Amplify Science

Guided Unit Internalization

New York City

With @Home Resources



Who's in the Room? Represent for your Borough!



Share your name, role, borough.

- 1- Brooklyn North
 2- Brooklyn South
 3- Queens North
 4- Queens South
 5- The Bronx
- 6- Staten Island

Workshop Norms



• Please keep your camera on, if possible.





 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



 Be an active participant - chat, ask questions, discuss, share!

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Workshop Goals

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

- Make instructional decisions about remote or hybrid learning
- Develop a plan for using @Home resources within your class schedule and instructional format.



Amplify Science New York City

Guided Unit Internalization With @Home Resources



nit?	
Student role:	
i	
explain the phenomenon?	
	Student role: Student role: explain the phenomenon?

Participant Materials

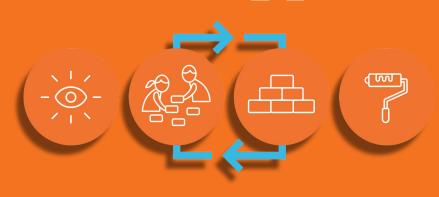
A	mplifyScience@Home Plan	ning I ool	
Unit:			
Chapter Title:			
Cohort/Group/Pod:			
@Home Unit lesson #:	Adapted from Lesson(s)		
Student Sheets page title:	Investigation Notebook p.# Copy Master/Print Materials		
Chapter Level Phenomenon:	309,110117,11		
	@ Home Unit lesson (asynchronous)		
Key activities from @ Home lesson:	Dates to administer:	Other notes:	
	Investigative Phenomenon:		
	Corresponding synchronous ideas		
In-person or remote? In-person Remote	Synchronous activity:	Other notes:	
	Dates(s) to administer:		

Plan for the day

- Framing the day
- Unit Internalization
- Amplify Science @Home
- Planning to teach using @Home resources
- Reflection and closing



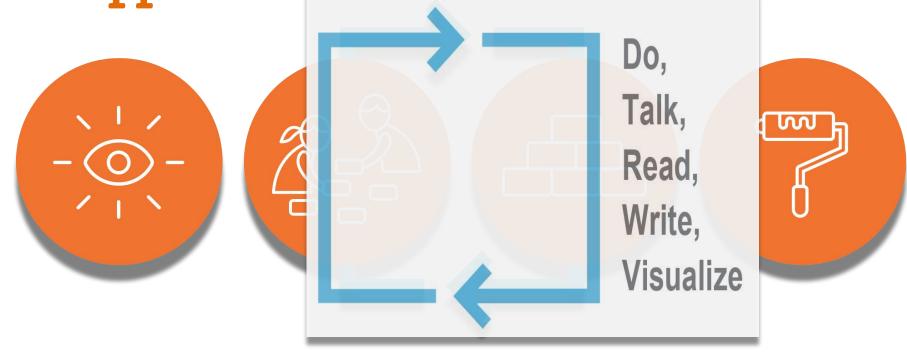
Revisiting the Amplify Science approach





Questions Reflections Connections	Unit 2 Planning Notes
	Amplify Science Approach Review:
	Note Taking Opportunities A version of this presentation will be available to you.
	However, you may want to record some of the
	presenter's comments and suggestions from your colleagues!

The approach



Introduce a phenomenon/real world problem

from multiple sources

Build increasingly complex explanations

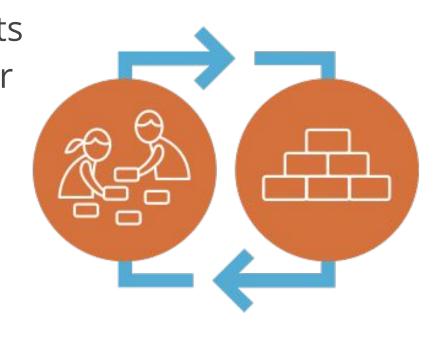
Apply knowledge to solve a different problem

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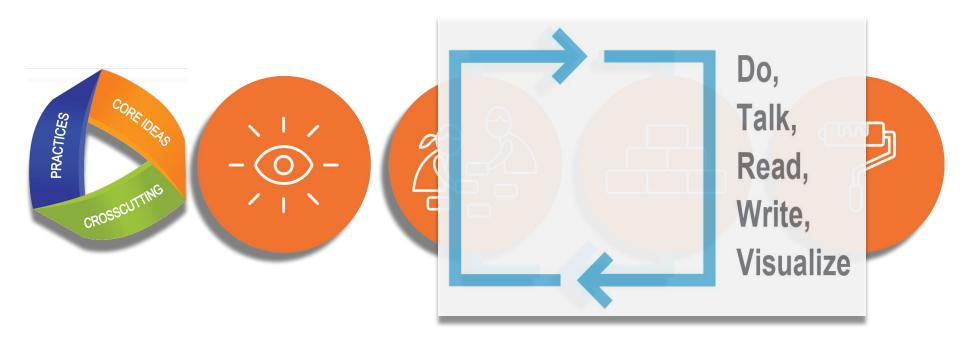
Multimodal Phenomenon-based approach

The anchor phenomenon drives instruction through a whole unit

Taking on the **roles** of scientists and engineers, students gather evidence and use it to build increasingly complex explanations about a rich, real-world anchoring phenomenon.



