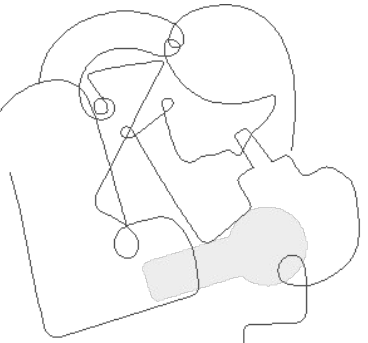
Amplify Science

# Unit Internalization / Guided Planning

## Grade 4, Unit 2: Vision and Light

## Part 1



School/District Name: LAUSD
Date:
Presented by:

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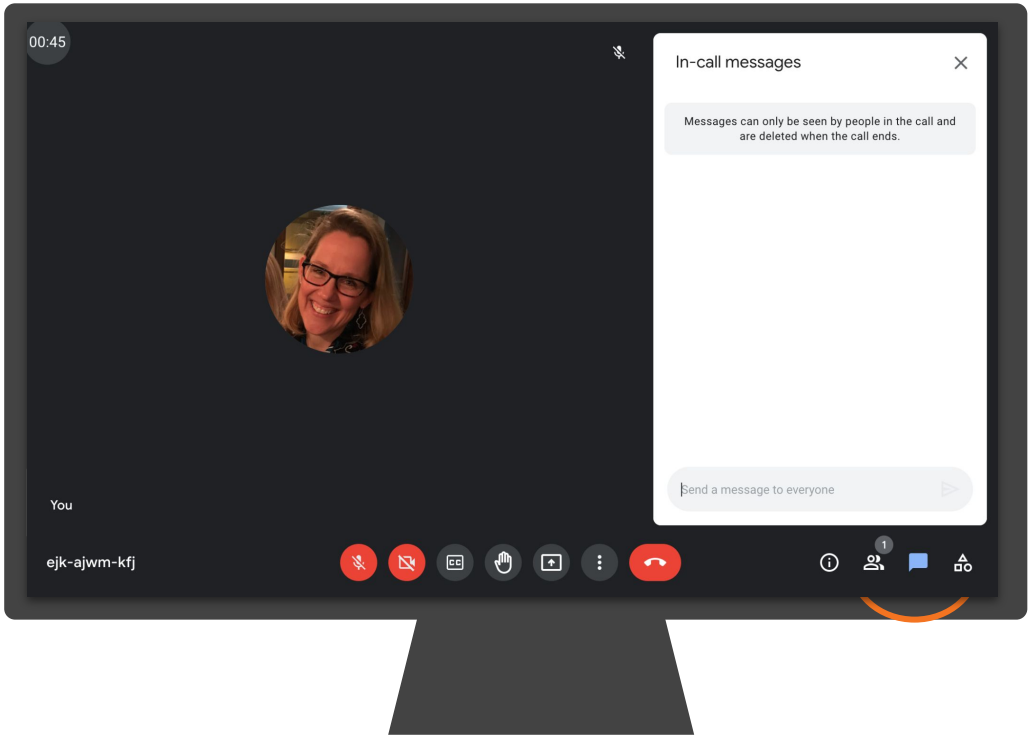
# Ice Breaker!

## Who do we have in the room today?

- **Question 1:** Which aspects of implementing the Standard  Amplify Science curriculum are you most excited or hopeful about?
- **Question 2:** What do you feel most hesitant about?



# Amplify's Purpose Statement

**Dear teachers,**

You do a job that is nearly impossible and **utterly essential.**

**We are in your corner** – extending your reach, saving you time, and enhancing your understanding of each student.

**Thank you for working with us** to craft rigorous and riveting learning experiences for your classroom.

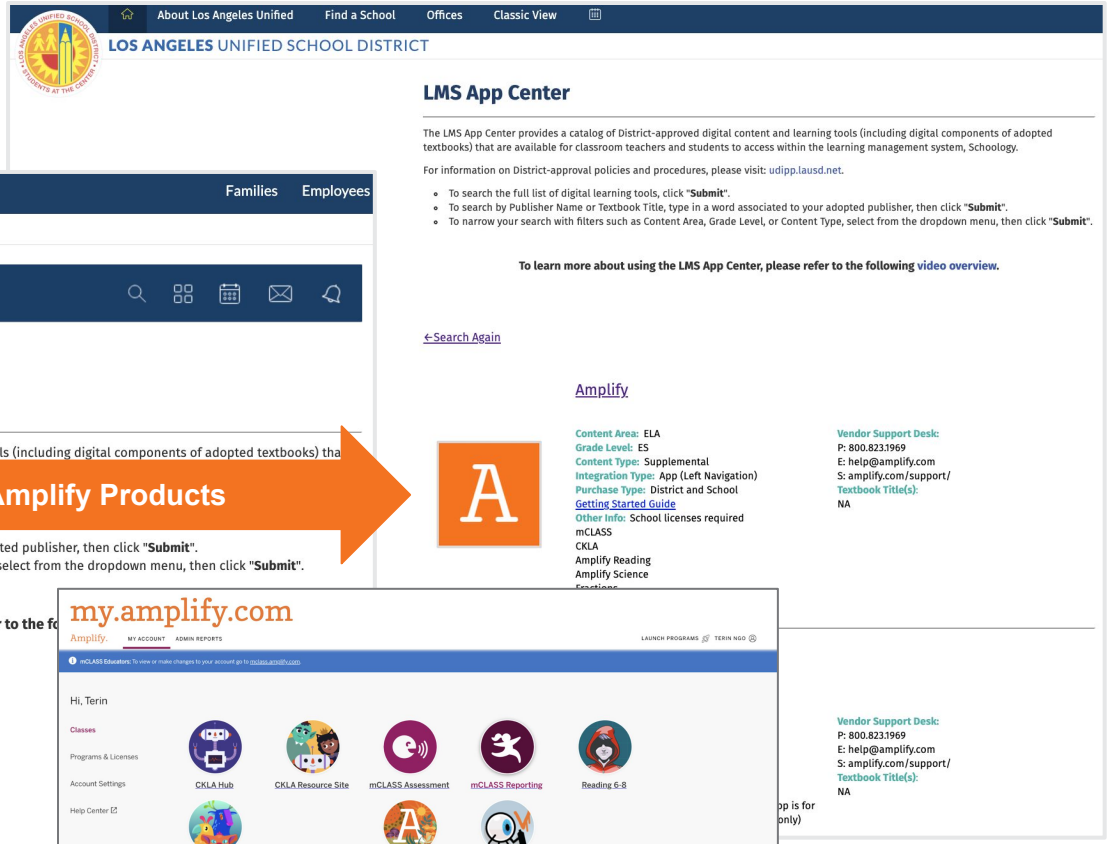
We share your goal of **inspiring all students to think deeply, creatively, and for themselves.**

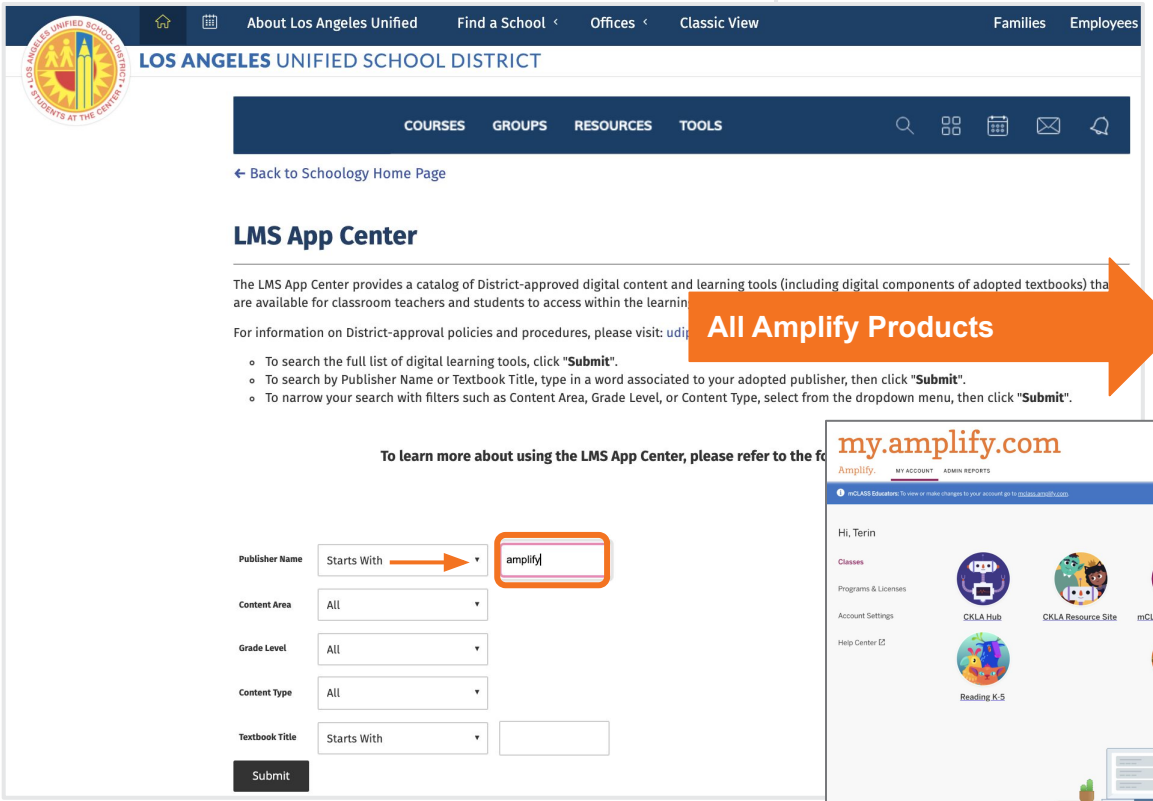
**Sincerely,**
**Amplify**

# Norms: Establishing a culture of learners

- **Take risks:** Ask any questions, provide any answers.
- **Participate:** Share your thinking, participate in discussion and reflection.
- **Be fully present:** Unplug and immerse yourself in the moment.
- **Physical needs:** Stand up, get water, take breaks.

# Schoology




All Amplify Products

# my.amplify.com

Amplify. MY ACCOUNT ADMIN REPORTS LAUNCH PROGRAMS TERIN NGO

mCLASS Educators: To view or make changes to your account go to mclass.amplify.com.

Hi, Terin

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CKLA Hub

CKLA Resource Site

mCLASS Assessment

mCLASS Reporting

Reading 6-8

Reading K-5

Science

Vocabulary

Amplify. on Schoology

2021-2022

# Join Amplify Science Schoology Group

To join Amplify Science Schoology ES Group: W4PK-W466-63F5B

# Navigation Temperature Check

**Rate yourself on your comfort level accessing Amplify Science materials and navigating a digital curriculum.**

1 = Extremely Uncomfortable

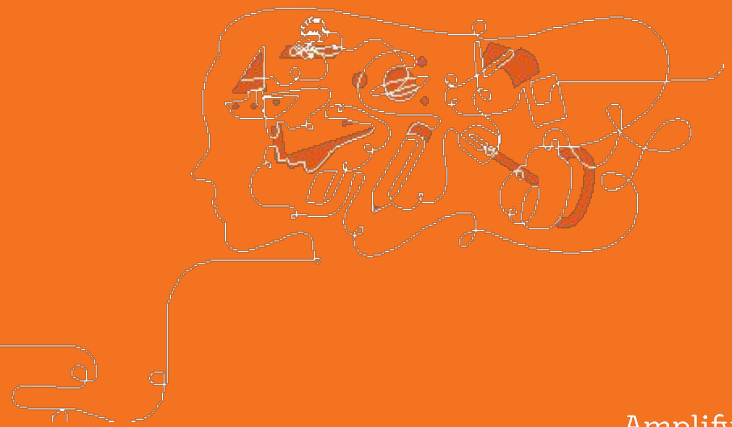
2 = Uncomfortable

3 = Mild

4 = Comfortable

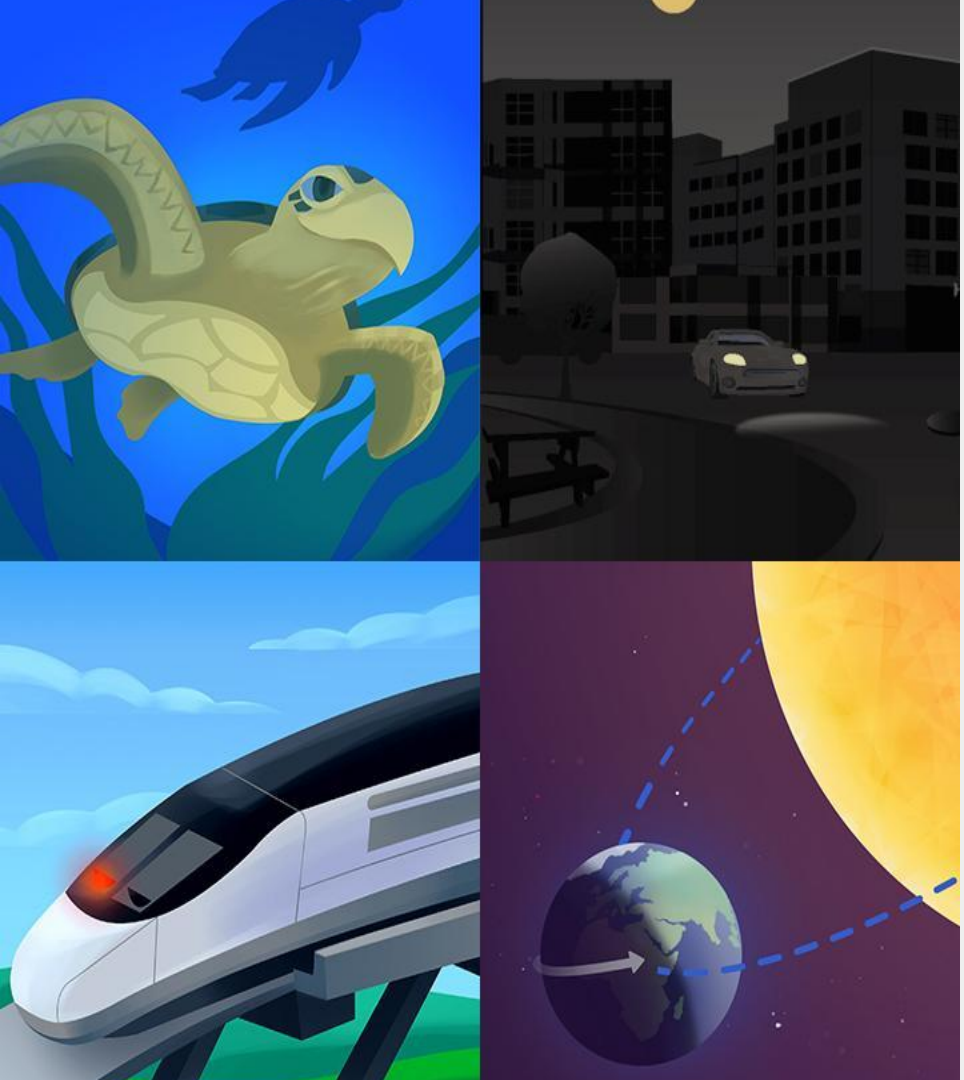
5 = Extremely Comfortable

# Part 1



# Overarching goals

- Explain how students engage in phenomenon based and 3D learning to construct an understanding of the science concepts introduced in *Vision and Light.*
- Internalize the unit and apply your new understanding to plan for the diverse needs of your classroom and students



# Plan for the day: Part 1

- Introduction and Framing
- NGSS & 3D Learning
- Phenomenon-based Instruction
- Unit Internalization
- Additional Resources
- Closing

THE LAWRENCE HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

+ Amplify.

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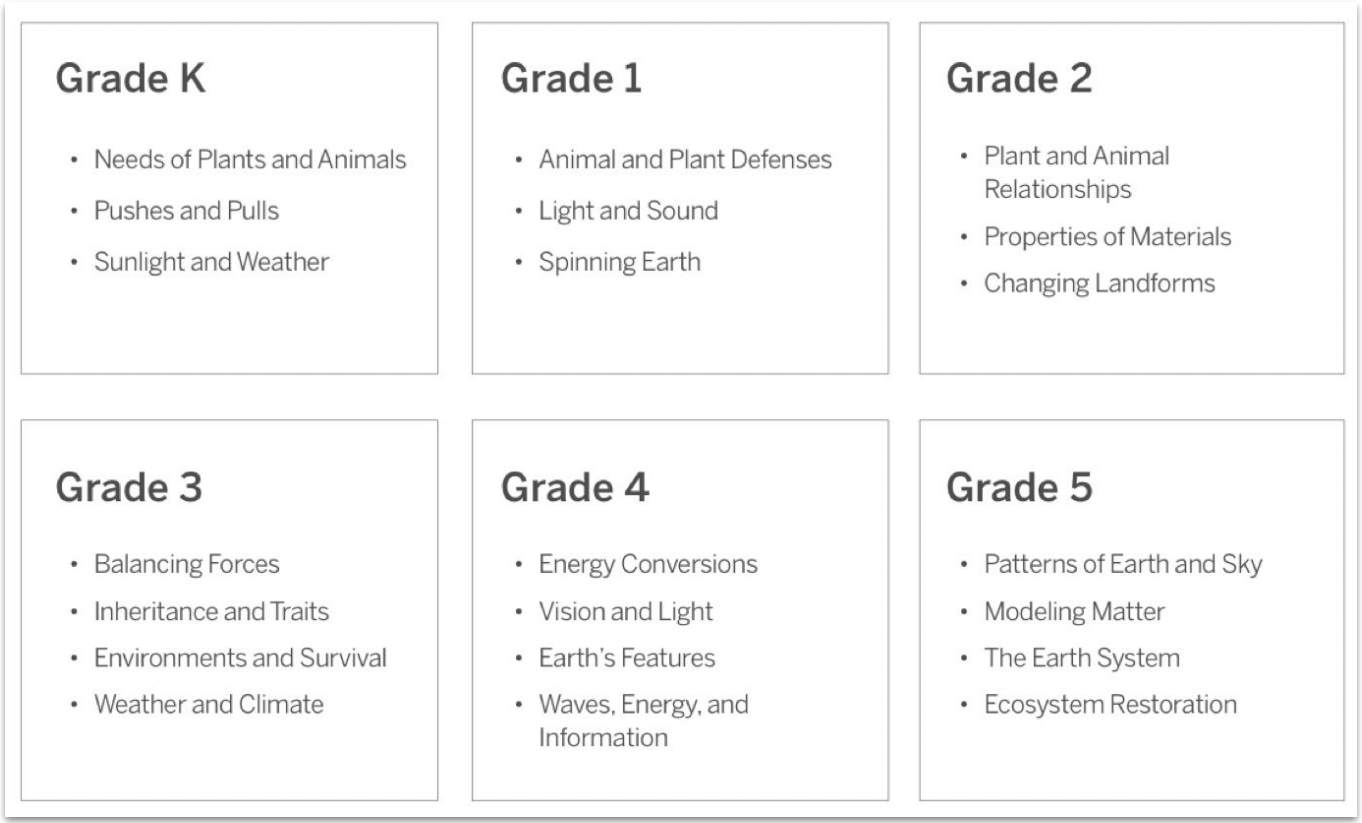
# Amplify Science

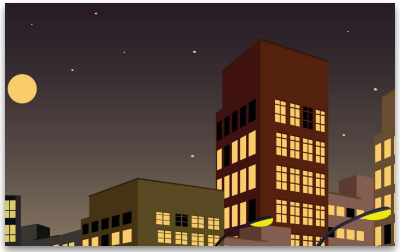
# Course curriculum structure




**Key takeaways:**

- There are 22 lessons per unit
- Lessons at grades 2-5 are 60 minutes long

# Year at a Glance: Grade 4

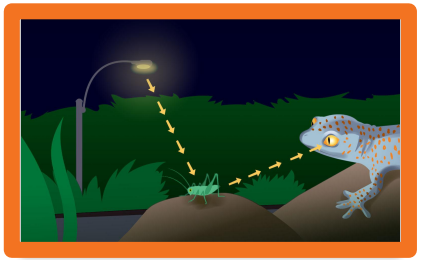


## Energy Conversions

**Domain**: Physical Science

**Unit type:** Engineering Design

**Student role:** System engineers

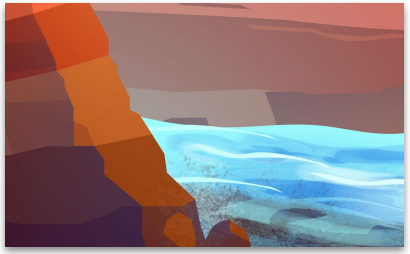


## Vision and Light

**Domain**: Life Science

**Unit type:** Investigation

**Student role:** Conservation biologists

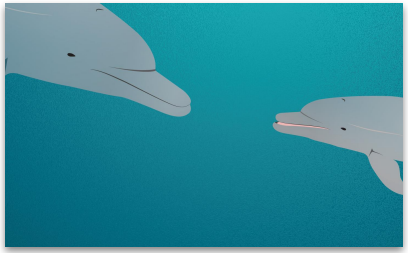


## Earth's Systems

**Domain**: Earth and Space Science

**Unit type:** Argumentation

**Student role:** Geologists



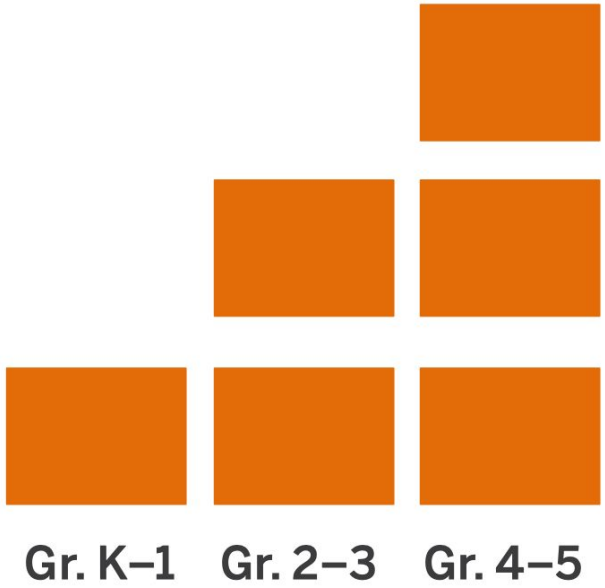
## Waves, Energy, and Information

**Domain**: Physical Science

**Unit type:** Modeling

**Student role:** Marine scientists

# What are the digital components of Amplify Science Elementary?




**Student Simulations**

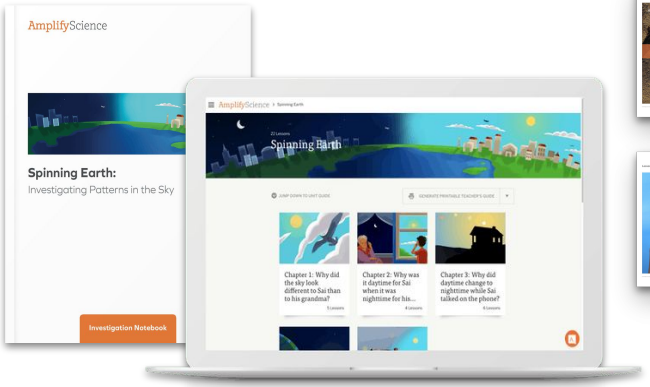
**Student Science Practice Tools**
(sorting tool, diagramming tool, modeling tool, data tool)

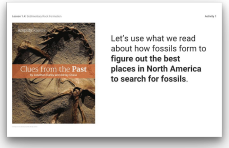
**Teacher's Guide**
(Online digital books for students)

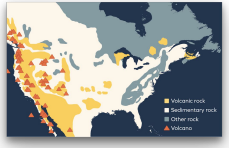
# K-5 Program components

## Teacher materials

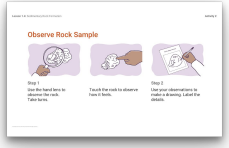
- Teacher's Guide (print and digital)
- Classroom Slides
- Classroom wall materials
- Embedded assessments
- Program Guide
- Program Hub
- Amplify Help Site

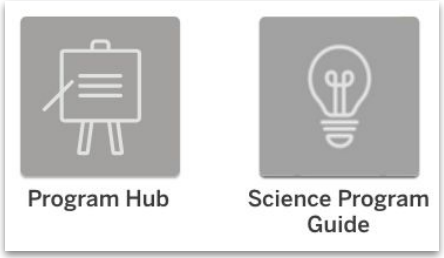


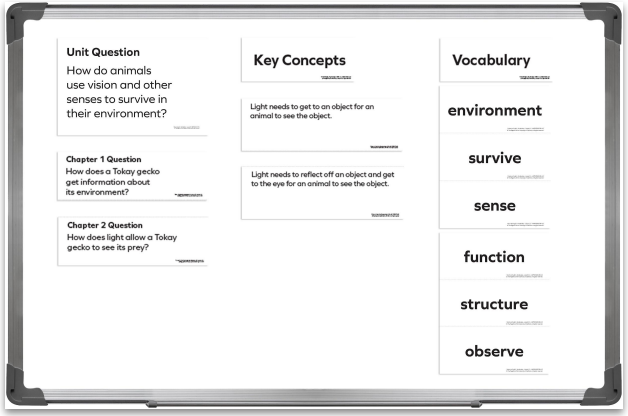







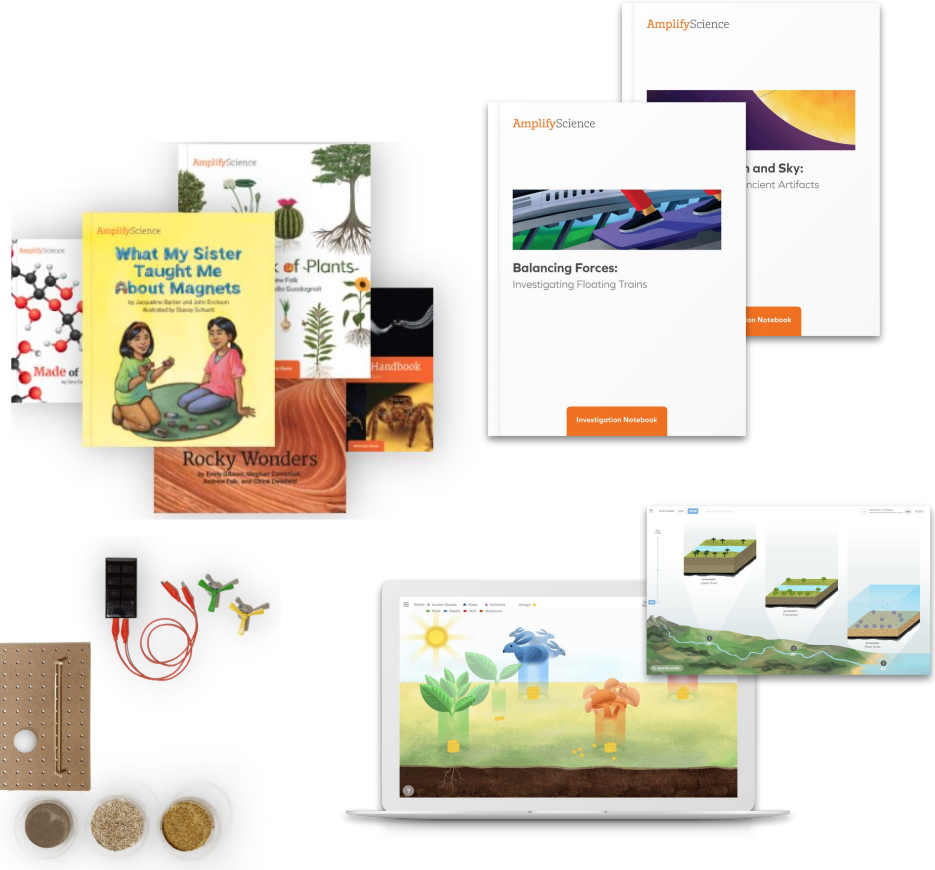



# K-5 Program components

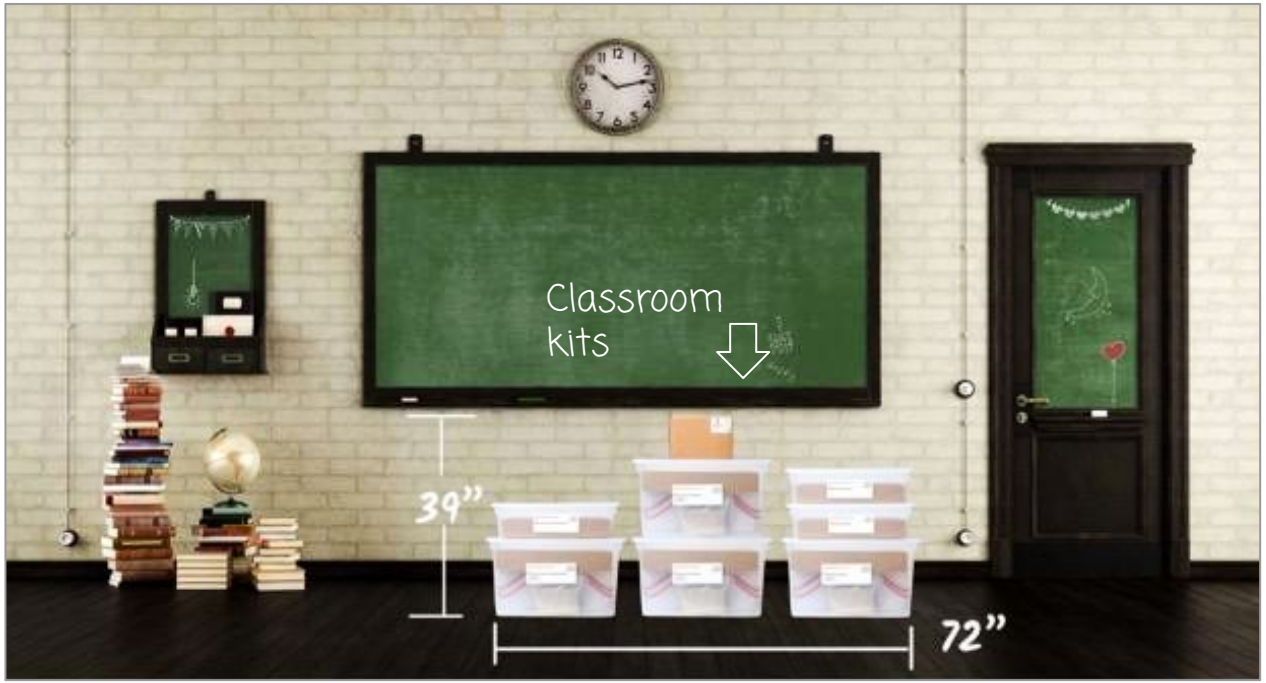
## Student materials

- Hands-on materials
- Investigation Notebooks (print and digital)
- Student books
- Digital Applications



