

Amplify Science

New York City

Guided Unit
Internalization

With @Home Resources

Grade 4 Vision and Light



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.**

- **Take some time to orient yourself to the platform**



- **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!**

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



Guided Unit Internalization

Part 1: Unit-level internalization

Unit title:	
What is the phenomenon students are investigating 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 in order to explain the phenomenon?	

Participant Materials

AmplifyScience@Home Planning Tool

Unit:

Chapter Title:

Cohort/Group/Pod:

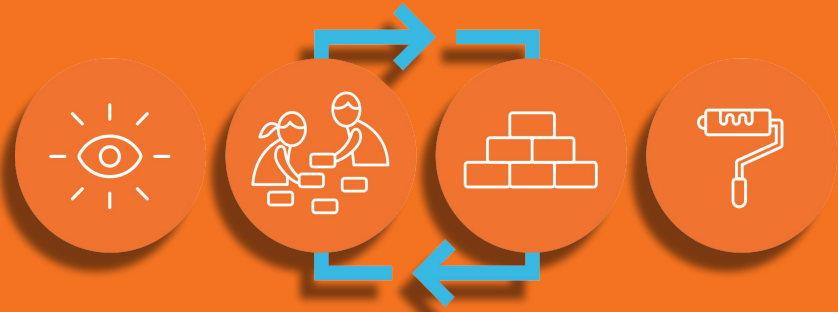
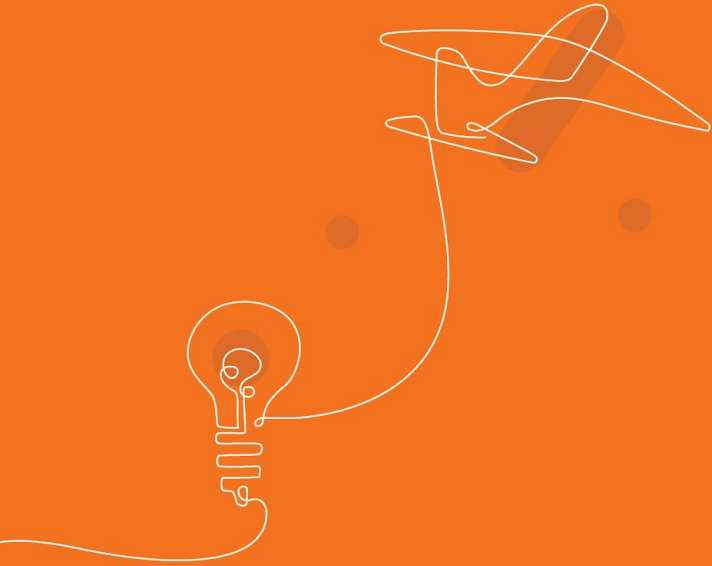
@Home Unit lesson #:	Adapted from Lesson(s):	
Student Sheets page title:	Investigation Notebook p.# Copy Master/Print Materials	
Chapter Level Phenomenon:		
@ Home Unit lesson (asynchronous)		
Key activities from @ Home lesson:	Dates to administer:	Other notes:
	Investigative Phenomenon:	
Corresponding synchronous ideas		
In person or remote? <input type="checkbox"/> In person <input type="checkbox"/> 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

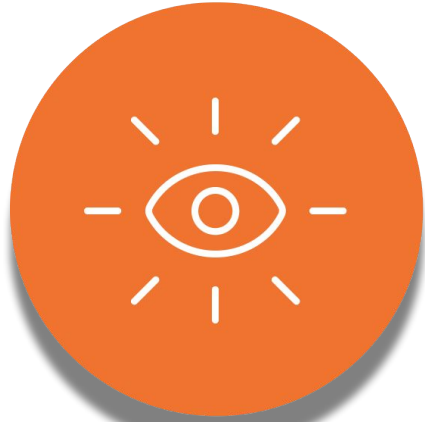
Amplify Science Approach Review:

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!