Using three dimensions to figure out



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Amplify Science Chat Race Type the letter for your answer to the questions you see here in chat!

A Type letter A in Chat

B Type letter B in Chat

Type letter C in Chat

Type letter D in Chat

What are the multiple modalities?

Do, talk, read, write, visualize

Read, write, google search

C Do, visualize, hands-on projects

P Reading, writing, math

What is the first step to the Amplify Science Approach?

A Collect evidence from multiple sources

B Introduce a Phenomenon and/or real world problem

Apply knowledge to solve different problem

Build an increasingly complex explanation

Where can you find login information and NYC scope and sequence?

A On the NYC Resource Site

B The Program Hub

C In the offline preparation guide

The TG on the Unit Level

Plan for the day

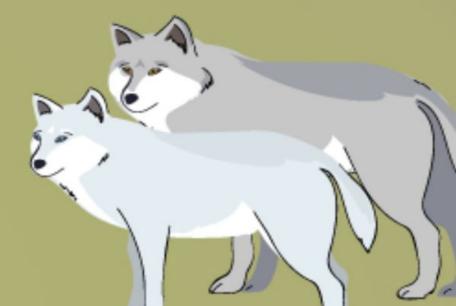
- Framing the day
- Unit Internalization
- Amplify Science @Home
- Planning to teach using @Home resources
- Reflection and closing



Unit Anchor Phenomenon

Wolf 44 appears different from the rest of the wolves in its pack.

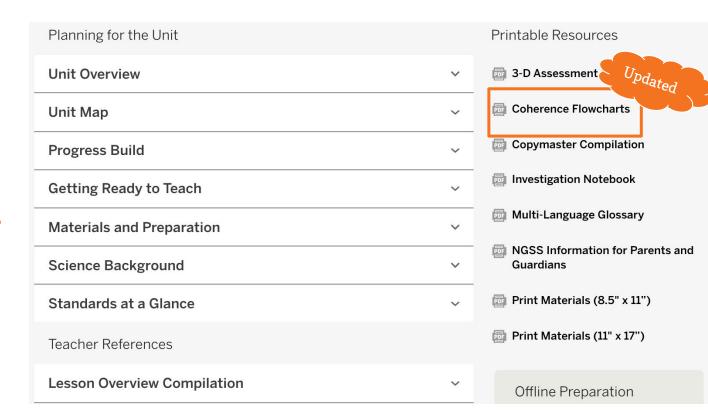
Navigate-Type-Chat What are the chapter and investigative phenomena for your unit 2?



Amplify Science Unit Two Internalization Notes with Digital Teacher's Guide



Where do you find all of the Unit Phenomena listed with Unit questions?



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

Inheritance and Traits: Variation in Wolves

Wolf 44 appears different from the rest of the wolves in its pack
What is the origin of the traits of Wolf 44—a wolf that appears different from the rest of its pack?

Wolf 44 has a different fur color from the rest of its pack.

Why are wolves different even though they are all the same species? (introduced in 1.4)

There are similarities and variations in traits of organisms.

Look for patterns in the wolf pack (1.5)

Create digital models of trait variation (1.6)

traits (1.5)

chapter (1.6)

can be variation. (1.6)

How can we describe the traits of organisms in a species? (1.5-1.6)

· Construct bar graphs to analyze similarity and variation in students'

· Use Word Relationships routine to reflect on learning across the

· Read Handbook of Traits to gather info about how traits vary within a

Organisms in a species have many similar traits, but for each trait there

What are some ways that organisms can be similar or different?
(1.1-1.4)

Read Blue Whales and Buttercups (1.2)

There are many different organisms in the world.

