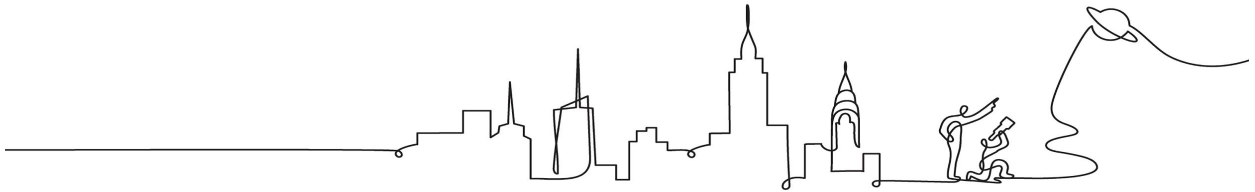
Welcome to Amplify Science!

Follow the directions below as we wait to begin.

1. Please log in to your Amplify Account.

2. Sign in using link dropped in chat.

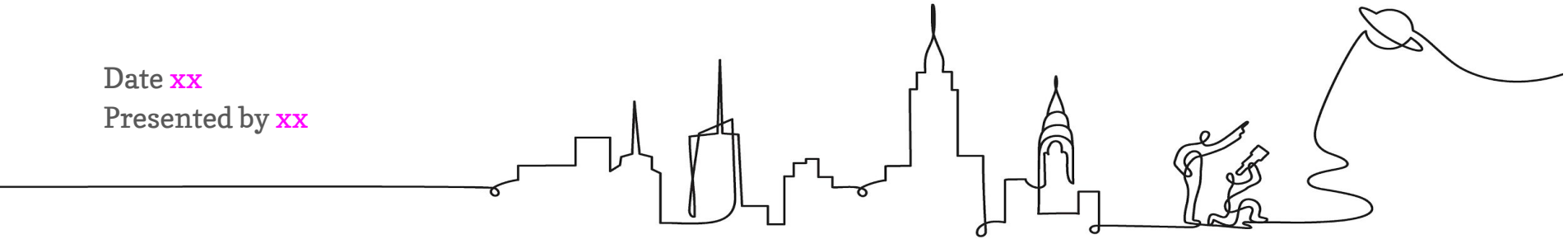
3. In the chat, share your name, grade level, and school you teach in.



Amplify Science
New York City

Accessing Complex Texts
Grade 4

Date xx
Presented by xx



Remote Professional Learning Norms

Take some time to orient yourself to the platform

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

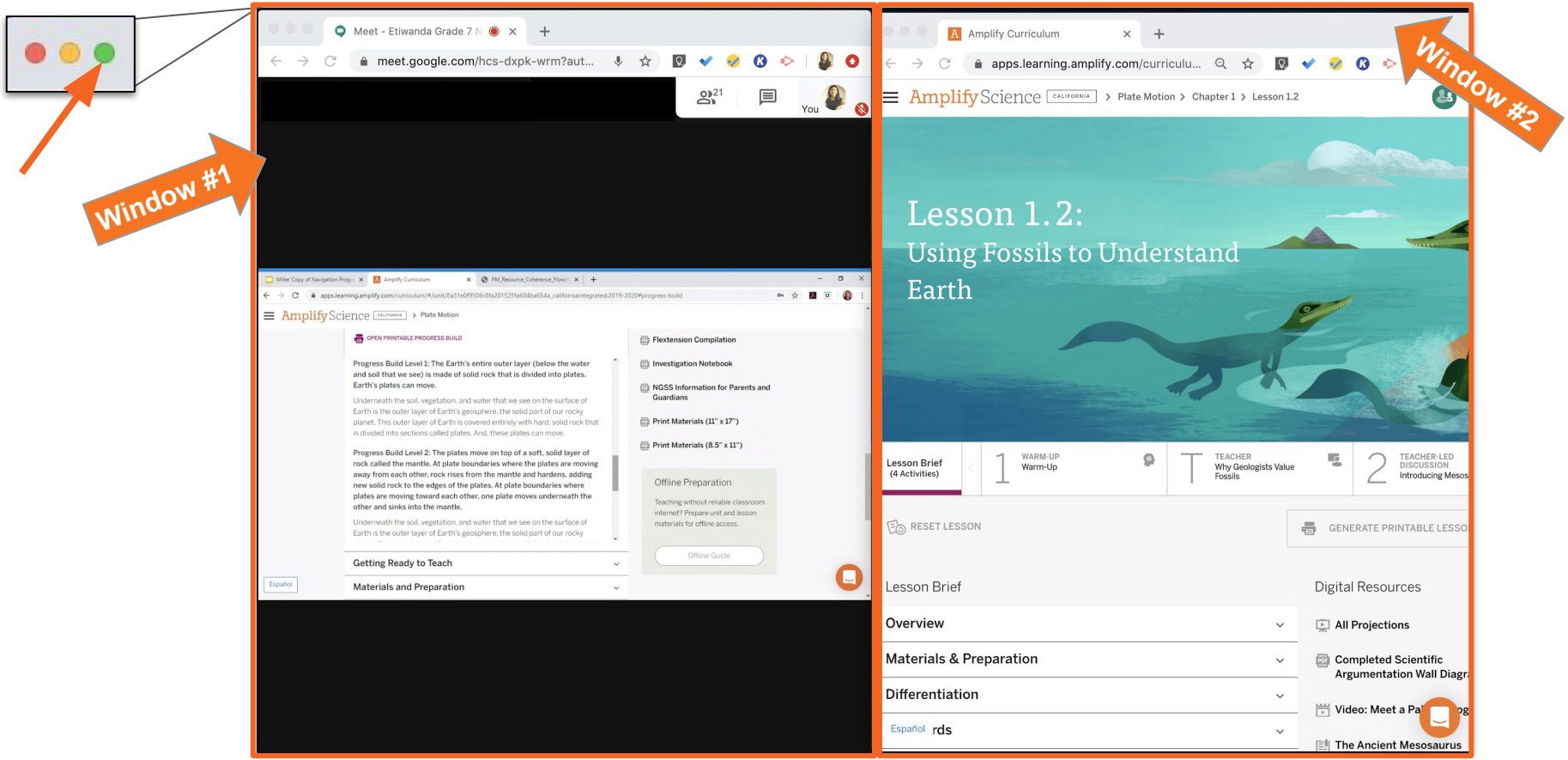
Mute your microphone to reduce background noise unless sharing with the group

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

Make sure you have a note-catcher present

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

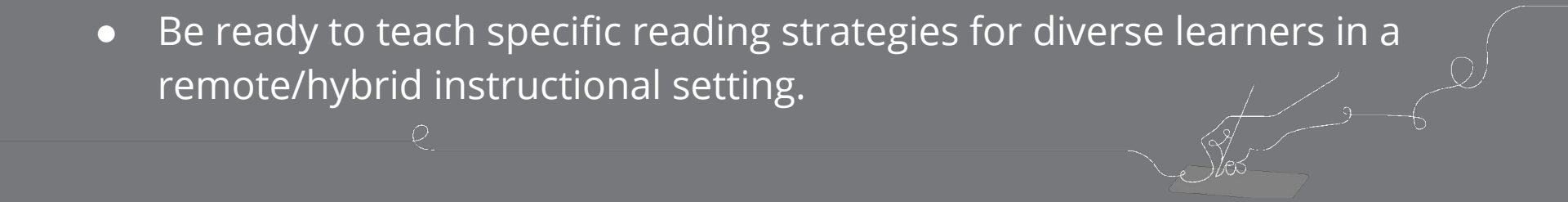
Use two windows for today's webinar



Objectives

By the end of this 1-hour workshop, you will be able to...

- Describe how the Amplify Science approach to reading supports students in making sense of science ideas.
- Identify the different roles that text can play in figuring out science concepts.
- Be ready to teach specific reading strategies for diverse learners in a remote/hybrid instructional setting.



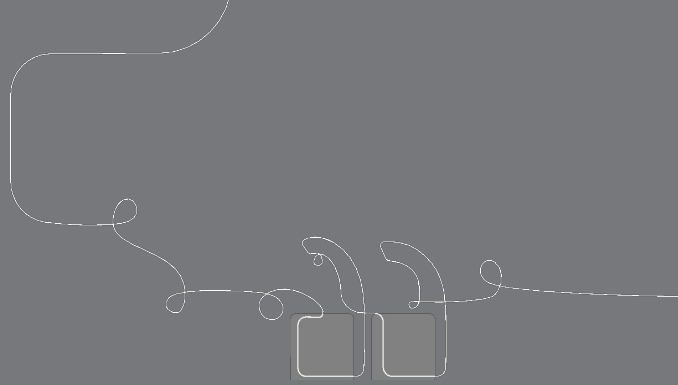
Plan for the day

- **Framing the day**
  - Welcome and introductions
  - Anticipatory activity
- Measuring text complexity
- Text roles: reader & task measures
- Differentiation & other supports
- Closing
  - Reflection & additional resources
  - Survey

Anticipatory activity

On the Jamboard "post"….

- Best **practices** and **strategies** you already implement to support your students in accessing **complex texts**



Questions?

Plan for the day

- Framing the day
  - Welcome and introductions
  - Anticipatory activity
- Measuring text complexity
- Text roles: reader & task measures
- Differentiation & other supports
- Closing
  - Reflection & additional resources
  - Survey

What is text complexity?