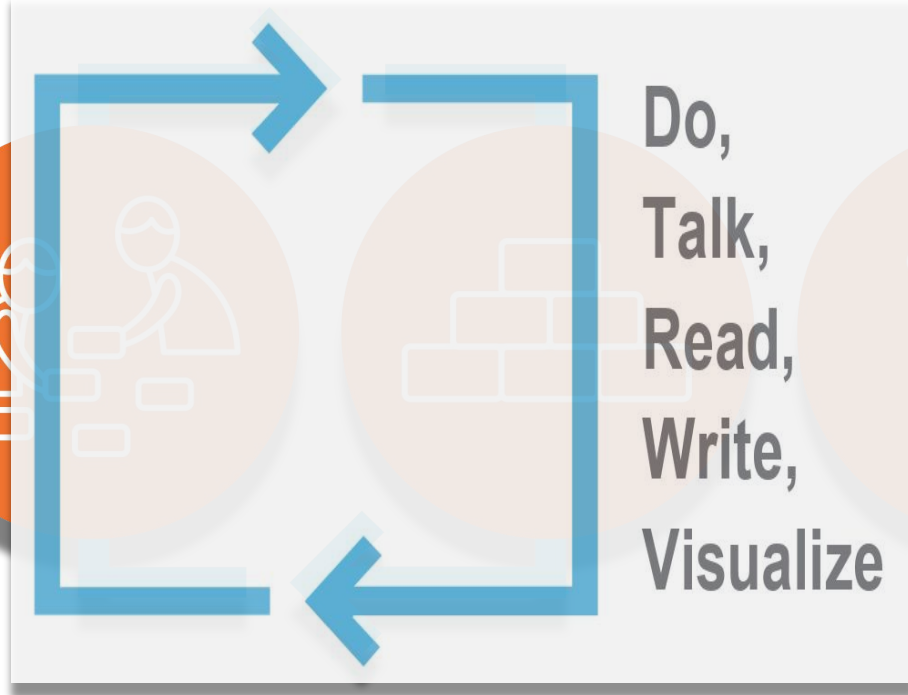
The approach



**Introduce a
phenomenon/real
world problem**



**Collect evidence
from
multiple sources**



**Build
increasingly
complex
explanations**

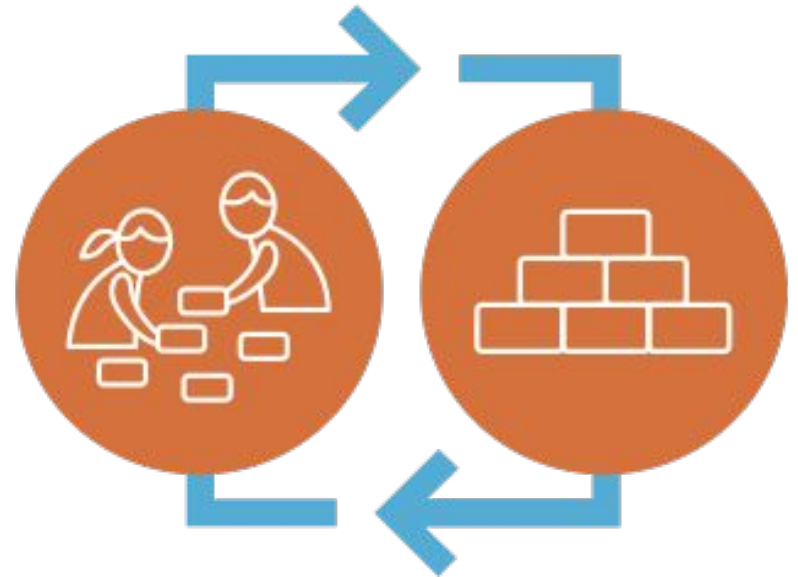


**Apply knowledge to
solve a different
problem**

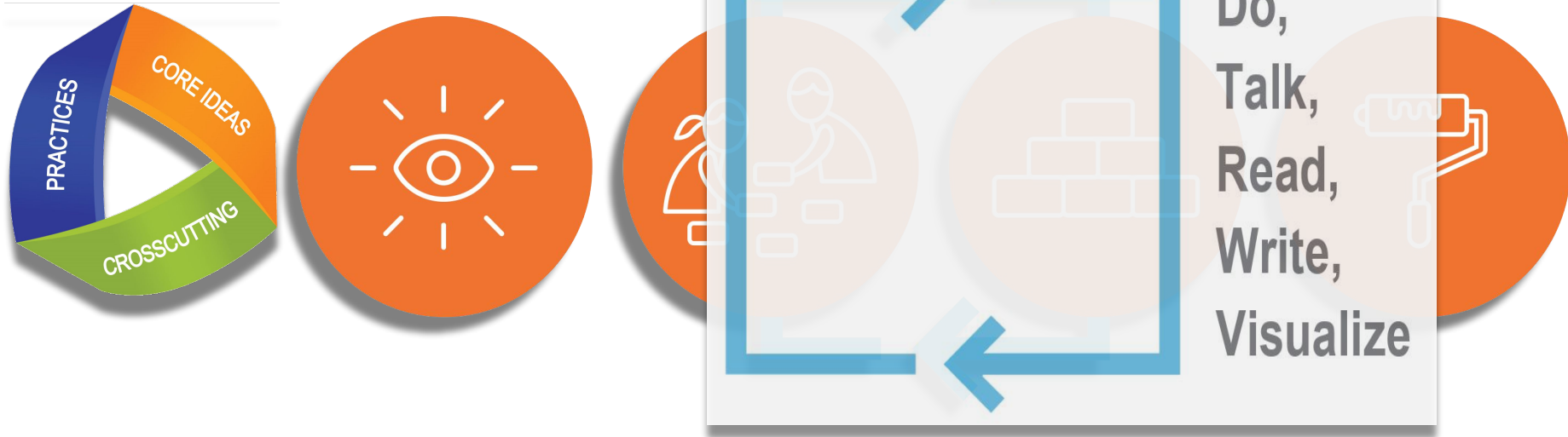
Multimodal Phenomenon-based approach

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





Questions?

Amplify Science Chat Race

Type the letter for your answer to the questions you see here in chat!

A

Type letter A in
Chat

C

Type letter C in
Chat

B

Type letter B in
Chat

D

Type letter D in
Chat

What are the multiple modalities?

A

Do, talk, read,
write, visualize

C

Do, visualize,
hands-on
projects

B

Read, write,
google search

D

Reading, writing,
math

What is the first step to the Amplify Science Approach?

A

Collect evidence
from multiple
sources

C

Apply knowledge to
solve different
problem

B

Introduce a
Phenomenon and/or
real world problem

D

Build an increasingly
complex explanation

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

A

On the NYC
Resource Site

C

In the offline
preparation
guide

B

The Program
Hub

D

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

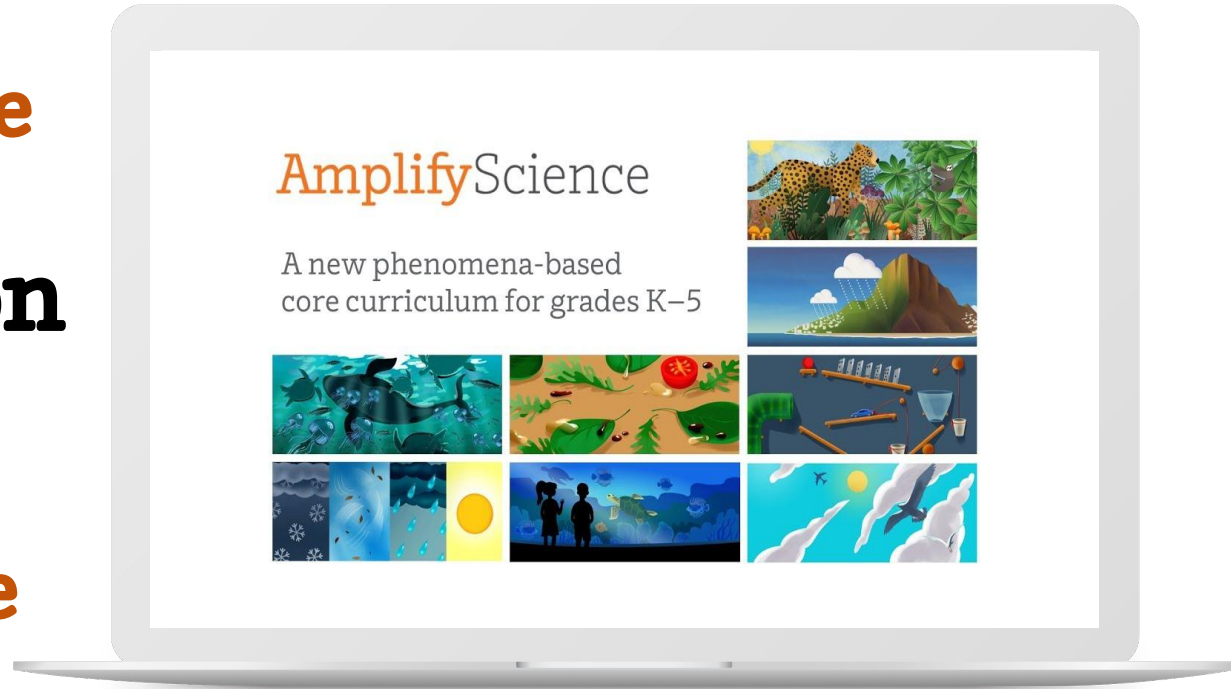
The population of Tokay geckos in a rainforest in the Philippines has decreased since the installation of new highway lights.

Navigate-Type-Chat










What are the chapter level and investigative phenomena for your Chapter 1?



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



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

Planning for the Unit		Printable Resources
Unit Overview	▼	 3-D Assessment 
Unit Map	▼	 Coherence Flowcharts
Progress Build	▼	 Copymaster Compilation
Getting Ready to Teach	▼	 Investigation Notebook
Materials and Preparation	▼	 Multi-Language Glossary
Science Background	▼	 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

Unit Anchor Phenomenon

Problem students work to solve

Chapter-level Anchor Phenomenon

Chapter 2 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 2 Question

Vision and Light: Investigating Animal Eyes

The population of Tokay geckos in a rain forest in the Philippines has decreased since the installation of new highway lights. Why is an increase in light affecting the health of Tokay geckos in a Philippine rain forest?