- · Reflect on relatedness (1.2)
- Observe similarities and differences between animals (1.3)
- Observe similarities and
 Observe bird traits (1.3)
- · Observe bird sounds (1.4)
- Observe bear traits (1.4)

Organisms have observable traits. (1.3)

- Review wolf data and reflect on variation of traits within the wolf pack (1.7)
- Write class explanation to answer the Chapter 1 Question (1.7)

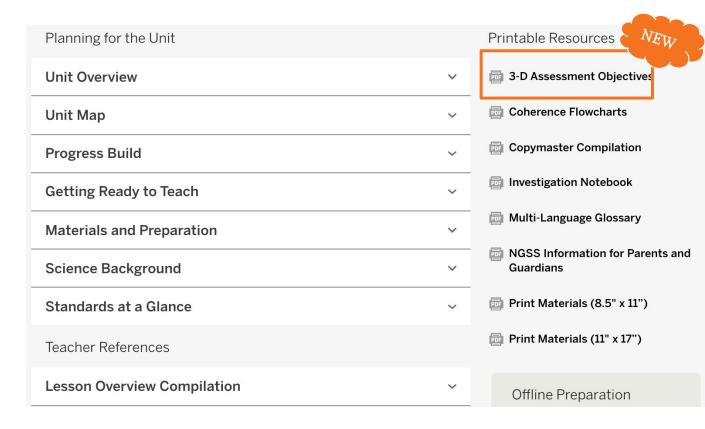
Even though all wolves are the same species, some wolves are different from others due to variation of traits within a species. This means that even though wolves can have similarities in their traits, there can also be variations in each trait. For example, wolves have different colors of fur: some wolves have a trait for gray fur, others have a trait for black fur.

Phenomena Coherence Flowcharts

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Note: New 3-D Assessment **Objectives Overview** Now Available





New 3D Assessment Objectives Overview

Inheritance and Traits

3-D Assessment Objectives Overview

The NGSS Performance Expectations specify three-dimensional learning objectives for Grade 3 as well as for the 3–5 grade band. The tables below include the focal Performance Expectations for this unit and identify the locations of summative and formative assessments that reveal student knowledge and use of the three dimensions to support progress toward these Performance Expectations.

Each table includes the Disciplinary Core Ideas (DCIs), Science and Engineering Practices (SEPs), and Crosscutting Concepts (CCCs) included in that Performance Expectation and specifies the location of assessments associated with these three dimensions. Note that SEPs and CCCs build across the grade and grade band, so we list relevant assessments across grades 3–5. Also, in cases in which a DCIs is addressed in multiple units at a grade, we list assessments in the additional unit(s).

Key:

- Summative assessments are noted with (S);
 if not so labeled, the assessment is designed to be formative.
- OTFA = On-the-Fly Assessment
- CJ = Critical Juncture
- PRE = Pre-Unit Assessment
- EOU = End-of-Unit Assessment
- TS = Teacher Support Note
- INV = Investigation Assessment
- CW = Chapter Writing Assessment

See the Assessment System overview document for more information.

3-LS3-1. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.

DCI: LS3.A: Inheritance of

Inheritance and Traits (Grade 3)

PRE: Lesson 1.1. Activity 2

CJ 2: Lesson 2.6, Activity 3

CW: Lesson 2.6. Activity 3

OTFA 7: Lesson 2.5, Activity 1

FOLL1: Lesson 3.6. Activity 3.(5)

DCI: LS3.B: Variation of

Inheritance and Traits (Grade 3)

PRF: Lesson 1.1. Activity 2

CI 1: Lesson 1.7. Activity 1

CW: Lesson 2.6, Activity 3

OTFA 7: Lesson 2.5, Activity 1

Traits

Traits

SEP: Analyzing and Interpreting Data

Balancing Forces (Grade 3) INV: Lesson 5.1, Activity 3 (S)

Inheritance and Traits (Grade 3)
OTFA 8: Lesson 2.5, Activity 4
Weather and Climate (Grade 3)

OTFA 1: Lesson 1.2, Activity 3
OTFA 2: Lesson 1.4, Cativity 2
OTFA 2: Lesson 1.5, Activity 2
OTFA 3: Lesson 1.6, Activity 3
OTFA 3: Lesson 1.6, Activity 1
OTFA 4: Lesson 2.2, Activity 2
OTFA 6: Lesson 2.2, Activity 2
OTFA 6: Lesson 2.5, Activity 3
OTFA 7: Lesson 3.5, Activity 1
OTFA 6: Lesson 3.5, Activity 2
OTFA 9: Lesson 3.4, Activity 1
OTFA 8: Lesson 3.4, Activity 2
OTFA 9: Lesson 3.4, Activity 2
OTFA 9: Lesson 3.4, Activity 2

Vision and Light (Grade 4) INV: Lesson 5.2, Activities 1-4 (S)

Patterns of Earth and Sky (Grade 5) INV: Lesson 4.3, Activities 1-3 (S)