# K-5 Program components

## Classroom kits

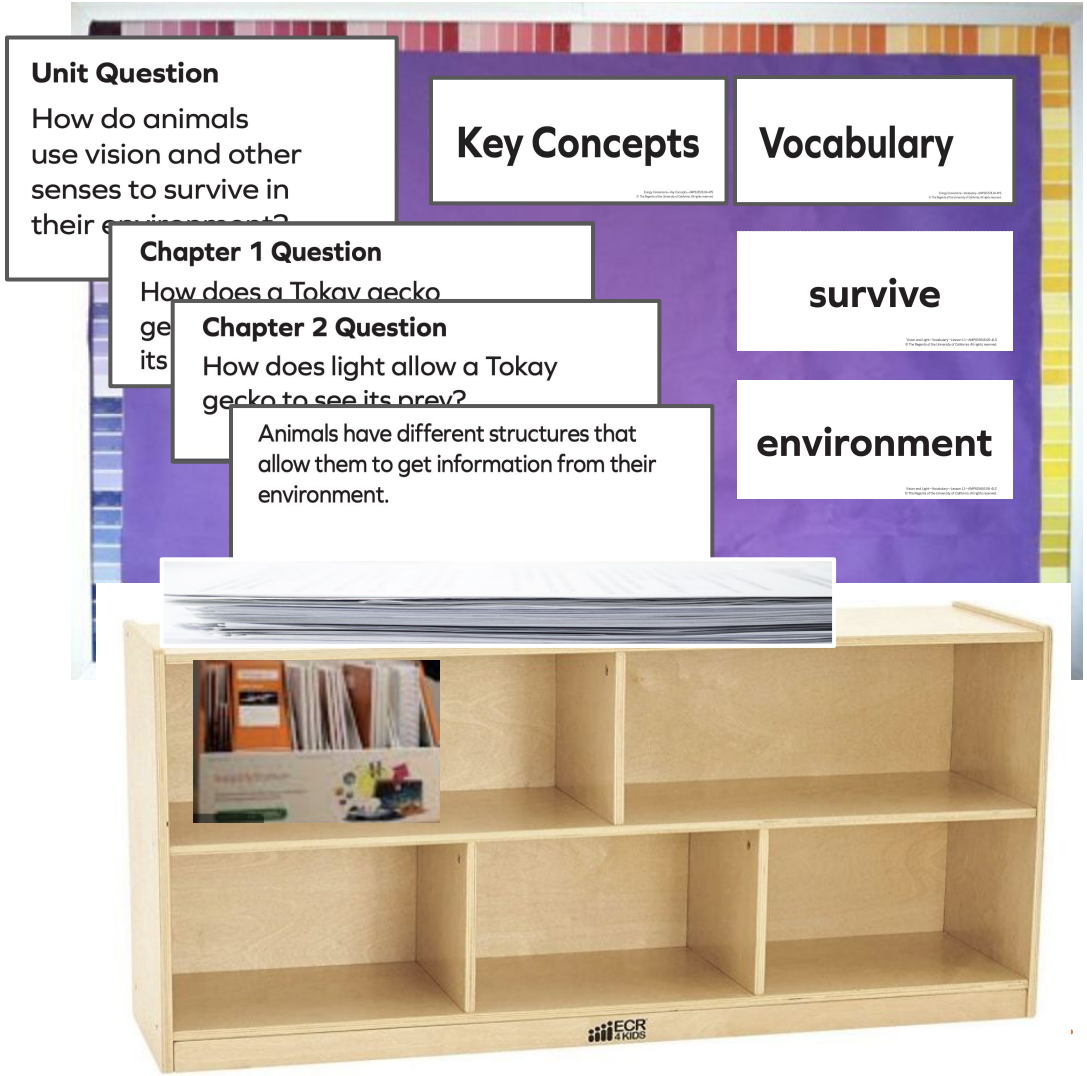



**Classroom kits**

Built for a class of 36 students, with consumables for two years

# Unpacking the Kit

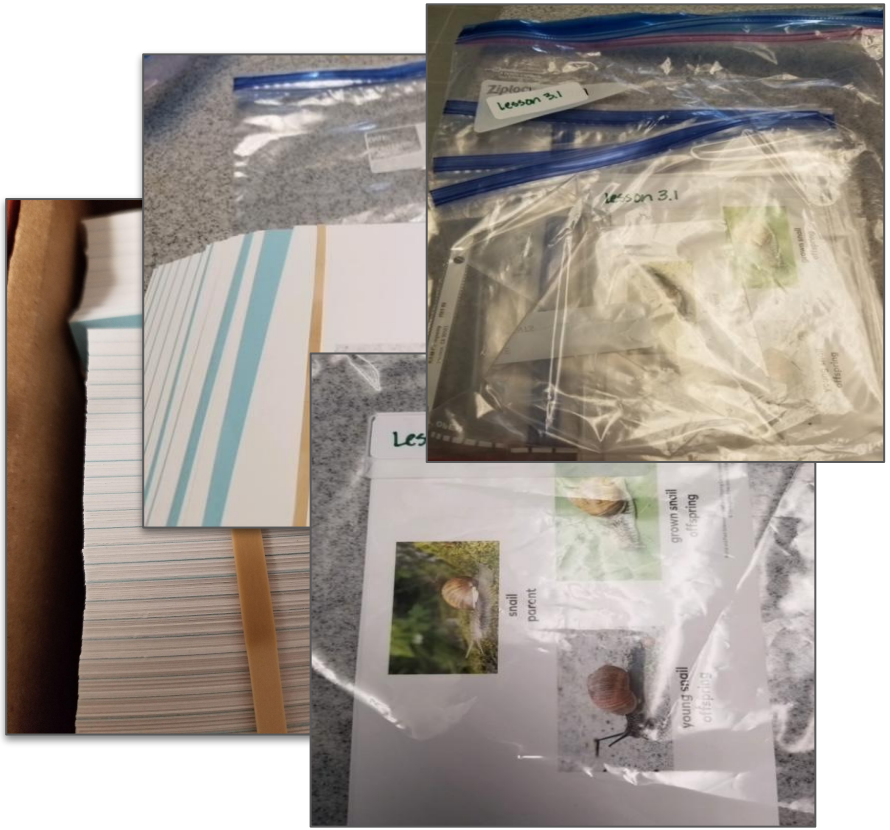
- Pull out the unit question, key concepts and vocabulary materials.
- Place them on the top of the table or bookcase below your science board
- Take books out of kit and place in the bookcase or on the table. (Always collect books after each lesson use. Return to bookcase so they are easily accessible.)



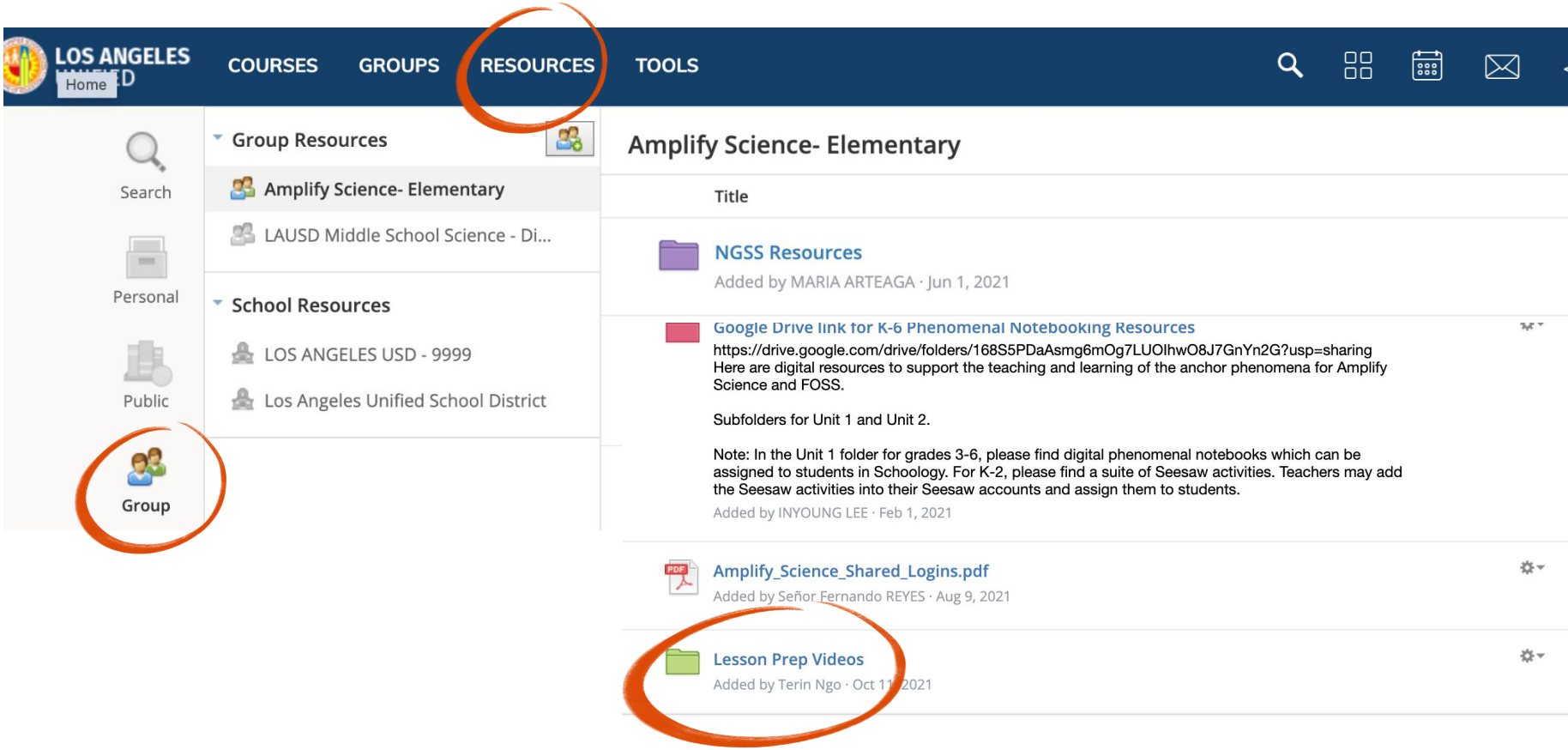
# Cards for games, sorting or matching activities

Organization tips:

- Separate and place in envelopes or bags (or clip together)
- Label the envelopes or bags with the name and lesson # and activity #
  - ex. “Lesson 2.4, Act. 1”
  - ex.” Set (Bag) 1 of 18”
- Put each bag or envelope (set) into a bigger bag (gallon size) and label
  - ex. “18 sets”



# LAUSD Schoology: Unit 1, 3-5 Lesson Prep Videos



LAUSD Microsite- https://amplify.com/lausd-science

# Welcome to Amplify Science!

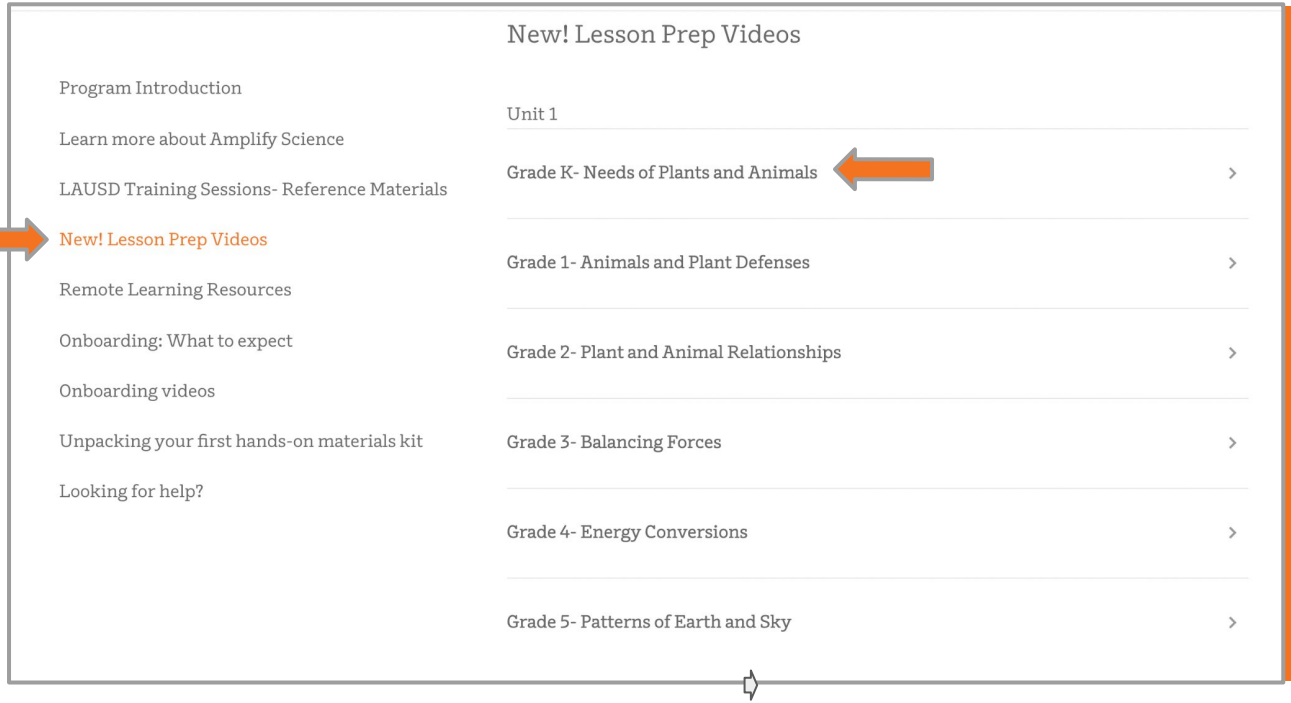
This site contains supporting resources designed for the LAUSD Amplify Science adoption for grades TK–8.

- Access the Amplify Science Program Hub (To help orient you to the new design, watch this video and view this reference guide.)
- Find out more about Amplify Science@Home
- Share the Caregiver Hub (Eng/Span) with your families
- For LAUSD ES Teachers- Amplify Science & Benchmark Advance Crosswalk
- Instructional guidance for a Responsive Relaunch of Amplify Science in 21-22

Click the button below to preview the digital Teacher's Guide, and check back for exciting updates to this site!

# Microsite: Unit 1, K-2 Lesson Prep Videos

## Classroom kits



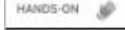

**Classroom Kits**

Built for a class of 36 students, with consumables for two years

# Hands On Material Organization

**Directions**

1. Open the Digital Lesson Guides Only page 7 from the Unit Landing page or go the Print TE to page 31. (Chapter 1 Activities)
2. Look for the lessons with Hands On.




3. Note in the table below.
4. Review the materials and preparation to determine if it can be prepared prior to the lesson or on the day of the lesson.
5. Use this same procedure for each Chapter. (Go to the Chapter Activities Contents)

| Chapter/Lesson | Activity | Prep Prior | Prep Day of | What to do | |
|---|---|---|---|---|---|
| 1.1 | 1 | X | | Prep plastic bags with labels A, B, C, D and M. Place 1 tsp of the following cinnamon, salt, flour, cornstarch in A,B,C, D. In bag M mix 1 tsp salt and 1 tsp cinnamon. | *This is an example from Properties of Materials Grade 2* |
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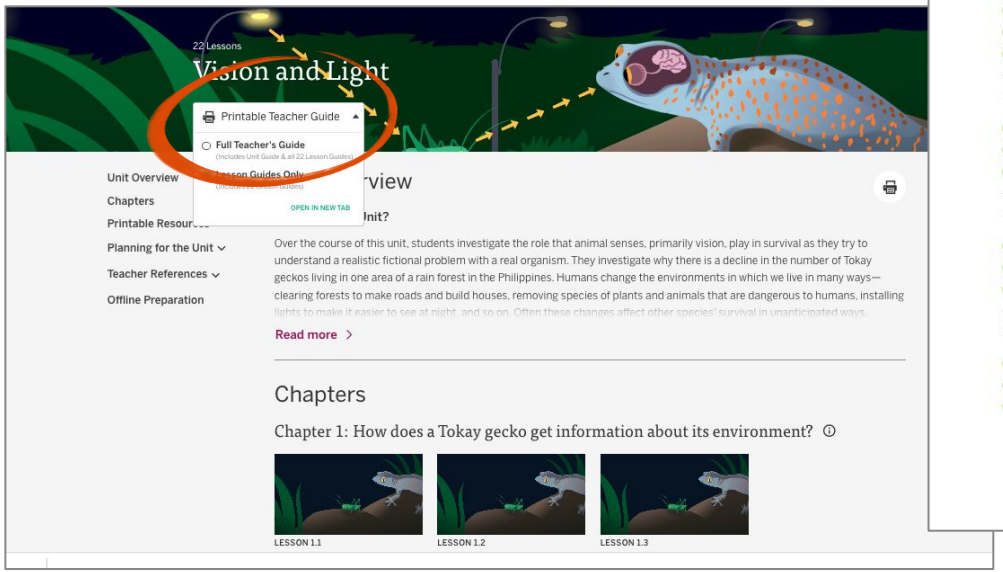
# Hands On Material Organization

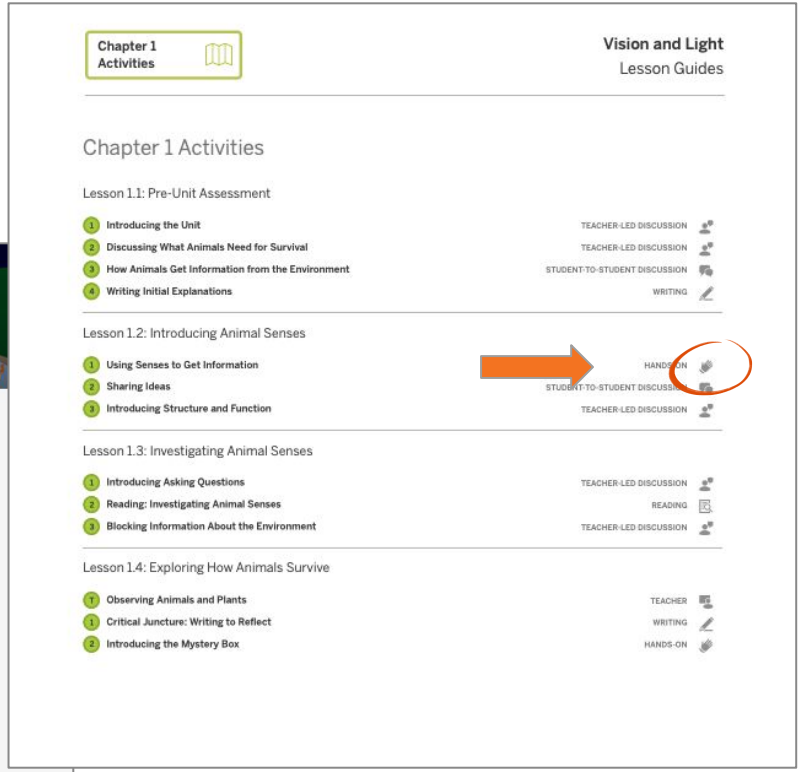
## Completed for Vision and Light

| Directions |
|---|
| 1. Open the Digital Lesson Guides Only page 7 from the Unit Landing page or go the Print TE to page 31. (Chapter 1 Activities) |
| 2. Look for the lessons with Hands On. |
| HANDS-ON  |
| 3. Note in the table below. |
| 4. Review the materials and preparation to determine if it can be prepared prior to the lesson or on the day of the lesson. |
| 5. Use this same procedure for each Chapter. (Go to the Chapter Activities Contents) |

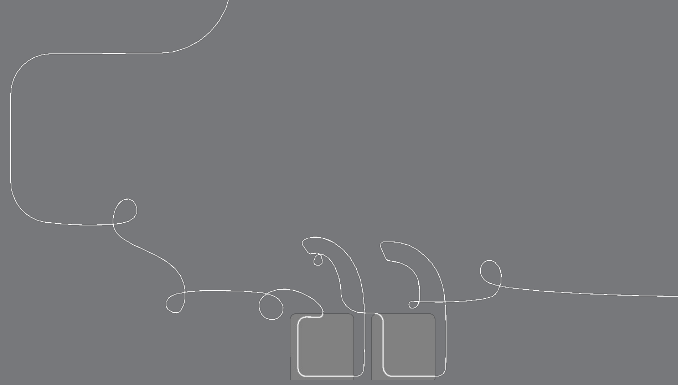
| Chapter/Lesson | Activity | Prep Prior | Prep Day of | What to do | |
|---|---|---|---|---|---|
| 1.2 | 1 | X | | For Each group of 4: • 1 blindfold*<br>• 4 small plastic canisters<br>• 1 plastic tray*<br>• 1 probability cube<br>• 10 dried beans*. **Prepare touch, look, hear, and smell canisters:** Use masking tape to create nine of each of the following labels: “touch,” “see,” “hear,” and “smell.” Affix a label to each of the plastic canisters.<br>• If necessary, cut the piece of faux fur into squares that are roughly 1” x 1”. In each of the nine plastic canisters labeled touch, place 1 square of faux fur.<br>• In each of the nine plastic canisters labeled see, place 1 probability cube.<br>• In each of the nine plastic canisters labeled hear, place 10 dried beans.<br>• In each of the nine plastic canisters labeled smell, place approximately 1 teaspoon of garlic powder.<br>• Close the lids of all the canisters. | |

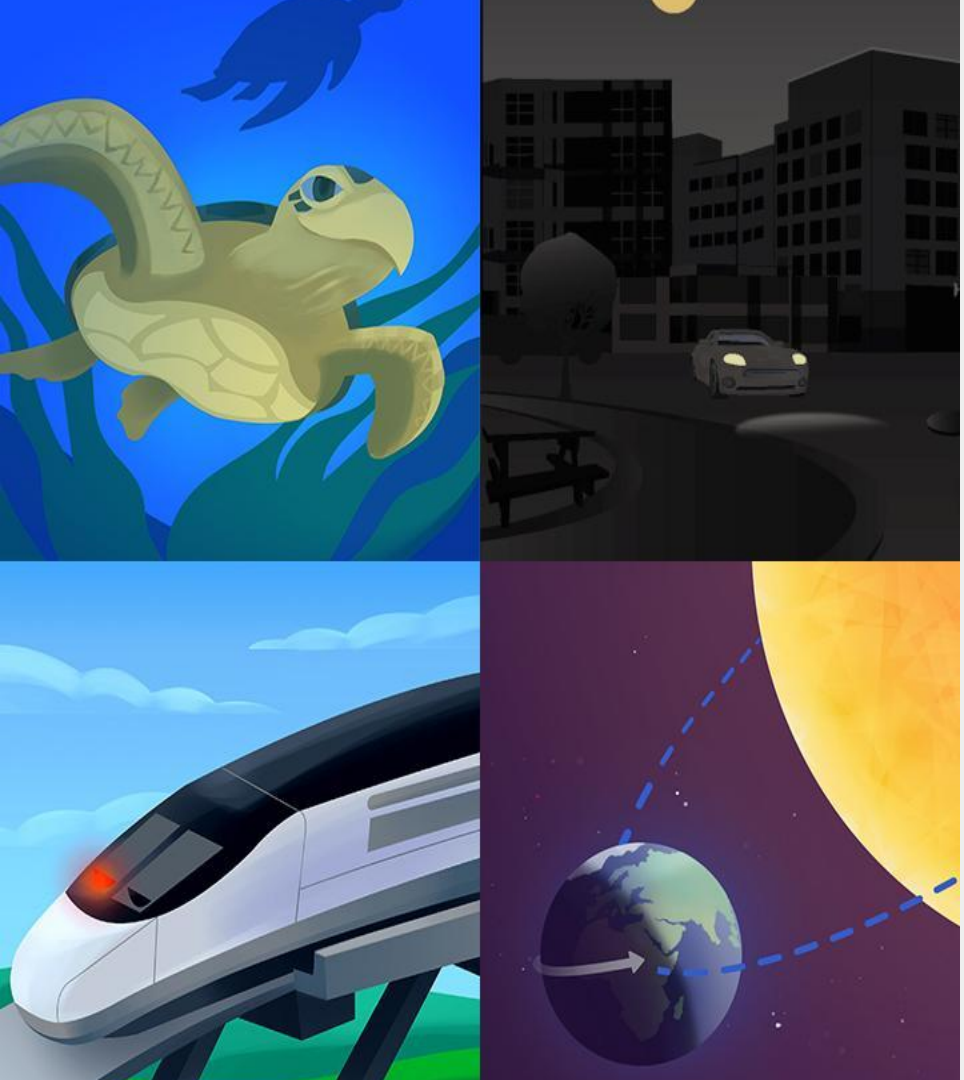
- Open Your **Lesson Guides Only**
- Start with **Chapter 1** and look for the **hands icon**
- Go into the lesson **materials and prep**



# Questions?





# Plan for the day: Part 1

- Introduction and Framing
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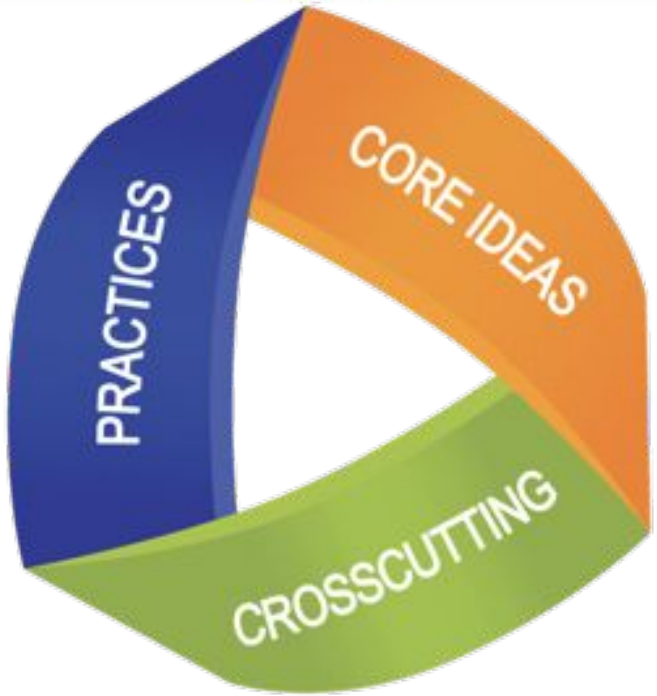
# NGSS - Three dimensional learning

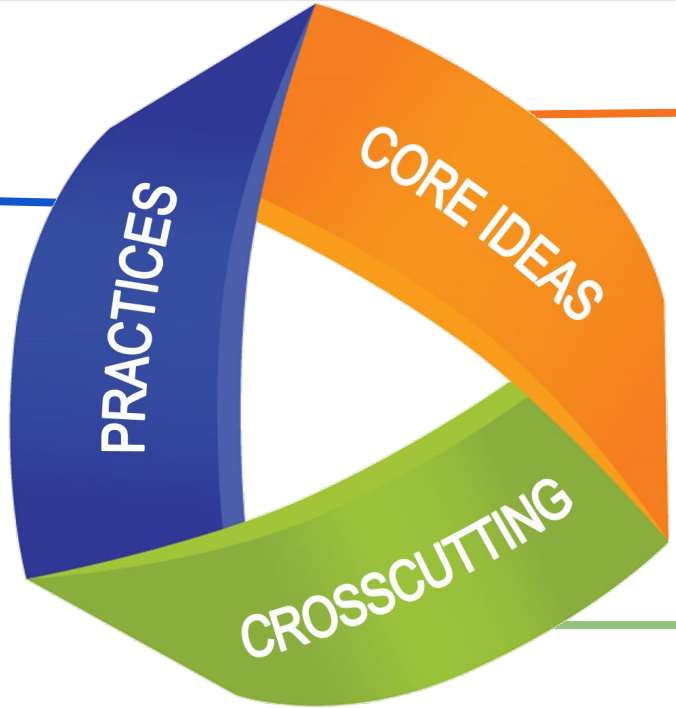
## Evaluate your knowledge

- On a scale of 0-5, how would you rate your familiarity with 3-D learning?