Tokay geckos rely on vision to find their prey. How does light allow a Tokay gecko to see its prey?

Animals can only see things when there is light. How does light allow an animal to see something? (2.1-2.5)

- Read about an animal's eye in *Handbook of Animal Eyes* (2.1)
- Use the Sim to investigate how light allows an animal to get information from its environment (2.1)
- Revisit the Chapter 1 Mystery Box investigation (2.2)
- Create digital models to show how light allows an observer to see something in the Mystery Box, and how the transfer of information can be blocked (2.2)
- Read *I See What You Mean* (2.3)
- Return to the Sim to further investigate how light allows an animal to get information from its environment (2.4)
- Critique inaccurate models about how light allows animals to see things (2.4)
- Model new ideas about the Mystery Box, using a digital tool (2.4)

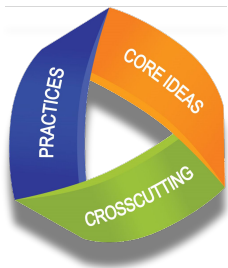
- Light needs to get to an object for an animal to see the object. (2.3)
- Light needs to reflect off an object and get to the eye for an animal to see the object. (2.4)

- Use Explanation Cards to discuss the Chapter 2 Question (2.5)
- Write explanations to answer the Chapter 2 Question (2.5)

First, light travels from a source to the gecko's prey. Then, it reflects off the prey and travels to the gecko's eyes. As it travels from the prey to the gecko's eyes, it carries information about the prey.

Phenomena Coherence Flowcharts

Note: New 3-D Assessment Objectives Overview Now Available



Planning for the Unit	Printable Resources
Unit Overview	3-D Assessment Objectives
Unit Map	Coherence Flowcharts
Progress Build	Copymaster Compilation
Getting Ready to Teach	Investigation Notebook
Materials and Preparation	Multi-Language Glossary
Science Background	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



New 3D Assessment Objectives Overview

Vision and Light

3-D Assessment Objectives Overview

The NGSS Performance Expectations specify three-dimensional learning objectives for Grade 4 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 DCI 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.

4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

SEP: Engaging in Argument from Evidence

Weather and Climate (Grade 3)

OTFA 3: Lesson 1.6, Activity 1
OTFA 6: Lesson 2.5, Activity 1
CW: Lesson 2.5, Activity 3
EOU 1: Lesson 3.7, Activities 1-3 (S)
EOU 2: Lesson 4.4, Activities 1 & 2 (S)

Energy Conversions (Grade 4)

OTFA 6: Lesson 1.6, Activity 4
CW: Lesson 2.4, Activity 4
OTFA 21: Lesson 4.5, Activity 1
EOU: Lesson 4.6, Activities 1 & 2 (S)

Earth's Features (Grade 4)

PRE: Lesson 1.1, Activity 2
CW: Lesson 2.6, Activity 1
OTFA 9: Lesson 3.2, Activity 2
EOU 1: Lesson 3.5, Activity 2 (S)
EOU 2: Lesson 4.5, Activity 3 (S)

Ecosystem Restoration (Grade 5)

OTFA 2: Lesson 1.4, Activity 2
OTFA 4: Lesson 1.8, Activity 3
CW: Lesson 1.8, Activity 3
OTFA 8: Lesson 2.6, Activity 3
CW: Lesson 2.7, Activity 3
CJ 3: Lesson 3.6, Activity 2
CW: Lesson 3.6, Activity 2
EOU: Lesson 3.7, Activity 2 (S)

DCI: LS1.A: Structure and Function

Vision and Light (Grade 4)

OTFA 1: Lesson 1.2, Activity 3
CJ 1: Lesson 1.4, Activity 1
OTFA 9: Lesson 3.3, Activity 2
OTFA 10: Lesson 3.4, Activity 1
CJ 3: Lesson 3.5, Activity 4
CW: Lesson 3.5, Activity 4
OTFA 12: Lesson 4.3, Activity 1
CJ 4: Lesson 4.4, Activity 2
EOU: Lesson 4.6, Activity 2 (S)
INV: Lesson 5.2, Activities 1-4 (S)

CCC: Systems and System Models

Environments and Survival (Grade 3)

PRE: Lesson 1.1, Activity 3
OTFA 1: Lesson 1.2, Activity 3
EOU 1: Lesson 3.4, Activity 3 (S)

Energy Conversions (Grade 4)

PRE: Lesson 1.1, Activity 1
OTFA 1: Lesson 1.2, Activity 4
OTFA 2: Lesson 1.3, Activity 3
OTFA 9: Lesson 2.3, Activity 4
OTFA 10: Lesson 3.1, Activity 2
OTFA 16: Lesson 4.1, Activity 2
OTFA 17: Lesson 4.1, Activity 3
OTFA 18: Lesson 4.2, Activity 2
CJ 3: Lesson 4.3, Activity 2
EOU: Lesson 4.6, Activities 1 & 2 (S)

The Earth System (Grade 5)

PRE: Lesson 1.1, Activity 2
OTFA 5: Lesson 2.4, Activity 4
EOU 1: Lesson 4.3, Activity 2 (S)
OTFA 10: Lesson 4.4, Activity 2

Ecosystem Restoration (Grade 5)

OTFA 11: Lesson 3.4, Activity 2

Printable Resources

NEW



3-D Assessment Objectives



Coherence Flowcharts



Copymaster Compilation



Flextension Compilation



Investigation Notebook



Multi-Language Glossary



NGSS Information for Parents and Guardians

Guided Unit Internalization

Part 1: Unit-level internalization

Unit title:

What is the phenomenon students are investigating 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 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 Internalization
Part 1: Unit-level Internalization

Unit title:	
What is the phenomenon students are investigating 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 in order to explain the phenomenon?	

Planning for the Unit	Printable Resources
Unit Overview ▾	 3-D Assessment Objectives
Unit Map ▾	 Coherence Flowcharts
Progress Build ▾	 Copymaster Compilation
Getting Ready to Teach ▾	 Investigation Notebook
Materials and Preparation ▾	 Multi-Language Glossary
Science Background ▾	 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

What are the Unit and Chapter Questions unit two?

Guided Unit Internalization
Part 1: Unit-level Internalization

Unit title:	
What is the phenomenon students are investigating 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 in order to explain the phenomenon?	

Planning for the Unit

Unit Overview



Unit Map



Progress Build



Getting Ready to Teach



Materials and Preparation



Science Background



Standards at a Glance



Teacher References

Lesson Overview Compilation



Printable Resources



3-D Assessment Objectives



Coherence Flowcharts



Copymaster Compilation



Investigation Notebook



Multi-Language Glossary



NGSS Information for Parents and Guardians



Print Materials (8.5" x 11")



Print Materials (11" x 17")

Offline Preparation

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

Guided Unit Internalization
Part 1: Unit-level internalization









Unit title:

What is the phenomenon students are investigating 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 in order to explain the phenomenon?