Page 1

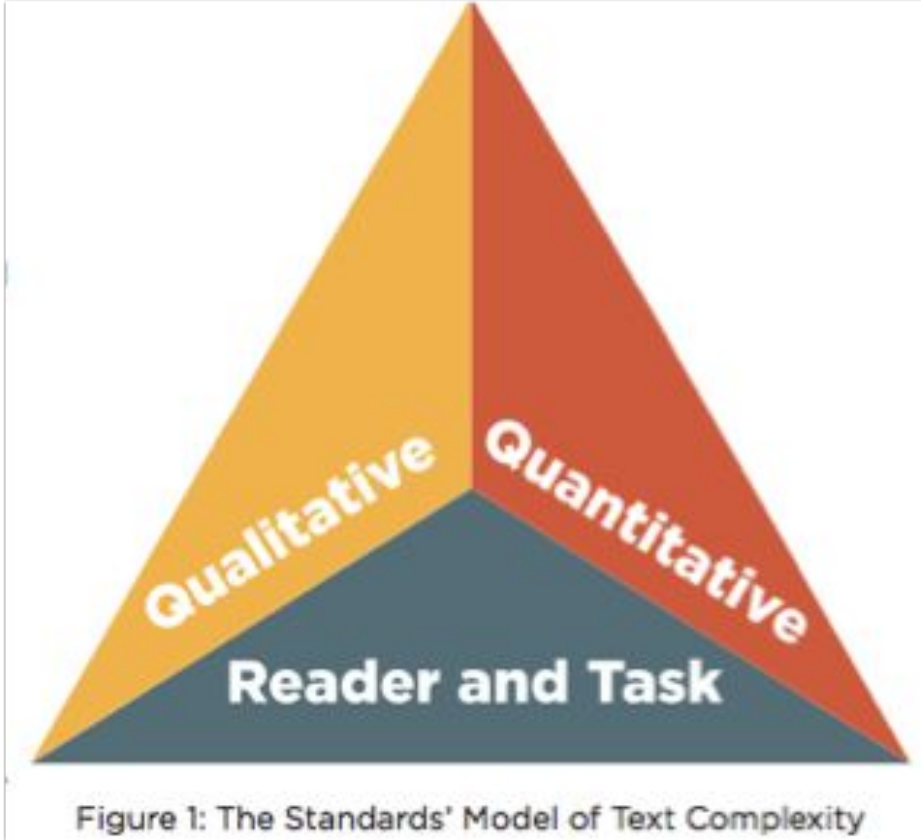


Figure 1: The Standards' Model of Text Complexity

Qualitative Measures

- Knowledge demands
- Text structure (including visual representations)

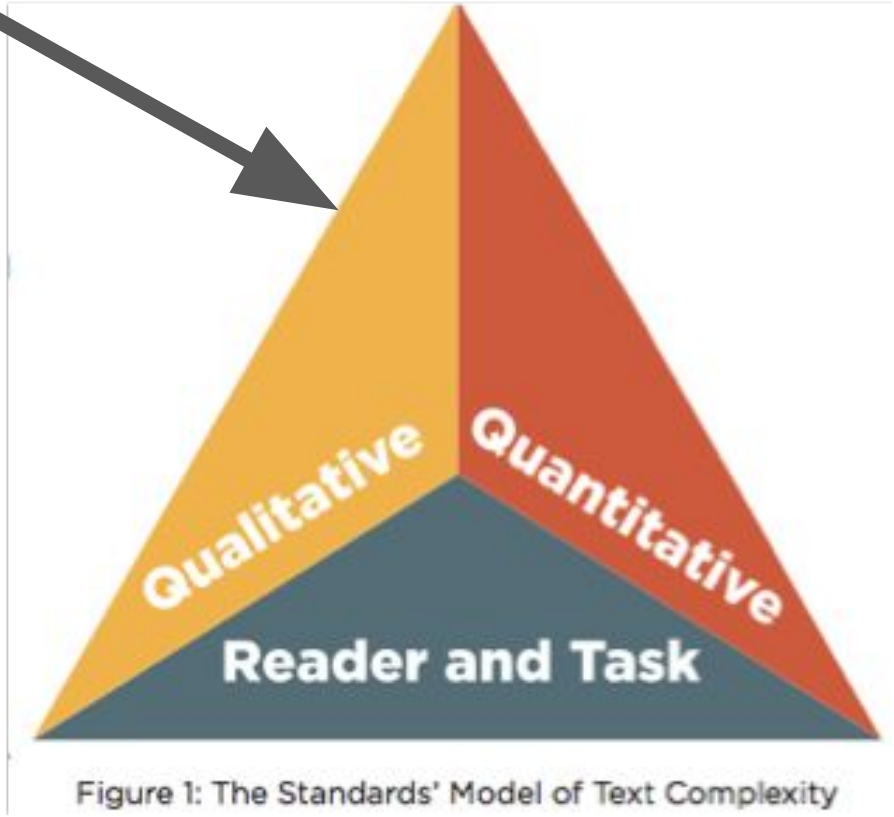


Figure 1: The Standards' Model of Text Complexity

Qualitative Measures

- Knowledge demands
- Text Structure

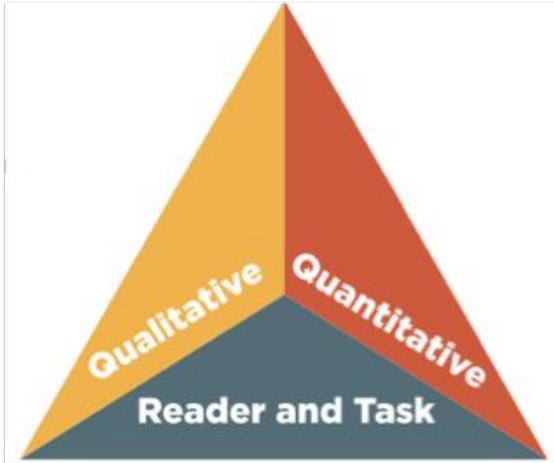


Figure 1: The Standards' Model of Text Complexity

Lipase-Catalyzed Production of Biodiesel[1]

Lloyd A. Nelson, Thomas A. Foglia*, and William N. Marmer
USDA, ARS, ERRC, Wyndmoor, Pennsylvania 19038

ABSTRACT: Lipases were screened for their ability to transesterify triglycerides with short-chain alcohols to alkyl esters. The lipase from *Mucor miehei* was most efficient for converting triglycerides to their alkyl esters with primary alcohols, whereas the lipase from *Candida antarctica* was most efficient for transesterifying triglycerides with secondary alcohols to give branched alkyl esters. Conditions were established for converting tallow to short-chain alkyl esters at more than 90% conversion. These same conditions also proved effective for transesterifying vegetable oils and high fatty acid-containing feedstocks to their respective alkyl ester derivatives.
JAOCS 73, 1191–1195 (1996).

KEY WORDS: Alcoholysis, alkyl esters, biodiesel, grease, lipase, rapeseed, soy oil, tallow.

There have been a considerable number of studies that report transesterification and interesterification reactions by using lipases with and without organic solvents (1–6). Recently, research has centered on the use of lipases to transesterify higher-molecular weight fatty acids to alkyl esters. Lipase-catalyzed alcoholyses of sunflower oil (7), rapeseed oil (8), soybean oil, and beef tallow (9) have been reported. The alcoholysis reactions generally involve primary alcohols with a few scattered reports on transesterifications with secondary alcohols. Another way of improving cold-temperature properties of tallow esters would be to substitute methanol with branched higher-molecular weight alcohols.

Though efficient in terms of reaction yield and time, the chemical approach to synthesizing alkyl esters (18–20) from triglycerides has drawbacks, such as difficulties in the recovery of glycerol, the need for removal of salt residue, and the energy-intensive nature of the process. On the other hand, biocatalysts allow for synthesis of specific alkyl esters, easy recovery of glycerol, and transesterification of glycerides with high free fatty acid (FFA) content. This technology could be extended to transesterification of greases, which are even less expensive than soybean oil and tallow. This process can further be used to synthesize other value-added products, including biodegradable lubricants and additives for fuel and lubricants. Lipase can also be used to introduce other functionalities into alkyl esters that may further improve the cold-temperature properties of the resulting biodiesel. In this paper, we report the lipase-catalyzed synthesis of normal and branched-chain alkyl esters of agriculturally derived triglycerides (TG): vegetable oils, tallow, and restaurant grease.

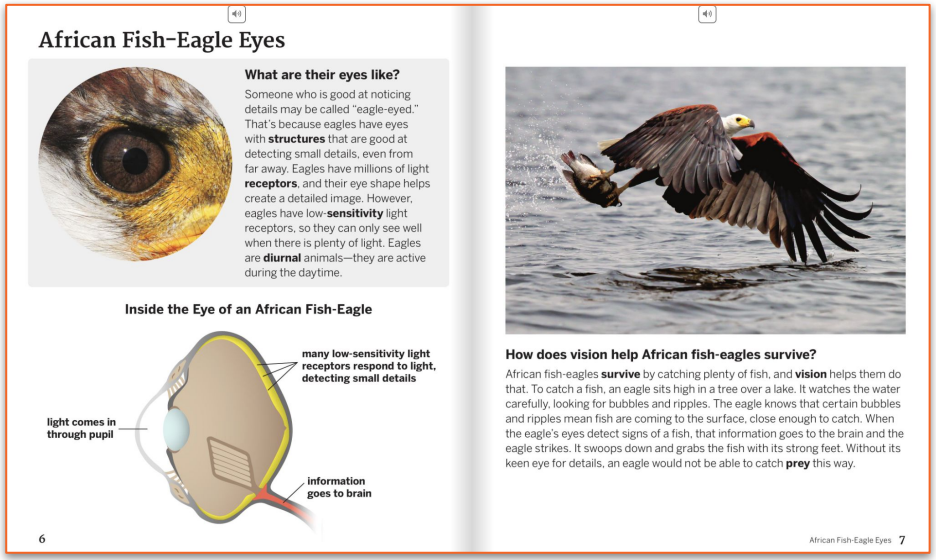
MATERIALS AND METHODS

Materials. Tallow was obtained from Chemol Corp. (Greens-

Qualitative Measures

Text structure

(including visual representations)



African Fish-Eagle Eyes

What are their eyes like?