# Figuring out Phenomena

## Using 3-D teaching and learning




**What scientists do**
Science and Engineering Practices

**What scientists want to know**
Disciplinary Core Ideas

**How scientists think**
Crosscutting Concepts

# Three-dimensional learning

## Reflection

In the video, how did students engage in three-dimensional learning to think like scientists?


Lesson 3.2
Students use a model to figure out the relationship between different parts of a habitat system in order to construct their understanding about how animals can help move seeds around a habitat (systems and system models).

# Science and Engineering Practices

inquiry

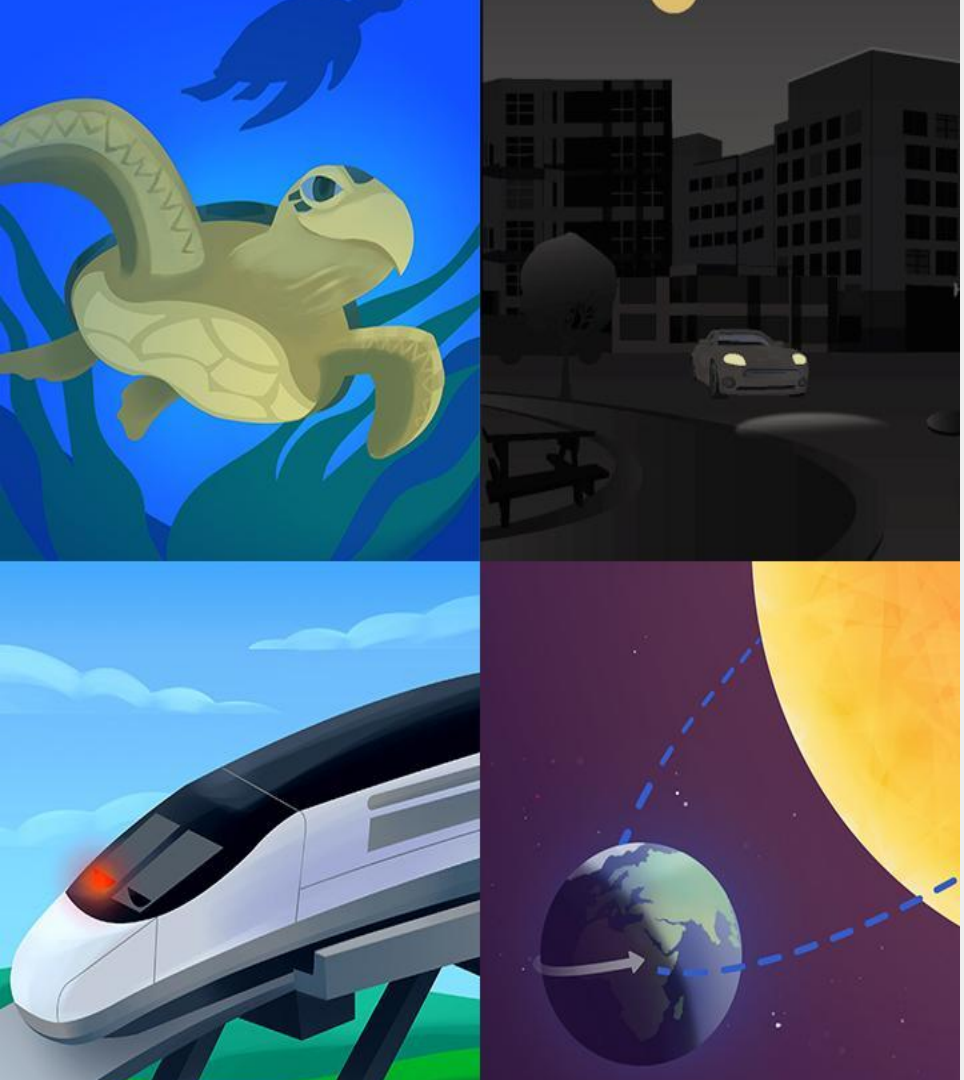
1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations

math

4. Analyzing and interpreting data
5. Using mathematics and computational thinking

language

6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information



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# Next Generation Science Standards

## Phenomenon-based learning and teaching

A scientific phenomenon is an **observable event** that occurs in the universe that we can use science ideas to explain or predict.

# Comparing topics and phenomena

| Topic-based | Phenomenon-based |
| --- | --- |
| Chemical reactions | There's a reddish-brown substance in a town's tap water. |

# Next Generation Science Standards

## How might learning be different?

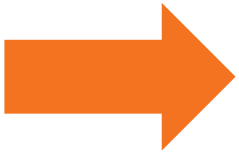
| Topic-based | Phenomenon-based |
| --- | --- |
| Chemical reactions | There's a reddish-brown substance in a town's tap water. |
| Electric circuits | A flashlight won't turn on, even though it used to work. |
| Natural selection | A population of newts has become more poisonous over time. |

# Comparing topics and phenomena

## A shift in science instruction

from learning about

(like a student)



to figuring out

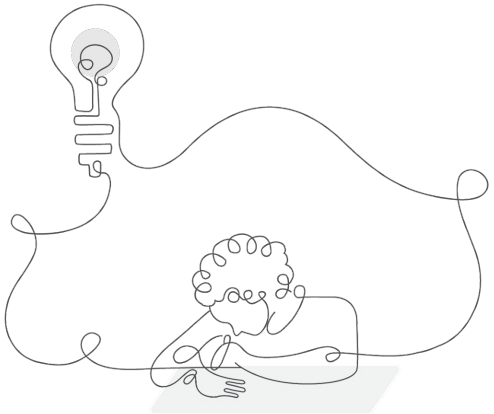
(like a scientist)

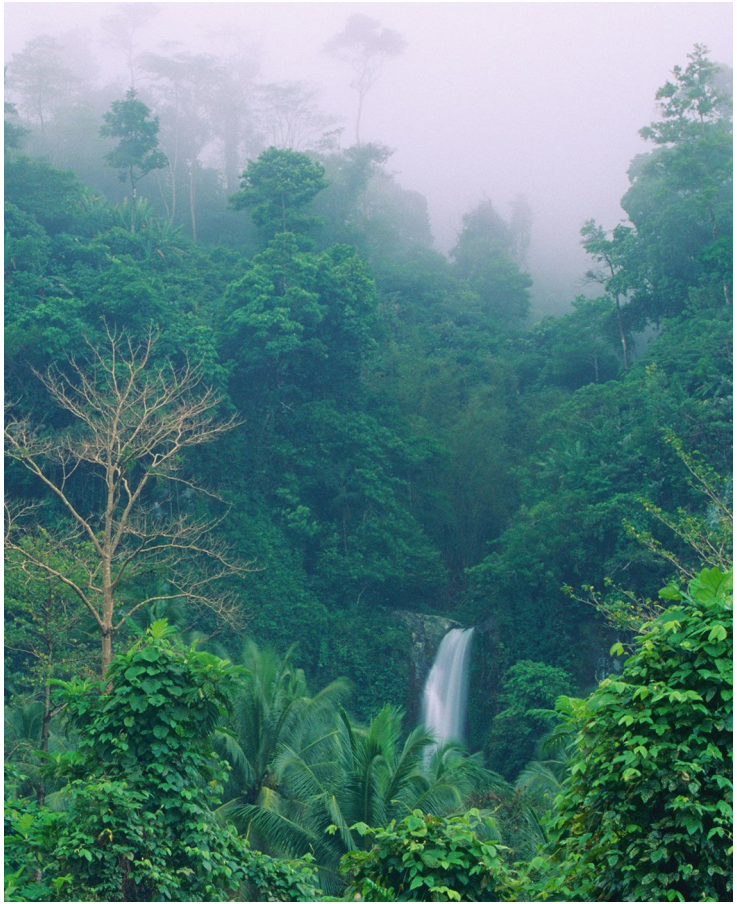
# Previewing the unit

## Introducing the phenomenon

Amplify Science units are designed around complex phenomena that drives student learning through the unit.

Pay attention to the phenomenon, or observable event, students will figure out in your unit.





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

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

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

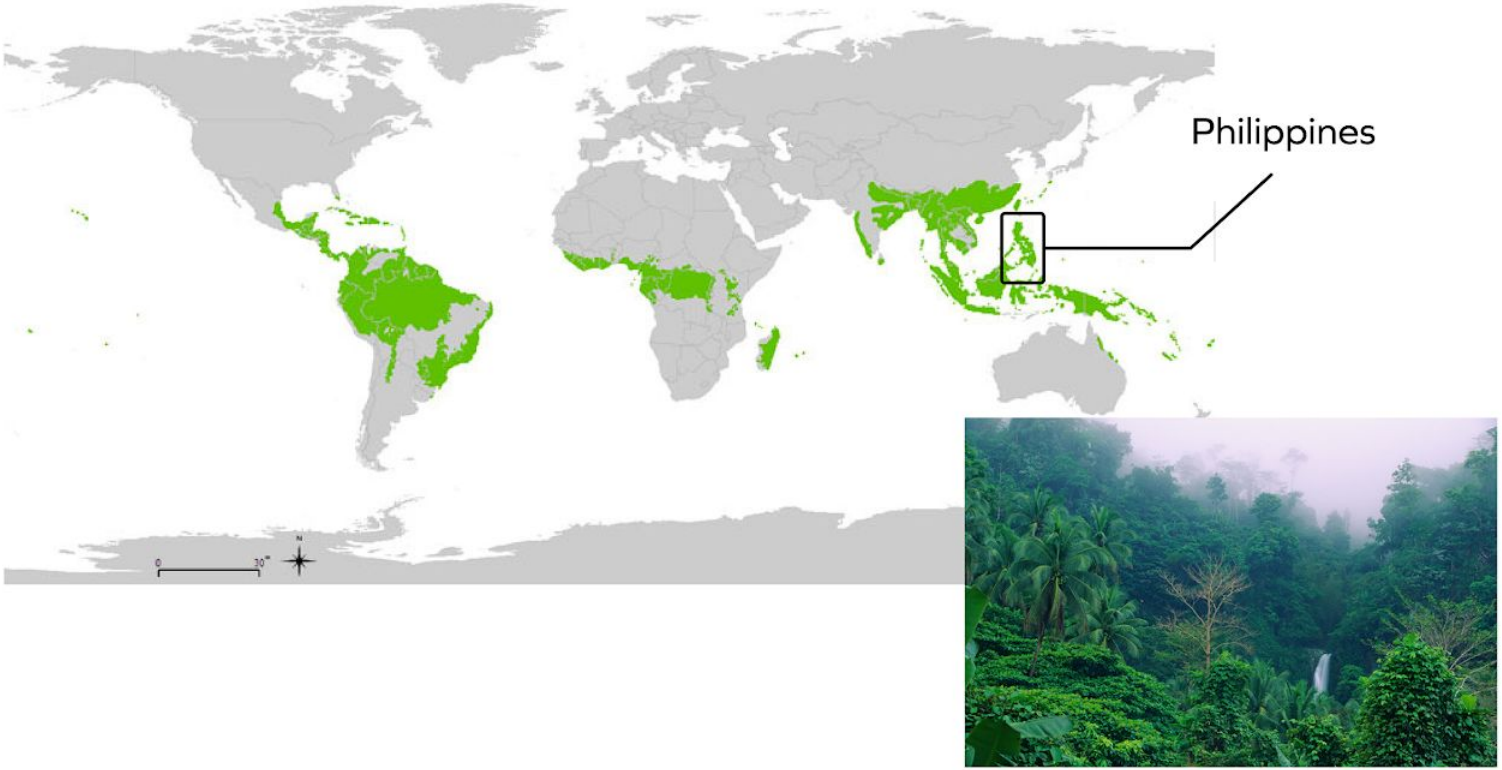
Our biologists have noticed there are fewer Tokay geckos than there used to be in a small area of rain forest in the Philippines. Why are there fewer Tokay geckos? Is something making it hard for Tokay geckos to survive in their environment? We need your help to figure this out!

**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.

# Tropical Rain Forests of the World



## Conservation Biologists

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

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

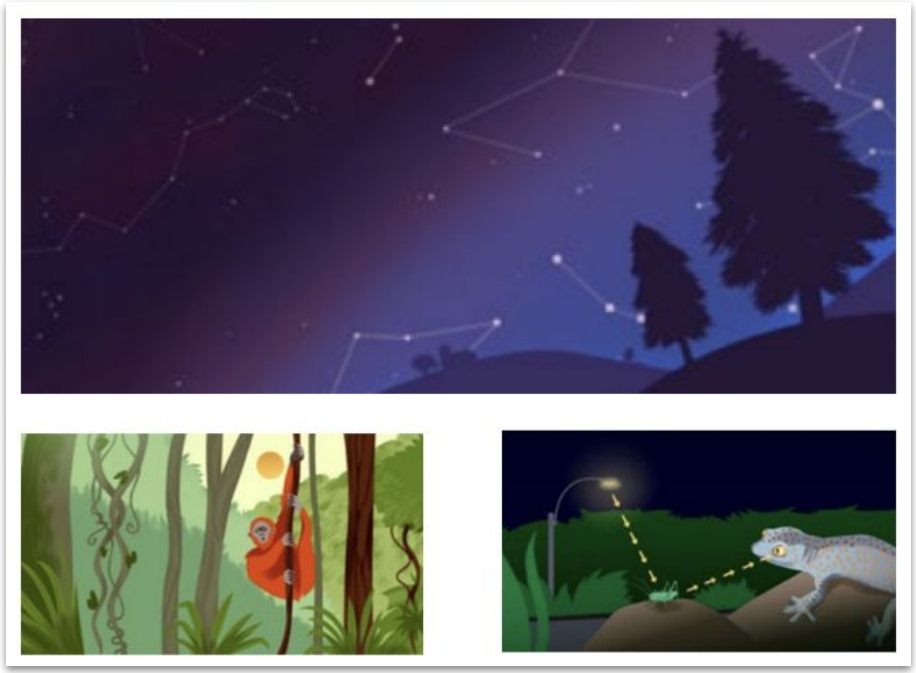
**Rain Forest Conversation Group**

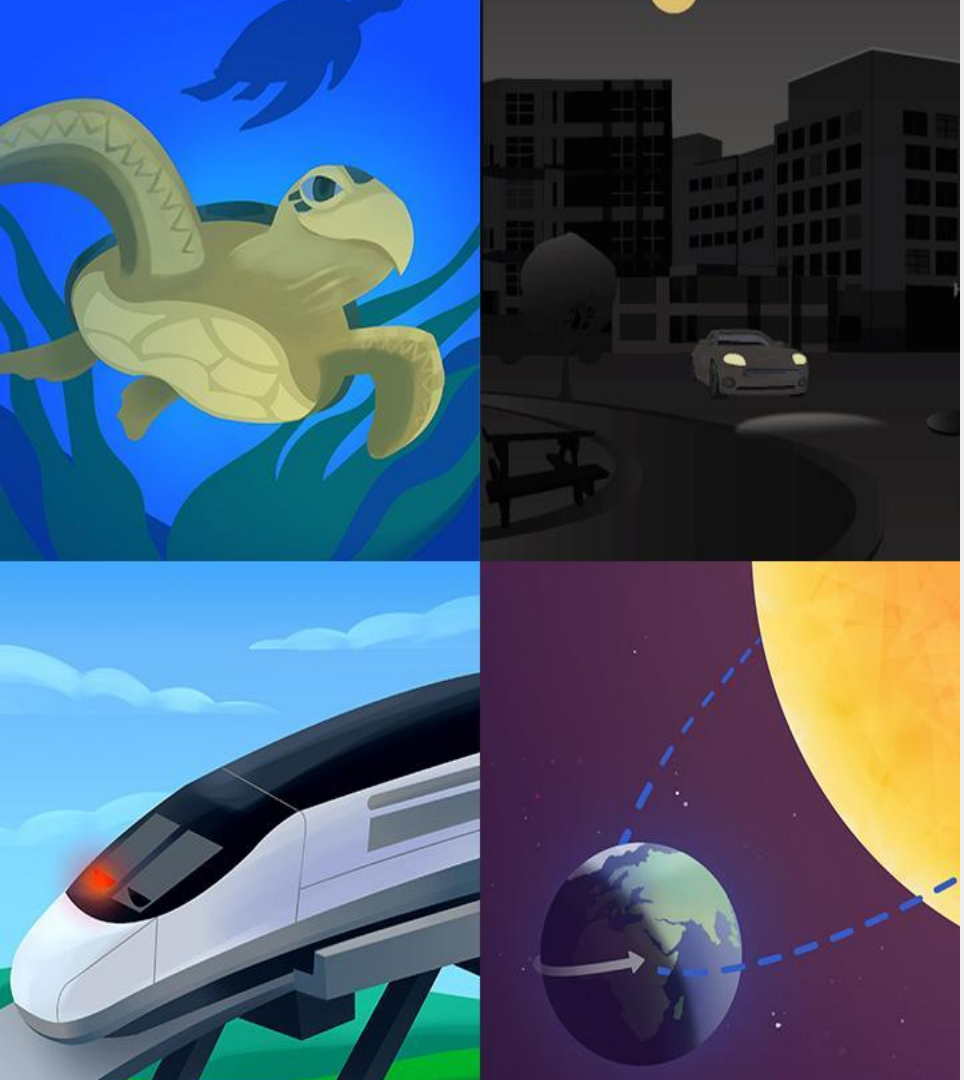
A conservation group works to make sure that **plants and animals can survive**. That's why the Rain Forest Conservation Group is worried about the Tokay geckos.

# Amplify Science

## Anchoring phenomenon

- Complex and rich
- Drives learning through a whole unit
- Specific and observable
- Relatable at students' developmental level

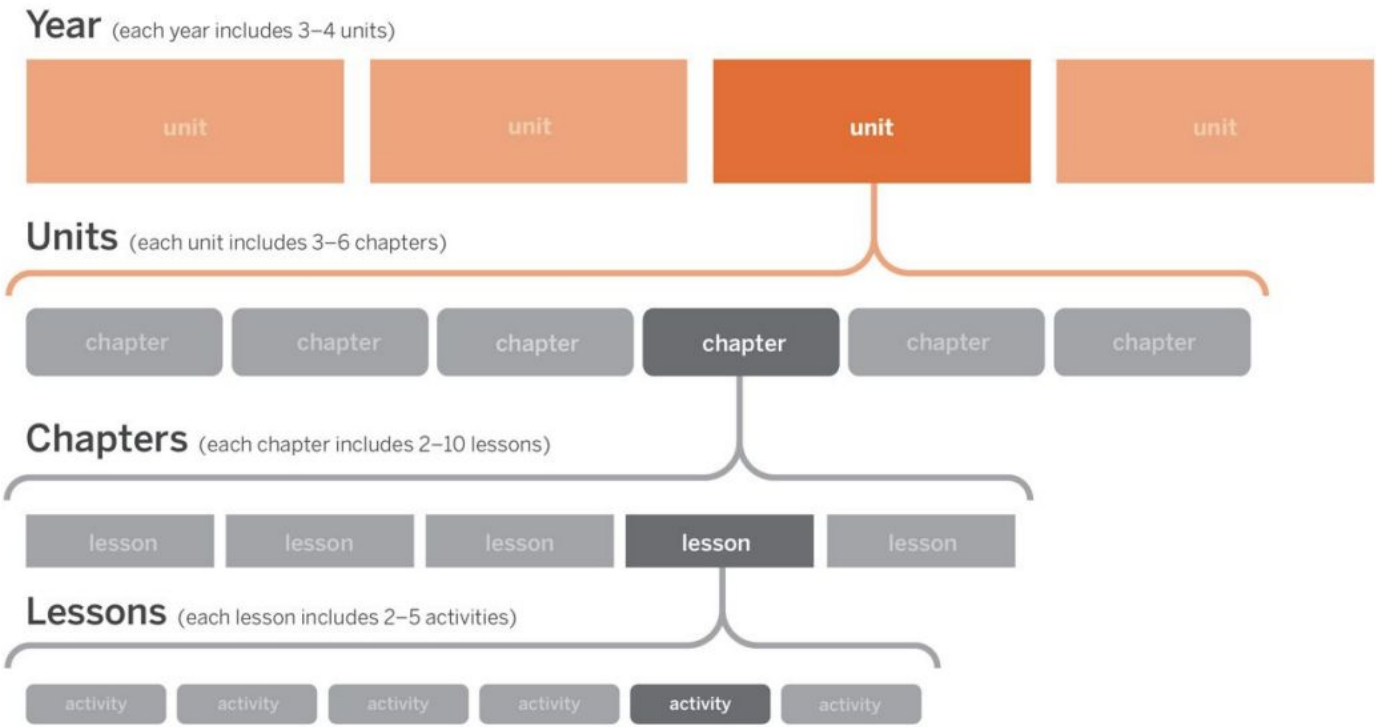




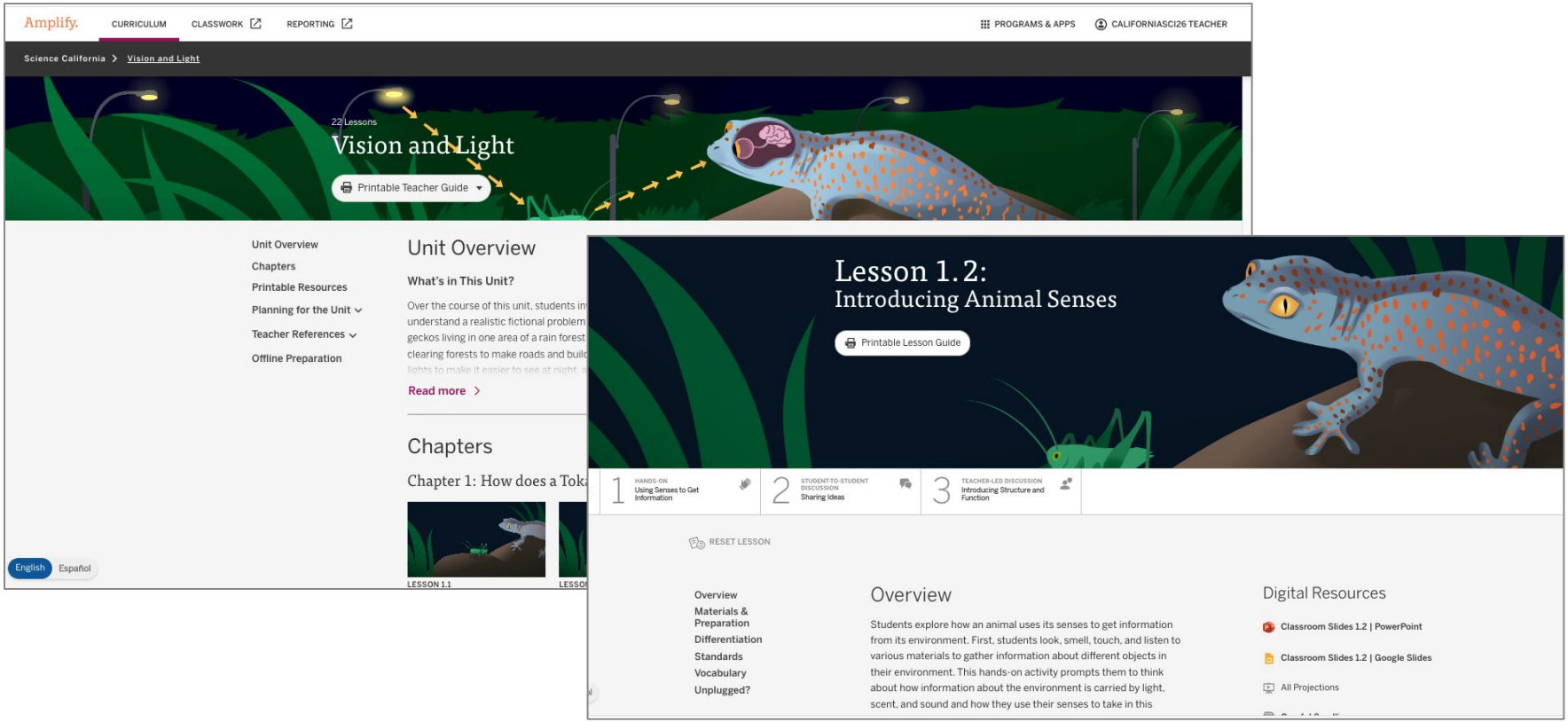
# Plan for the day: Part 1

- Introduction and Framing
- NGSS & 3D Learning
- Phenomenon-based Instruction
- Unit Internalization
- Additional Resources
- Closing

# K-5 Navigation structure



# Let's Go Live!


Amplify.
CURRICULUM
CLASSWORK
REPORTING
PROGRAMS & APPS
CALIFORNIASCI26 TEACHER
Science California > Vision and Light
22 Lessons
Vision and Light
Printable Teacher Guide
Unit Overview
Chapters
Printable Resources
Planning for the Unit
Teacher References
Offline Preparation
Unit Overview
What's in This Unit?
Read more
Chapters
English
Español
Lesson 1.2:
Introducing Animal Senses
Printable Lesson Guide
1 HANDS-ON Using Senses to Get Information
2 STUDENT-TO-STUDENT DISCUSSION Sharing Ideas
3 TEACHER-LED DISCUSSION Introducing Structure and Function
RESET LESSON
Overview
Materials & Preparation
Differentiation
Standards
Vocabulary
Unplugged?
Overview
Students explore how an animal uses its senses to get information from its environment. First, students look, smell, touch, and listen to various materials to gather information about different objects in their environment. This hands-on activity prompts them to think about how information about the environment is carried by light, scent, and sound and how they use their senses to take in this
Digital Resources
Classroom Slides 1.2 | PowerPoint
Classroom Slides 1.2 | Google Slides
All Projections

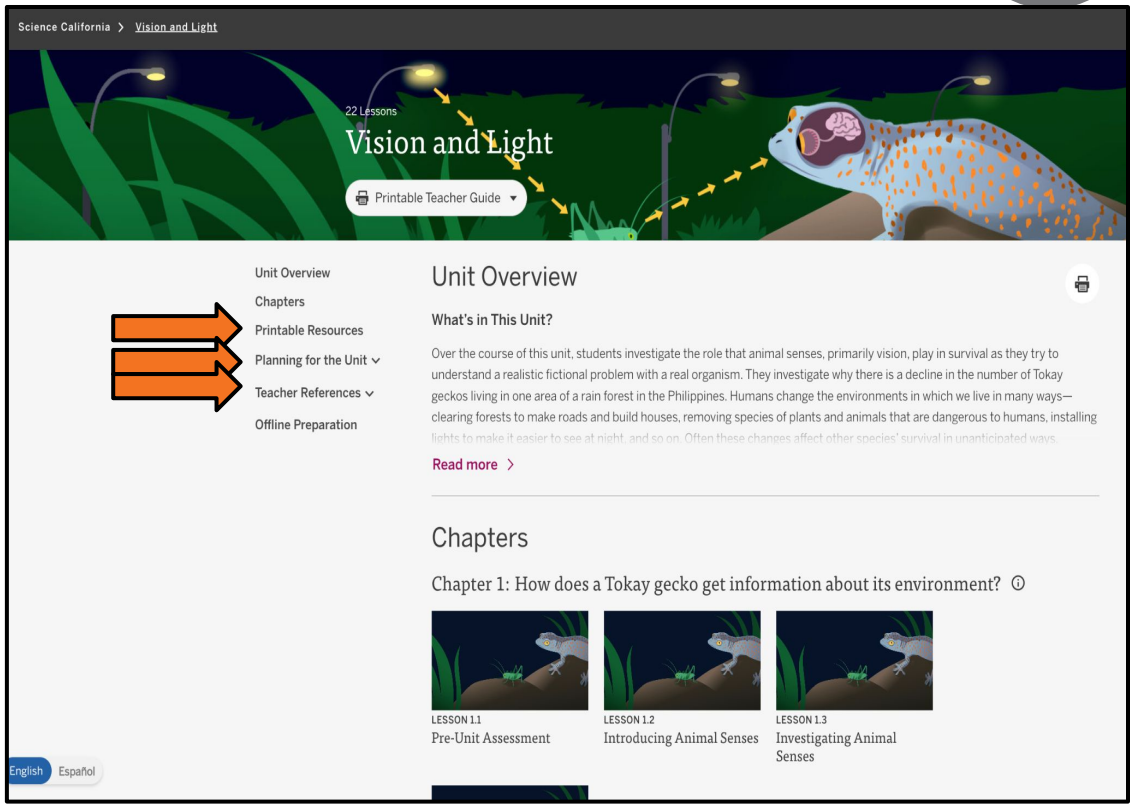
# Navigation summary

1. CLICK the caret to select your grade-level.
2. Select your first unit.
    a. You are now on the Unit Landing Page.
3. Expand the **Planning for the unit** menu.
    a. Or scroll down below the lesson buttons.