Modeling Matter (Grade 5)
OTFA 12: Lesson 3.1. Activity 3

The Earth System (Grade 5)
OTFA 7: Lesson 3.2, Activity 3

Ecosystem Restoration (Grade 5) TS: Lesson 2.1, Activity 2

CCC: Patterns

Balancing Forces (Grade 3) CW: Lesson 3.4, Activity 3 TS: Lesson 5.3, Activity 2

Inheritance and Traits (Grade 3)
PRE: Lesson 1.1, Activity 2
OTFA 3: Lesson 1.5, Activity 1
OTFA 5: Lesson 2.2, Activity 1
EOU 1: Lesson 3.6, Activity 3 (5)
EOU 2: Lesson 4.2, Activity 2 (5)

Weather and Climate (Grade 3)
PRE: Lesson 1.1, Activity 2
OTFA 5: Lesson 2.3, Activity 2
OZ: Lesson 2.4, Activity 2
OZ: Lesson 2.5, Activity 3
OTFA 7: Lesson 3.2, Activity 3
OTFA 7: Lesson 3.3, Activity 2
OJ: Lesson 3.5, Activity 3
OJTFA 11: Lesson 3.7, Activities 1-3 (S)
OJTFA 11: Lesson 4.2, Activity 2
OJZ: Lesson 4.2, Activity 2

Waves, Energy, and Information (Grade 4)

PRE: Lesson 1.1, Activity 4 OTFA 1: Lesson 1.2, Activity 3 OTFA 12: Lesson 3.5, Activity 3

Patterns of Earth and Sky (Grade 5) OTFA 4: Lesson 2.1, Activity 1 OTFA 5: Lesson 2.2, Activity 4 OTFA 8: Lesson 3.1, Activity 4 OTFA 10: Lesson 3.3, Activity 3 INV: Lesson 4.3, Activities 1-3 (S)

Modeling Matter (Grade 5) OTFA 12: Lesson 3.1, Activity 3

Printable Resources



3-D Assessment Objectives

□ Coherence Flowcharts

Copymaster Compilation

Flextension Compilation

Investigation Notebook

Multi-Language Glossary

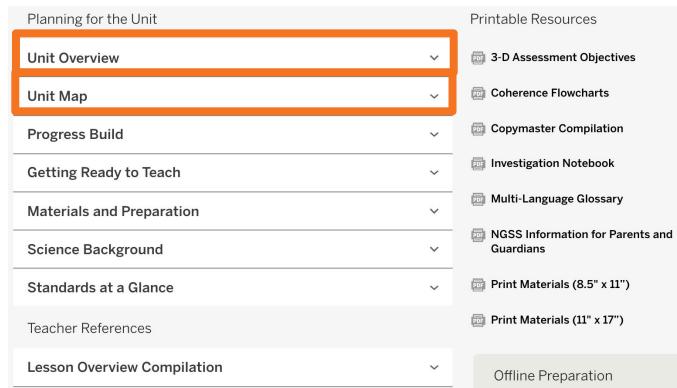
NGSS Information for Parents and Guardians

Unit title:		
What is the phenomenon students are investigating	g in your unit?	
Unit Question:	Student role:	
By the end of the unit, students figure out		
What science ideas do students need to figure out i	in order to explain the phenomenon?	

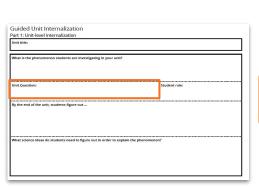
Guided Unit Internalization Document

What is the student role? What will students figure out in Chapter 1?

Guided Unit Internalizat Part 1: Unit-level internalization			
Unit title:			
What is the phenomenon students a	e investigating in your unit?		
Unit Question:		Student role:	
By the end of the unit, students figur	e out		
What science ideas do students need	to figure out in order to explain	the phenomenon?	

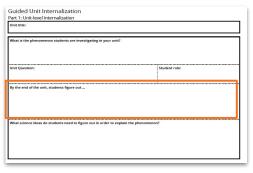


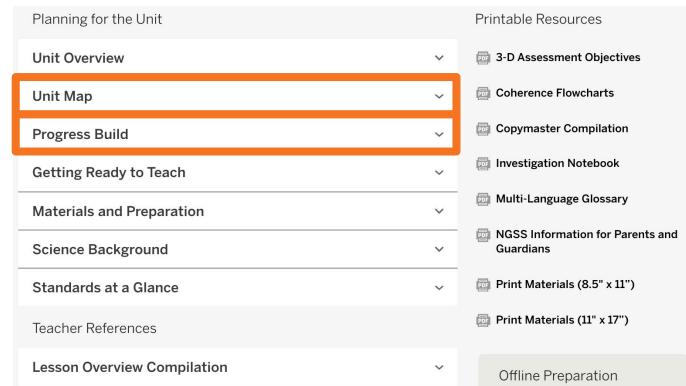
What are the Unit and Chapter Questions unit two?