Someone who is good at noticing details may be called "eagle-eyed." That's because eagles have eyes with **structures** that are good at detecting small details, even from far away. Eagles have millions of light **receptors**, and their eye shape helps create a detailed image. However, eagles have low-**sensitivity** light receptors, so they can only see well when there is plenty of light. Eagles are **diurnal** animals—they are active during the daytime.

Inside the Eye of an African Fish-Eagle

6

How does vision help African fish-eagles survive?

African fish-eagles **survive** by catching plenty of fish, and **vision** helps them do that. To catch a fish, an eagle sits high in a tree over a lake. It watches the water carefully, looking for bubbles and ripples. The eagle knows that certain bubbles and ripples mean fish are coming to the surface, close enough to catch. When the eagle's eyes detect signs of a fish, that information goes to the brain and the eagle strikes. It swoops down and grabs the fish with its strong feet. Without its keen eye for details, an eagle would not be able to catch **prey** this way.

African Fish-Eagle Eyes 7

Header for the page

Does not need to be read from start to finish.

Labeled graphs and diagrams correspond with text

Informational text paragraphs

Amplify.

Quantitative Measures

- Sentence length
- Vocabulary load

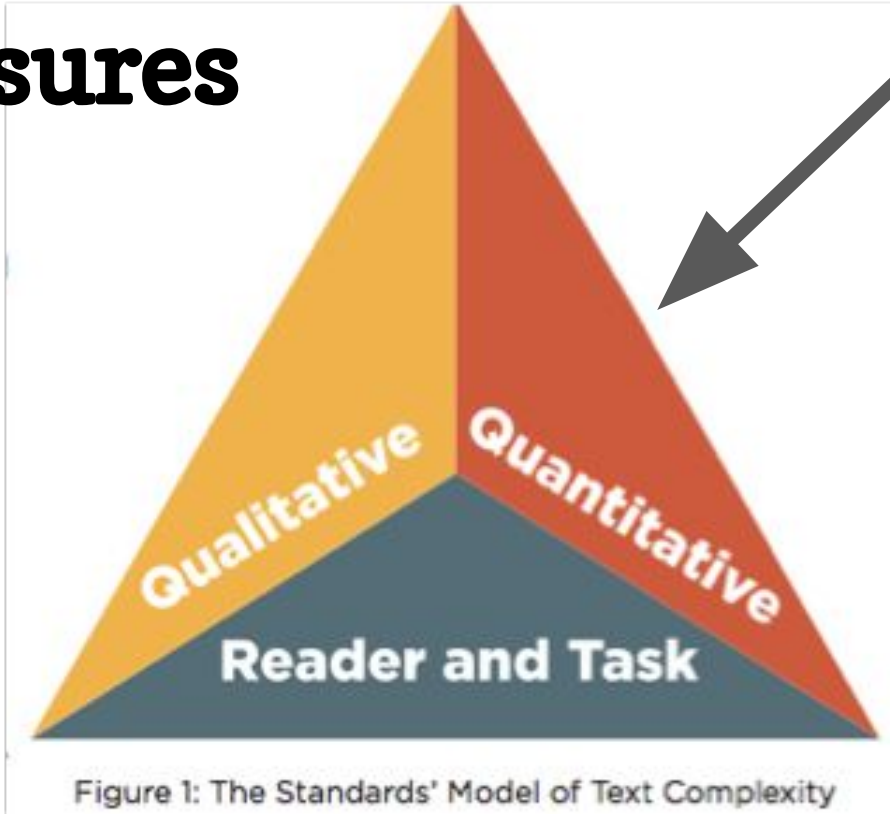


Figure 1: The Standards' Model of Text Complexity

Quantitative Measures

- Sentence length
- Vocabulary load

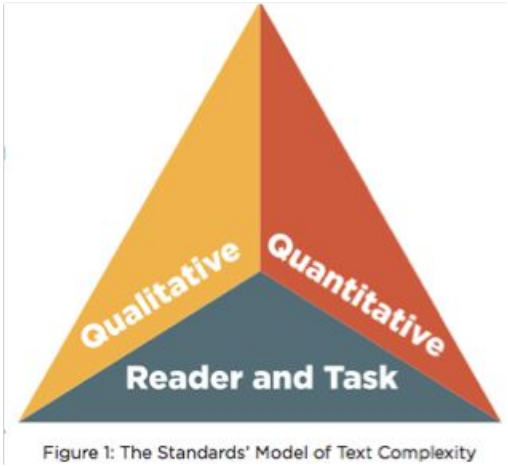
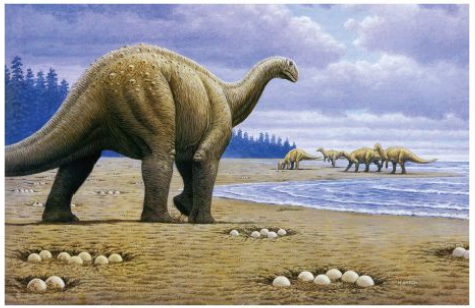


Figure 1: The Standards' Model of Text Complexity

Amplify Science *Clues from the Past* (grade 4) - original

Rodolfo Coria works with other scientists to study fossils.



This artwork shows what *Argentinosaurus* may have looked like. It is based on inferences.

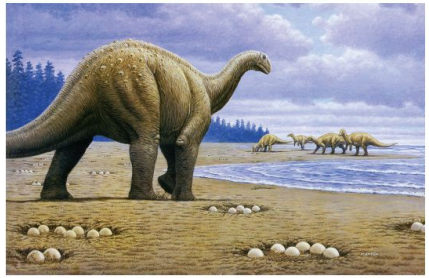
By observing fossils, Coria and other scientists can make inferences about organisms from long ago. On the day he helped discover *Argentinosaurus*, Coria was out in
working with another scientist to d

Coria knows a lot about bones. He
and **infer** what kind of dinosaur it
where the bone belonged in the di
whether it is a leg bone, a neck bo

Coria observed the shapes and sizes of the fossil bones he had found. They looked similar to fossils from large dinosaurs that had

Sample Simplified Text version

Rodolfo Coria works with other scientists to study fossils.



This artwork shows what the dinosaur Coria found may have looked like when it was alive.

By looking at fossils, Coria and other scientists can learn more about living things from long ago. On the day he helped find a new dinosaur, Coria was out in the desert. He was working with another scientist to dig up fossil bones.

Coria knows a lot about bones. He can look at the shape of a bone and figure out what kind of dinosaur it came from. He can also figure out where the bone belonged in the dinosaur's body. He can figure out whether it is a leg bone, a neck bone, or a different kind of bone.

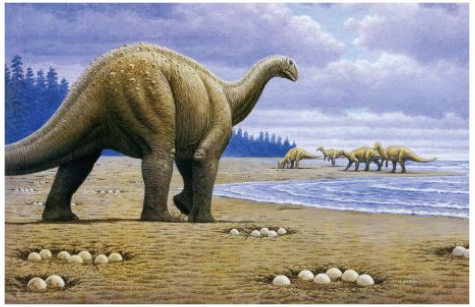
Coria looked at the shapes and sizes of the fossil bones he had found. They looked similar to fossils from large dinosaurs that had been found before. Coria could figure out that the bones were from the lower leg and backbone of a dinosaur. He could also figure out that the dinosaur was big and walked on four legs. Coria and the scientist he was working with named the dinosaur after their country. It was a type of dinosaur no one had known about before.

Read the samples and discuss:

What do you notice as the differences between the two texts?

Amplify Science *Clues from the Past* (grade 4) - original

Rodolfo Coria works with other scientists to study fossils.



This artwork shows what *Argentinosaurus* may have looked like. It is based on inferences.

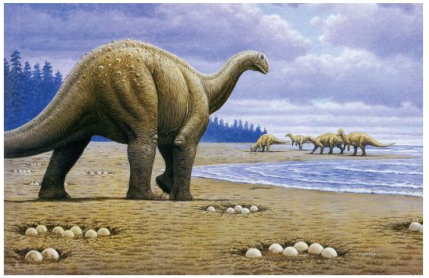
By observing fossils, Coria and other scientists can make inferences about organisms from long ago. On the day he helped discover *Argentinosaurus*, Coria was out in
working with another scientist to d

Coria knows a lot about bones. He
and **infer** what kind of dinosaur it
where the bone belonged in the di
whether it is a leg bone, a neck bo

Coria observed the shapes and sizes of the fossil bones he had found. They looked similar to fossils from large dinosaurs that had

Sample Simplified Text

Rodolfo Coria works with other scientists to study fossils.