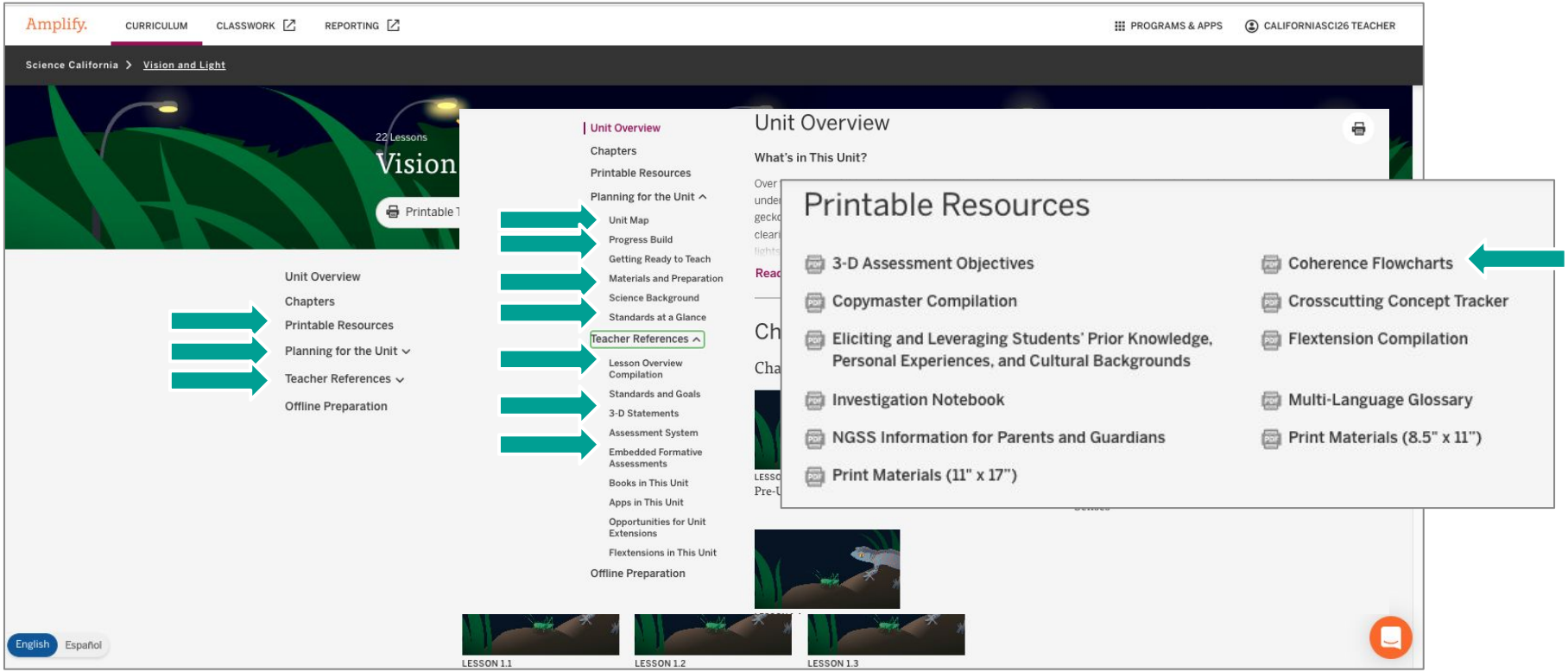
# Unit Level resources

Collection of resources to support planning and day-to-day instruction in the unit:

- Printable Resources
- “Planning for the Unit” documents
- Teacher References



# Key Unit Documents for Unit Planning



## Core Unit Planning & Internalization

| Unit Title: | 1 |
|---|---|

**Overview**

[Resources: Unit Overview, Teacher's Guide, Coherence Flowchart, Unit Map, 3-D Statements]

| What is the phenomenon/real-world problem students are investigating in your unit? 2 | Student Role: 3 |
|---|---|
| Unit Question: 4 | Relationship between the Unit Phenomenon and Unit Question: 5 |
| By the end of the unit, students figure out... 6 | |
| How do students engage with three-dimensional learning to figure out the phenomenon/real-world problem in your unit? 7 | |

1

**Unit Guide resources:**
- **Unit Overview**
- **Unit Map**
- ***Coherence Flowchart***

**Unit Guide resources:**
- **Lesson Overview Compilation**
- **Unit Overview**

**Unit Guide resources:**
- **Unit Map**

**Unit Guide resources:**
- **3D Statements at the Unit Level**

## Core Unit Planning & Internalization

| Unit Title: | Vision and Light |
|---|---|

**Overview**

[Resources: Unit Overview, Teacher's Guide, Coherence Flowchart, Unit Map, 3-D Statements]

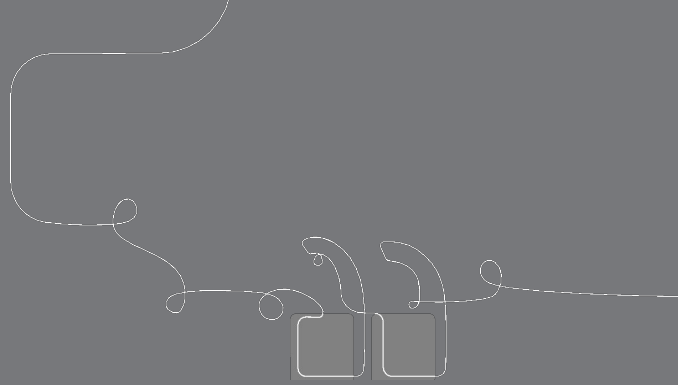
| What is the phenomenon/real-world problem students are investigating in your unit? | Student Role: |
|---|---|
| . .Why is an increase in light affecting the health of Tokay geckos in a Philippine rain forest. | Conservation Biologists |
| **Unit Question:** | **Relationship between the Unit Phenomenon and Unit Question:** |
| How do animals use vision and other senses to survive their environment? | Student's investigations of how animal eyes function, help them explain why more light at night is affecting the survival of the Tokay geckos. |

By the end of the unit, students figure out...

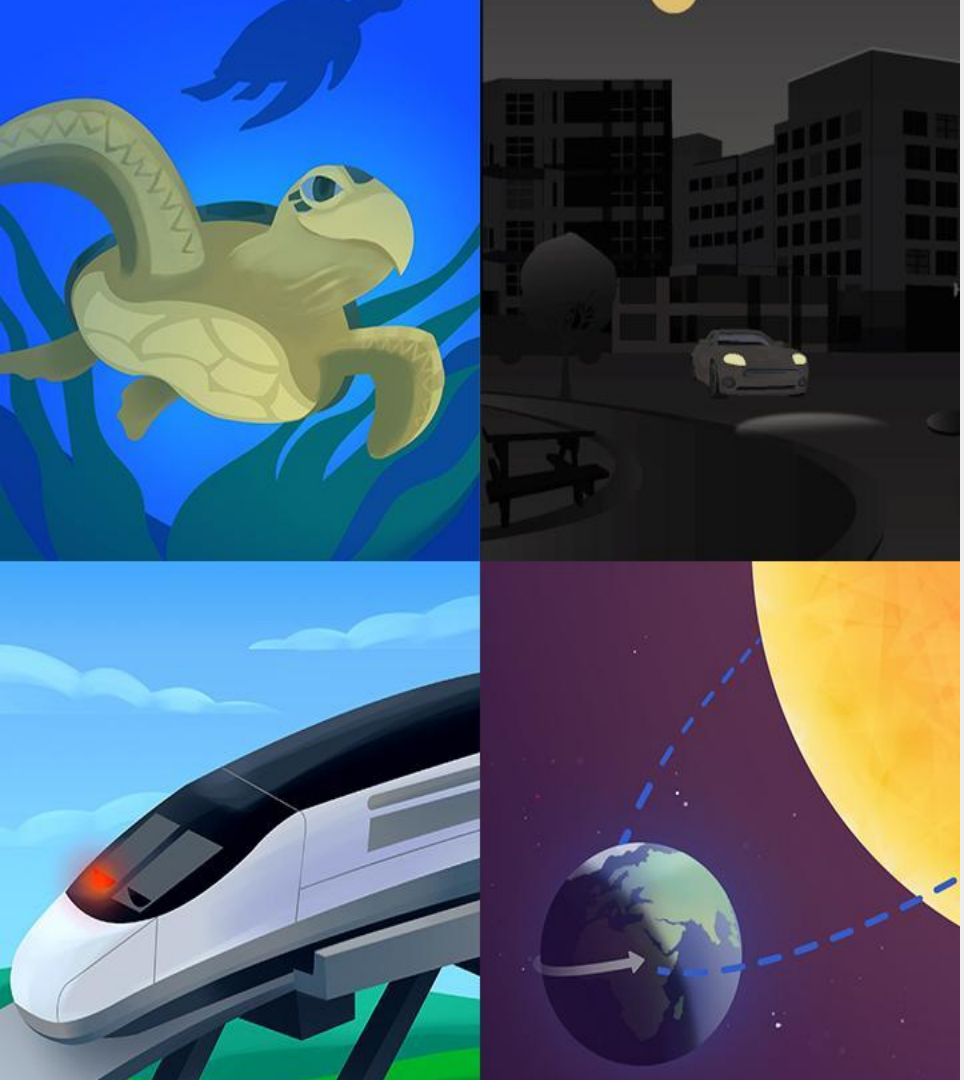
Since highway lights were installed there is much more light at night. Because of their light receptors, the Tokay geckos have difficulty seeing their prey with the extra light.

How do students engage with three-dimensional learning to figure out the phenomenon/real-world problem in your unit?

Students ask and investigate questions about the role that animal's senses, primarily vision, play in survival in order to figure out why there is a decline in the number of Tokay geckos living in one area of the rain forest in the Philippines.



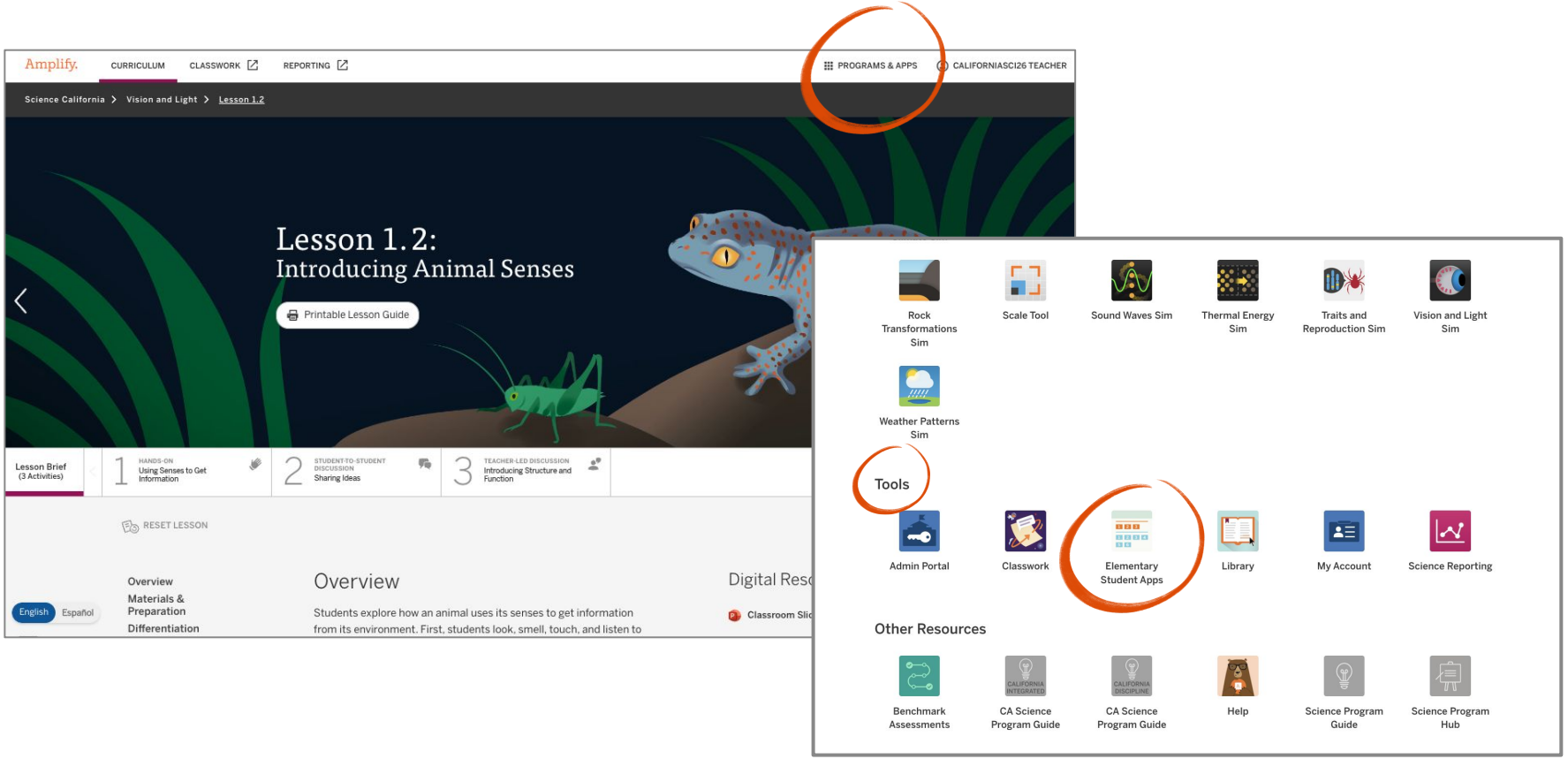
# Questions?



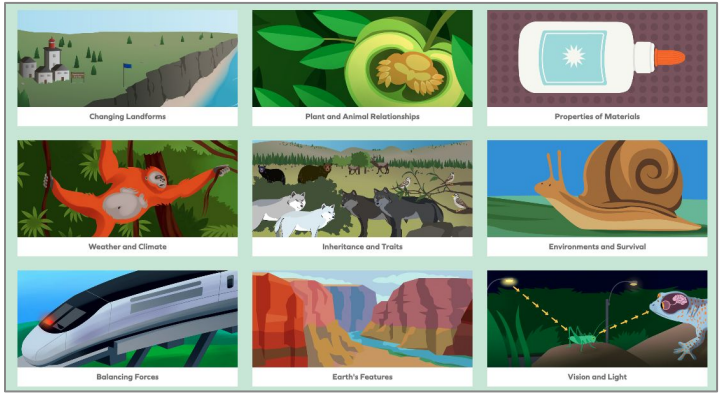
# Plan for the day: Part 1

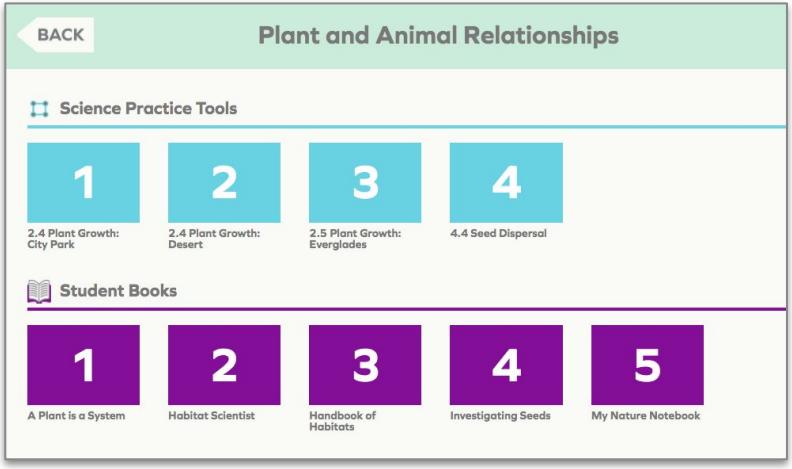
- Introduction and Framing
- Phenomenon-based Instruction
- Unit Internalization
- Additional Resources
- Closing

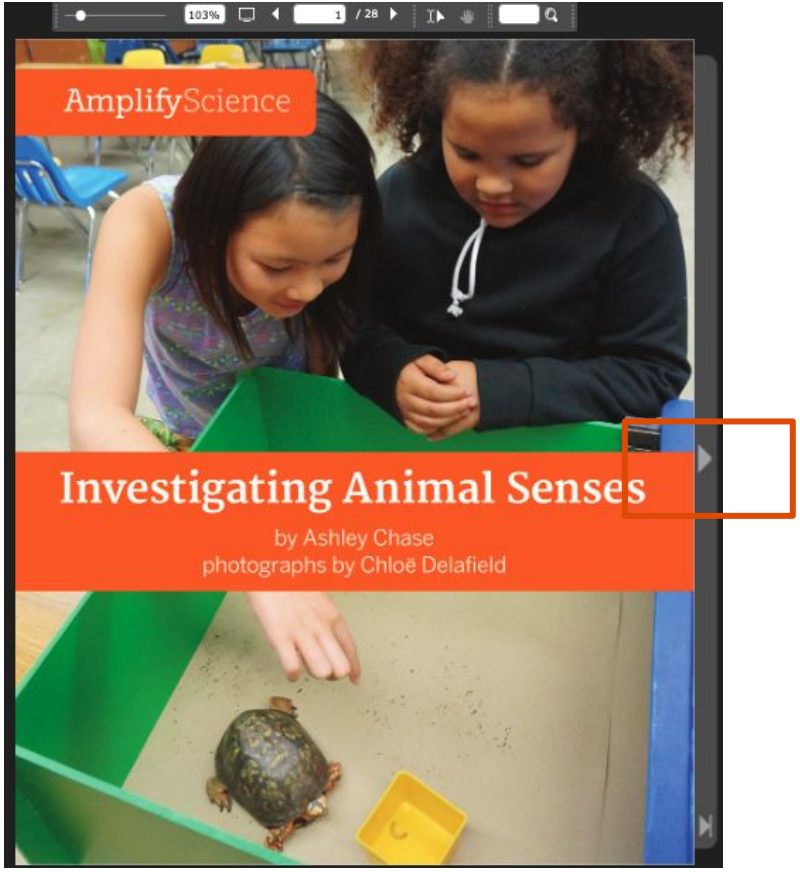
# Navigating to the Student Apps page



# Student Apps page and accessing the book

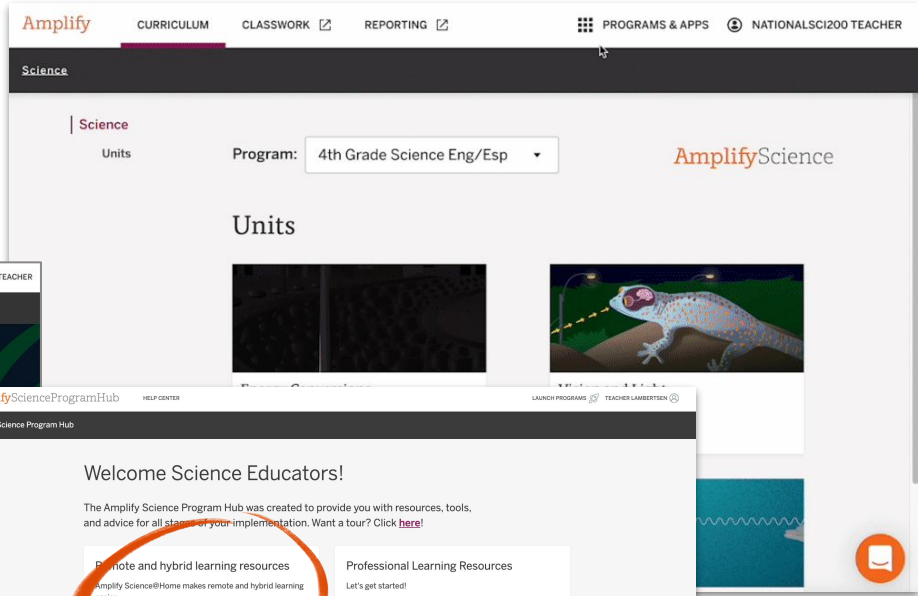


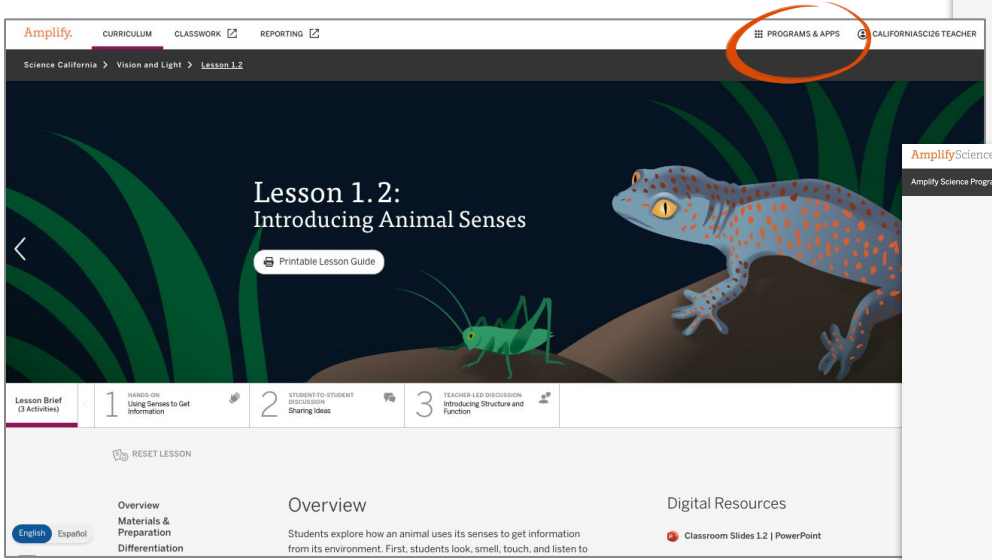



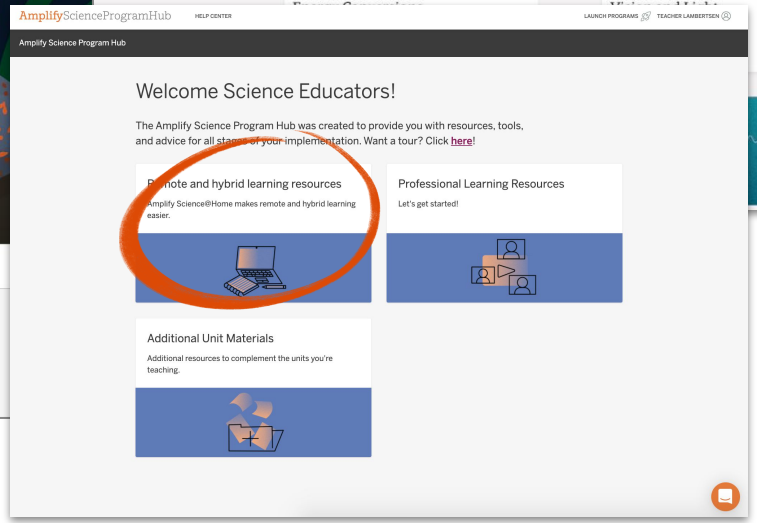



# Program Hub

Use the Amplify Science Program Hub to find useful resources for implementing Amplify Science, including unit overview videos and planning tools.



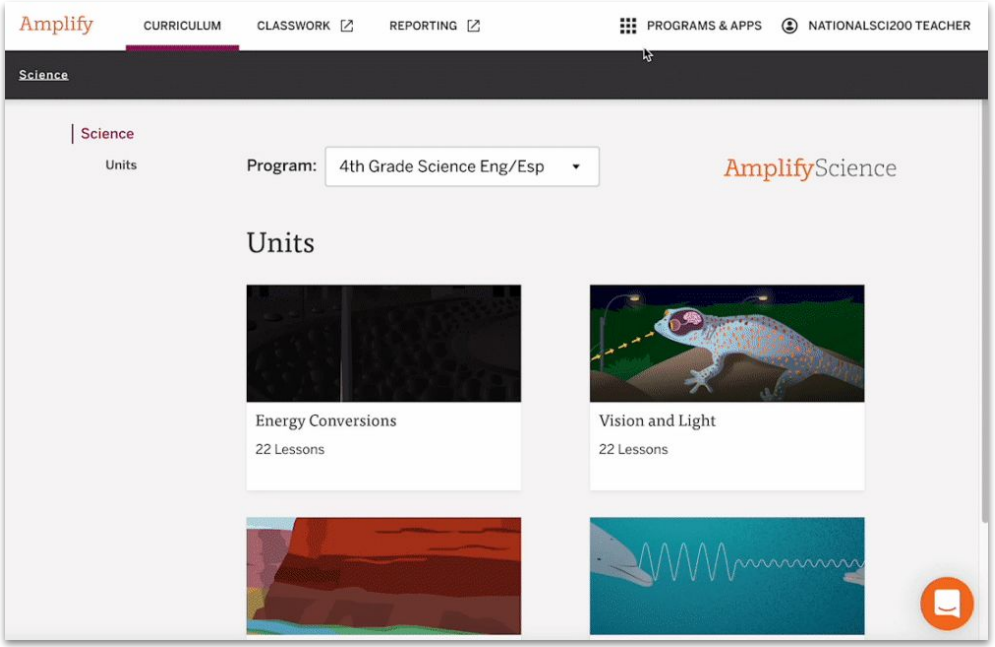



# Explore the Program Hub

Familiarize yourself with the Program Hub.

Be ready to share one resource you've found that you'll use while planning and teaching.



# Additional resources

## Welcome, caregivers!

We hope you enjoy learning more about Amplify Science and what students are learning in science this year.

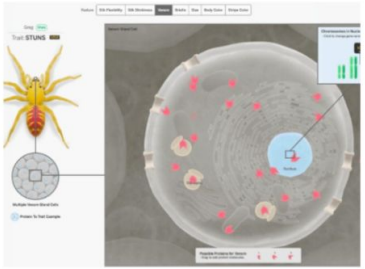
Para acceder a este sitio en español haga clic aquí.

Amplify welcomes you and your learner to the Science program for the new school year. We are very excited to provide you with exceptional learning opportunities through Science. Below are resources and helpful guides for enabling your student to have the most productive experience with our platform throughout the year.

Contact Us

TOP RATED BY EDREPORTS

Grades 6-8



Caregivers

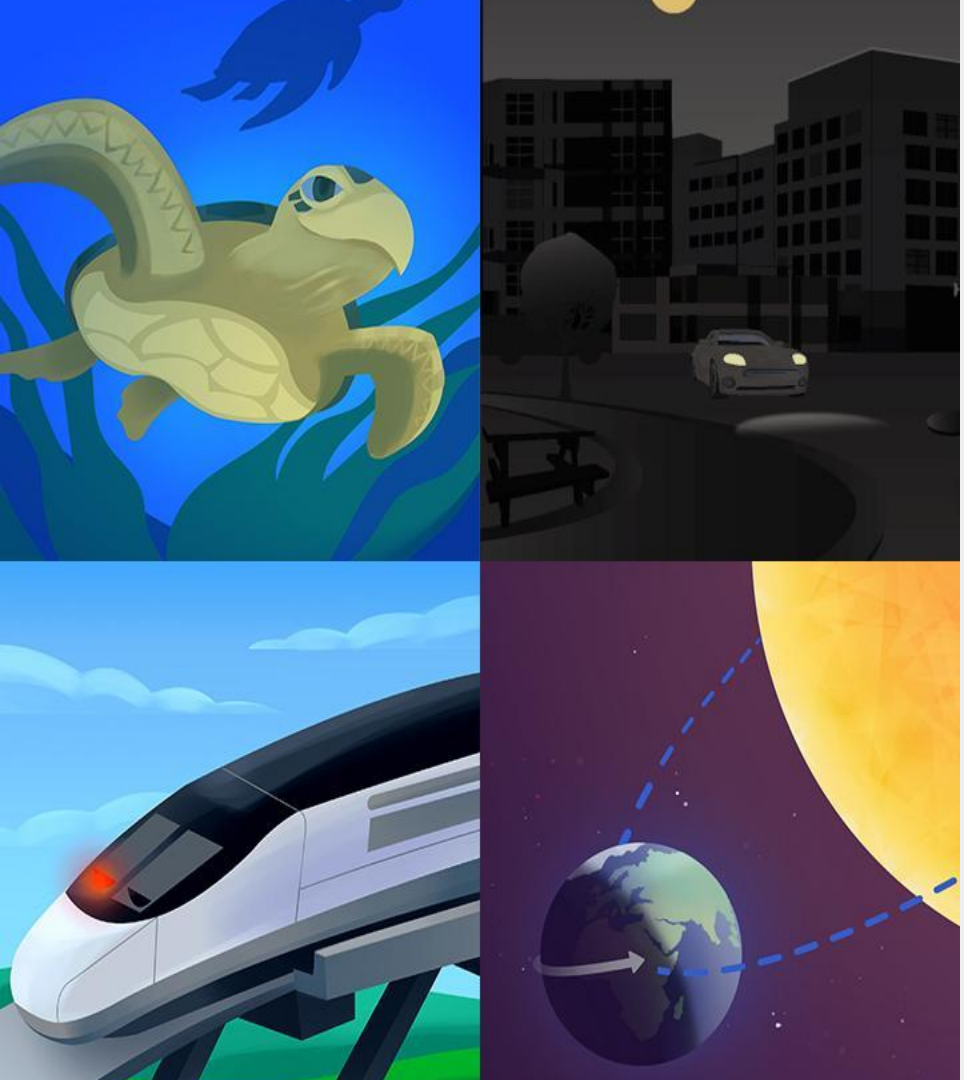
# LAUSD Microsite- https://amplify.com/lausd-science

## Welcome to Amplify Science!

This site contains supporting resources designed for the LAUSD Amplify Science adoption for grades TK–8.