Planning for the Unit		Printable Resources
Unit Overview	▼	 3-D Assessment Objectives
Unit Map	▼	 Coherence Flowcharts
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Teacher References		 Print Materials (11" x 17")
Lesson Overview Compilation	▼	Offline Preparation

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

Guided Unit Internalization
Part 1: Unit-level Internalization

Unit title:	
What is the phenomenon students are investigating 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 in order to explain the phenomenon?	

Planning for the Unit	Printable Resources
Unit Overview	 3-D Assessment Objectives
Unit Map	 Coherence Flowcharts
Progress Build	 Copymaster Compilation
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Standards at a Glance	 Print Materials (8.5" x 11")
Teacher References	 Print Materials (11" x 17")
Lesson Overview Compilation	Offline Preparation

Guided Unit Internalization

Part 1: Unit-level internalization

Unit title:

What is the phenomenon students are investigating in your unit?

Unit Overview

Unit Question:

Lesson Overview Compilation

Student role:

Unit Overview

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!**

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

A Science Background

C Progress Build

B Lesson Overview Compilation

D Materials and Preparation

Where do you find possible student preconceptions?

A

Science
Background

C

Progress Build

B

Lesson Overview
Compilation

D

Materials and
Preparation

In Chat

- What is the Unit Anchor Phenomenon?
 - What is the Unit Question?



Questions?

Plan for the day

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





Questions
Reflections
Connections

Unit 2 Planning Notes

Global
Navigation

Program Hub

AmplifyScience


Hello Teacher Sinha-Das
17616-0401@amplify.net

Log Out
Go To My Account


Classroom Language Settings

ELA Resources
Job Postments
LA Science Program Guide
Science Program Guide
Help


1st Grade ▾ **Step 1**



22 Lessons
Animal and Plant Defenses



22 Lessons
Light and Sound



22 Lessons
Spinning Earth

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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.

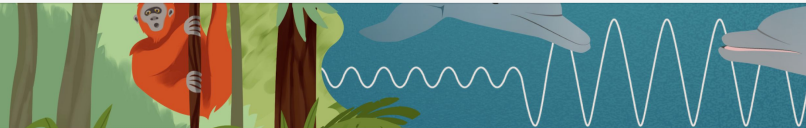
We're excited to partner with you on this journey and can't wait to get started! Please select the button below that best describes your role:

I am a Teacher I am a Leader



AmplifyScience Program Hub

LAUNCH PROGRAMS TEACHER SINHA-DAS



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

Welcome, Amplify Science teacher!

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

This site will be continuously updated, so please check back regularly.

Step 3

AmplifyScience Program Hub

LAUNCH PROGRAMS TEACHER SINHA-DAS

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

Grade-level resources

Select your grade below to access the @Home resources. Please do not share or distribute these materials outside of your district.

- Kindergarten
- Grade 1
- Grade 2
- Grade 3
- Grade 4
- Grade 5
- Grade 6
- Grade 7
- Grade 8

Step 4 (scroll down and choose your grade)

@Home Resources Orientation Videos

Check out these videos for an overview of what's available, plus tips and strategies for teaching with Amplify Science@Home this back to school.

Reminder!

AmplifyScience@Home

@Home Units

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

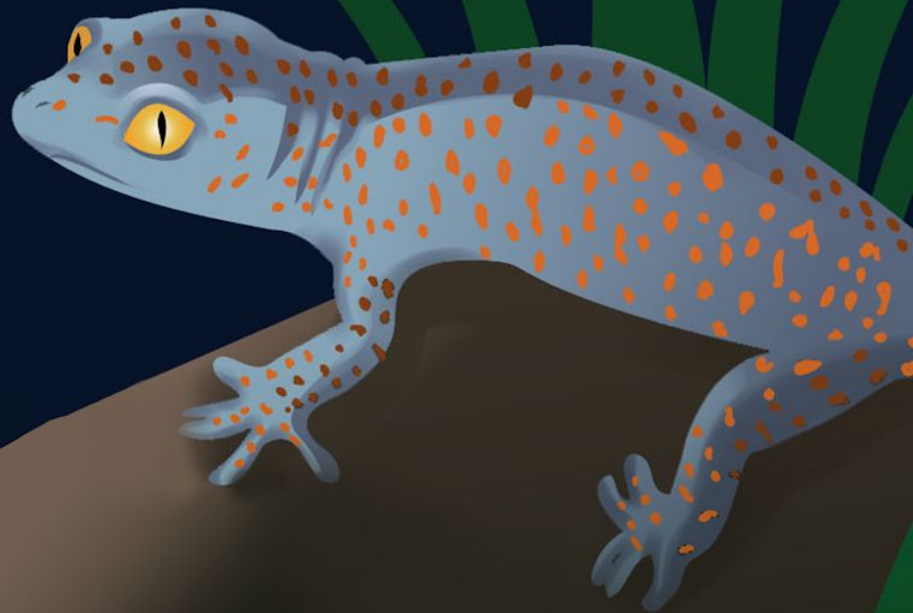
@Home Videos

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



Vision and Light

@Home Lesson 1





This science unit is about **how animals survive in their environment.**

The Rain Forest Conservation Group needs our help solving an animal survival problem.

We have a **message** from the Rain Forest Conservation Group.



To: Conservation Biologists
From: Rain Forest Conservation Group
Subject: A Problem with the Tokay Geckos



Our biologists have noticed there are fewer Tokay geckos than there used to be in a small area of rain forest in the Philippines. Why are there fewer Tokay geckos? Is something making it hard for Tokay geckos to survive in their environment? We need your help to figure this out!