This artwork shows what the dinosaur Coria found may have looked like when it was alive.

By looking at fossils, Coria and other scientists can learn more about living things from long ago. On the day he helped find a new dinosaur, Coria was out in the desert. He was working with another scientist to dig up fossil bones.

Coria knows a lot about bones. He can look at the shape of a bone and figure out what kind of dinosaur it came from. He can also figure out where the bone belonged in the dinosaur's body. He can figure out whether it is a leg bone, a neck bone, or a different kind of bone.

Coria looked at the shapes and sizes of the fossil bones he had found. They looked similar to fossils from large dinosaurs that had been found before. Coria could figure out that the bones were from the lower leg and backbone of a dinosaur. He could also figure out that the dinosaur was big and walked on four legs. Coria and the scientist he was working with named the dinosaur after their country. It was a type of dinosaur no one had known about before.

By observing fossils, Coria and other scientists can make inferences about organisms from long ago. On the day he helped discover Argentinosaurus, Coria was out in the desert in Argentina. He was working with another scientist to dig up fossil bones.

Coria knows a lot about bones. He can observe the shape of a bone and infer what kind of dinosaur it came from.

Coria and other scientists use fossils to think about living things from long ago. Coria helped find a new dinosaur when he was out in the desert. He was working with another scientist to dig up fossil bones.

Coria knows a lot about bones. He can look at the shape of a bone and figure out many things.

By observing fossils, Coria and other scientists can make inferences about organisms from long ago. On the day he helped discover Argentinosaurus, Coria was out in the desert in Argentina. He was working with another scientist to dig up fossil bones.

Coria knows a lot about bones. He can observe the shape of a bone and infer what kind of dinosaur it came from.

Coria and other scientists use fossils to think about living things from long ago. Coria helped find a new dinosaur when he was out in the desert. He was working with another scientist to dig up fossil bones.

Coria knows a lot about bones. He can look at the shape of a bone and figure out many things.

Sentence lengths:
14, 14, 11

Hard words and phrases: 7

By observing fossils, Coria and other scientists can make inferences about organisms from long ago. On the day he helped discover Argentinosaurus, Coria was out in the desert in Argentina. He was working with another scientist to dig up fossil bones.

Sentence lengths:
14, 12, 11

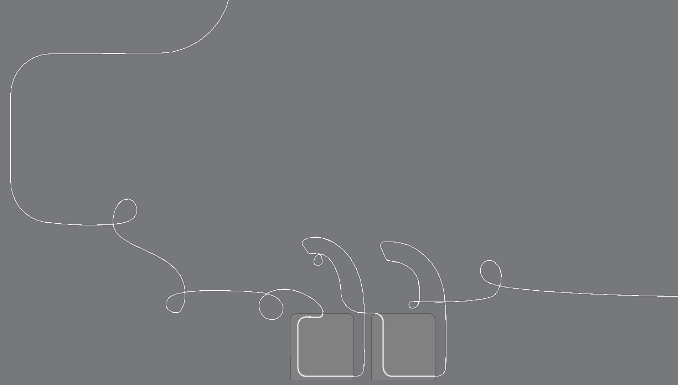
Hard words and phrases: 1

Coria and other scientists use fossils to think about living things from long ago. Coria helped find a new dinosaur when he was out in the desert. He was working with another scientist to dig up fossil bones.

Reader and Task Measures

- Background, experience
- Purpose, assignment
- Motivation

Figure 1: The Standards' Model of Text Complexity



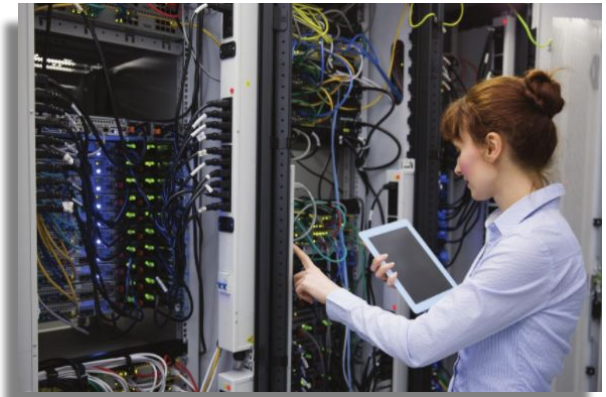
Questions?

Plan for the day

- Framing the day
  - Welcome and introductions
  - Anticipatory activity
- Measuring text complexity
- Text roles: reader & task measures
- Differentiation & other supports
- **Closing**
  - Reflection & additional resources
  - Survey

Think-Type-Chat!

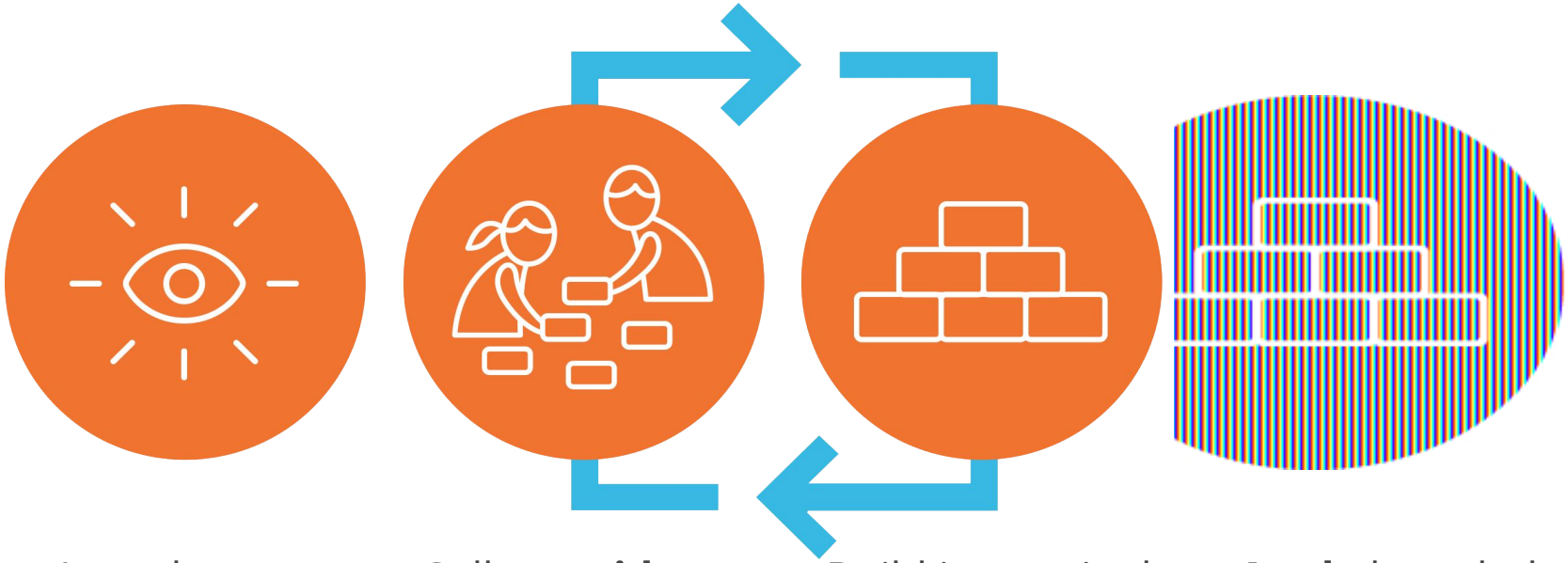
How do scientists and engineers use text?



Reading in Amplify Science

Students are apprenticed into reading like scientists—that is, reading actively, curiously, and critically, with a focus on making meaning and using the text as a source of evidence.

Amplify Science Approach



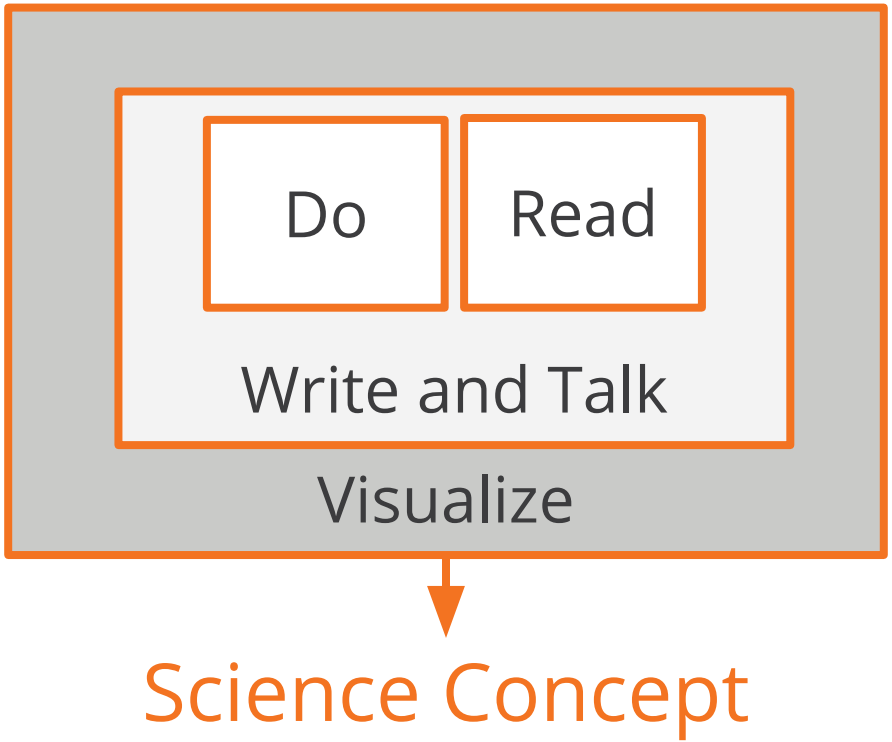
Introduce a **phenomenon** and a related problem