- Access the Amplify Science Program Hub (To help orient you to the new design, watch this video and view this reference guide.)
- Find out more about Amplify Science@Home
- Share the Caregiver Hub (Eng/Span) with your families
- For LAUSD ES Teachers- Amplify Science & Benchmark Advance Crosswalk
- Instructional guidance for a Responsive Relaunch of Amplify Science in 21-22

Click the button below to preview the digital Teacher's Guide, and check back for exciting updates to this site!



# Plan for the day: Part 1

- Introduction and Framing
- Phenomenon-based Instruction
- Unit Internalization
- Additional Resources
- Closing

# Overarching goals

- ✓ Explain how students engage in phenomenon based and 3D learning to construct an understanding of the science concepts introduced in the unit *Vision and Light*.
- ✓ Internalize the unit and apply your new understanding to plan for the diverse needs of your classroom and students

# Closing reflection

## Based on our work in Part 1, share:

**Head:** something you'll keep in mind

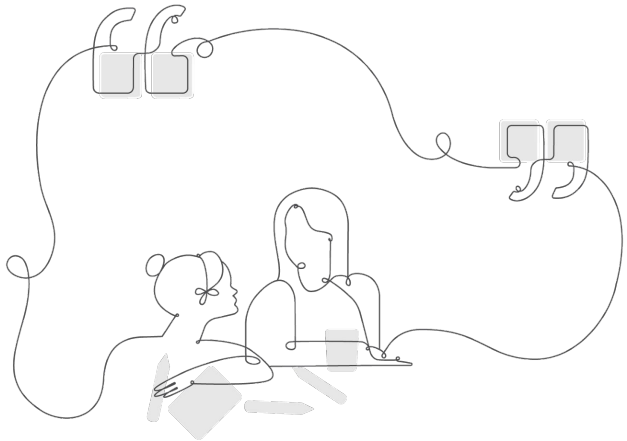
**Heart:** something you're feeling

**Feet:** something you're planning to do

# Onsite Upcoming Professional Development!

## Part 3: Unit 2 - with a focus on assessments

- December 3 (grades 3-6)
- December 12 ( grades K-2)



# Additional resources and ongoing support

## Customer Care

Seek information specific to enrollment and rosters, technical support, materials and kits, and teaching support, weekdays 7AM-10PM EST and weekends 10AM-6PM EST.

help@amplify.com

800-823-1969

Amplify Chat

# Please provide feedback!

**Type:**

Strengthen

**Session title:**

Unit Internalization / Guided Planning (Part 1)

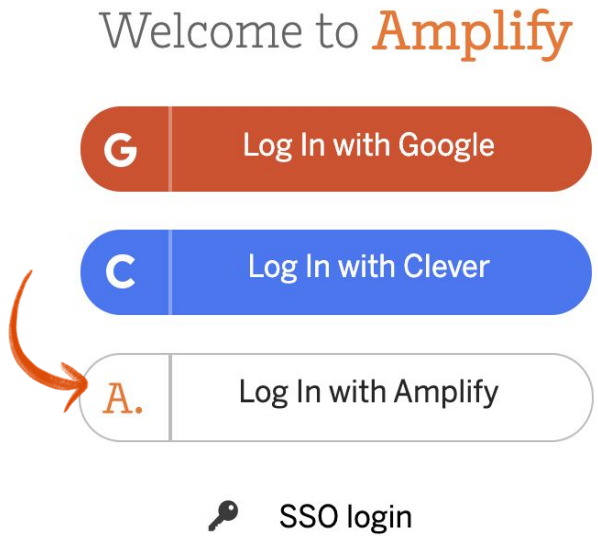
**Professional Learning Specialist name:**

# Welcome to Amplify Science!

**Do Now: Log in through your Schoology account**

or use Demo Account

1. Go to **learning.amplify.com**
2. Select **Log in with Amplify**
3. If you're already logged in with other Google accounts, click **Use another account**
4. Enter teacher demo account credentials
   - xxxxxxx@pd.tryamplify.net
   - Password: xxxx
5. Explore as we wait to begin



Amplify Science

# Unit Internalization / Guided Planning

## Grade 4, Unit 2: Vision and Light

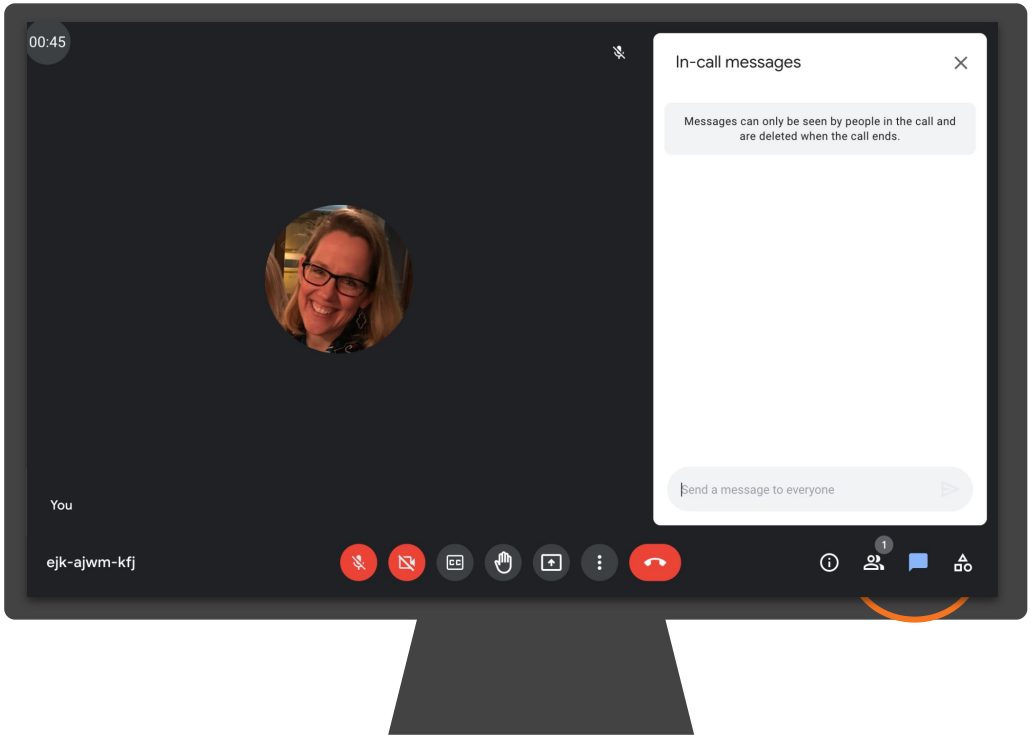
## Part 2

School/District Name: LAUSD
Date:
Presented by:

# Ice Breaker!

## Who do we have in the room today?

- **Question:** Now that we have gone through Part 1, which aspects of Amplify Science do you feel more comfortable with or have a greater understanding of?



# Amplify's Purpose Statement

**Dear teachers,**

You do a job that is nearly impossible and **utterly essential.**

**We are in your corner** – extending your reach, saving you time, and enhancing your understanding of each student.

**Thank you for working with us** to craft rigorous and riveting learning experiences for your classroom.

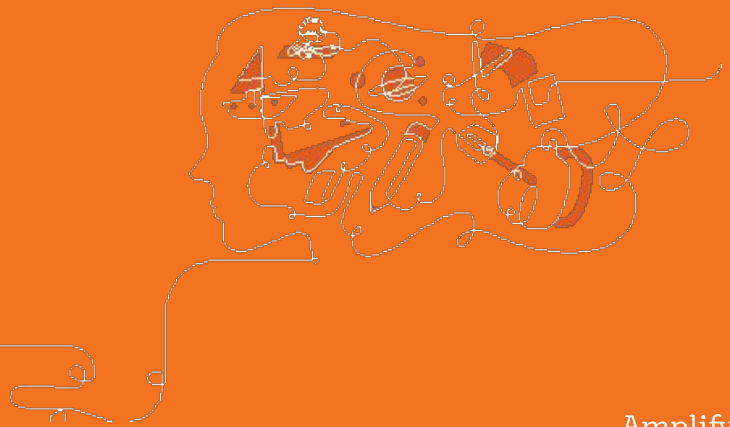
We share your goal of **inspiring all students to think deeply, creatively, and for themselves.**

**Sincerely,**
**Amplify**

# Norms: Establishing a culture of learners

- **Take risks:** Ask any questions, provide any answers.
- **Participate:** Share your thinking, participate in discussion and reflection.
- **Be fully present:** Unplug and immerse yourself in the moment.
- **Physical needs:** Stand up, get water, take breaks.

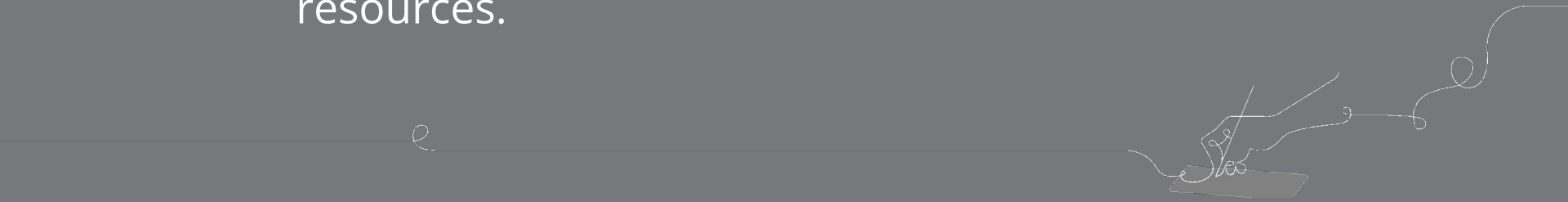
# Part 2:
# Guided Planning

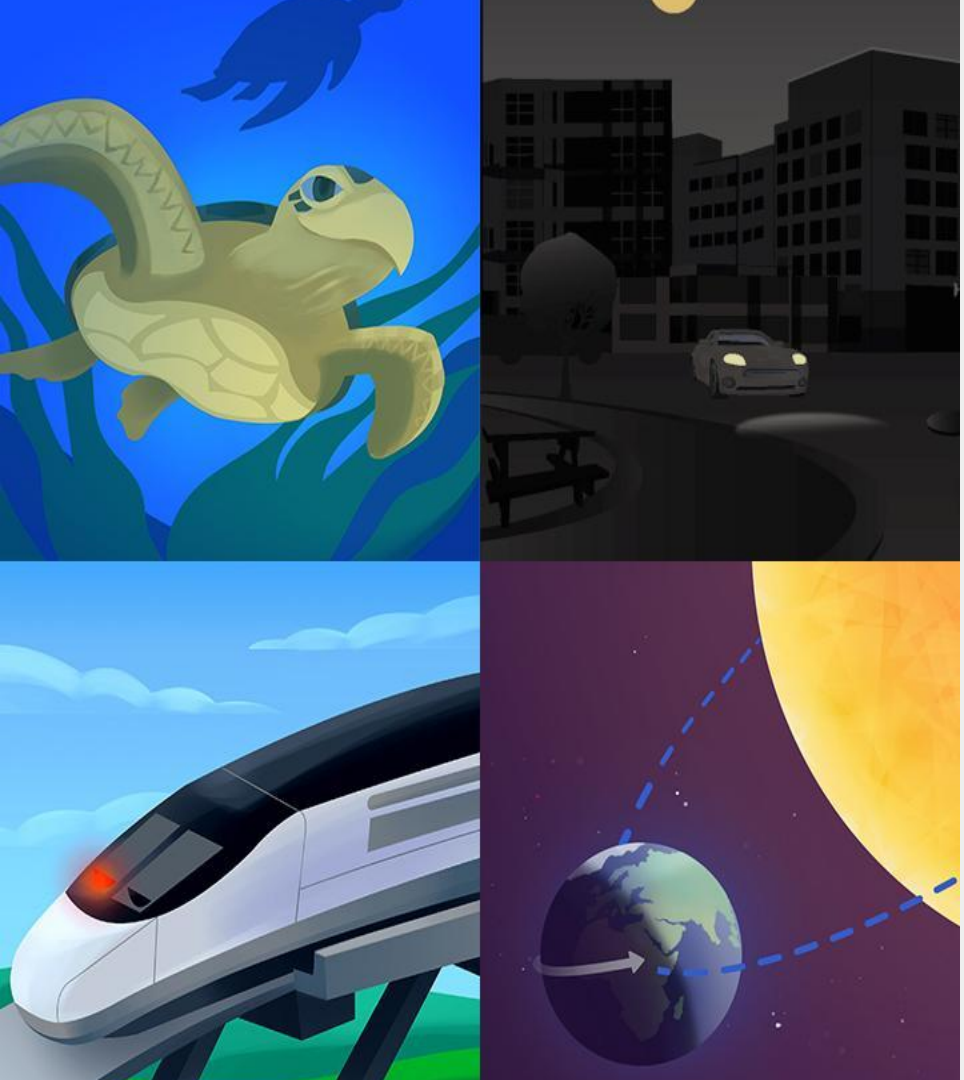


# Overarching goals

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

- ❏ Describe what teaching and learning look like in Amplify Science.
- ❏ Prepare to teach using Amplify Science resources.

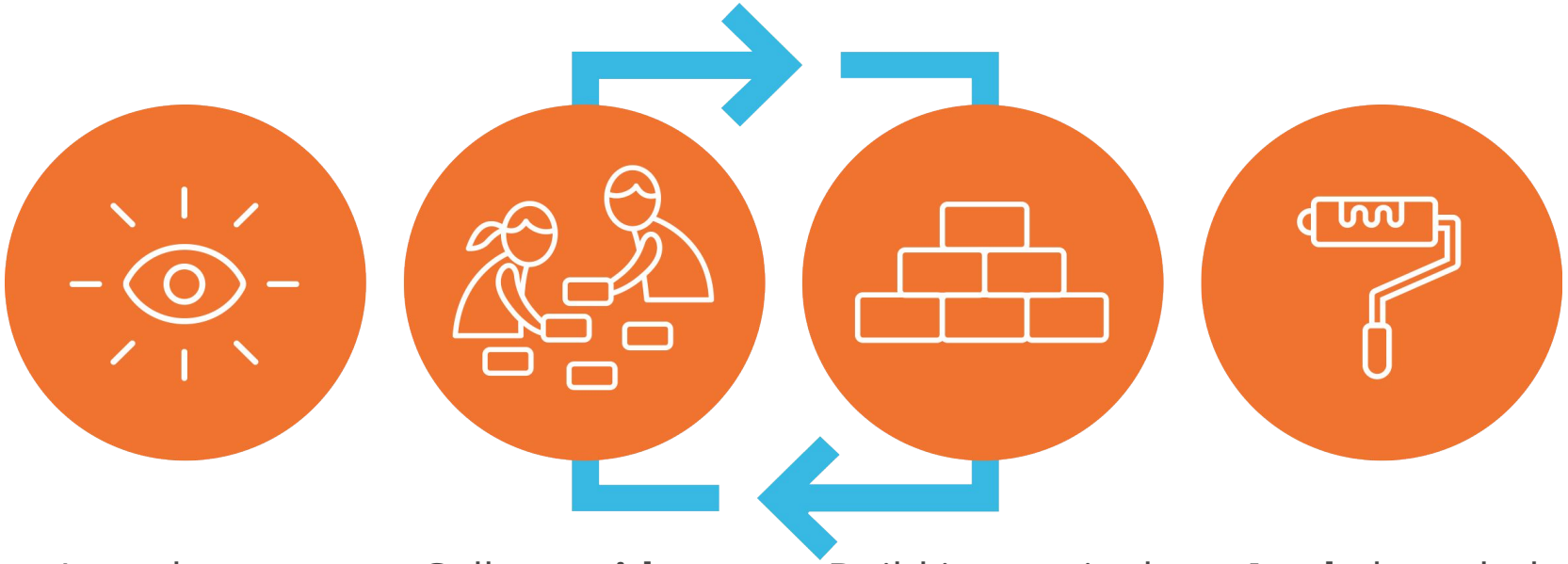




# Plan for the day: Part 2

- Teaching and Learning in an Amplify Science Lesson
- Instructional Approach Reflection
- Planning a Lesson
- Closing

# Amplify Science Approach



Introduce a **phenomenon** and a related problem

Collect **evidence** from multiple sources

Build increasingly complex **explanations**

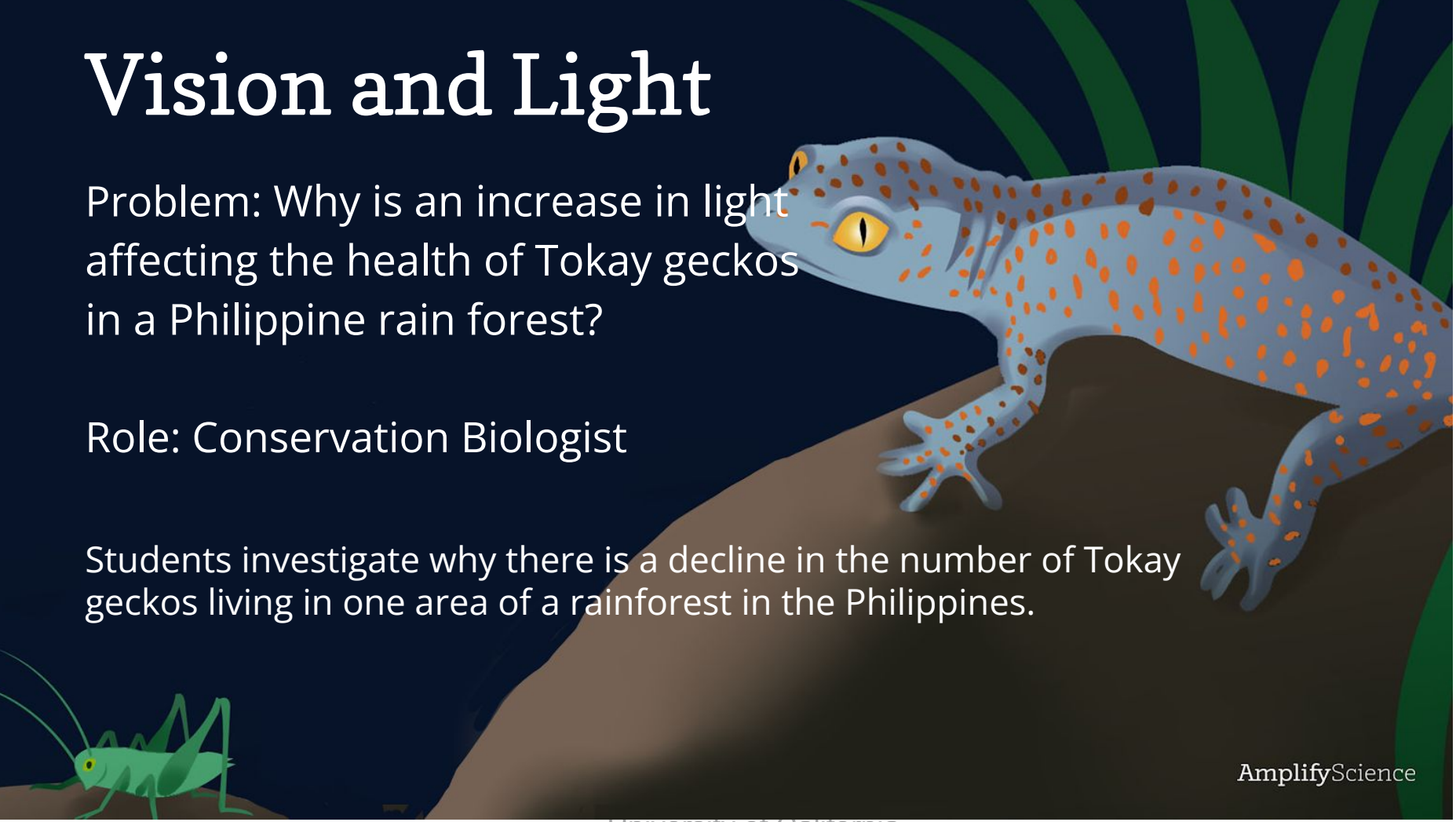
**Apply** knowledge to solve a different problem

# Vision and Light

Problem: Why is an increase in light affecting the health of Tokay geckos in a Philippine rain forest?

Role: Conservation Biologist

Students investigate why there is a decline in the number of Tokay geckos living in one area of a rainforest in the Philippines.



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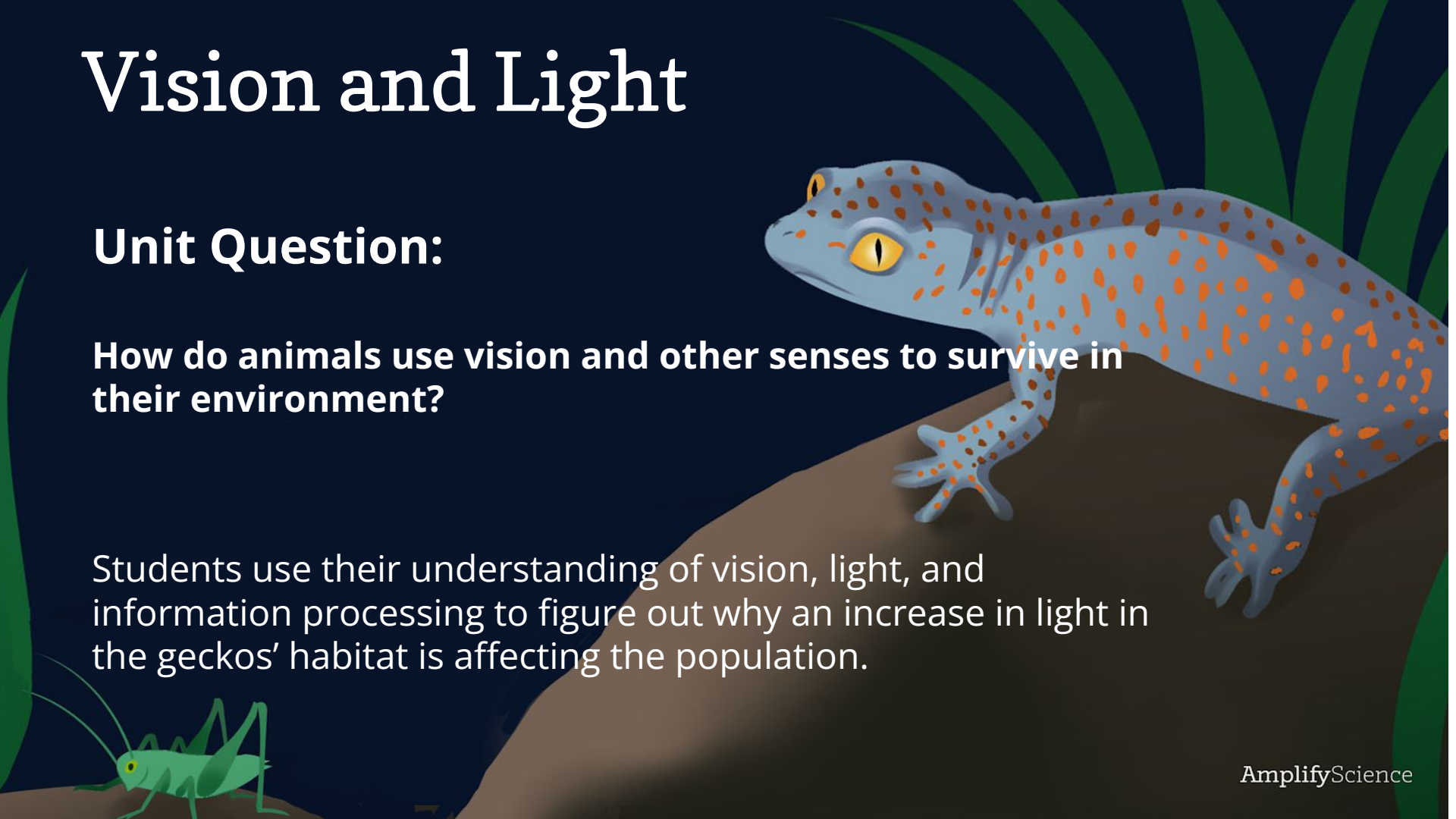
# Vision and Light

## Unit Question:

**How do animals use vision and other senses to survive in their environment?**

Students use their understanding of vision, light, and information processing to figure out why an increase in light in the geckos' habitat is affecting the population.



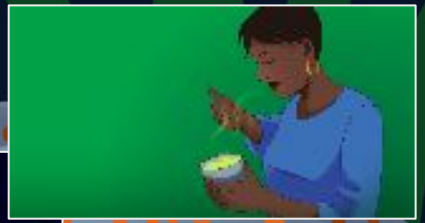
# Coherent Storylines

How does the Tokay gecko get information about its environment?

How does light allow a Tokay gecko to see its prey?

How does a Tokay gecko know that it is looking at its prey?

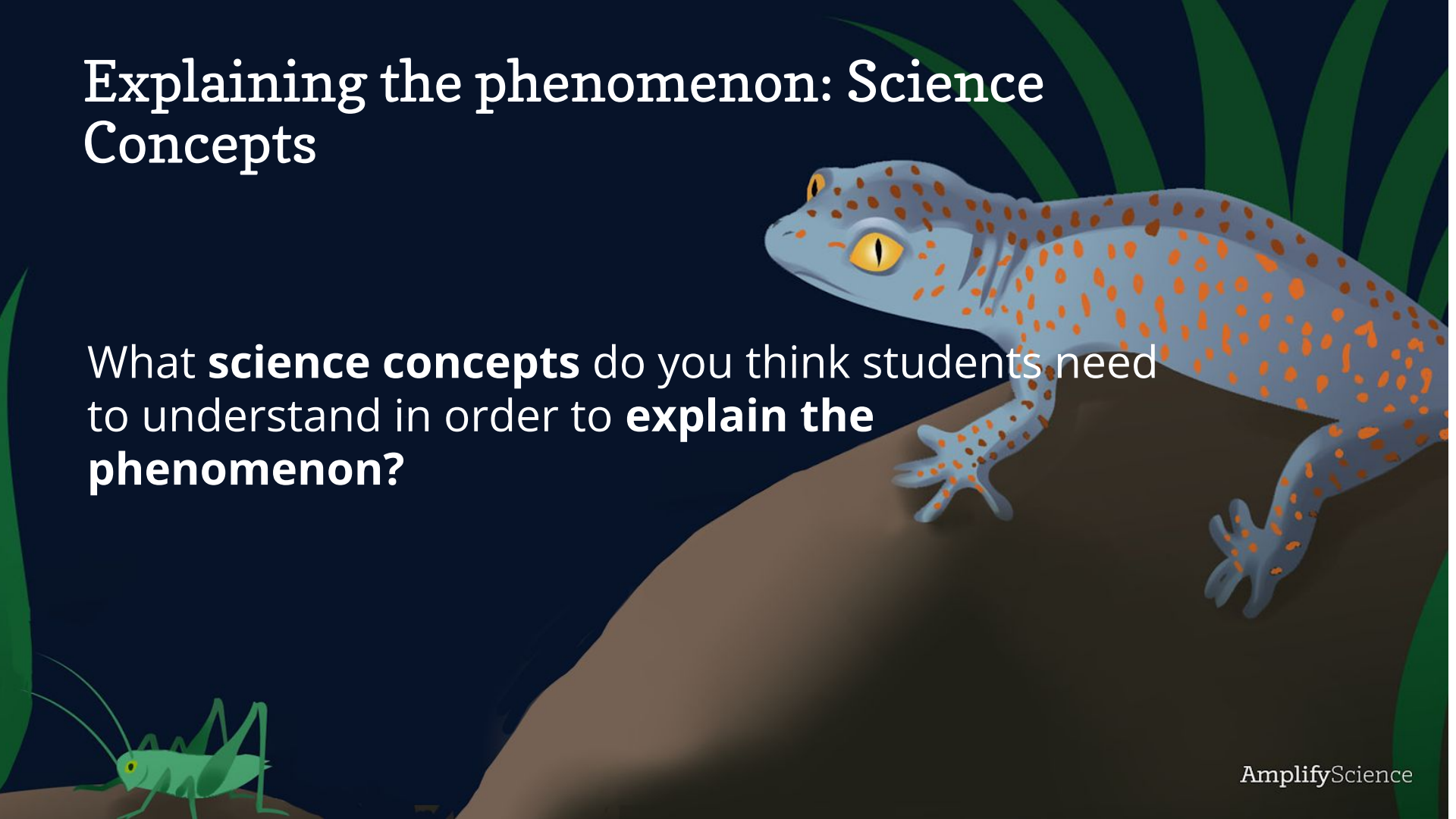
How could more light at night make it hard for a Tokay gecko to see its prey?



How do our senses help us understand our environment?