Tokay Gecko

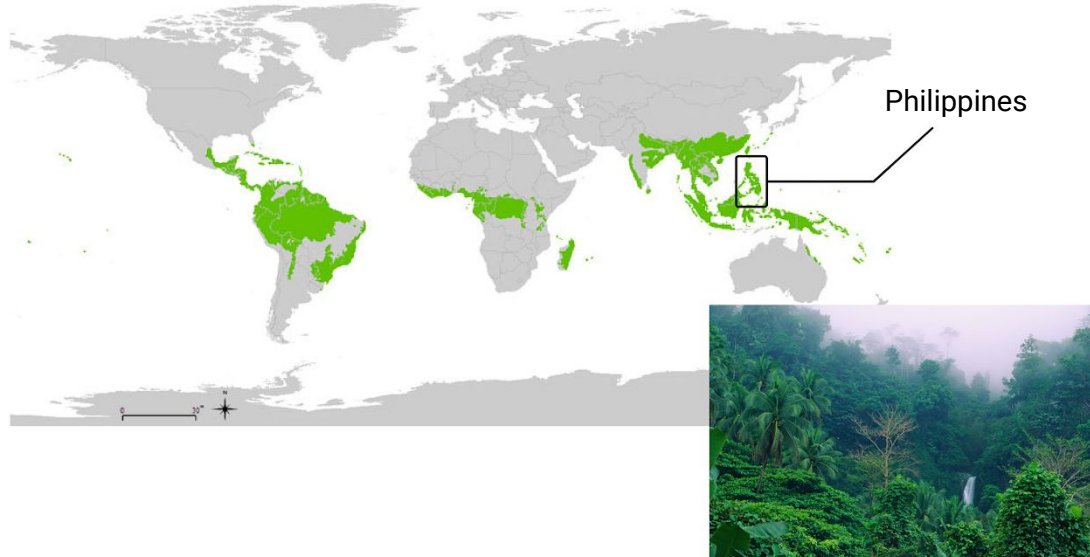


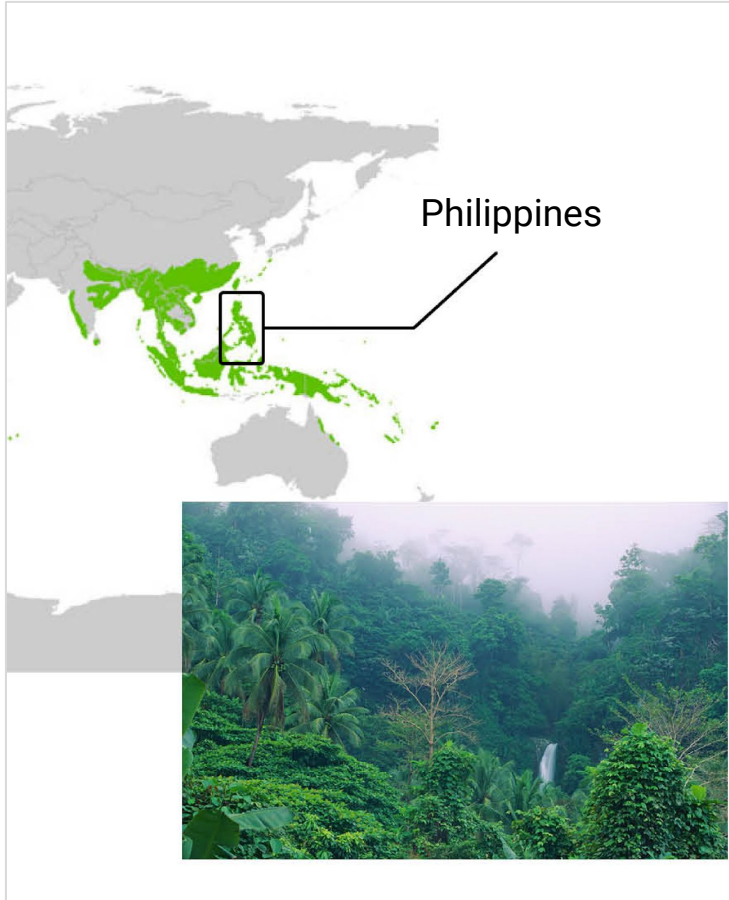
This is the Tokay gecko.

The Rain Forest Conservation Group is wondering **why there are fewer Tokay geckos** than there used to be.

The Tokay gecko lives in rain forests. This map shows the location of rain forests around the world.

Tropical Rain Forests of the World





Tokay geckos are lizards that live in the rain forests of the Philippine Islands.

The message from the Rain Forest Conservation Group talks about how the Tokay geckos survive in their **environment**.

Rain Forest Environment



This is an example of an environment—a rain forest.

A tropical rain forest is a special type of **environment** that is very hot and has a lot of rain year round.

There are lots of interesting plants and animals that live in a rain forest environment.



environment

all the living and nonliving things in an area

Glossary (continued)

receptor: a structure that responds to information coming in from the environment

receptor: una estructura que responde a información que viene del ambiente

reflect: to cause light to bounce off a material

reflejar: hacer que la luz rebota contra un material

sense: (noun) how

sentido: cómo un

sense: (verb) to g

sentir: obtener in

sensitive: respon

sensible: que res

sensitivity: how s

sensibilidad: con

structure: the wa

it good for a spec

estructura: la for

la hace adecuada

survive: to stay a

sobrevivir: mante

variable: someth

variable: algo que

vision: the ability

visión: la capacid

Glossary

environment: all the living and nonliving things in an area

ambiente: todo (viviante y no viviente) lo que hay en un área

explanation: a description of how something works or why something happens

explicación: una descripción de cómo algo funciona o por qué algo pasa

evidence: information that supports an answer to a question

evidencia: información que respalda una respuesta a una pregunta

function: what something can do

función: lo que algo puede hacer

investigation: an attempt to find out about something

investigación: un intento de aprender sobre algo

model: something scientists make to answer questions about the real world

modelo: algo que los científicos crean para responder preguntas sobre el mundo real

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

observar: usar cualquiera de los cinco sentidos para recolectar información acerca de algo

predator: an animal that hunts and eats other animals

depredador: un animal que caza y come otros animales

prey: an animal that is hunted and eaten by other animals

presa: un animal que es cazado y comido por otros animales

process: to change information from one form to another

procesar: cambiar información de una forma a otra

You have a **Glossary** you can use if you need to find definitions for science words we are using.

Conservation Biologists



We will be **conservation biologists**—scientists who help protect plants and animals.

You will figure out **why there are fewer Tokay geckos** in an area.

Rain Forest Conservation Group



A conservation group works to make sure that **plants and animals can survive**. That's why the Rain Forest Conservation Group is worried about the Tokay geckos.

You will **investigate** what could be making it hard for the geckos to survive.

Eventually, you will **share your findings** with the Rain Forest Conservation Group.

@Home Lesson 1

Adapted from: Amplify Science *Vision and Light* Lesson 1.1

Key Activities

- **Introducing the Tokay Gecko:** Students are introduced to the unit problem and to their role as conservation biologists.
- **Talk:** Students discuss what animals need in order to survive in their environment.
- **Write:** Students complete a pre-unit writing activity about their initial understanding of how animals use light and their senses to survive.

Ideas for synchronous or in-person instruction

While meeting, introduce the unit problem by showing images of the Tokay gecko and a rain forest environment. Have partners discuss their ideas about what animals need in order to survive in their environment, then have them complete the pre-unit writing after meeting.

Before we can figure out what could be making it hard for the Tokay geckos to survive in their environment, we need to think about what it means for something to **survive**.

You will need a **partner** to talk with. Your partner can be a family member, a friend or classmate on the phone, a stuffed animal, or even a pet!



What do you think it means for something to **survive**?

What do you know about what animals need in order to **survive** in their environment?

The Rain Forest Conservation Group is worried that something is making it hard for the Tokay geckos to survive.



survive

to stay alive

Animals need **food, water, and a way to stay safe** from other animals.

To find these things, they need to get **information from their environment**—where their food is, where they can hide, and what other animals are nearby.



How do animals **get information from their environment** so they can find food, water, and a way to stay safe?

In this chapter, we will work to figure out:

Chapter 1 Question

How does a Tokay gecko get information about its environment?

@Home Lesson 1

Adapted from: Amplify Science *Vision and Light* Lesson 1.1

Key Activities

- **Introducing the Tokay Gecko:** Students are introduced to the unit problem and to their role as conservation biologists.
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Ideas for synchronous or in-person instruction

While meeting, introduce the unit problem by showing images of the Tokay gecko and a rain forest environment. Have partners discuss their ideas about what animals need in order to survive in their environment, then have them complete the pre-unit writing after meeting.