Collect **evidence** from multiple sources

Build increasingly complex **explanations**

Apply knowledge to solve a different problem

Multimodal Instruction



Revisiting Reader and Task Measures

- Background, experience
- Purpose, assignment
- Motivation

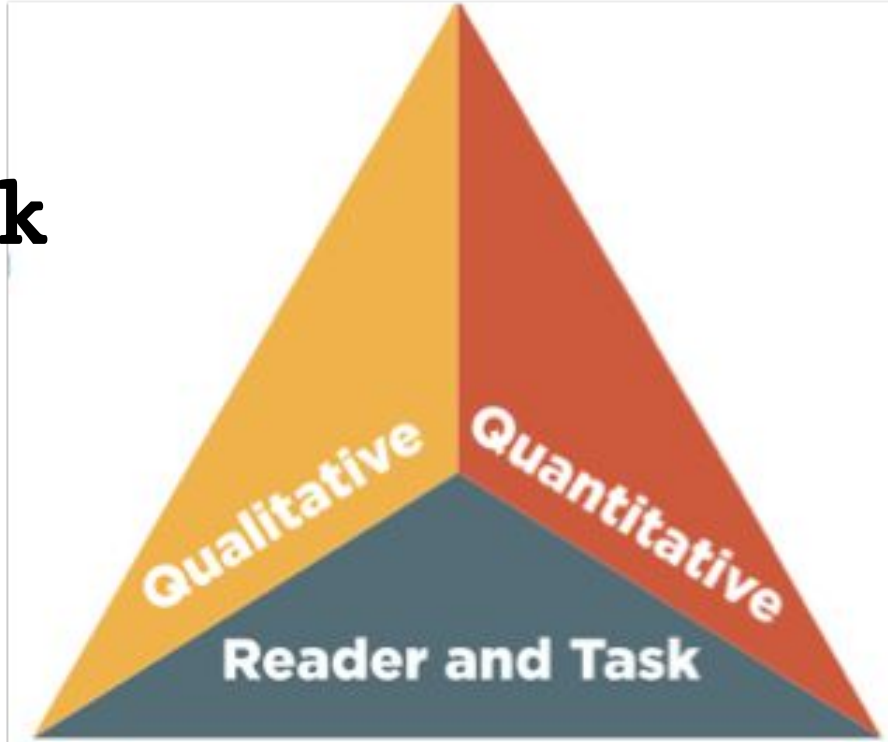


Figure 1: The Standards' Model of Text Complexity

Text Roles are authentic to scientific inquiry

Set context	Connect to the outside world
Deliver content	Scientists read to learn findings
Model	Scientists replicate others' procedures and experiments
Support secondhand investigations	Scientists read and interpret others' data and findings
Support first hand investigations	Scientists use reference books

From Cervetti, G. N. & Barber, J. (2009). Text in hands-on science. In Hiebert, E. H. & Sailors, M. (Eds.) *Finding the Right Texts: What Works for Beginning and Struggling Readers.* New York: The Guilford Press.

Text Roles in Amplify Science

Page 2

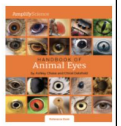
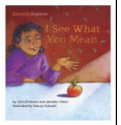
Set context	Connect to the world outside the classroom
Deliver content	Read to learn about science
Model	Demonstrate a process or scientific practice
Support secondhand investigations	Provide data for students to interpret
Support first hand investigations	Provide information for investigations

From Cervetti, G. N. & Barber, J. (2009). Text in hands-on science. In Hiebert, E. H. & Sailors, M. (Eds.) *Finding the Right Texts: What Works for Beginning and Struggling Readers.* New York: The Guilford Press.

Text roles collaborative work time part 1

- In pairs, choose a text from the unit
- Determine the role that the book plays in the unit
- Record key science takeaways from the text

Text Roles analysis part 1

Text	Choose one lesson it is used in and list here.	Determine the role that the book plays in a chosen lesson.	Record key science takeaways from the text
			
			
			
			
			

Amplify.

Temperature Check

Rate your comfort level accessing and navigating the Amplify Science @Home Resources

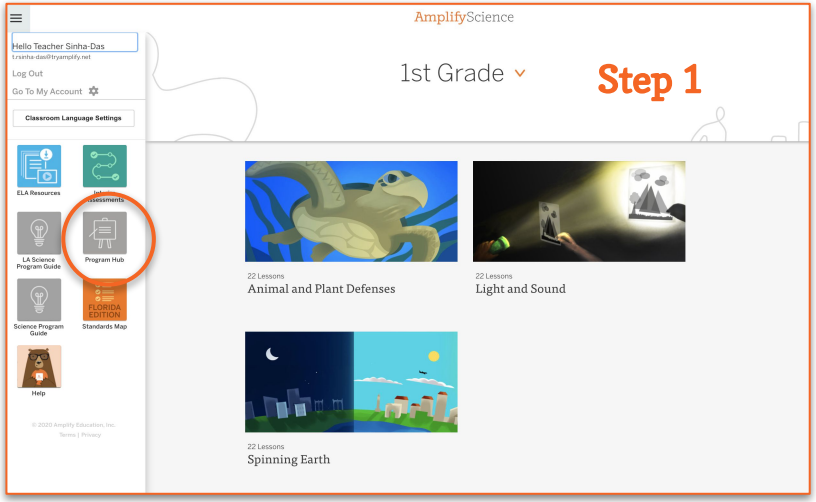
1 = Extremely Uncomfortable

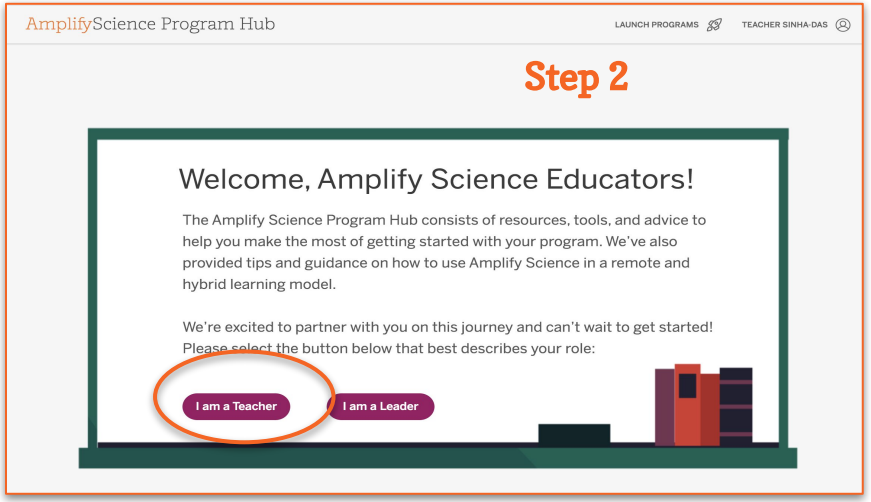
2 = Uncomfortable

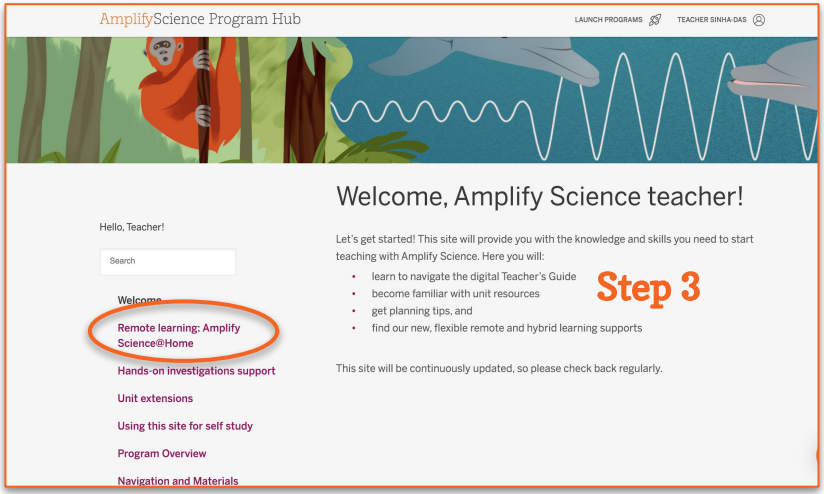
3 = Mild

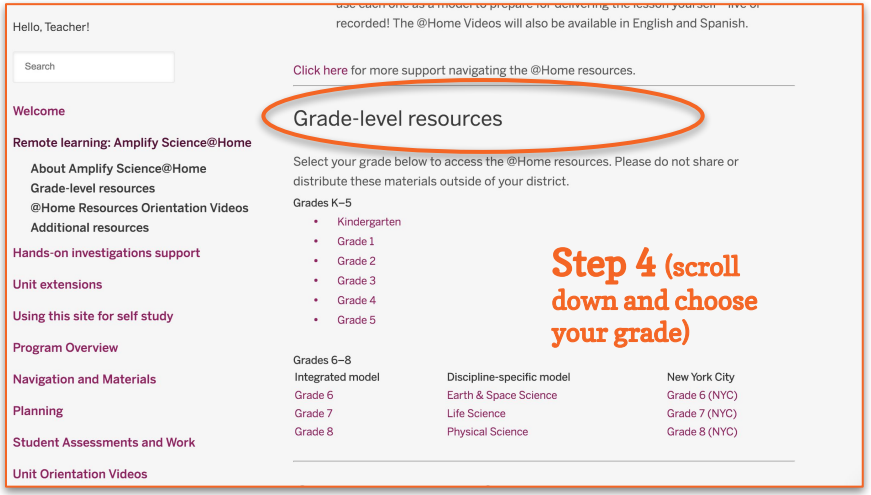
4 = Comfortable

5 = Extremely Comfortable


AmplifyScience
Hello Teacher Sinha-Das
Log Out
Go To My Account
Classroom Language Settings
ELA Resources
Program Hub
LA Science Program Guide
Science Program Guide
Standards Map
Help
1st Grade
Step 1
22 Lessons
Animal and Plant Defenses
22 Lessons
Light and Sound
22 Lessons
Spinning Earth