Planning for the Unit	Printable Resources
Unit Overview ~	3-D Assessment Objectives
Unit Map	Coherence Flowcharts
Progress Build v	Copymaster Compilation
Getting Ready to Teach	Investigation Notebook
Materials and Preparation V	Multi-Language Glossary
Science Background V	NGSS Information for Parents and Guardians
Standards at a Glance ~	Print Materials (8.5" x 11")
Teacher References	print Materials (11" x 17")
Lesson Overview Compilation ~	Offline Preparation

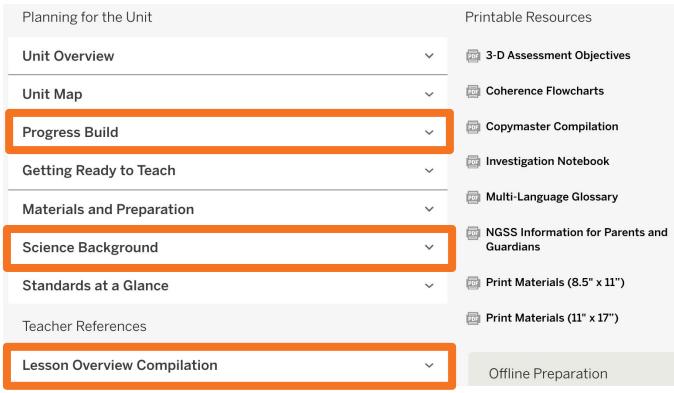
By the end of the unit what will the students figure out?





What science concepts do students need to figure out in order to build an explanation of the unit phenomena?

Unit title:		
Onit title:		
What is the phenomenon students are investigating	g in your unit?	
Unit Question:	Student role:	
By the end of the unit, students figure out		
What science ideas do students need to figure out i	n order to explain the phenomenon?	



Guided Unit Internalization Part 1: Unit-level internalization Unit title: What is the phenomenon students are investigating in your unit? **Unit Overview** Unit Ouestion: Student role: **Unit Overview Lesson Overview Compilation** By the end of the unit, students figure out ... Unit Map, See also **Progress Build** What science ideas do students need to figure out in order to explain the phenomenon? Unit Map, Progress Build, Science Background Document

Where to Look!

Amplify.

Where do you find a table listing the books and the in-class lessons they are used for?

A Science
Background

B Lesson Overview Compilation

C Progress Build

Materials and Preparation

Where do you find possible student preconceptions?

A Science
Background

B Lesson Overview Compilation

Progress Build

Materials and Preparation

In Chat • What is the Unit Anchor Phenomenon? • What is the Unit Question?

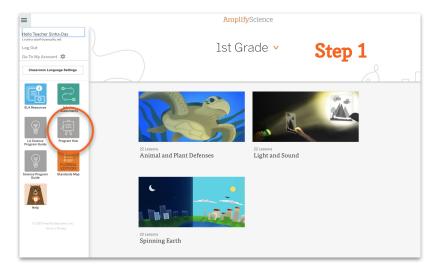


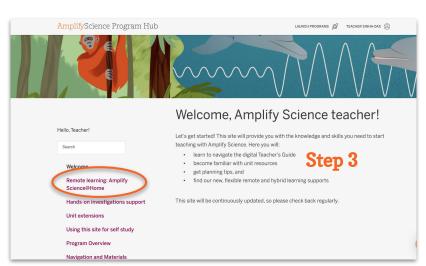
Plan for the day

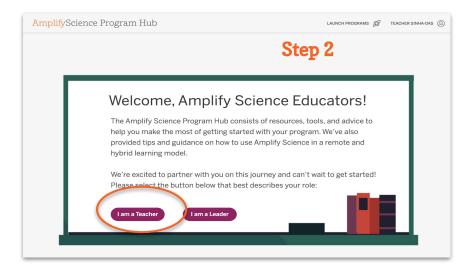
- Framing the day
- Unit Internalization
- Amplify Science @Home
- Planning to teach using @Home resources
- Reflection and closing

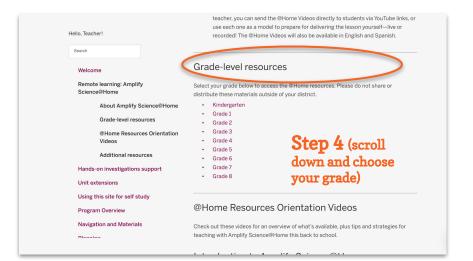


Questions Reflections Unit 2 Planning Notes Connections Global Program Hub Navigation









Reminder!