As conservation biologists, we are studying **how animals learn from their environment** and how this helps them **survive**.

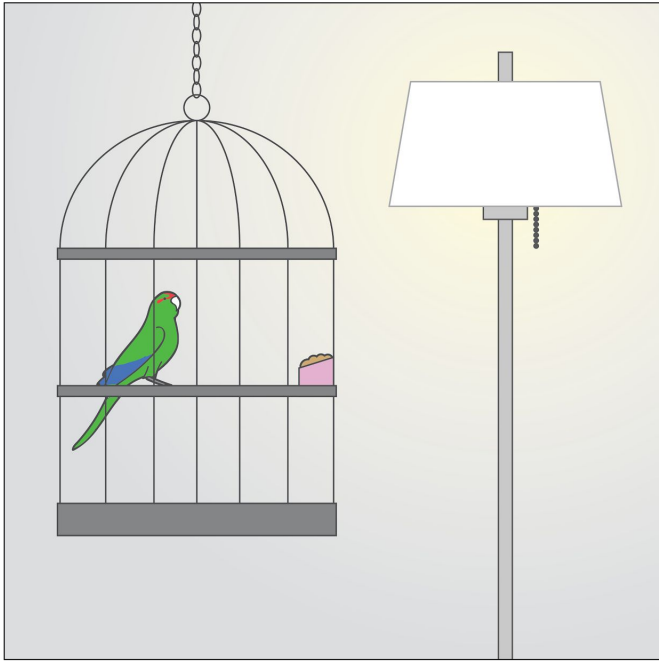
You will first **reflect** on what you already understand and what you don't yet understand. This will help you **prepare for learning new things**.

You are going to write your **first ideas** about how animals learn about their environment.

You will think about how a bird **gets information** about food.

First, we will read a story about a pet bird.

Night 1



Bird and food inside the cage

Kayla bought a pet bird and put it in her room. She sleeps with a lamp on in her room. The first night, the bird's chirping woke her up a lot. In the morning, the bird had eaten all its food.

Night 2



Bird and food inside the cage,
covered with a thick cloth

The next night, Kayla kept the lamp on, but she put a thick cloth over the bird's cage to block the light. The bird's chirping woke her up many times again. However, the bird didn't eat any of its food!

Kayla wondered why the bird was up all night but didn't eat, so she read a book about how birds find their food. She learned that this type of bird needs to see its food in order to find it.

Name: _____ Date: _____

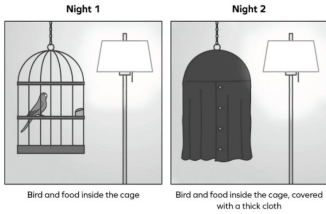
**Pre-Unit Writing:
Explaining Why the Bird Could Not Find Its Food**

Kayla wrote a summary of her observations of how her bird acted each night.

1. Read Kayla's summary.
2. Draw what the light from the lamp is doing in each diagram below. Add labels to each diagram.
3. Answer the questions on the next page.

Kayla's summary:

- Both nights, the lamp was on and the bird was awake.
- The bird needs to see its food to eat it.
- On Night 1 when there was not a thick cloth over the cage, the bird found and ate its food.
- On Night 2 when there was a thick cloth over the cage, the bird didn't find and didn't eat its food.



Vision and Light @Home Lesson 1
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nd Its Food (continued)

Night 1?

on Night 2?

Find the Pre-Unit Writing: Explaining Why the Bird Could Not Find Its Food pages.

On these two pages, there are **images** for you to look at and **questions** to answer about those images.

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Name: _____ Date: _____

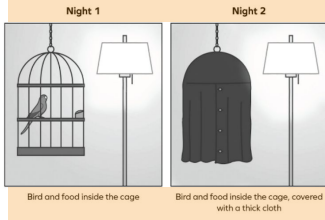
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nd Its Food (continued)

Night 1?

on Night 2?



Read Kayla's summary.

Draw what the light is doing in each diagram.

Answer the questions.

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End of @Home Lesson



THE LAWRENCE
HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

Amplify.

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@Home Lesson 1

Adapted from: Amplify Science *Vision and Light* Lesson 1.1

Key Activities

- **Introducing the Tokay Gecko:** Students are introduced to the unit problem and to their role as conservation biologists.
- **Talk:** Students discuss what animals need in order to survive in their environment.
- **Write:** Students complete a pre-unit writing activity about their initial understanding of how animals use light and their senses to survive.

Ideas for synchronous or in-person instruction

While meeting, introduce the unit problem by showing images of the Tokay gecko and a rain forest environment. Have partners discuss their ideas about what animals need in order to survive in their environment, then have them complete the pre-unit writing after 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.



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

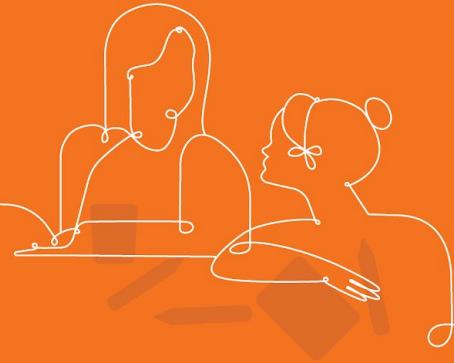
@Home Videos

@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

C Lesson Brief

B Amplify Welcome Page

D Lesson Index

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

A

Elementary
Student Apps
Page

C

The caregivers
site

B

Amplify
Welcome Page

D

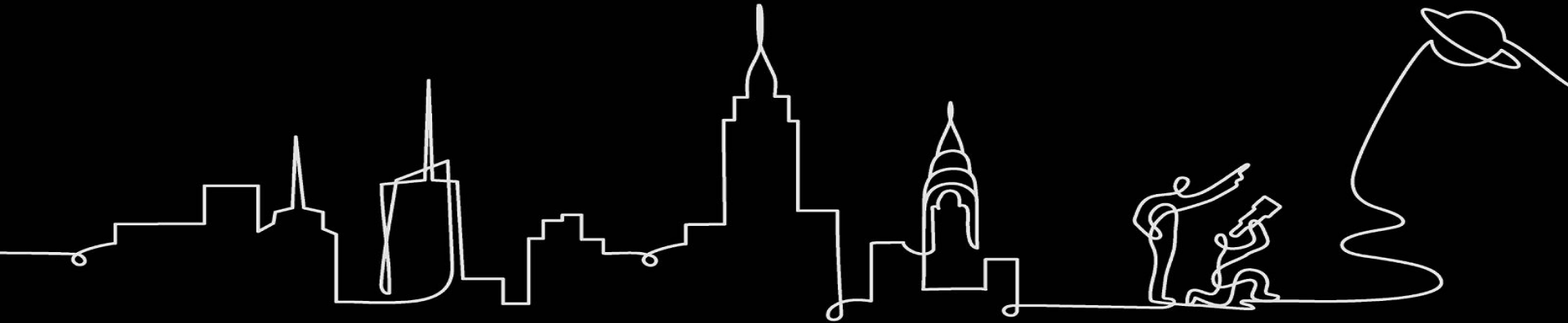
The program hub

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		Remote online class	Remote
<ul style="list-style-type: none">● Hands-on investigations (option for teacher demo)● Discourse routines● Class discussions● Physical modeling activities		<ul style="list-style-type: none">● Sim demonstrations● Read-alouds● Shared Writing● Co-constructed class charts	 <ul style="list-style-type: none">● @Home video lessons● @Home Unit activities● Reflective writing● Independently review