AmplifyScience Program Hub
LAUNCH PROGRAMS
TEACHER SINHA-DAS
Step 2
Welcome, Amplify Science Educators!
The Amplify Science Program Hub consists of resources, tools, and advice to help you make the most of getting started with your program. We've also provided tips and guidance on how to use Amplify Science in a remote and hybrid learning model.
We're excited to partner with you on this journey and can't wait to get started! Please select the button below that best describes your role:
I am a Teacher
I am a Leader

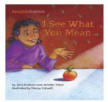

AmplifyScience Program Hub
LAUNCH PROGRAMS
TEACHER SINHA-DAS
Welcome, Amplify Science teacher!
Hello, Teacher!
Search
Welcome
Remote learning: Amplify Science@Home
Hands-on investigations support
Unit extensions
Using this site for self study
Program Overview
Navigation and Materials
Let's get started! This site will provide you with the knowledge and skills you need to start teaching with Amplify Science. Here you will:
learn to navigate the digital Teacher's Guide
become familiar with unit resources
get planning tips, and
find our new, flexible remote and hybrid learning supports
Step 3
This site will be continuously updated, so please check back regularly.


Hello, Teacher!
Search
Welcome
Remote learning: Amplify Science@Home
About Amplify Science@Home
Grade-level resources
@Home Resources Orientation Videos
Additional resources
Hands-on investigations support
Unit extensions
Using this site for self study
Program Overview
Navigation and Materials
Planning
Student Assessments and Work
Unit Orientation Videos
recorded! The @Home Videos will also be available in English and Spanish.
Click here for more support navigating the @Home resources.
Grade-level resources
Select your grade below to access the @Home resources. Please do not share or distribute these materials outside of your district.
Grades K–5
Kindergarten
Grade 1
Grade 2
Grade 3
Grade 4
Grade 5
Step 4 (scroll down and choose your grade)
Grades 6–8
Integrated model
Grade 6
Grade 7
Grade 8
Discipline-specific model
Earth & Space Science
Life Science
Physical Science
New York City
Grade 6 (NYC)
Grade 7 (NYC)
Grade 8 (NYC)

Text roles collaborative work time part 2

- Navigate to @Home resources. Indicate supports available for each book in a remote/hybrid setting.
- Indicate supports you will enlist from your own educator's toolkit

Text Roles analysis part 2

Text	List supports available for this book from Amplify @Home resources (hint: refer to Teacher Overview document)	List supports you will enlist from your own toolkit	Other notes
			
			
			
			
			

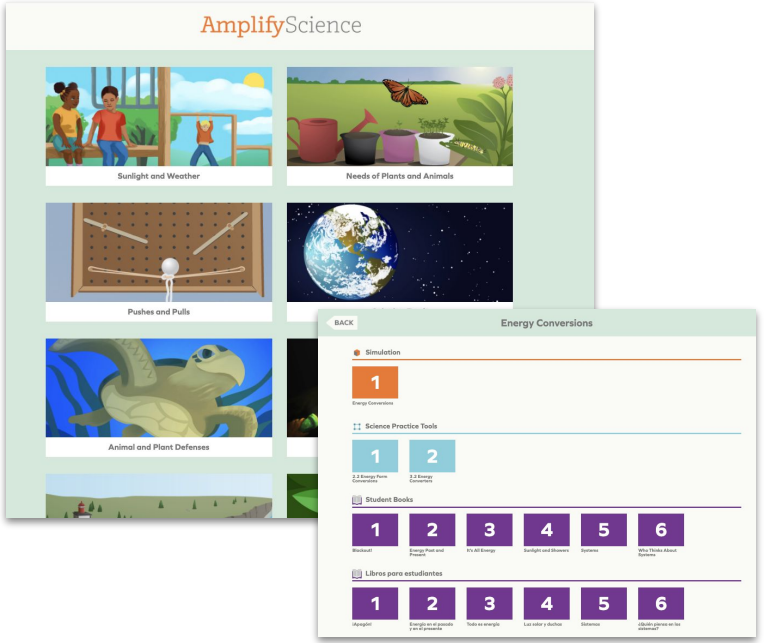
Amplify.

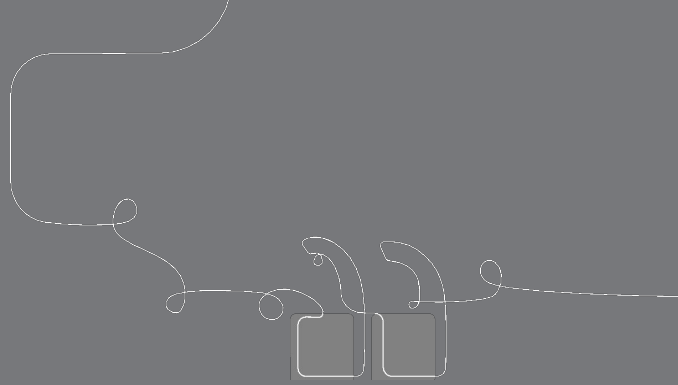
K-5 digital access

apps.learning.amplify.com/elementary

Username: nyc4

Password: science1





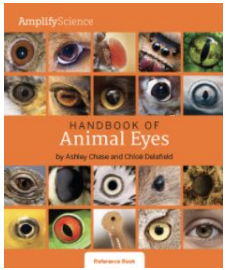
Questions?

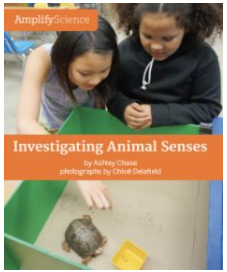
Plan for the day

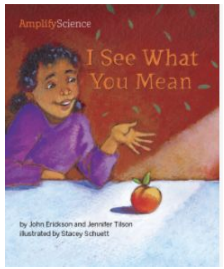
- Framing the day
  - Welcome and introductions
  - Anticipatory activity
- Measuring text complexity
- Text roles: reader & task measures
- Differentiation & other supports
- Closing
  - Reflection & additional resources
  - Survey