AmplifyScience

# Explaining the phenomenon: Science Concepts

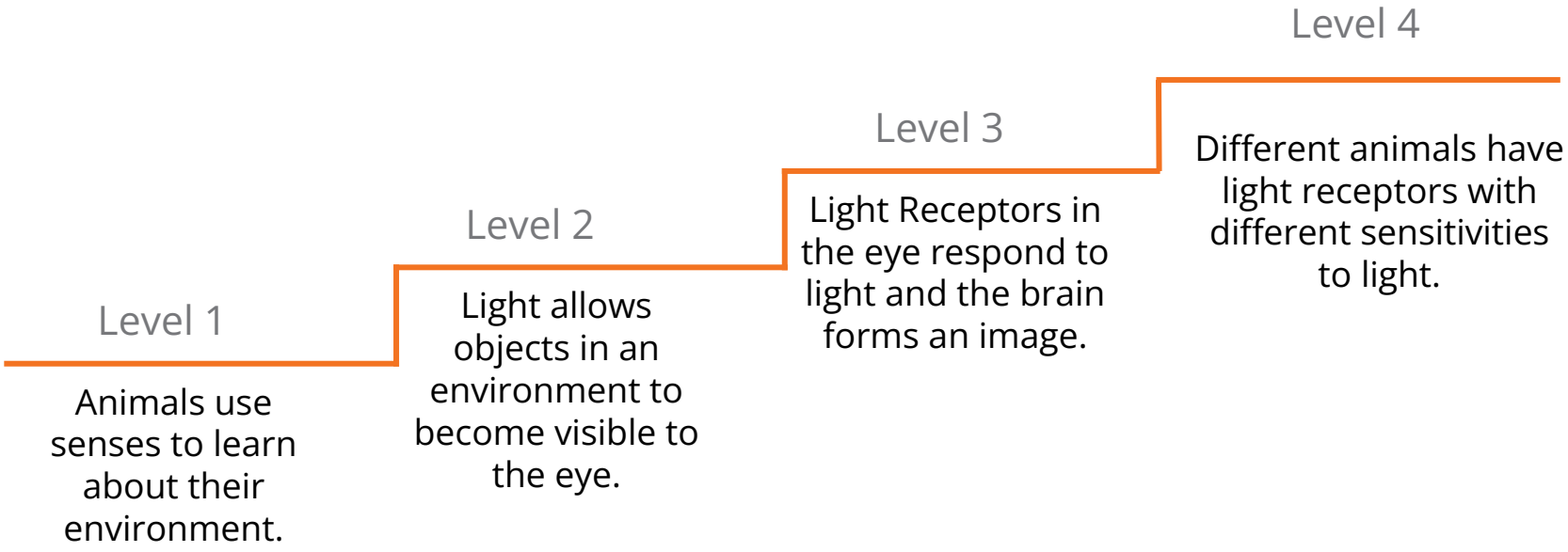


What **science concepts** do you think students need to understand in order to **explain the phenomenon?**

# Progress Build

# Vision and Light

**Assumed prior knowledge (preconceptions)**: Students are expected to have had many everyday experiences using their senses to see, smell, hear, taste, and touch. Students are likely to understand that animals need to find food and avoid being eaten to survive in their environment. While these ideas are not necessary for students to participate fully in the unit, having exposure to them will prepare students well for what they will be learning.



# K-5 Assessment System

Pre-Unit Assessment

1.4, Act 1

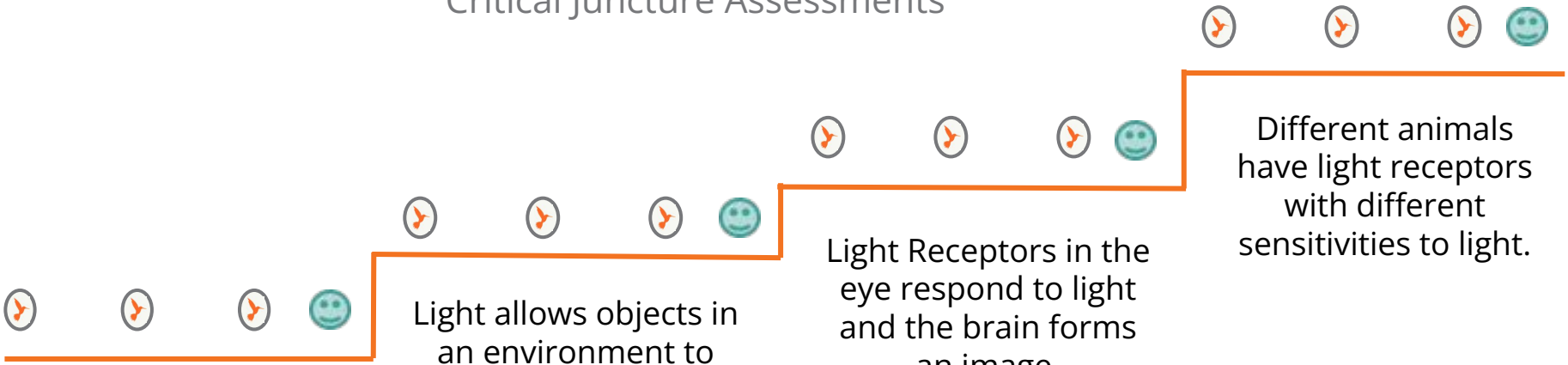
2.5, Act 3

3.5, Act 4

4.4, Act 2

End-of-Unit Assessment

Critical Juncture Assessments



Animals use senses to learn about their environment.

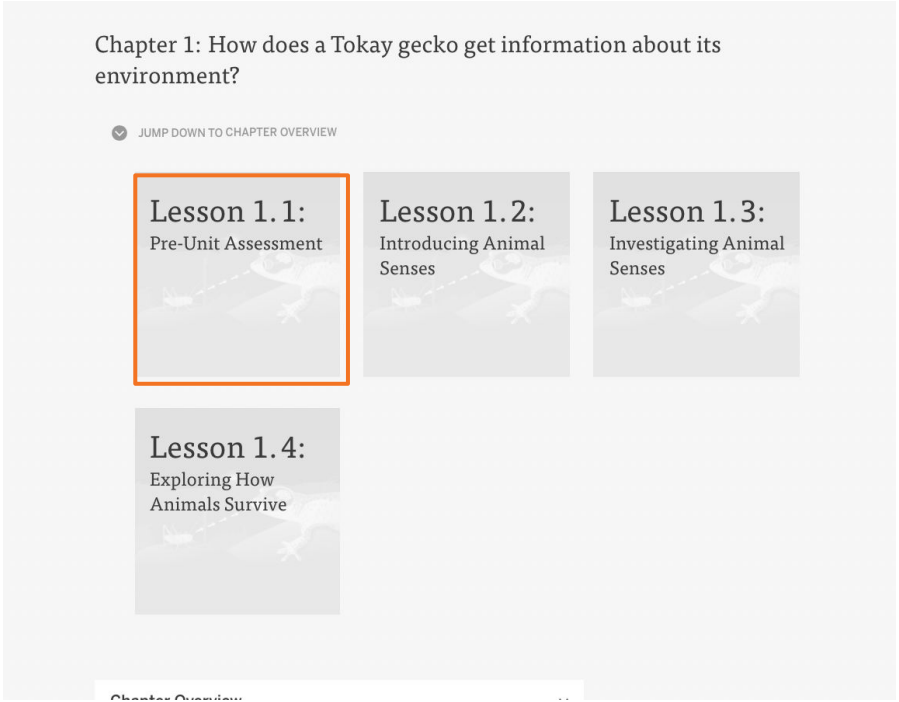
Light allows objects in an environment to become visible to the eye.

Light Receptors in the eye respond to light and the brain forms an image.

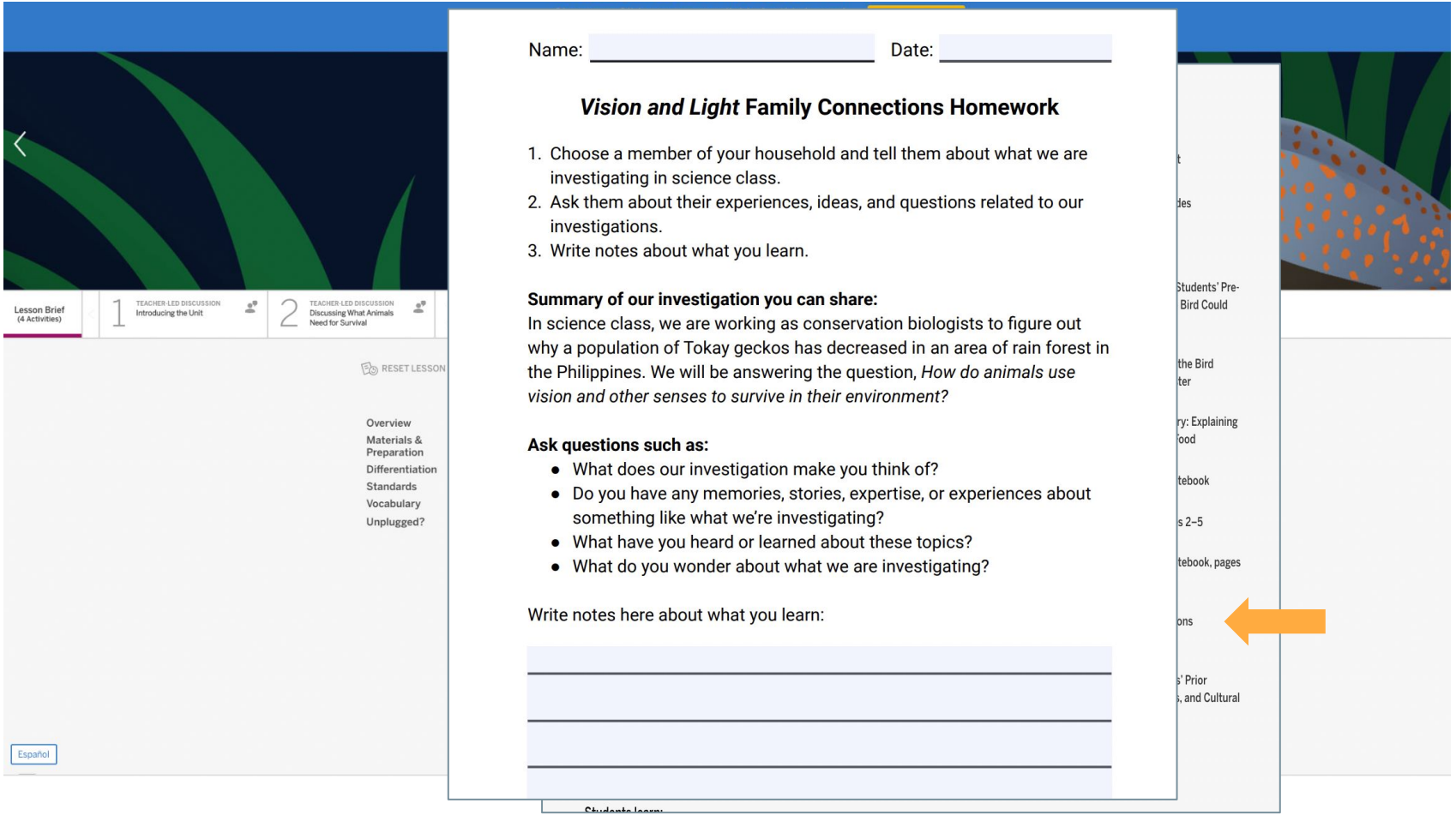
Different animals have light receptors with different sensitivities to light.

# Beginning the Unit

## The first lesson of every Unit is a pre-unit assessment.

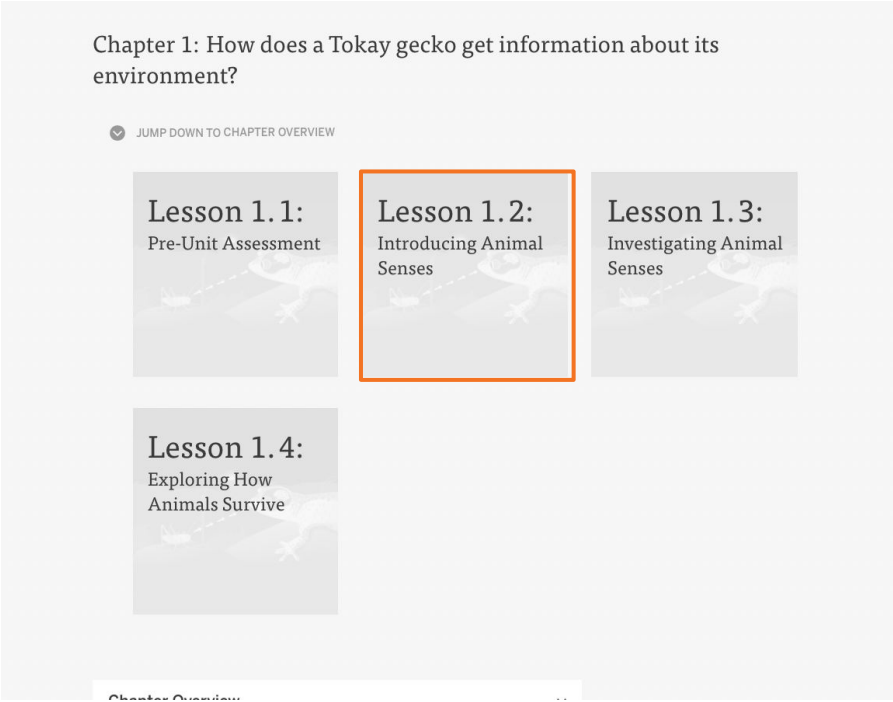


# Vision and Light Family Connection



# Beginning the Unit

## We will be looking at Chapter 1, Lesson 2 for our model lesson.



Grade 4 | Vision and Light

# **Lesson 1.2:** Introducing Animal Senses

AmplifyScience

30 MIN

## Activity 1

# Using Senses to Get Information

## Conservation Biologists

## Tokay Gecko

You are working as **conservation biologists** to help the Rain Forest Conservation Group figure out why the **Tokay geckos** are having trouble surviving.

Today, we are going to investigate this question:

How do animals use their senses to get information about their environment?

# Chapter 1 Question

How does a Tokay gecko get information about its environment?

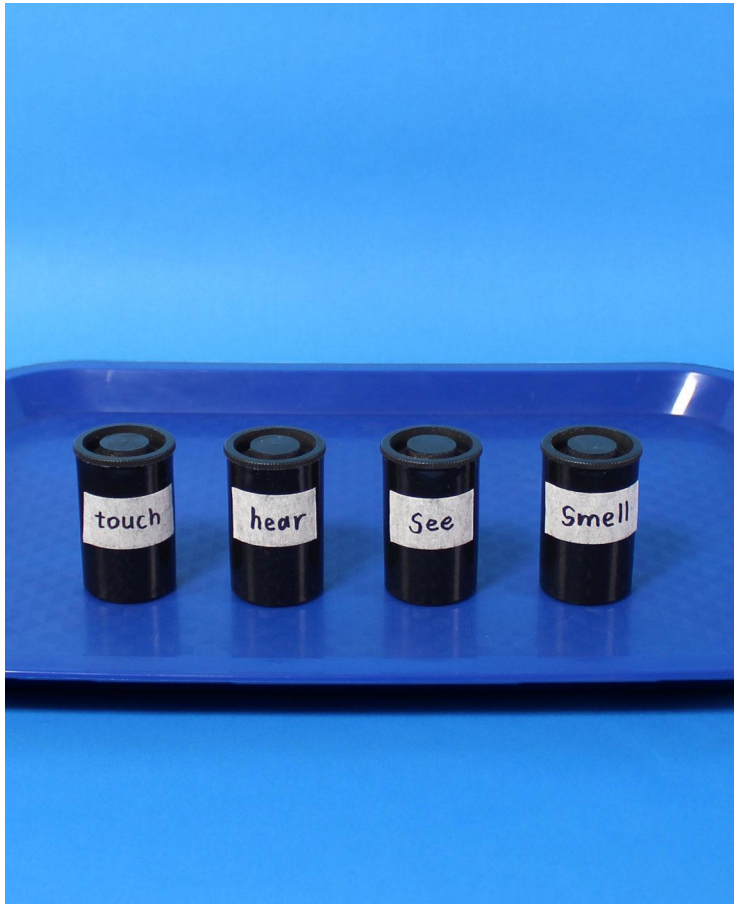
## Rain Forest Environment

In the last lesson, you thought about how a monkey gets information.

How does the **monkey** get **information** from its rain forest environment?

Today, we will explore how you use your **senses** to get **information** from your **environment**.

The classroom is our environment for this activity.




You will **observe** objects in these plastic containers.

The labels will tell you which sense to use to observe each object.

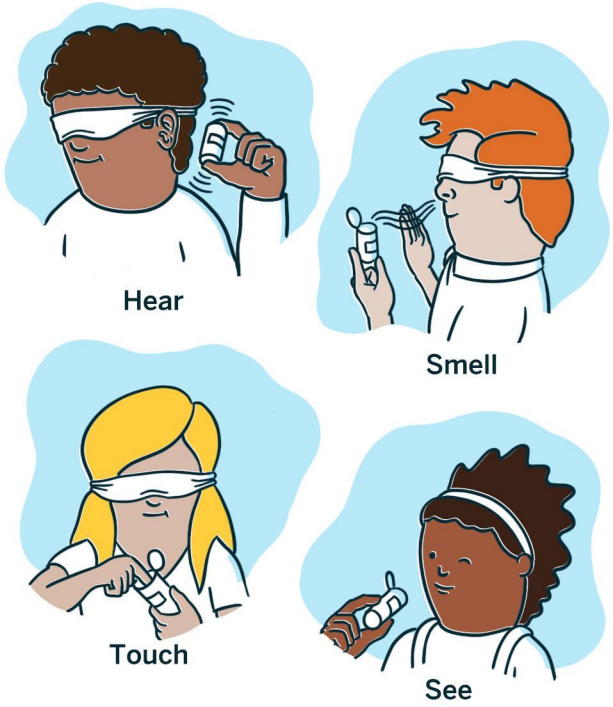
# Observing Like a Scientist

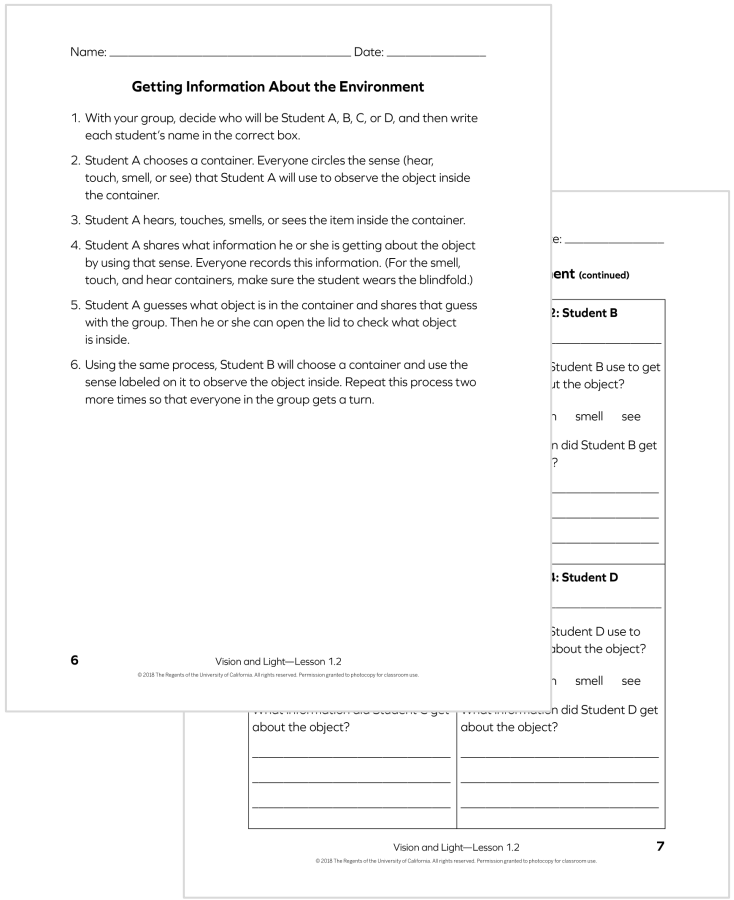
### Hear
Gently shake the *hear* container next to your ear.

### Smell
Carefully open the *smell* container. Hold the container in front of you and waft the smell toward your nose.

### Touch
Carefully open the *touch* container and feel the object with your fingers.

### See
Carefully open the *see* container and look inside.





Name: _____ Date: _____

**Getting Information About the Environment**

1. With your group, decide who will be Student A, B, C, or D, and then write each student's name in the correct box.
2. Student A chooses a container. Everyone circles the sense (hear, touch, smell, or see) that Student A will use to observe the object inside the container.
3. Student A hears, touches, smells, or sees the item inside the container.
4. Student A shares what information he or she is getting about the object by using that sense. Everyone records this information. (For the smell, touch, and hear containers, make sure the student wears the blindfold.)
5. Student A guesses what object is in the container and shares that guess with the group. Then he or she can open the lid to check what object is inside.
6. Using the same process, Student B will choose a container and use the sense labeled on it to observe the object inside. Repeat this process two more times so that everyone in the group gets a turn.

6

Vision and Light—Lesson 1.2



e: _____

ent (continued)

: Student B

Student B use to get
ut the object?

smell see

n did Student B get
?

: Student D

Student D use to
bout the object?

smell see

n did Student D get
about the object?

about the object?

Vision and Light—Lesson 1.2 7



## Turn to pages 6–7 in your notebooks.

# Let's **review the directions** together.

# Getting Information About the Environment

## Step 1

**Decide who will be students A, B, C, and D** and write each student's name in the correct box.

## Step 2

**Student A chooses a container.** Everyone circles the sense that Student A will use to observe.

## Step 3

**Student A hears, touches, smells or sees** the item inside the container.

## Step 4

**Student A shares** what information they are getting about the object. Everyone records this information.

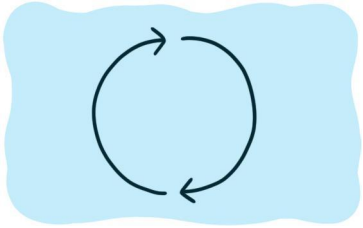
For example, if I observe this eraser with my eyes, I get information about it.

The **information** I get with my **vision** is that this object is **pink, rectangular, and solid.**

# Getting Information About the Environment (cont.)

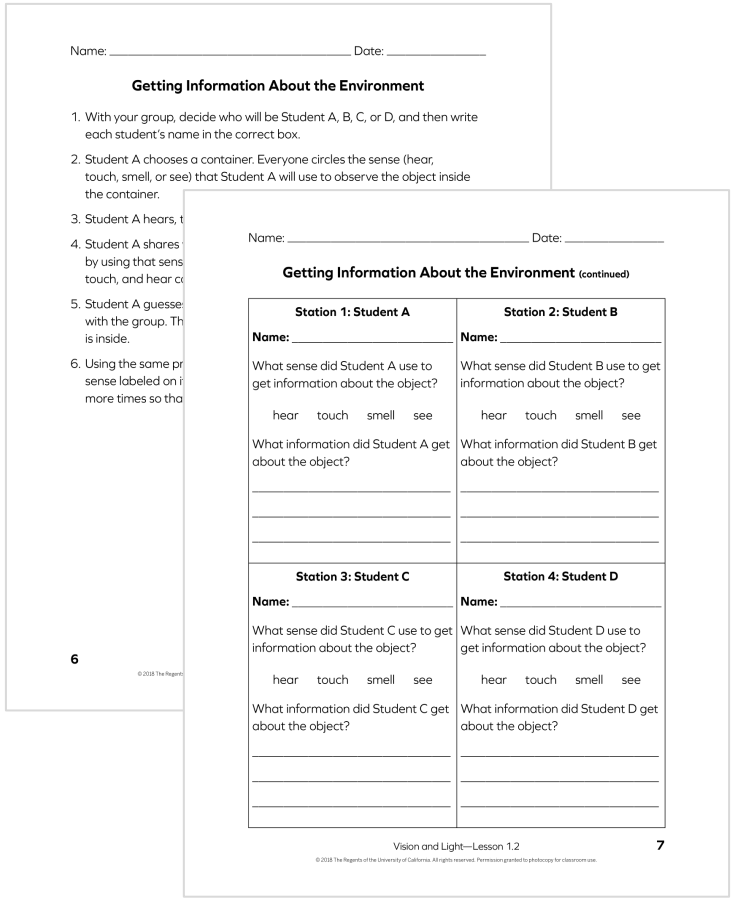
### Step 5

**Student A guesses the object** then opens the lid to check.



### Step 6

Repeat all steps for students B, C, and D.



Name: _____ Date: _____

**Getting Information About the Environment**

1. With your group, decide who will be Student A, B, C, or D, and then write each student's name in the correct box.
2. Student A chooses a container. Everyone circles the sense (hear, touch, smell, or see) that Student A will use to observe the object inside the container.
3. Student A hears, t
4. Student A shares
by using that sens
touch, and hear c
5. Student A guesse
with the group. Th
is inside.
6. Using the same pr
sense labeled on i
more times so tha

6

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Name: _____ Date: _____

**Getting Information About the Environment** **(continued)**

| **Station 1: Student A** | **Station 2: Student B** |
|---|---|
| **Name:** _____ | **Name:** _____ |
| What sense did Student A use to get information about the object?<br>hear touch smell see | What sense did Student B use to get information about the object?<br>hear touch smell see |
| What information did Student A get about the object?<br>_____<br>_____<br>_____ | What information did Student B get about the object?<br>_____<br>_____<br>_____ |
| **Station 3: Student C** | **Station 4: Student D** |
| **Name:** _____ | **Name:** _____ |
| What sense did Student C use to get information about the object?<br>hear touch smell see | What sense did Student D use to get information about the object?<br>hear touch smell see |
| What information did Student C get about the object?<br>_____<br>_____<br>_____ | What information did Student D get about the object?<br>_____<br>_____<br>_____ |

Vision and Light—Lesson 1.2 7



Use the directions on page 6 to **complete page 7** in your notebooks.

## **What** kind of **information** did you get about what was in each container?

The kind of information that I got was _____.

## **How** did you get **information** about each of the objects in the containers?

I got the information by _____.

**15 MIN**

## Activity 2

# Sharing Ideas

**Scientists** work closely together as they learn about and try to make sense of the world around them.

One way scientists work together is by **discussing** what they are learning through their investigations.

# Think-Write-Pair-Share Routine

### Think

Think silently about the question.

### Write

Write your ideas about the question in your notebook.

### Pair

Turn and talk to a partner about the question.

### Share

Share your ideas about the question with the class.

Name: _____ Date: _____

**Think-Write-Pair-Share: Animal Senses**

1. Think about the question below.
2. Record your ideas.
3. Share your ideas with your partner.

**How do animals use their senses to get information from their environment?**

_____

_____

_____

_____

_____

_____





## Turn to page 8 in your notebooks.

# How do animals use their senses to get information from their environment?

# Vocabulary

**sense**

how an animal gets information from its environment

**15 MIN**

## Activity 3

# Introducing Structure and Function

We'll look at some photos showing how other animals use their **senses** to get **information** from the **environment**.

First, I will use a familiar object to introduce two words that will help you think more deeply about this.

**Let's look at an everyday object.**

## What is this?

This is a _____.

## Describe it: What is it made of? What is its shape?

It is made of _____. It is shaped like _____.

Function means “what something can do.”

# What is the **function** of a pencil? What is a pencil used for?

The function of a pencil is _____.

The pencil is used for _____.

**Structure is “the way something is shaped or what it is made of.”**

# How does a pencil’s **structure** make it good for its function of writing?

A pencil’s structure helps with the function of writing because _____.

# Vocabulary

## structure

the way something is shaped or what it is made out of
that makes it good for a specific function

# Vocabulary

**function**

what something can do

You will look at more images and discuss questions about each image.

You should think about what the body **structure** in each image has to do with how the animal gets **information** from its environment.

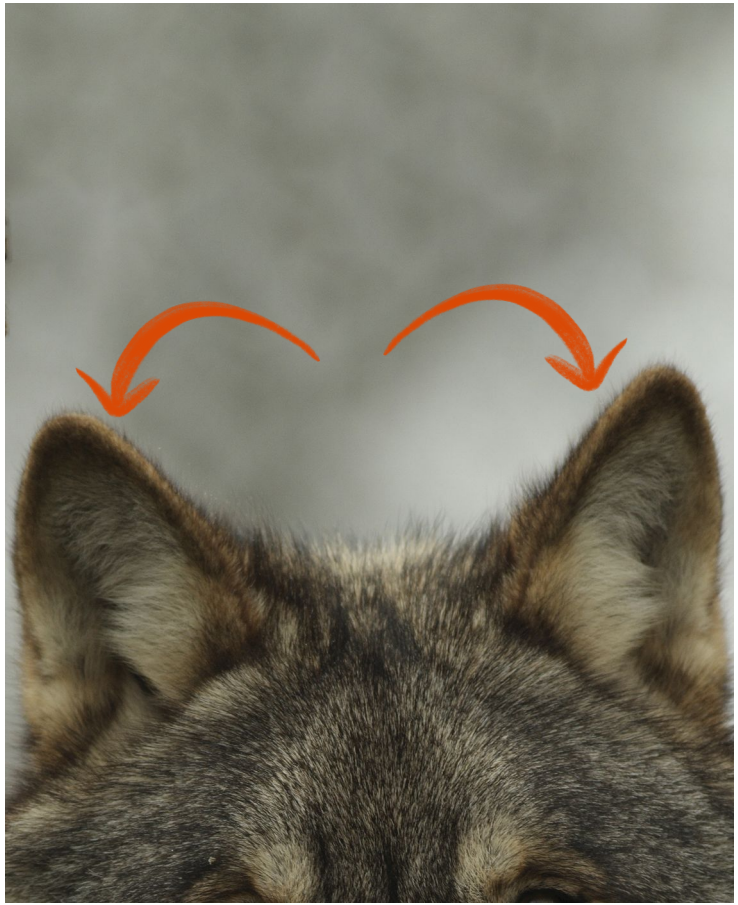
What is this?