Sample instructional scenario

Hybrid pod model

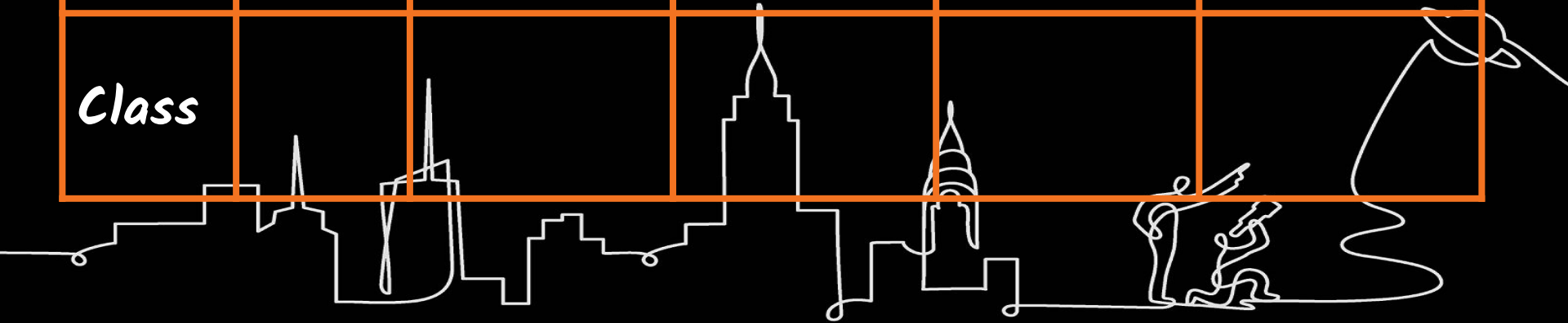
	M-T	W	Th-F
Pod 1	In class 	Remote online class 	Remote 
Pod 2	Remote 	 	In class 

Think-Type-Chat

Share and Learn

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

	M	T	W	Th	F
Class					
Class					



@Home Resources example use case

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



Day 1

Remote

Assign: Lesson 1.1
@Home Video



Day 2

In-person

Teach: Lesson 1.2
live



Day 3

Synchronous

Teach: Lesson 1.3
using clips from
@Home Video



Day 4

Remote

Assign: Lesson 1.4
@Home
Packet/Slides



Day 5

In-person

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

@Home Resources example use case

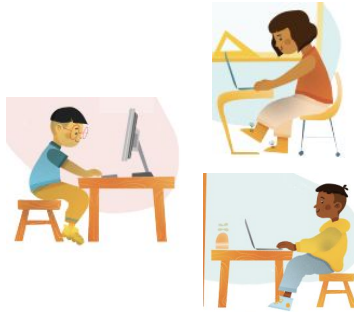
Remote Model: with synchronous & asynchronous learning



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

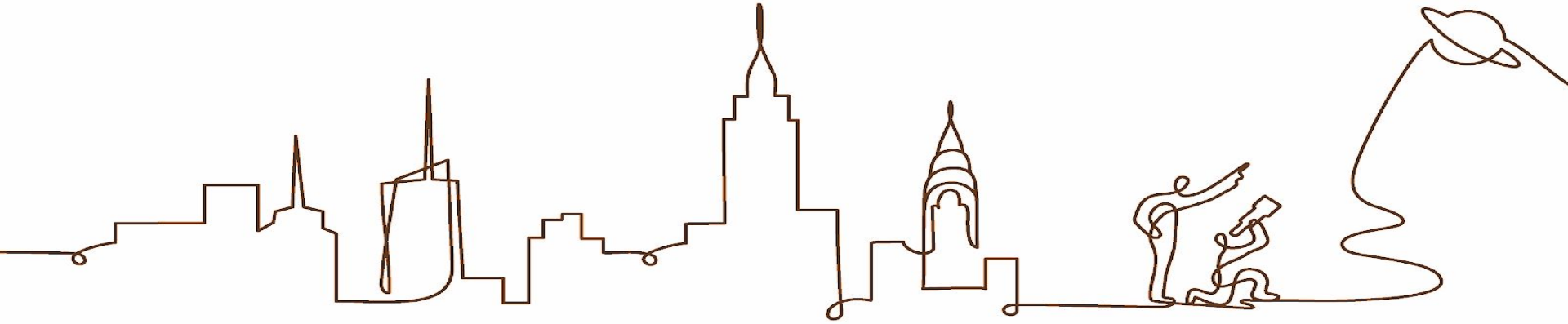


Day 5

Synchronous

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

@Home Differentiation



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 *Vision and Light* Lessons

@Home Lesson	Adapted from Amplify Science <i>Vision and Light</i>
@Home Lesson 1	Lesson 1.1
@Home Lesson 2	Lessons 1.2 and 1.3
@Home Lesson 3	Lesson 1.4
@Home Lesson 4	Lesson 2.1
@Home Lesson 5	Lessons 2.2 and 2.3
@Home Lesson 6	Lesson 2.4
@Home Lesson 7	Lesson 2.5
@Home Lesson 8	Lesson 3.1
@Home Lesson 9	Lessons 3.2 and 3.3
@Home Lesson 10	Lessons 3.3 and 3.4
@Home Lesson 11	Lesson 3.5
@Home Lesson 12	Lesson 4.1
@Home Lesson 13	Lessons 4.2 and 4.3
@Home Lesson 14	Lesson 4.3
@Home Lesson 15	Lesson 4.4
@Home Lesson 16	Lessons 4.5 and 4.6



Program Hub

Index map to Differentiation

The student sheets and packets used in @Home units are original or modified versions of the unit's Amplify Science Investigation notebook pages or copymasters. When necessary, new pages were also created. In the following table we have outlined the @Home Student Sheet and Packet page titles and their origins.