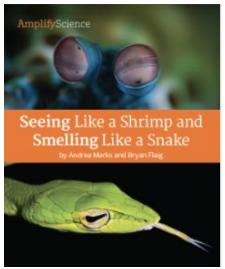
Asking questions in Vision & Light

Page 3





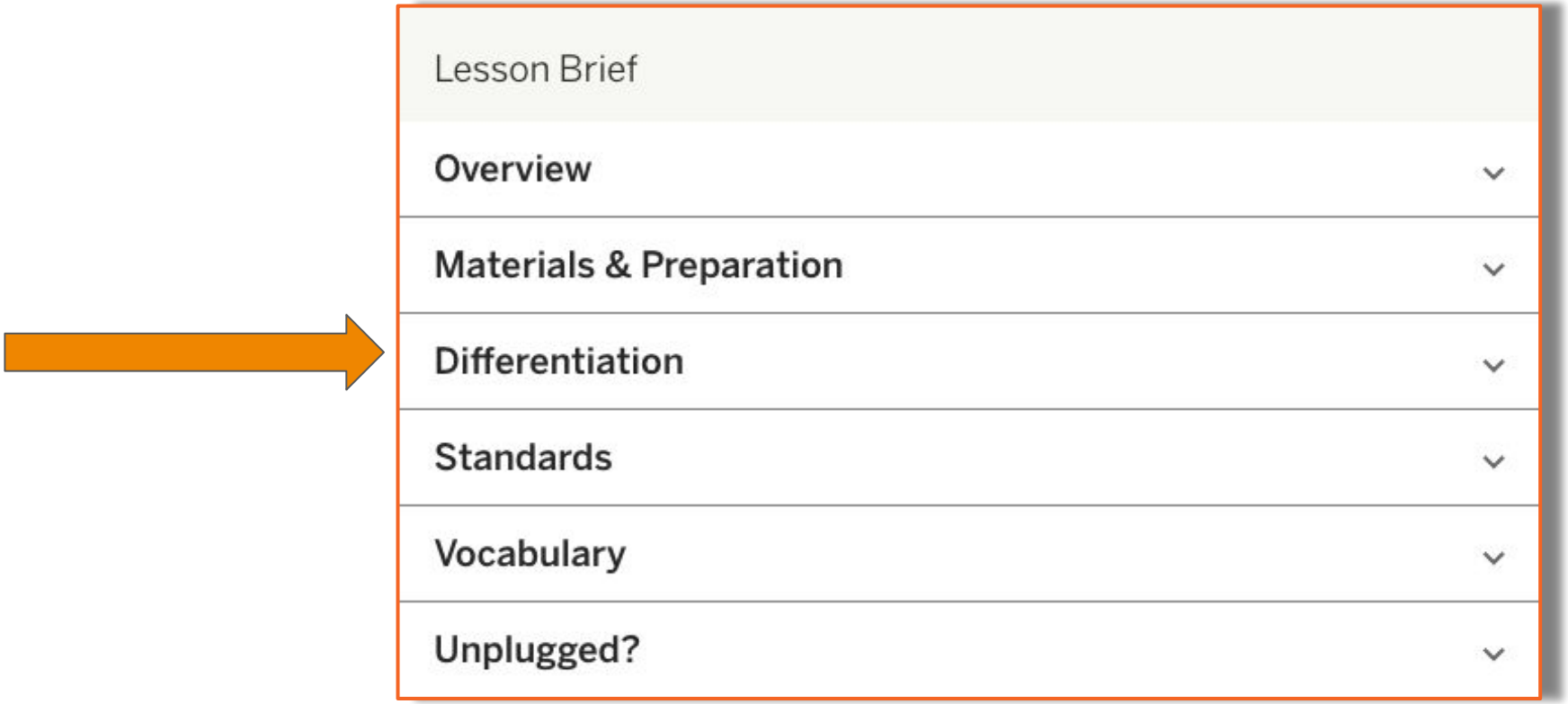




- High utility strategy: used for inquiring with text and investigations
- Gradual release of responsibility
- Multiple opportunities to practice the sense-making strategy

Amplify.

Differentiation for reading in Amplify Science



Differentiation briefs

Categories of differentiation briefs

- Embedded supports for diverse learners
- Potential challenges in this lesson
- Specific differentiation strategies for English learners
- Specific differentiation strategies for students who need more support
- Specific differentiation strategies for students who need more challenge

Planning for differentiation

Lesson #	Type of support	Instructional suggestion (summary)
1.2	Students who need more support	Anticipation guide

Which of your students might need support? When could you provide it?

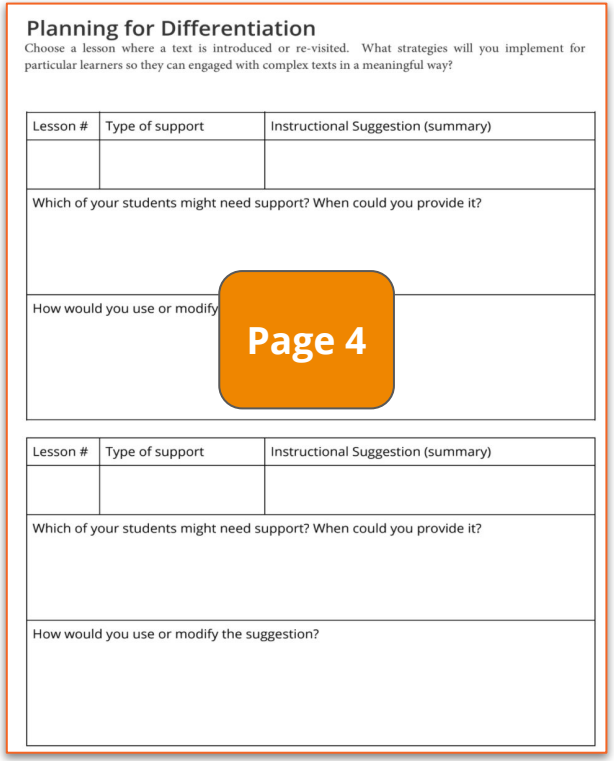
Whole class- during our shared reading block

How would you use or modify the suggestion?

- Read statements aloud
- Have students stand up and discuss with a partner, then put an A over their head if they agree, and D if they disagree. (Can offer "not sure" as an option).
- Record responses, and revisit after reading..

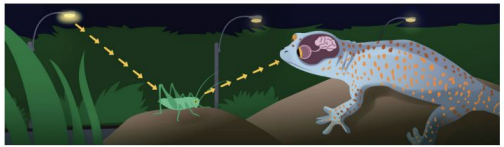
Planning for differentiation in your unit

- Navigate to a **reading lesson** you recently taught.
- Navigate to and read the **Differentiation section** of the Lesson Brief
- Complete the **Planning for Differentiation** for one lesson



Optional notebook pages to support reading

AmplifyScience



Vision and Light:

Investigating Animal Eyes

Investigation Notebook

Name: _____ Date: _____

Getting Ready to Read:
Blue Whales and Buttercups

Directions:
1. Before reading *Blue Whales and Buttercups*, read the sentences below.
2. If you agree with the sentence, write an "A" on the line before the sentence.
3. If you disagree with the sentence, write a "D" on the line before the sentence.
4. After you read the book, see if your ideas have changed. Be ready to explain your thinking.

_____ All organisms are related.

_____ A blue flower and a blue bird are closely related.

_____ Plants have ways to protect th

_____ Only animals are made of cells

_____ There are not a lot of differenc on Earth.

Name: _____ Date: _____

Multiple Meaning Words:
Blue Whales and Buttercups

Directions:
Some words can mean more than one thing. For each word in the table:
1. Read the sentence from the book *Blue Whales and Buttercups* that uses the word.
2. Read the two meanings the word can have.
3. Decide which meaning the word has in the sentence from the book and circle that meaning in the table.

Word	Sentence from the book	Meaning 1	Meaning 2
match	It would take about 20 big elephants to **match** the weight of just one	a short thin piece of wood used to light a fire	to be the same as
		a flying nocturnal animal	a tool used to hit a ball
		something you find on a playground	to move along a smooth surface

Name: _____ Date: _____

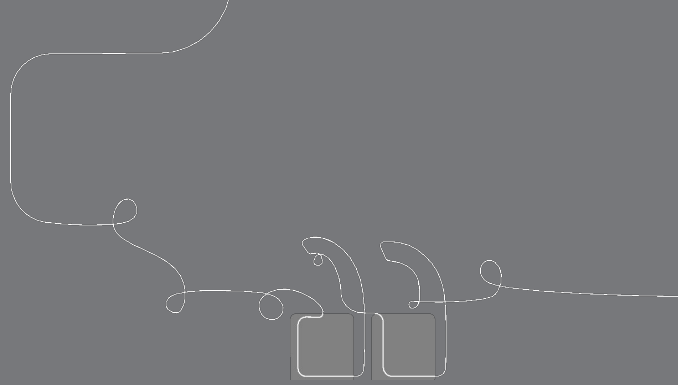
Reading Reflection:
Blue Whales and Buttercups

Directions:
1. Return to the measurements of different organisms on pages 6 and 7 of *Blue Whales and Buttercups*.
2. Answer the questions below.

Is there an object in your classroom similar in size to the wingspan of the bat (1.5 meters) (4.92 feet)?

Is there an object in your classroom similar in size to the tree frog (1 centimeter) (0.39 inches)?

Is there an object in your school similar in size to the height of the elephant (3.5 meters) (11.48 feet)?



Questions?

Plan for the day

- Framing the day
  - Welcome and introductions
  - Anticipatory activity
- Measuring text complexity
- Text roles: reader & task measures
- Differentiation & other supports
- Closing
  - Reflection & additional resources
  - Survey

Revisiting our objectives

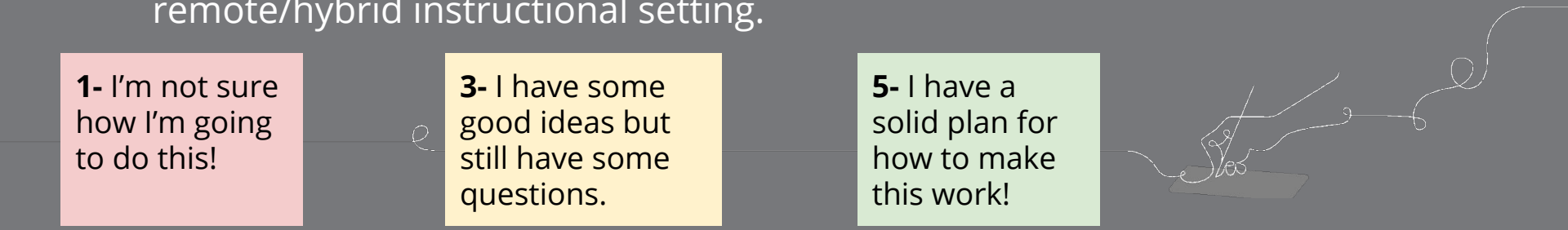
Do you feel ready to…

- Describe how the Amplify Science approach to reading supports students in making sense of science ideas.
- Identify the different roles that text can play in figuring out science concepts.
- Be ready to teach specific reading strategies for diverse learners in a remote/hybrid instructional setting.

1- I'm not sure how I'm going to do this!