AmplifyScience@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







Inheritance and Traits

@Home Lesson 1

@Home Lesson 1

Key Activities

- Introducing the Wolves in Graystone National Park: Students are introduced to the unit problem and their role as wildlife biologists.
- Write: Students complete a pre-unit writing activity about their initial understanding of inheritance and traits.

Ideas for synchronous or in-person instruction

While meeting, introduce the students' role as wildlife biologists and lead a discussion about what wildlife biologists study and how they work. Assign students to complete the pre-unit writing after the class meeting.



We're about to begin a new science unit.

You will take on the role of wildlife biologists. You will investigate many of the things that scientists like wildlife biologists do.









Take a moment to look at these pictures of wildlife biologists.



What do you think wildlife biologists study?









Let's look at more pictures of wildlife biologists.



Where do you think wildlife biologists work?

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As wildlife biologists, you will study **wolves** in Graystone National Park.

There is a mystery about one particular wolf that you will work to solve.

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Wolves live in a **pack**, or group of many wolves.

Being part of a group often helps animals survive.

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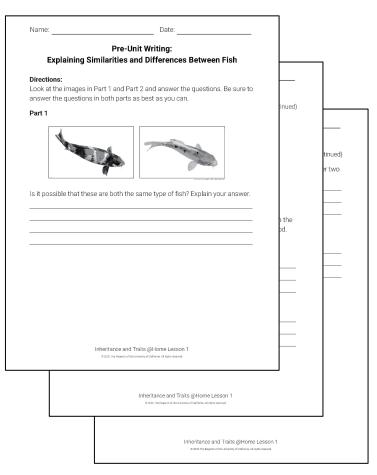
@Home Lesson 1

Key Activities

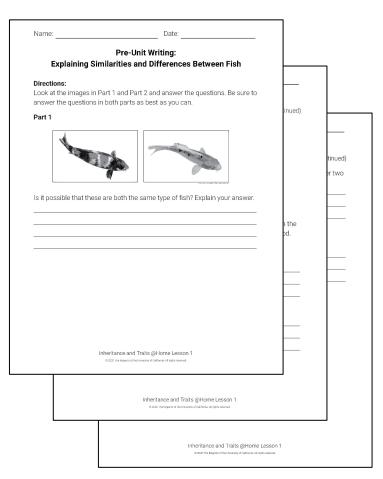
- Introducing the Wolves in Graystone National Park: Students are introduced to the unit problem and their role as wildlife biologists.
- Write: Students complete a pre-unit writing activity about their initial understanding of inheritance and traits.

Ideas for synchronous or in-person instruction

While meeting, introduce the students' role as wildlife biologists and lead a discussion about what wildlife biologists study and how they work. Assign students to complete the pre-unit writing after the class meeting.



You are going to write your very first ideas about how living things become the way they are.



Find and complete the **Pre-unit** writing: Explaining Similarities and **Differences Between Fish** pages.



Write your ideas about similarities and differences between the fish.

End of @Home Lesson



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@Home Lesson 1

Key Activities

- Introducing the Wolves in Graystone National Park: Students are introduced to the unit problem and their role as wildlife biologists.
- Write: Students complete a pre-unit writing activity about their initial understanding of inheritance and traits.

Ideas for synchronous or in-person instruction

While meeting, introduce the students' role as wildlife biologists and lead a discussion about what wildlife biologists study and how they work. Assign students to complete the pre-unit writing after the class meeting.

Suggestions for Online Synchronous Time







Online synchronous time

Online discussions: It's worthwhile to establish norms and routines for online discussions in science to ensure equity of voice, turn-taking, etc.

Digital tool demonstrations: You can share your screen and demonstrate, or invite your students to share their screen and think-aloud as they use a Simulation or other digital tool.

Interactive read-alouds: Screen share a digital book or article, and pause to ask questions and invite discussion as you would in the classroom.

Shared Writing: This is a great opportunity for a collaborative document that all your students can contribute to.

Co-constructed class charts: You can create digital charts, or create physical charts in your home with student input.

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Navigate to your unit on the Program Hub locate and record planning notes on:

- **@Home Videos**
- **@Home Units**
- @Home Book Read-aloud
- **@Home Hands-on Videos**

Explore your
Unit 2

@Home



Which document displays the correlations between in-class lessons and @Home lessons?

A @Home Teacher overview

B Amplify Welcome Page

C Lesson Brief

Lesson Index

How do the students access program components including e-books?

