtures and Properties: pages 22-23	What properties of molecules might you be able to use to separate pollution from other substances? Answer:	

How did you answer the **second** question?

What helped you make that inference?

Break I t Record in the tab	Making Inferen t Down: How Scientists ble below as you read Break t in the book to help you ma	ces in : Separate Mixtures <i>It Down</i> . Use the images, ske inferences
Section in book	Make an inference to answer a question	What helped you make the inference? • what you already know • which image, caption, or text? (Include page.)
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Break It Down to Uncover the Past: pages 16-21	Are the different molecules in goat meat, lentils, honey, wine, and olive oil all the same size? Yes No	
Mixtures and Properties: pages 22-23	What properties of molecules might you be able to use to separate pollution from other substances? Answer:	

How did you answer the third question?

What helped you make that inference?

		Dddd	
Making Inferences in Break It Down: How Scientists Separate Mixtures Record in the table below as you read Break It Down. Use the images, captions, and text in the book to helo you make inferences			
		 what you already know which image, caption, or text? (Include page.) 	
Break It Down to Solve Problems: pages 10–11	In ocean water, are water molecules attracted to the atoms that make up salt?	Diagram on page 11: Water molecules are attracted to other	
	Yes No	molecules.	
Break It Down to Save Lives: pages 12–15	Are there different kinds of molecules in blood? Yes No		
Break It Down to Uncover the Past: pages 16-21	Are the different molecules in goat meat, lentils, honey, wine, and olive oil all the same size?		
	Yes No		
Mixtures and Properties: pages 22–23	What properties of molecules might you be able to use to separate pollution from other substances? Answer:		

How did you answer the **last** question?

What helped you make that inference?

Remember that we are investigating this question:

How do differences in molecules cause substances to separate?

What are some ways that scientists in *Break It Down* separated substances using **differences in the molecules** of the substances?

Lesson 1.7: Break It Down

End of Lesson





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Evidence source analysis

AmplifyScience

Break It Down

How Scientists Separate Mixtures

by Jonathan Curley and Ashley Chase



Key Concept:

• The properties of a substance are determined by the properties of its molecules.

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Evidence source analysis Please respond in the chat

How did reading and discussing this text help us build our understanding of these key concepts?

Key Concept:

• The properties of a substance are determined by the properties of its molecules.

Evidence source analysis

Analyzing an activity within a chapter storyline

Reflecting on how an activity helps students **figure out key concepts** is a tool for planning to teach.

Resource	Useful for
Lesson purpose (in Lesson Brief or Classroom Slides title slide notes)	Understanding what a lesson or activity is designed to do for student learning
Coherence flowchart	Considering how an activity works together with other parts of the chapter

Progress Build Unit-specific learning progression

- Reflecting on where a lesson lies on the your unit's progress build is a tool for **planning** to teach, specifically for gauging student **understanding** throughout the units.
- Which level of the progress build does the model lesson align to?



Build increasingly complex explanations

Evidence source analysis

Using evidence source analysis to prepare to teach

- 1. Read **lesson purpose** to consider the activity's role
- 2. Use the **coherence flowchart**:
 - a. To analyze how it fits within the chapter storyline
 - b. To consider the activity's modality and how it works with other activities (of other modalities)
- 3. As you plan for teaching, consider:
 - a. What you'll emphasize during the activity, and what you'll expect students to do or say
 - b. Implications for how you'll teach other activities in the chapter

Planning time Chapter 2 Storyline



Breakout groups

Evidence source analysis

First, get familiar with the Chapter Question, Investigation Question, key concepts, and explanation. Then, choose one evidence source and analyze its role in the Chapter 2 storyline.



Navigate to your own coherence flowchart

Español

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- 1. From the Unit Landing Page, select JUMP DOWN **TO UNIT GUIDE**
- 2. Under Printable Resources, select **Coherence Flowchart**
- Look over the coherence 3. flowchart for **Chapter 1**.

fyScience > Metabolism	
Planning for the Unit	Printable Resources
Unit Overview	Article Compilation
Unit Map	Coherence Flowchart
Progress Build	🗸 🔤 Copymaster Compilation
Getting Ready to Teach	✓
Materials and Preparation	🗸 🔤 Investigation Notebook
Science Background	 Guardians
Standards at a Glance	Print Materials (8.5" x 11")
Teacher References	Print Materials (11" x 17")
Lesson Overview Compilation	~
Standards and Goals	Offline Preparation
3-D Statements	leaching without reliable classroom internet? Prepare unit and lesson materials for offline access
Assessment System	
Embedded Formative Assessments	 ✓ Offline Guide
Articles in This Unit	~
Apps in This Unit	~



Plan for the day

- Welcome
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 - Break
 - Model activity
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 - Breakout groups
- Remote and hybrid resources
 - Reviewing the resources
 - Collaborative planning
- Reflection and closing

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Amplify Science@Home A suite of resources that...