Index: @Home Student Sheets/Packets and corresponding *Vision and Light* materials

@Home Lesson	Student Sheet/Packet page title	Investigation Notebook page, copymaster, or print material
1	Pre-Unit Writing: Explaining Why the Bird Could Not Find Its Food	Lesson 1.1 copymaster
1	<i>Vision and Light</i> Glossary	Pgs. 97–98
2	Getting Information About the Environment	Modified from Pgs. 66–67
3	Writing About How Animals Use Senses	Pg. 15
3	Chapter 1 Science Wall	New, based on Classroom Wall materials
4	Investigating Light	Modified from Pg. 22 (packet) Pg. 22 (slides)
5	Modeling How Light Can Allow a Person to See in the Mystery Box	New (Packet only)
5	Mystery Box Model When the Eyehole is Blocked	Modified from Pg. 25 (packet) Pg. 22 (slides)
6	Investigating How Light Allows an Animal to See	Pg. 33
6	Making a Model of the Mystery Box	Modified from Pg. 36 (packet) Pg. 36 (slides)
7	Scientific Explanation of How Light Allows an Animal to See	Lesson 2.5 copymaster (Version B)
7	Chapter 2 Science Wall	New, based on Classroom Wall materials
8	Investigating Animal Structures	New (Packet only)

Vision and Light @Home Index

8	How Animals' Structures Help Them See	Pg. 42
8	Investigating Animal Structures	Pg. 41
9	Seeing Different Prey in the Sim	Modified from Pgs. 52–53 (packet) Pgs. 52–53 (slides)
10	Catching a Cricket	New (Packet only)
10	How the Lizard Recognizes Its Prey	Modified from Pg. 56
11	Recognizing the Object in the Mystery Box	New (Packet only)
11	Scientific Explanation of How Animals Know What They Are Looking At	Lesson 3.5 copymaster (Version B)
11	Chapter 3 Science Wall	New, based on Classroom Wall materials
12	N/A	
13	Researching Animal Eyes	Modified from Pgs. 72–73 (packet) Pgs. 72–73 (slides)
14	Investigating Animal Vision in Different Amounts of Light	Pgs. 75–78
15	Think-Write-Pair: Tarsier	Modified from Pg. 80
15	Think-Write-Pair: Squirrel	Modified from Pg. 80
15	Planning Our Vision Models	Modified from Pgs. 84–85
16	End-of-Unit Writing: Explaining Why More Light Makes It Harder for a Tokay Gecko to See	Lesson 4.6 copymaster
16	Chapter 4 Science Wall	New, based on Classroom Wall materials

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 .



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? <input type="checkbox"/> In-person <input type="checkbox"/> Remote		Synchronous activity:	Other notes:
		Dates(s) to administer:	

Resources

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

@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		
<p>Using Jamboard ?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p>Notes:</p> <p>Using Pear Deck?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p>Notes:</p>	<p>Google Classroom:</p> <p>Which @Home Resources to upload?</p> <p><input type="checkbox"/> @Home Unit pdf</p> <p><input type="checkbox"/> @Home Unit slides</p> <p><input type="checkbox"/> @Home Video url</p> <p><input type="checkbox"/> Other</p> <p>Notes:</p>	<p>Other apps & notes:</p>

Teacher Notes from lesson brief:

Resources

1. Lesson Index
2. @Home Teacher overview
3. Differentiation 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:
 - 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?

A Unit Level
Materials and
Prep

B Unit Level 3-D
statements

C Unit Level
Printable
Resources

D Unit Level
Assessment
Systems

Where are differentiation notes for Unit 2 lessons?

A

Unit Level
Materials and
Prep

C

Digital TG
Lesson Level

B

Unit Level
Science
Background

D

Teacher
Overview

In Chat

What are the focal
performance
expectations for your
unit?

Where can you find assessment recommendations for @Home units?

A

@Home Videos

C

@Home Student
Slides

B

@Home Student
Sheets

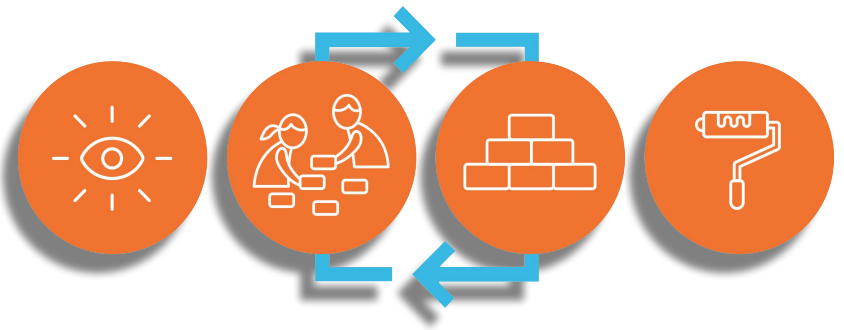
D

@Home Teacher
Overview

In Chat

**What is the Chapter
4-level Phenomenon?**

What does this Image represent?



A Amplify Science Approach

B How students build a complex explanation

C How students deepen their understanding

D All of these

Did We Meet Our Workshop Goals?

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

A

yes

C

YES!

B

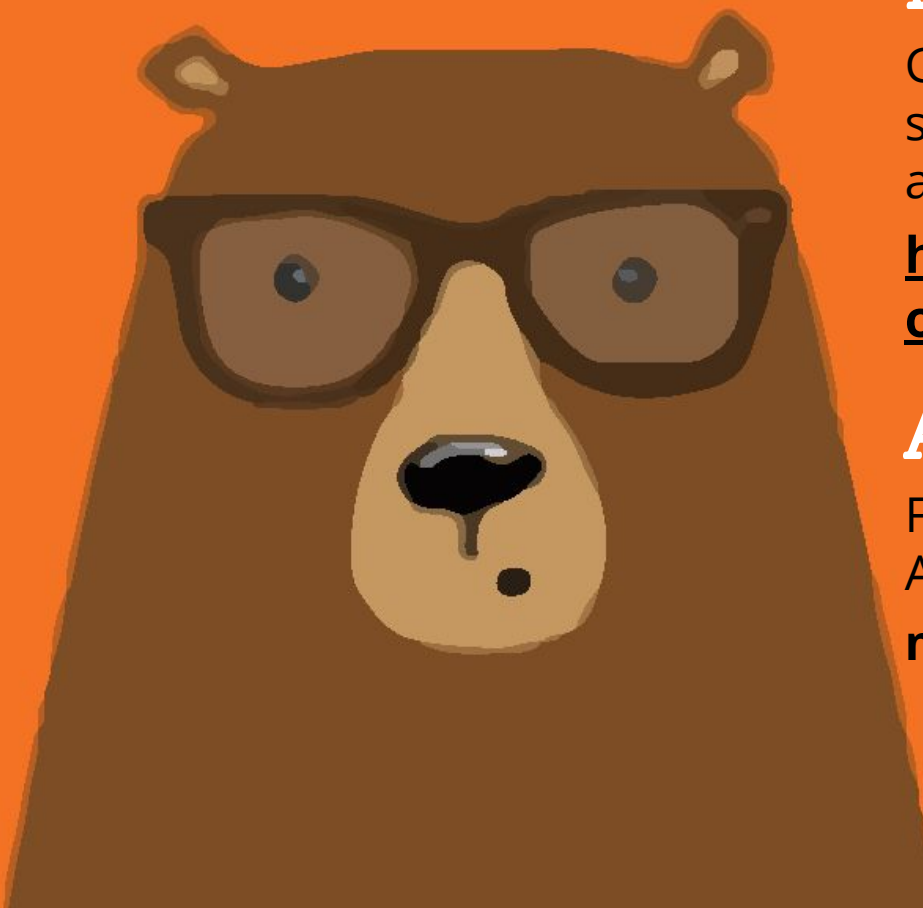
yes but still
working

D

No not quite



Questions?



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