A Elementary
Student Apps
Page

B Amplify Welcome Page

The caregivers site

The program hub

In Chat What are some possible uses for the @Home Videos

Reflect-Type-Chat! Share and Learn
What are some of the things you
figured out while exploring and
comparing the @Home Resources



Plan for the day

- Framing the day
- Unit Internalization
- Amplify Science @Home
- Planning to teach using @Home resources
- Reflection and closing



Sample instructional scenario

Hybrid pod model

Select 1-2 lessons for the week and decide the best instructional format for the different parts of the lesson

In class



Hands-on investigations (option for teacher demo)

- Discourse routines
- Class discussions
- Physical modeling activities

Remote online class







Remote



- Sim demonstrations
- Read-alouds
- Shared Writing
- Co-constructed class charts

- @Home video lessons
- @Home Unit activities
- Reflective writing
- Independently review

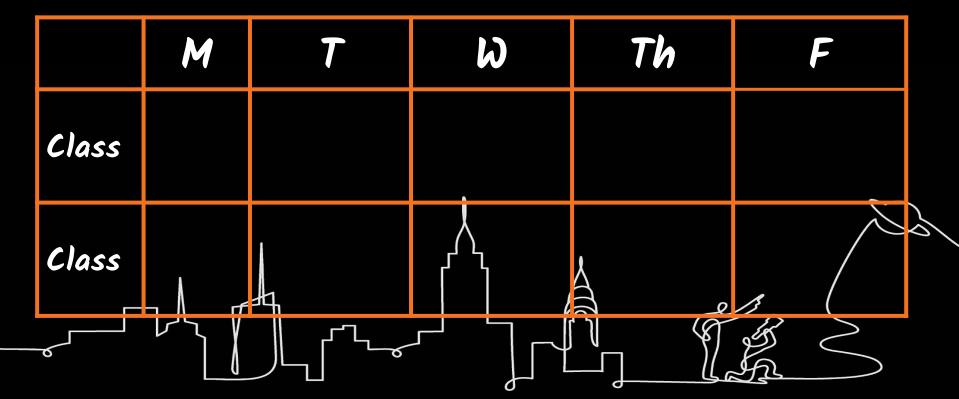
Sample instructional scenario

Hybrid pod model

	M-T	W	Th-F
Pod 1	In class	Remote online class	Remote
Pod 2	Remote	ATT I	In class

Think-Type-Chat Share and Learn

Take a moment to think about your current instructional model. Please share in chat!



@Home Resources example use case

Hybrid Model: Teach live during in-person/synchronous time





Day 2





Day 4



Day 1

In-person

Synchronous

Remote

In-person

Assign: Lesson 1.1 @Home Video

Remote

Teach: Lesson 1.2 live

Teach: Lesson 1.3 using clips from @Home Video

Day 3

Assign: Lesson 1.4 @Home Packet/Slides Revisit: hands-on or discourse-based activities the week's lessons

Day 5

@Home Resources example use case

Remote Model: with synchronous & asynchronous learning



Days 1 & 2

Asynchronous

Assign: Lesson 1.1 @Home Video and sheets for students to work through on their own



Day 3

Synchronous

Teach: Lesson 1.2 using clips from the @Home Video



Day 4

Asynchronous

Assign: Lesson 1.3 @Home Packet or @Home Slides for students to work through on their own



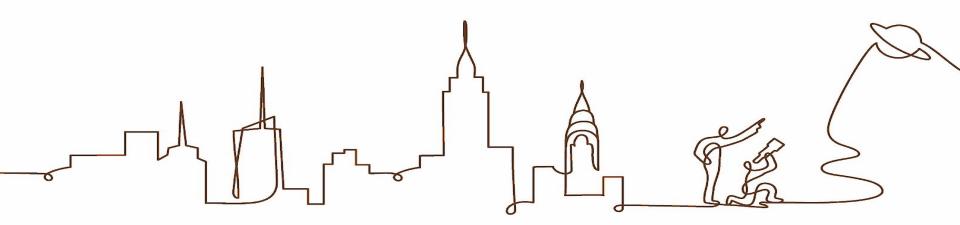
Day 5

Synchronous

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

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@Home Differentiation



AmplifyScience

Inheritance and Traits @Home Lesson Index

The Amplify Science@Home Units are versions of Amplify Science units adapted for use in a remote learning or hybrid learning situation. To help you plan instruction, below we have listed the @Home Lessons alongside the Amplify Science unit's Lesson(s) from which they come.