What is its **function**?
What is it used for?

ON-THE-FLY

# How does the **structure** of this nose make it good for its **function**?

The structure of this nose helps the pig _____ by _____.



# What are these?

# What is their **function**?
# What are they used for?

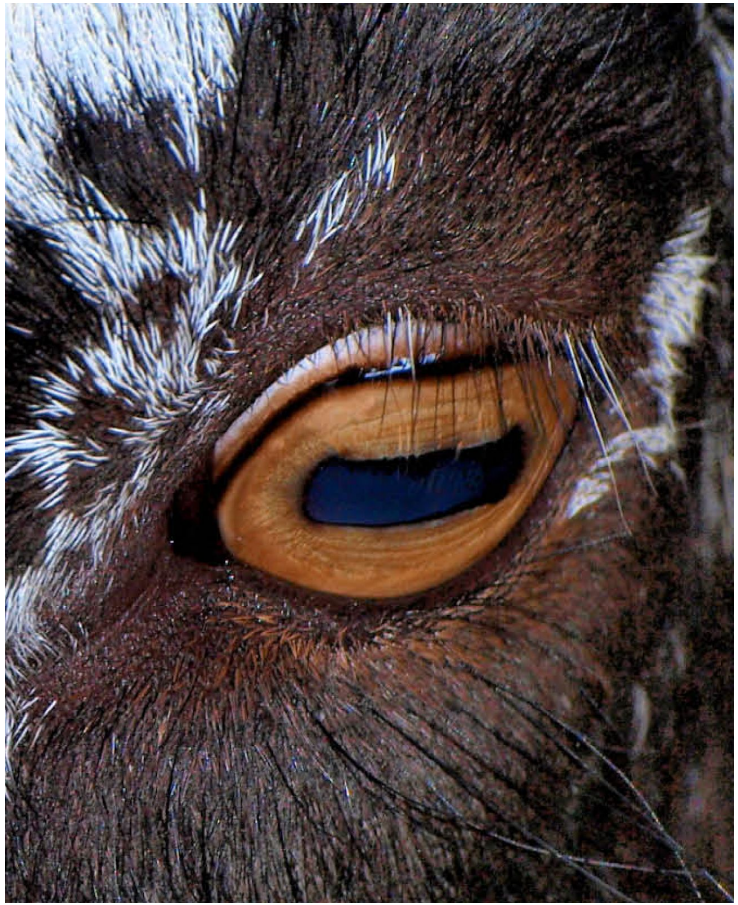
These are _____.

Their function is _____.

They are used for _____.

How does the **structure** of these ears make them good for their **function**?

They are good for _____ because _____.



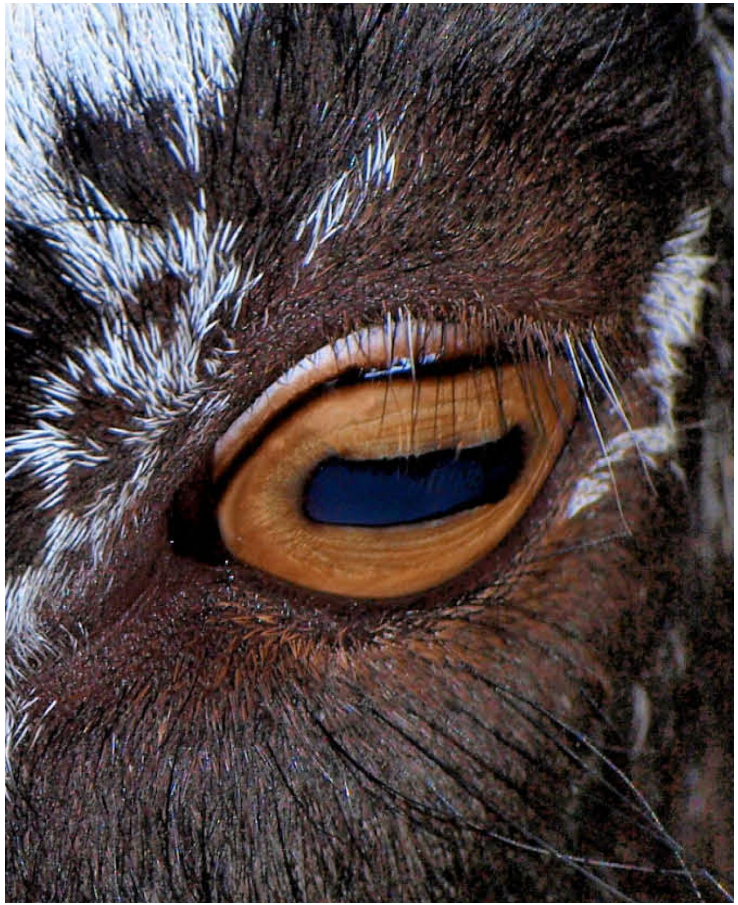
# What is this?

# What is its **function**?
# What is it used for?

This is an _____.

It's function is _____.

It is used for _____.



How does the **structure** of this eye make it good for its **function**?

This structure of this ey is good for _____.

# What are these?

# What is their **function**?
# What are they used for?

These are _____.

Their function is _____.

They are used for _____.

How does the **structure** of these whiskers make them good for their **function**?

The structure of these whiskers make them good for _____.

**Think back to the hands-on activity where you used your senses.**

# What **structures** did you use to get **information** about the objects in the containers?

The structures that I used to get information are _____ and _____.

The structions that I used to get information are _____, _____, and _____.

# End of Lesson

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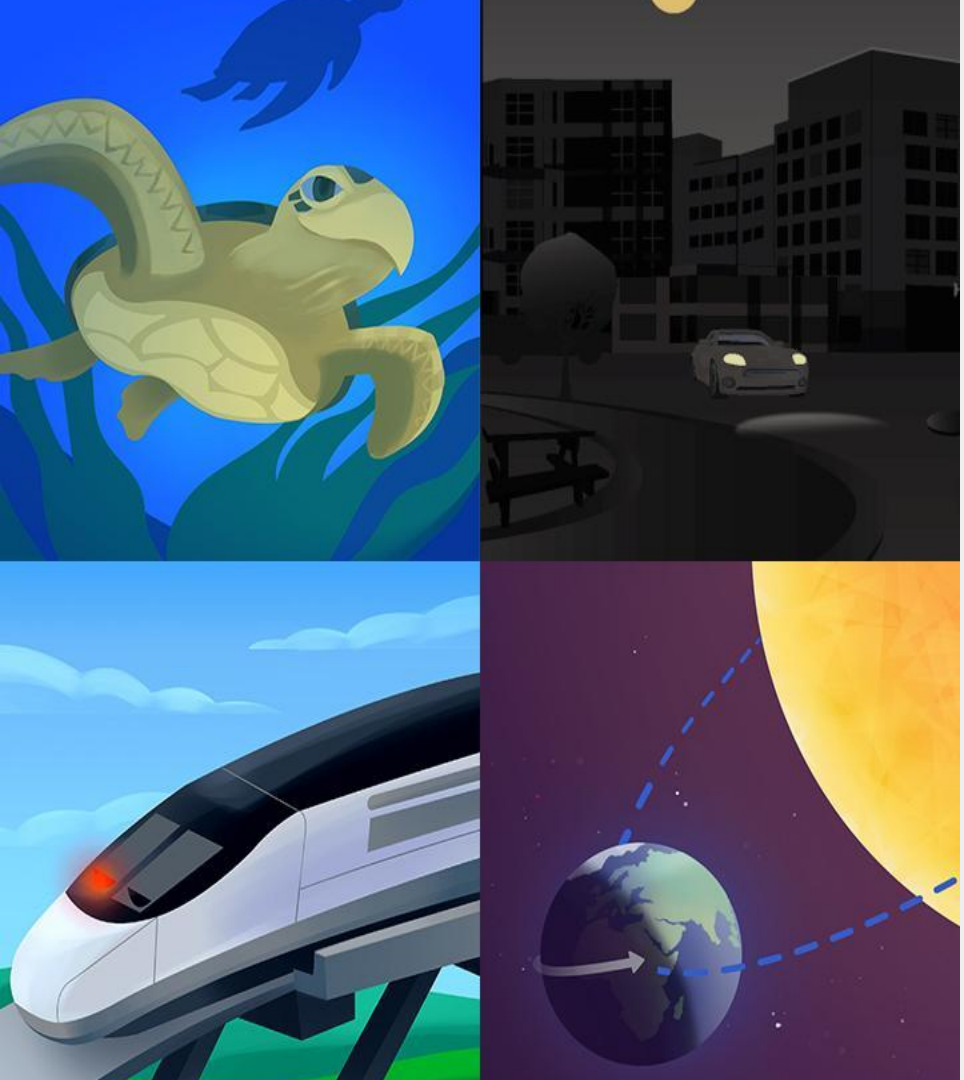


# Plan for the day: Part 2

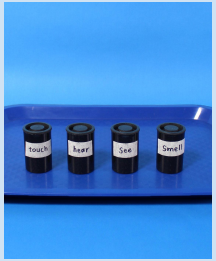
- Teaching and Learning in an Amplify Science Lesson
- Instructional Approach Reflection
- Planning a Lesson
- Closing

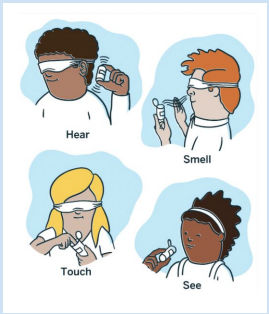
# Gathering evidence

## Vision and Light 1.2

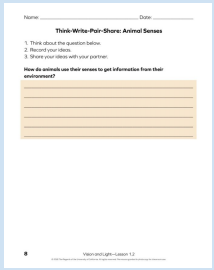
How does a Tokay gecko get information about its environment?

How do animals get information about their environment?







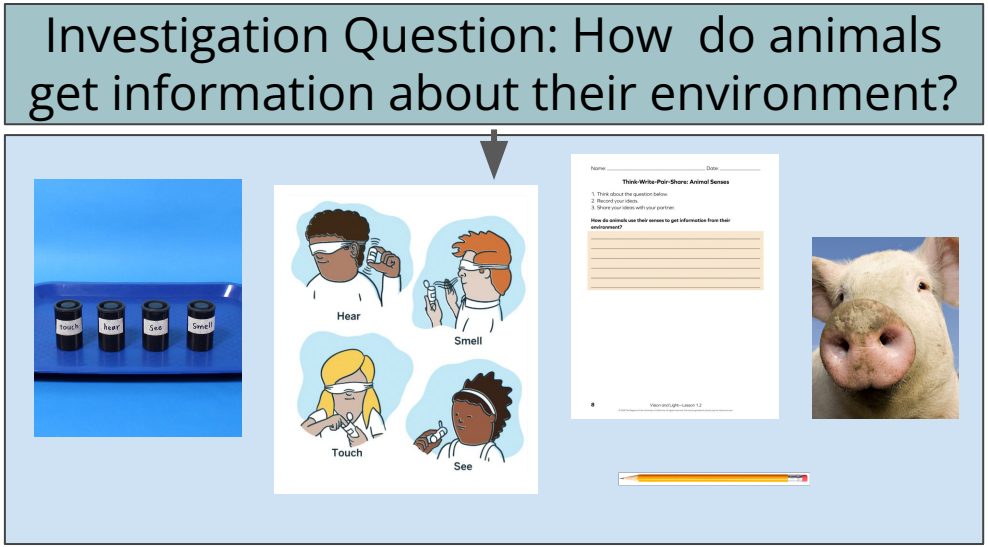



**What have students figured out so far?**

# Evidence sources work together

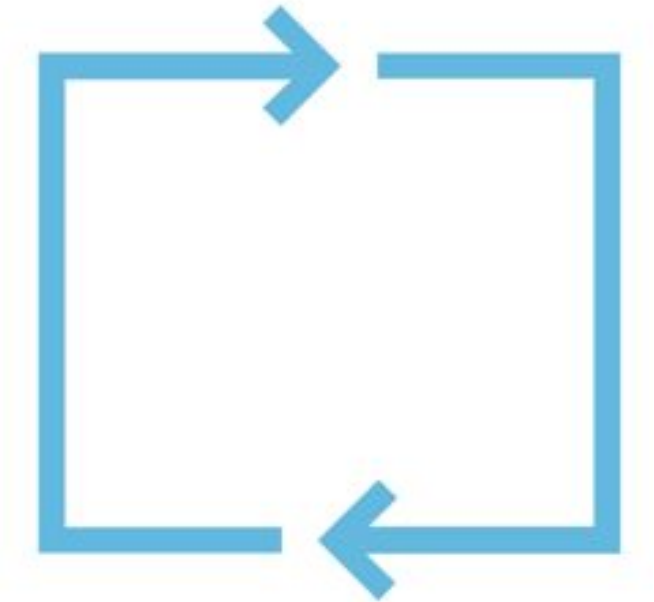
## Investigating and discussing observations

How do these activities **work together** to support understanding of how animals get information about their environment?



# Multimodal learning

## Gathering evidence over multiple lessons



**Do,**
**Talk,**
**Read,**
**Write,**
**Visualize**

# Evidence sources work together

**Teacher tip:** Every evidence source plays an important role in student learning. Be sure to teach every activity in order!

# Coherence Flowchart

## A diagram of student learning

Phenomenon
(Chapter Question)

↓

Investigation Question

↓

Multiple sources of evidence

↓

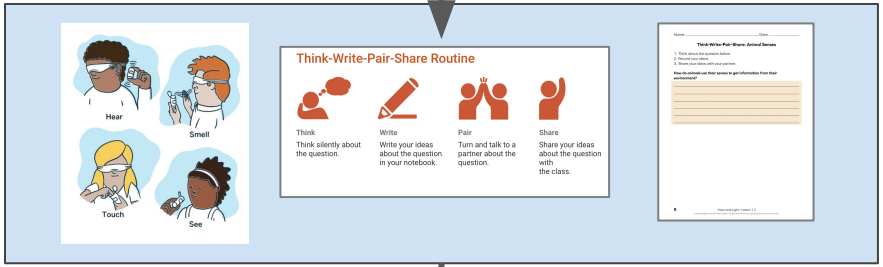
Key Concepts

Chapter Question: How does a Tokay gecko get information about its environment ?

↓

Investigation Question: How do animals get information about their environment?

↓

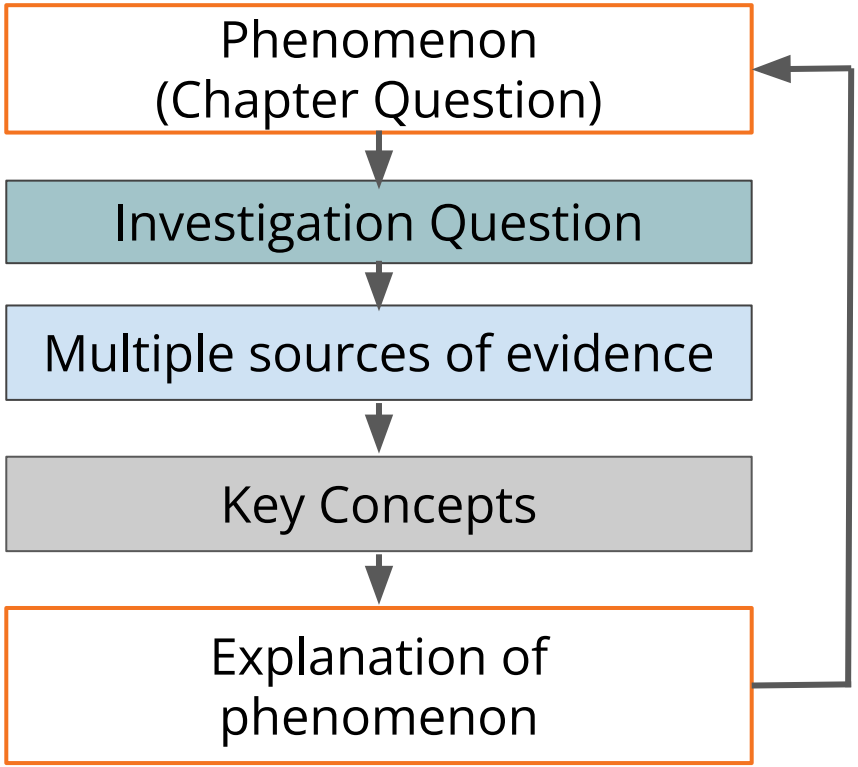



↓

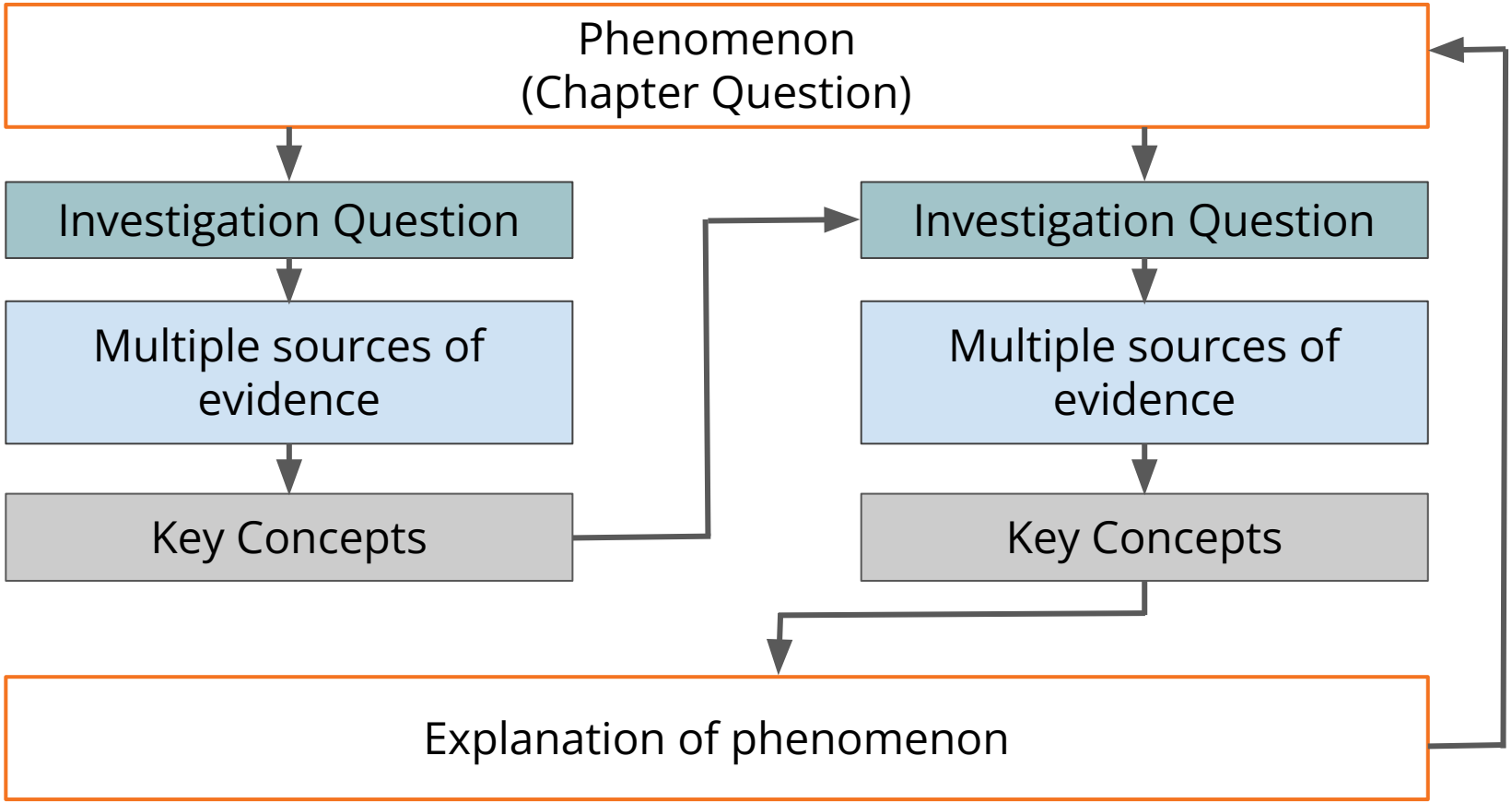
Students figure out: Animals have different structures that allow them to get information from their environment.

# Coherence Flowchart

## A diagram of student learning



# Coherence Flowchart



# Vision and Light: Investigating Animal Eyes

**Unit Anchor Phenomenon**
*Problem students work to solve*

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?*

**Chapter-level Anchor Phenomenon**
*Chapter 1 Question*

Tokay geckos are able to find the things they need in their environment.
*How does a Tokay gecko get information about its environment?*

**Investigative Phenomena**
*Investigation Questions*

Animals find what they need in an environment.
*How do animals use their senses to get information about their environment?* (1.2-1.4)

Evidence sources and reflection opportunities

- Explore how senses help people get information about objects in their environment (1.2)
- Read *Investigating Animal Senses* (1.3)
- Investigate how information about objects can be blocked from the senses through a full-class demonstration (1.3)
- Observe videos of animals and plants using senses to help them survive (1.4)
- Investigate what is needed to see objects inside a Mystery Box (1.4)

Key concepts

- Animals have different structures that allow them to get information from their environment. (1.3)
- Sound and scent can carry information about the environment to an animal. (1.3)
- Animals have different structures that allow them to get information from their environment, which helps them survive. (1.4) (Revised from 1.3)
- Light, sound, and scent can carry information about the environment to an animal. (1.4) (Revised from 1.3)

Application of key concepts to the problem

- Write about how animals get information from their environment (1.4)
- Discuss how a Tokay gecko gets information about its environment (1.4)

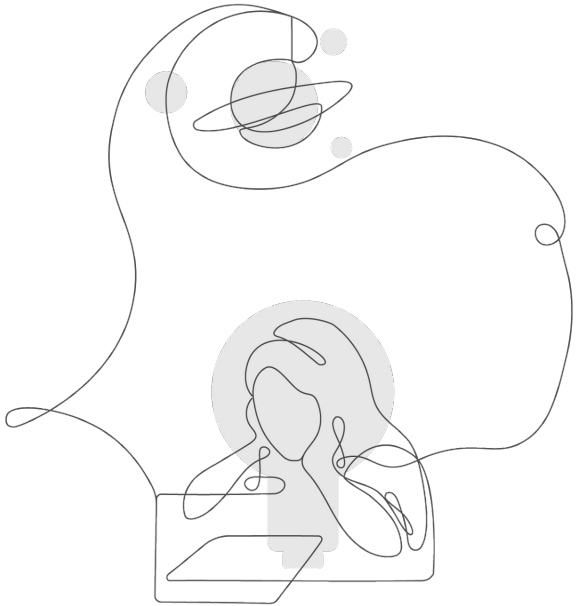
Explanation that students can make to answer the Chapter 1 Question

In order to survive, a gecko must avoid predators and find prey. To do this, geckos use structures to get information from their environment. For instance, a gecko uses its ears to hear if there is a predator nearby and its vision to watch for predators.

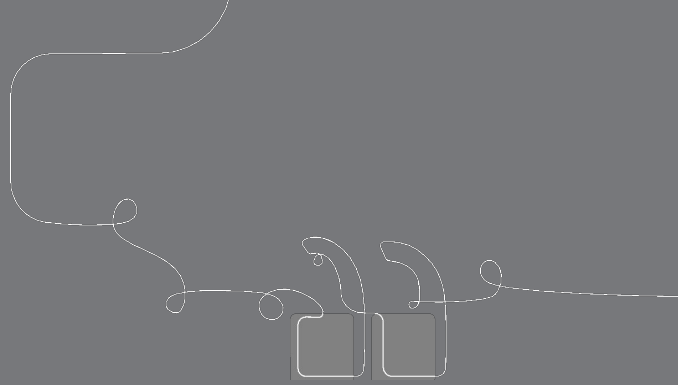
# Explore the Coherence Flowchart

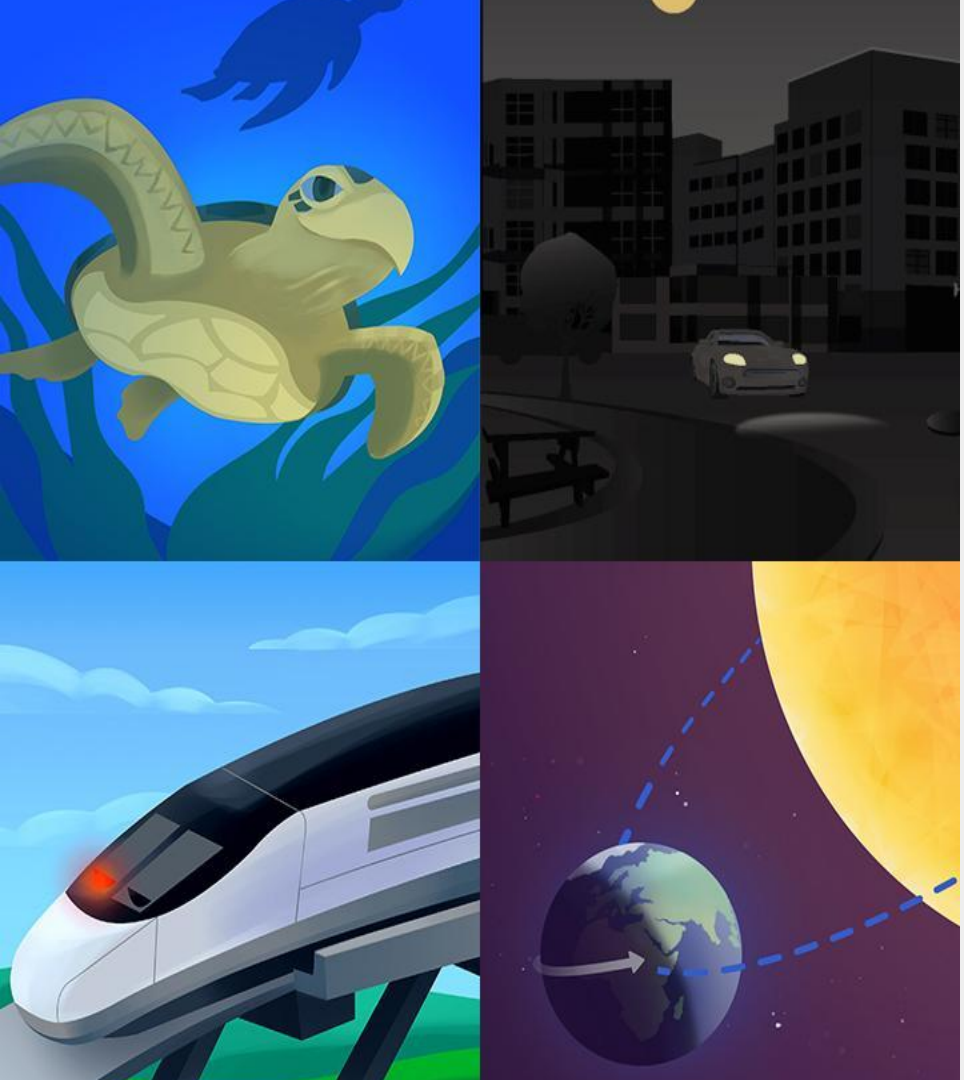
Skim the Chapter 1 Coherence Flowchart of your first unit.

How can the Coherence Flowchart serve you as a planning tool as you begin teaching Amplify Science?