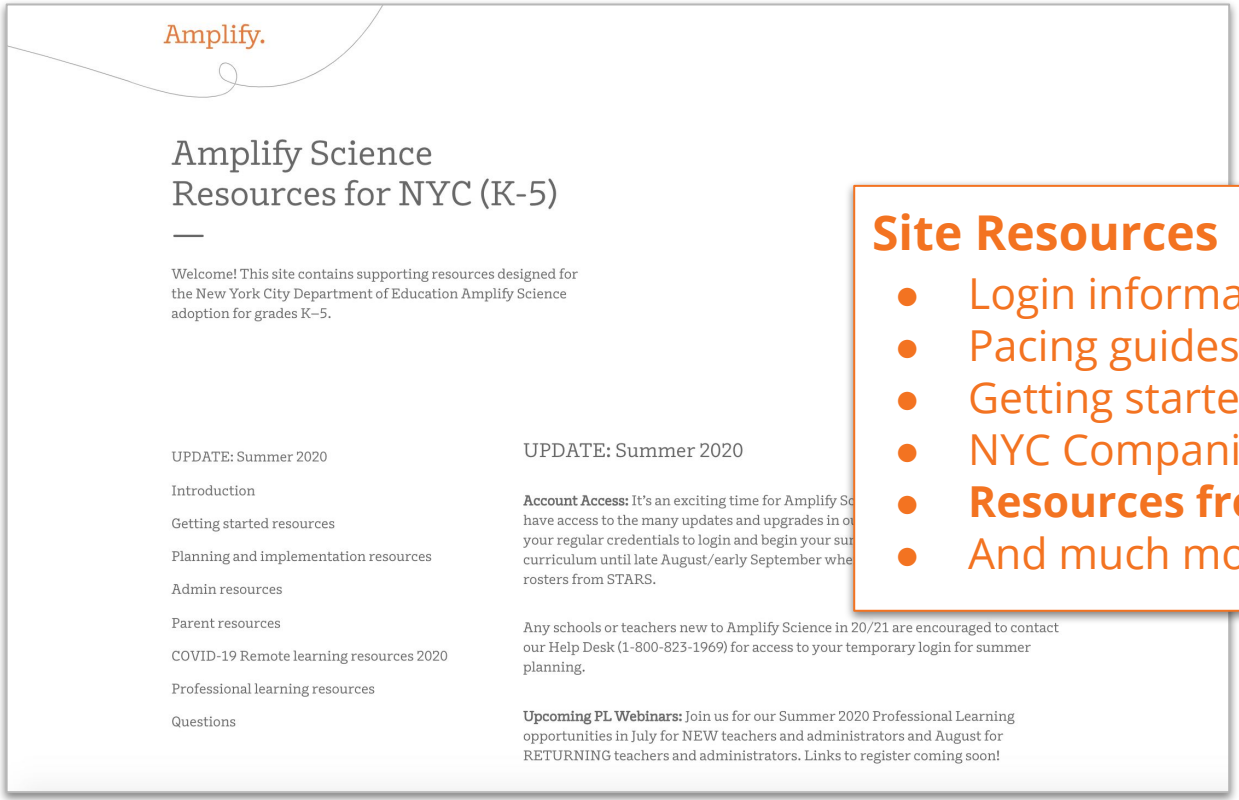
3- I have some good ideas but still have some questions.

5- I have a solid plan for how to make this work!



New York City Resources Site

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



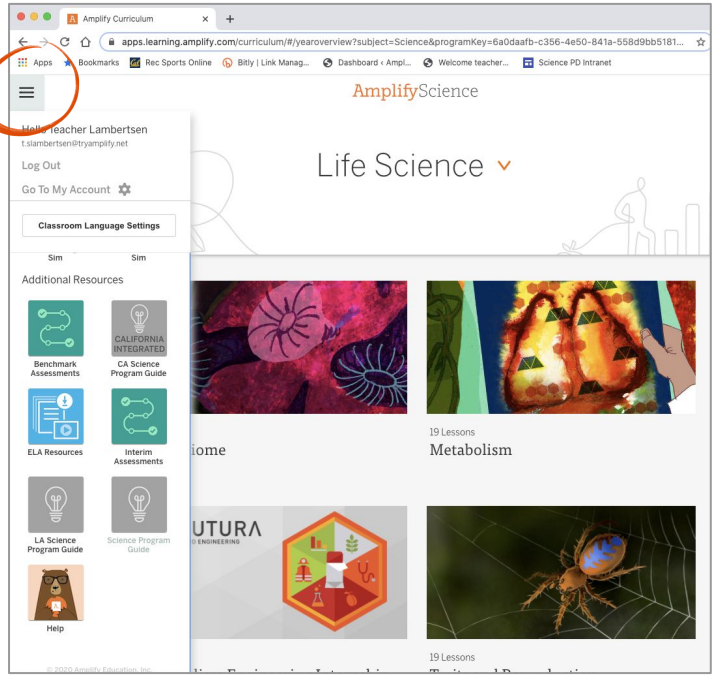
Site Resources

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

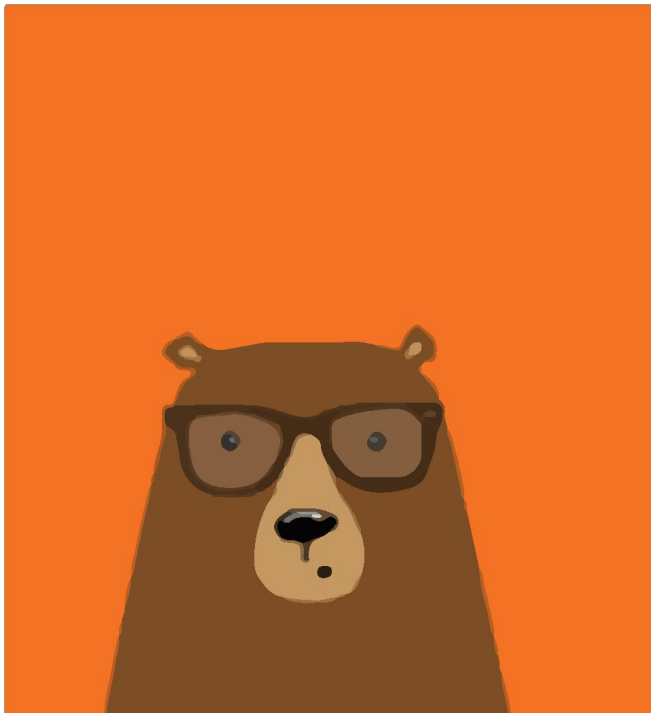
Amplify Science Program Hub

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/content/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.

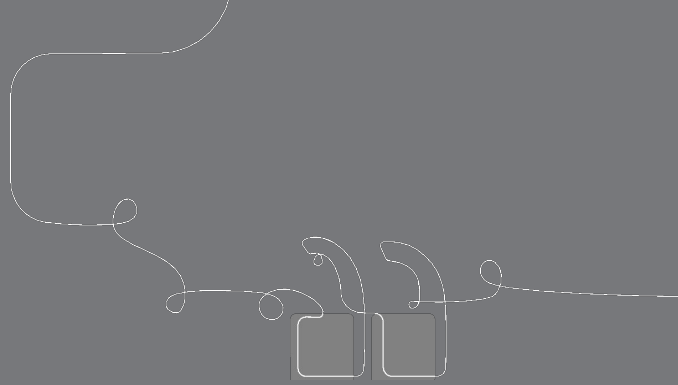
scihelp@amplify.com

800-823-1969

Amplify Chat

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.

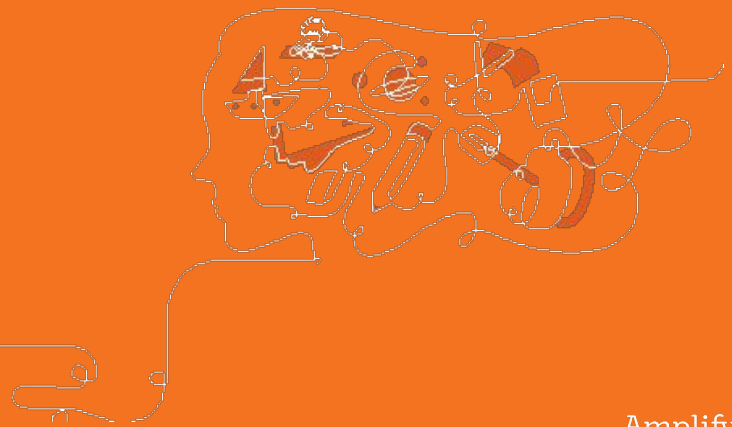


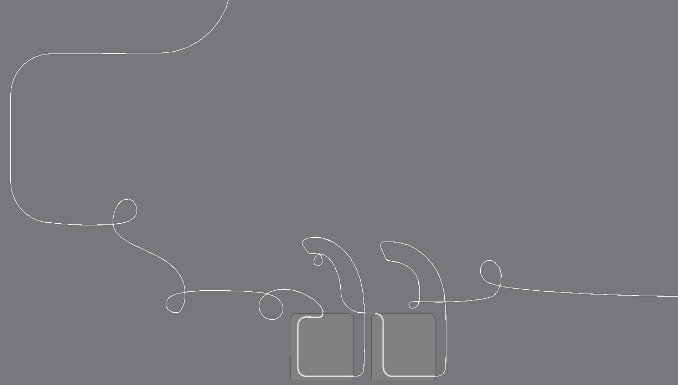
Final Questions?

Please provide us feedback!

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

Presenter name: XXX





30 minute open office hours to follow...