Index: @Home Unit Lessons and corresponding Inheritance and Traits Lessons

@Home Lesson	Adapted from Amplify Science Inheritance and Traits
@Home Lesson 1	Lesson 1.1
@Home Lesson 2	Lessons 1.2
@Home Lesson 3	Lessons 1.2 and 1.3
@Home Lesson 4	Lesson 1.4
@Home Lesson 5	Lesson 1.5
@Home Lesson 6	Lesson 1.6
@Home Lesson 7	Lesson 1.7
@Home Lesson 8	Lesson 2.1
@Home Lesson 9	Lesson 2.1 and 2.2
@Home Lesson 10	Lesson 2.3
@Home Lesson 11	Lessons 2.4
@Home Lesson 12	Lessons 2.5
@Home Lesson 13	Lesson 2.6
@Home Lesson 14	Lesson 3.1 and 3.2
@Home Lesson 15	Lesson 3.2 and 3.3
@Home Lesson 16	Lesson 3.3 and 3.4
@Home Lesson 17	Lesson 3.4
@Home Lesson 18	Lesson 3.5 and 3.6



Index map to Differentiation

Use the Unit Guide and Lesson Index to explore the differentiation possibilities for @Home units.

Review your
Unit 2
@Home



Guided Planning

Objectives

- Use the resources we have explored to compare@Home lessons w/ in-class lessons.
- Use the planning template and @Home resources (found on the Program HUB) to plan an upcoming lesson.



AmplifyScience@Home Planning Tool

Unit:

Chapter Title:

Cohort/Group/Pod:		
@Home Unit lesson #:	Adapted from Lesson(s):	
Student Sheets page title:	Investigation Notebook p.# Copy Master/Print Materials	
Chapter Level Phenomenon:	•	
	@ Home Unit lesson (asynchronous)	
Key activities from @ Home lesson:	Dates to administer:	Other notes:
	Investigative Phenomenon:	
	Corresponding synchronous ideas	
In-person or remote?	Synchronous activity:	Other notes:
☐ In-person☐ Remote		
	Dates(s) to administer:	

Resources

- 1. Lesson Index
- 2. Coherence FLowcharts
- 3. 3-D
 Assessment
 objectives
 overview
- 4. @Home Teacher overview

Amplify.

@Home Videos					
Use for synchronous or asynchronous? Synchronous Asynchronous Neither If using, note lesson & activity/activities:	View for best practices? Yes No If yes, notes some best practices:	Other notes:			
	Corresponding original lesson(s)				
Differentiation strategies:	Additional synchronous activity notes:	Use any original slides? Yes No Other notes:			
	Differentiation plan				
Synchronous, remote ideas:	Synchronous, in-person ideas:	Asynchronous ideas:			

Resources

- 1. Lesson Index
- 2. @Home Teacher overview
- 3. Differentiation Brief
- 4. Lesson Brief

3rd party apps to use				
Google Classroom:	Other apps & notes:			
Which @Home Resources to upload?				
 @Home Unit slides @Home Video url				
Notes:				
	Google Classroom: Which @Home Resources to upload? @Home Unit pdf @Home Unit slides @Home Video url Other			

Teacher Notes from lesson brief:

Resources

- 1. Lesson Index
- 2. @Home Teacher overview
- 3. Differentiati on Brief
- 4. Lesson Brief

Guided Planning Work Time

- Use the planning template and @Home resources (found on the Program HUB) to plan an upcoming lesson
- While planning consider the information below to select the appropriate resources:
 - O Do you have more, less, or the same time as last year for Science?
 - Your classroom instructional model (Hybrid or Remote)
 - Student's access to technology (packet or slides/sheets)
 - The 3rd party applications will you pair with Amplify resources (if any)?
 - Do I want to add a hands on component? (model via video? Or complete during in person synchronous instruction)

Plan for the day

- Framing the day
- Unit Internalization
- Amplify Science @Home
- Planning to teach using @Home resources
- Reflection and closing



Where do you locate the new 3-D assessment objective overview?

Unit Level
Materials and
Prep

B Unit Level 3-D statements

C Unit Level
Printable
Resources

Unit Level
Assessment
Systems

Where are differentiation notes for Unit 2 lessons?

Unit Level
Materials and
Prep

B Unit Level Science Background Digital TG Lesson Level

Teacher Overview

In Chat What are the focal performance expectations for your unit?

Where can you find assessment recommendations for @Home units?

@Home Videos

B @Home Student Sheets

@Home Student Slides

D @Home Teacher Overview

In Chat What is the Chapter 4-level Phenomenon?

What does this Image represent?







Amplify Science Approach

B How students build a complex explanation

How students deepen their understanding

D

All of these

Did We Meet Out Workshop Goals?

- 1. Make instructional decisions about remote or hybrid learning
- Develop a plan for using @Home resources within your class schedule and instructional format.

YES! yes but still working No not quite





NYC Program Guide

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

https://my.amplify.com/programguide/content/national/welcome/nyc/

Amplify Help

Find lots of advice and answers from the Amplify team.

my.amplify.com/help



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