- Are designed for students to complete independently
- Require no materials except a pencil and paper
- Include digital and print-only options
- Can be leveraged in a variety of remote and hybrid instructional formats



Amplify Science Program Hub A new hub for Amplify Science resources

- Videos and resources to continue getting ready to teach
- Amplify@Home resources
- Keep checking back for updates


Selecting @Home resources Questions to consider

- How much **time** do students have to learn science in the upcoming school year?
- Do your students have **access to technology** at home, or do you need a **print-only solution**?

Amplify Science@Home

@Home Units

• Packet or slide deck versions of Amplify Science units condensed by about 50%

@Home Videos

 Video playlists of Amplify Science lessons, taught by real Amplify Science teachers





Selecting @Home Units You might use this resource if...

- You have less instructional time for science than you normally would
- You need a solution for remote, asynchronous student learning some or all of the time



Two options for student access		
For students with consistent access to technology at home, use @Home Slides	For a print-only option, use @Home Packets	

@Home Units example use case

Remote Asynchronous Model: Students work flexibly through content





Monday-Thursday

Assign @Home Lessons 1-2 (Packets or Slides)

Friday

Students submit work product through email, or by writing on paper and texting the teacher a photo of their work

@Home Units example use case Hybrid Model: Teach live during in-person time









Monday-Tuesday

Remote

Assign: @Home Lesson 1 (Packet or Slides)

Wednesday

In-person

Teach: @Home Lesson 1: Ideas for synchronous or in-person instruction Thursday-Friday

Remote

Assign: @Home Lesson 3 (Packet or Slides)

Selecting @Home Videos You might use this resource if...



- Your students have **access to internet-connected devices** at home
- You have **about the same amount of instructional time** for science as you normally would
- You need a solution for remote, asynchronous student learning some or all of the time

@Home Videos example use case Hybrid Model: Teach live during in-person time



Monday

Assign: Lesson 1.1

Remote

Video



Tuesday

In-person

Teach: Lesson 1.2 live

Wednesday

Remote

Assign: Lesson 1.3 Video

Thursday

Remote

Assign: Lesson 1.4 Video



Friday

In-person

Revisit: hands-on or discourse-based activities the week's lessons

@Home Videos example use case Remote Synchronous Model: Discussions during online class



Monday

Asynchronous

Assign: Lesson 1.1

Video

Tuesday

Asynchronous

Assign: Lesson 1.2 Video



Wednesday

Synchronous

Teach: Lead class discussion to review key ideas from 1.1 and 1.2



Thursday

Asynchronous

Assign: Lesson 1.3 Video



Friday

Asynchronous

Assign: Independent written reflection about week's lessons

Navigating to @Home resources

PLS models locating @Home resources live by navigating to the Program Hub (Teacher's Guide -> Global Navigation -> Additional Resources -> Program Hub -> Teacher -> Amplify Science@Home)

Model locating @home resources

Breakout groups Discussing the resources

Consider **challenges and successes** you are currently experiencing with remote & hybrid learning.

How might you use the @Home resources?

What are your **next steps**?



Individual planning considerations

Utilizing coherence as a design principle

@Home lessons consist of a reduced set of prioritized activities, but still preserve a coherent instructional build.

Individual **work-time** & reflection:

- Open lesson index. Compare a lesson of your choice from Teacher's Guide with @home lesson.
- How can you best plan synchronous instruction "coherently" with your asynchronous lesson?
- Jot some notes, using table to right as a guide.

Synchronous time		
In-person	Online class	
 Discourse routines 	• Online discussions	
 Class discussions Hands-on investigations (option for teacher demo) 	 Sim demonstrations Interactive read-alouds Shared Writing 	
 Physical modeling activities 	 Co-constructed class charts Amplify. 	



Plan for the day

- Welcome
- Unit storyline
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 - Break
 - Model activity
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 - Breakout groups
- Remote and hybrid resources
 - Reviewing the resources
 - Collaborative planning
- Reflection and closing

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Closing reflection

Please respond in the chat



How can understanding your unit's **storyline** help you make **instructional decisions**, particularly in a remote or hybrid context?

New York City Resources Site

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



Amplify Science Program Hub A new hub for Amplify Science resources

- Videos and resources to continue getting ready to teach
- Amplify@Home resources
- Keep checking back for updates



Additional Amplify resources



Program Guide

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

https://my.amplify.com/programguide/co ntent/national/welcome/science/

Amplify Help

Find lots of advice and answers from the Amplify team. **my.amplify.com/help**

Additional Amplify Support

Customer Care

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



scihelp@amplify.com



800-823-1969



When contacting the customer care team:

- Identify yourself as an Amplify Science user.
- Note the unit you are teaching.
- Note the type of device you are using (Chromebook, iPad, Windows, laptop).
- Note the web browser you are using (Chrome or Safari).
- Include a screenshot of the problem, if possible.
- Copy your district or site IT contact on emails.



Final Questions?



Please provide us feedback!

URL: https://www.surveymonkey.com/r/BY56SBR

Presenter name: XXX