# Questions?





# Plan for the day: Part 2

- Teaching and Learning in an Amplify Science Lesson
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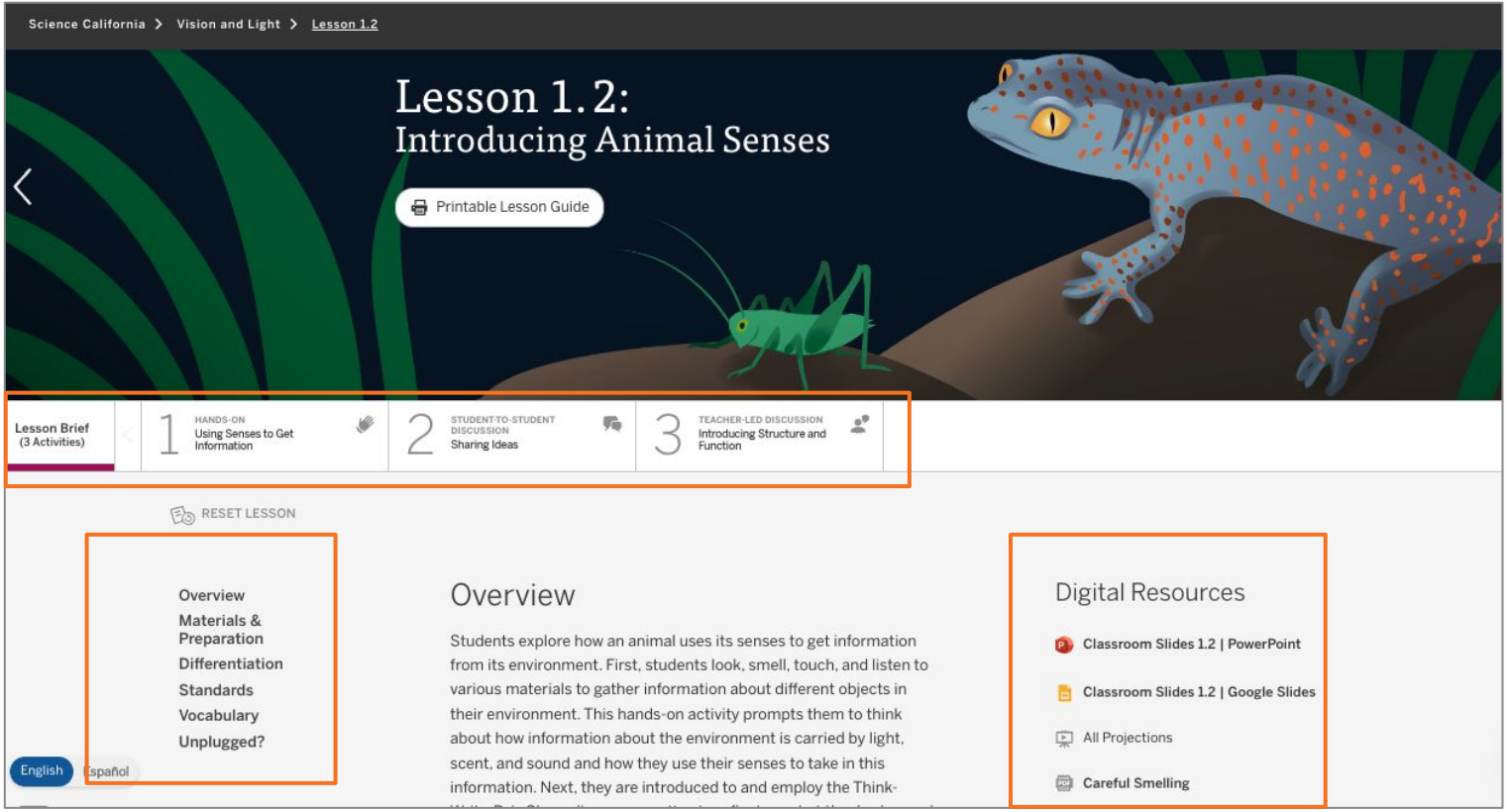
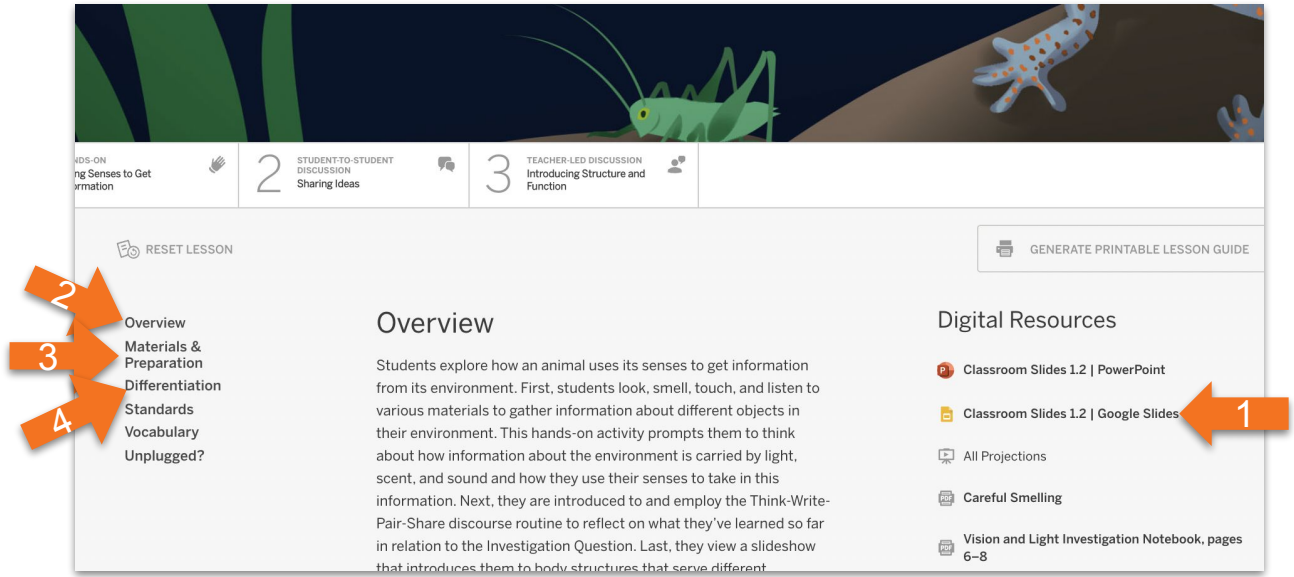
# Navigate to the Lesson Brief



# 4 Steps for Starting Your Lesson

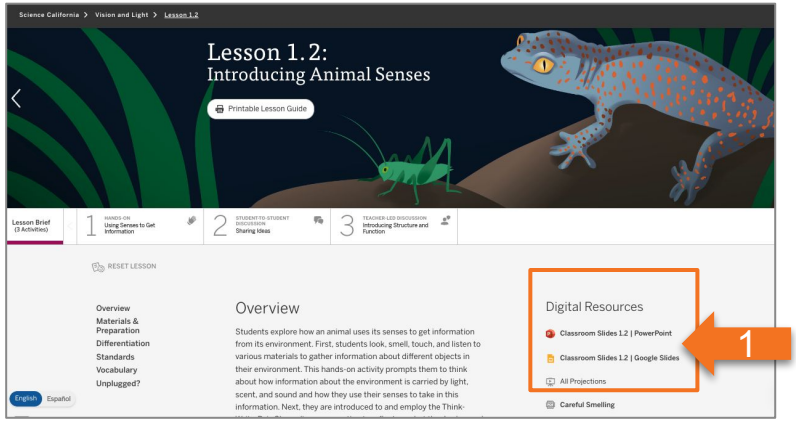
1. Download **Classroom Slides** and review them.
2. Read the **Overview**.
3. Review the **Materials & Preparation** document.
4. Read the **Differentiation** document.



# Preparing to teach

## Classroom Slides

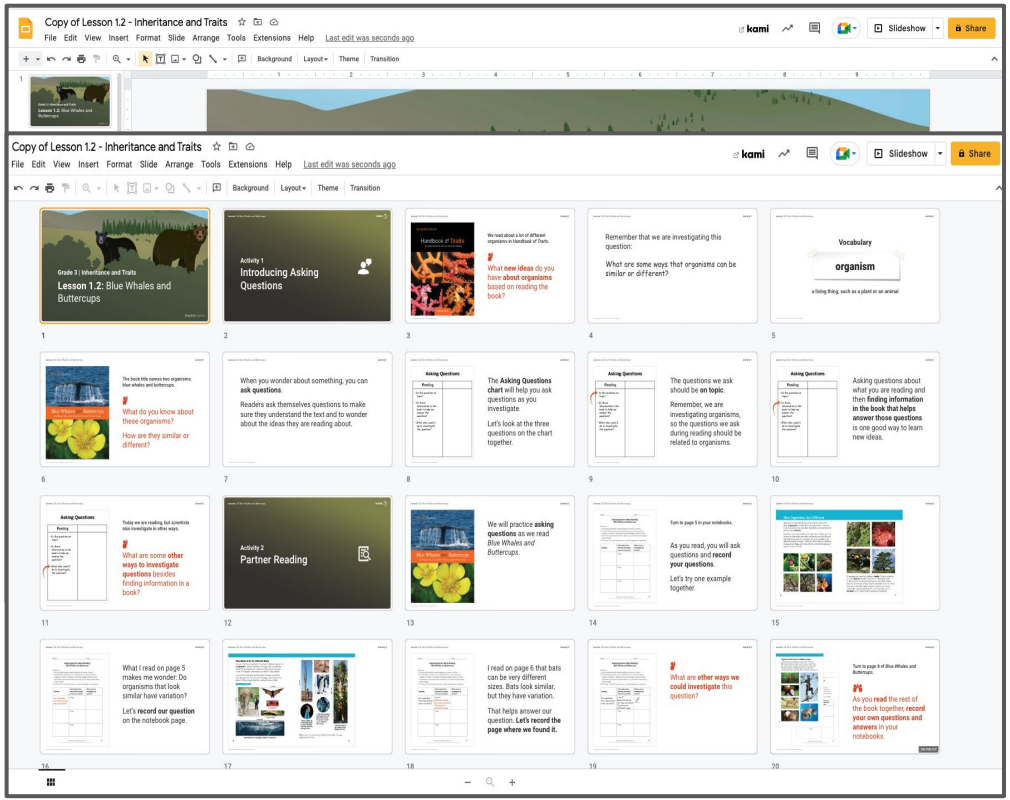
1. Open the **Classroom Slides** under the **Digital Resources**.
2. Read through the Classroom Slides including the **presenter notes** to gain a better understanding of the lesson.
3. **Consider:**
    - What features of the Classroom Slides will support you in teaching this lesson?



# Using Classroom Slides as a planning tool

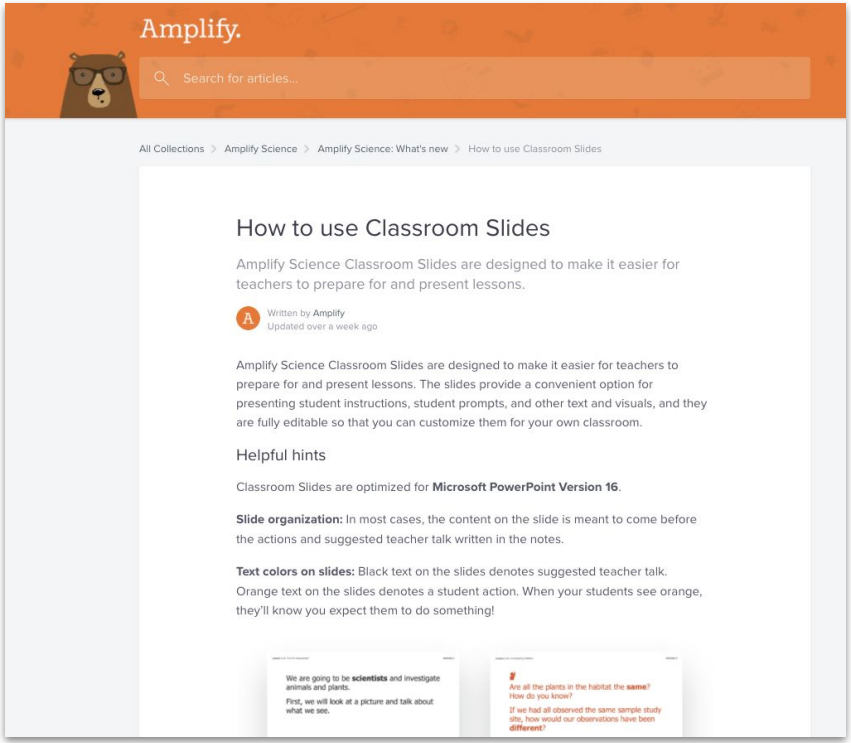
**Teacher tip:** Classroom Slides are a great visual summary of a lesson. Many teachers download and flip through a lesson's Classroom Slides deck to preview what happens in the lesson.

This is a useful first step for preparing to teach the lesson.



# Teaching with Classroom Slides

This detailed guide on the Amplify Science Help Site includes tips for teaching with Classroom Slides and information about the different symbols and activity types you'll find in the slide deck.



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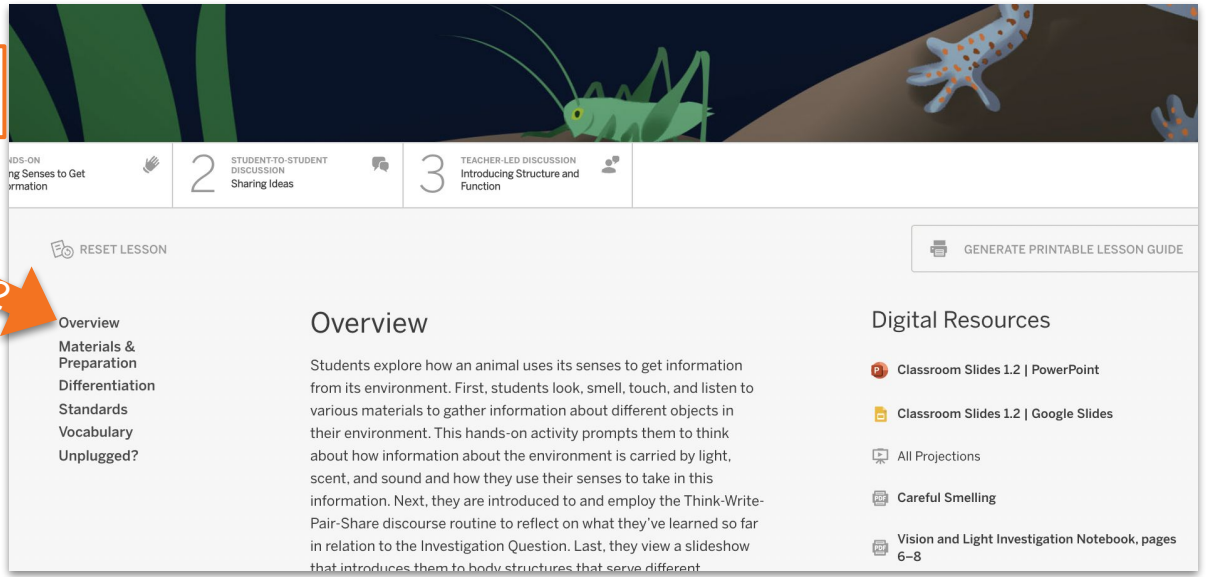

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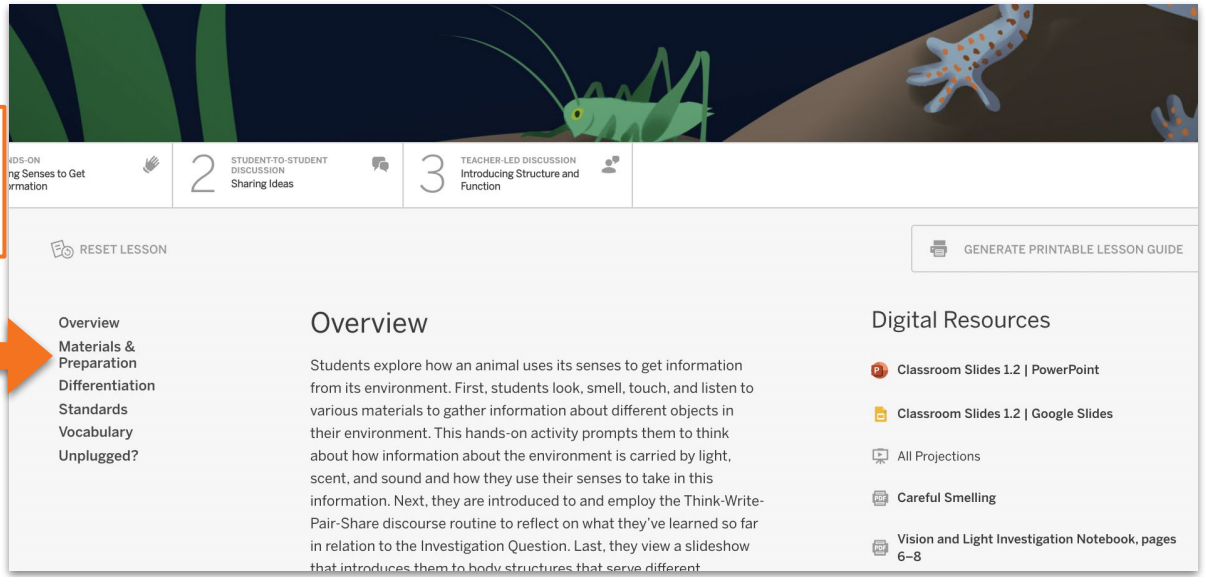

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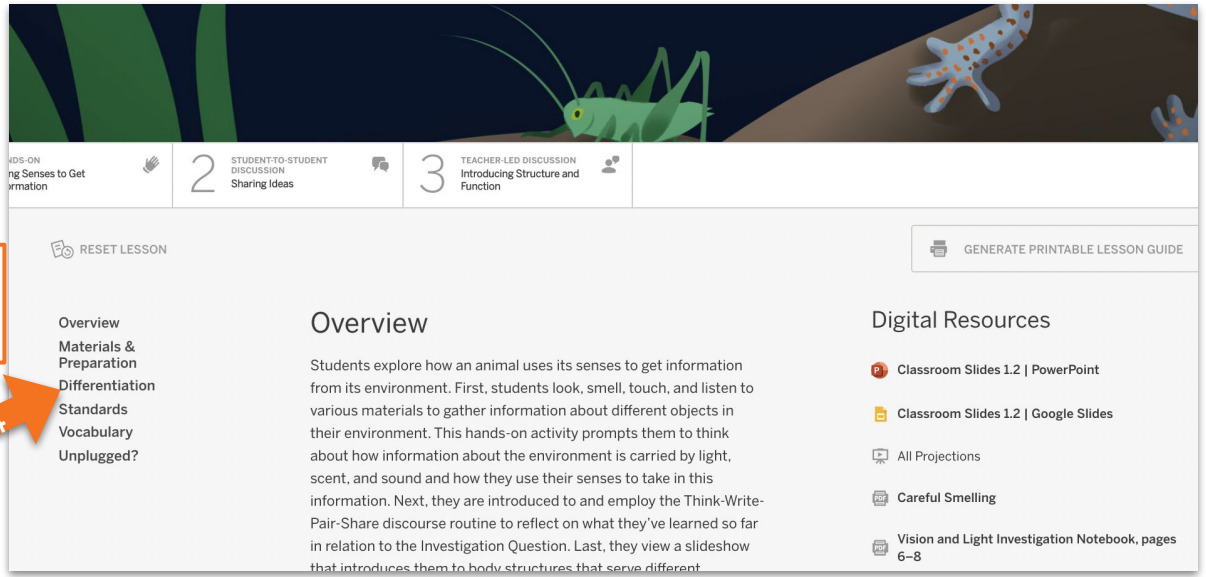

# 4 Steps for Starting Your Lesson

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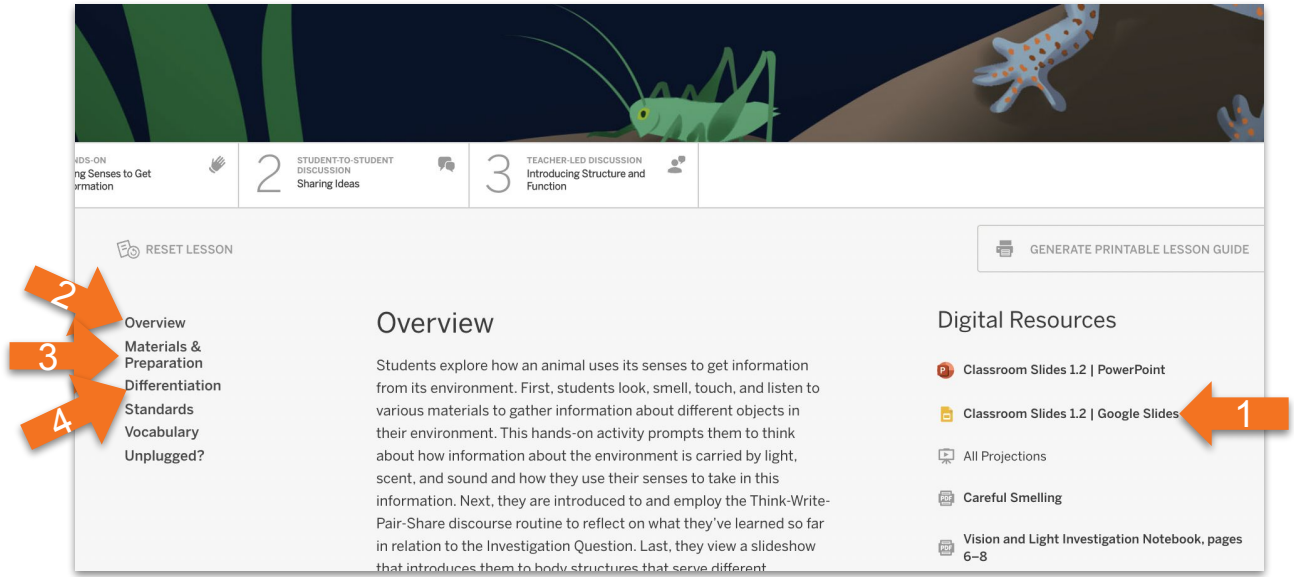
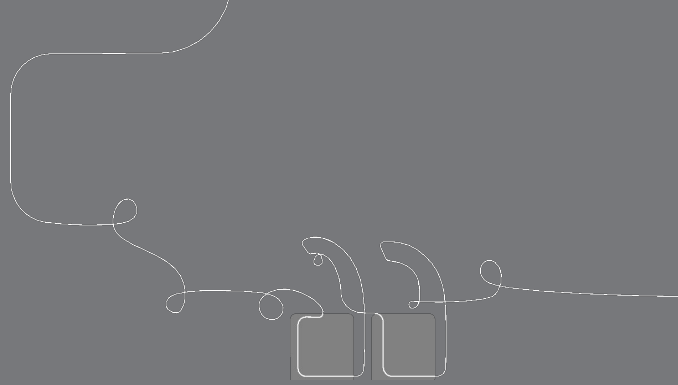
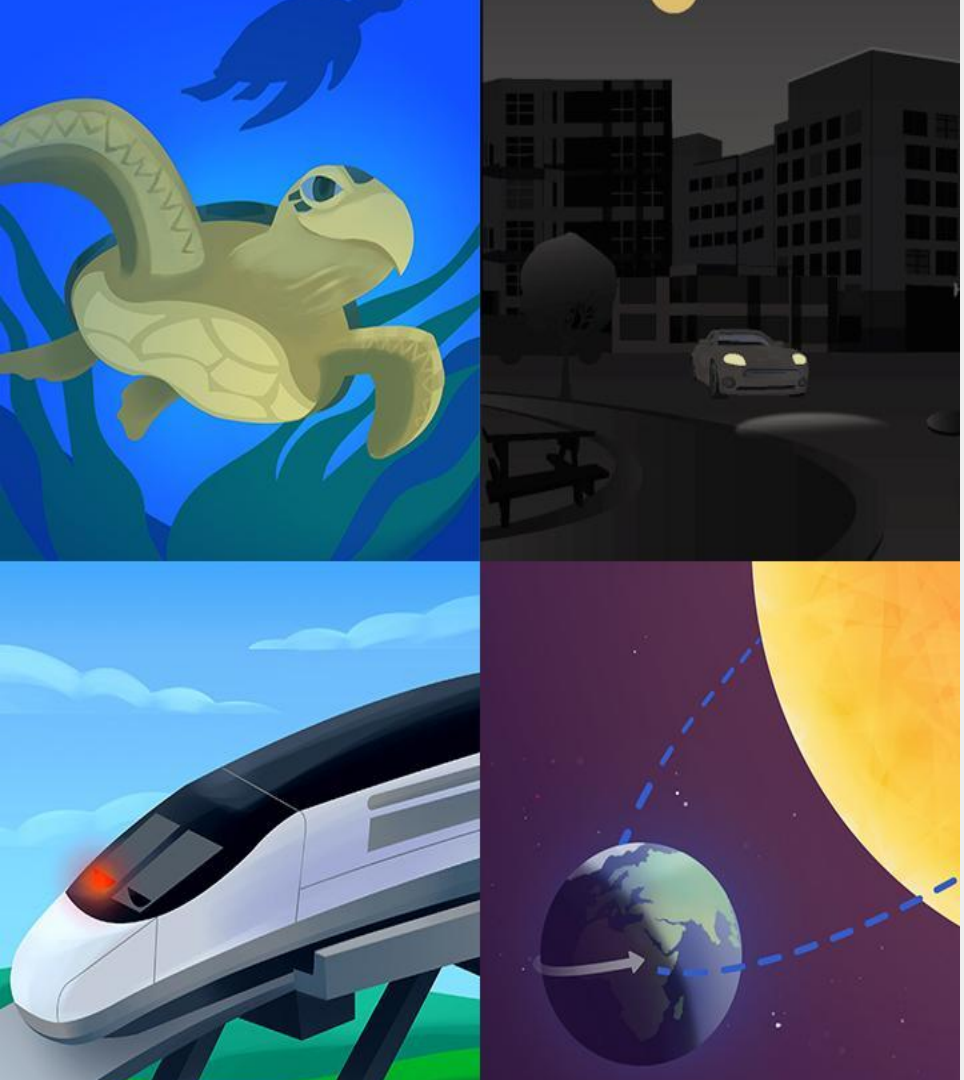


| Lesson __ | Activity Overview | |
|---|---|---|
| What is the purpose of this lesson?<br>Access prior knowledge about rocks. Make observations of rocks. | **Activity 1 (##min)** | |
| What will students learn? | **Activity 2 (##min)** | |
| 3-D Statement (identify SEP, CCC, and DCI): | **Activity 3 (##min)** | |
| Student Resources: | **Activity 4 (##min)** | |
| Assessment Opportunities: | **Activity 5 (##min)** | |

| Lesson 1.2 | Activity Overview | |
|---|---|---|
| **What is the purpose of this lesson?**<br>The purpose of this lesson is to introduce students to the ways that information can be carried through scent, sound, and light from the environment to an animal and how animals use their senses to gather information from their environment. | **Activity 1 (30 min)** | Using Senses to Get Information |
| **What will students learn?**<br>•People and other animals use their senses to get information about what is in their environment.<br>•People and other animals have body structures that function to get information from their environment | **Activity 2 (15 min)** | Sharing Ideas |
| **3-D Statement (identify SEP, CCC, and DCI):**<br>Students obtain information from a hands on activity and a slideshow that introduces them to body structures that serve different functions and enable animals to get information from their environment. (structure and function) | **Activity 3 (15 min)** | Introducing Structure and Function |
| **Student Resources: (each group of 4 students)**<br>1 blindfold*, 4 small plastic canister (sm), 1 plastic tray*, 1 probability cube, 10 dried beans* , *Vision and Light* Investigation Notebook (pages 6-8) | **Activity 4 (# min)** | |
| Assessment Opportunities:<br>On-The-Fly, Activity 3 | **Activity 5 (##min)** | |

# Questions?





# Plan for the day: Part 2

- Teaching and Learning in an Amplify Science Lesson
- Instructional Approach Reflection
- Planning a Lesson
- Closing

# Additional resources

## Welcome, caregivers!

—

We hope you enjoy learning more about Amplify Science and what students are learning in science this year.

Para acceder a este sitio en español haga clic aquí.

Amplify welcomes you and your learner to the Science program for the new school year. We are very excited to

TOP RATED BY EDREPORTS

Grades 6-8

[Caregivers]

# LAUSD Microsite- https://amplify.com/lausd-science

## Welcome to Amplify Science!

This site contains supporting resources designed for the LAUSD Amplify Science adoption for grades TK–8.

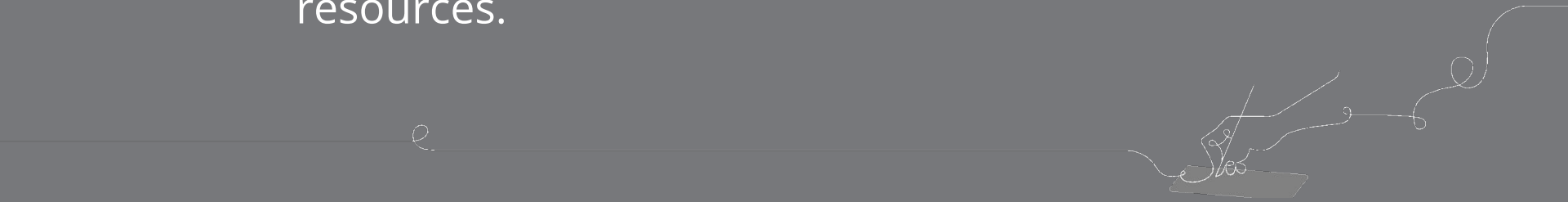
- Access the Amplify Science Program Hub (To help orient you to the new design, watch this video and view this reference guide.)
- Find out more about Amplify Science@Home
- Share the Caregiver Hub (Eng/Span) with your families
- For LAUSD ES Teachers- Amplify Science & Benchmark Advance Crosswalk
- Instructional guidance for a Responsive Relaunch of Amplify Science in 21-22

Click the button below to preview the digital Teacher's Guide, and check back for exciting updates to this site!

# Overarching goals

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

- ❏ Describe what teaching and learning look like in Amplify Science.
- ❏ Prepare to teach using Amplify Science resources.



# Closing reflection

Based on our work today in Part 2, share:

**Head:** something you'll keep in mind

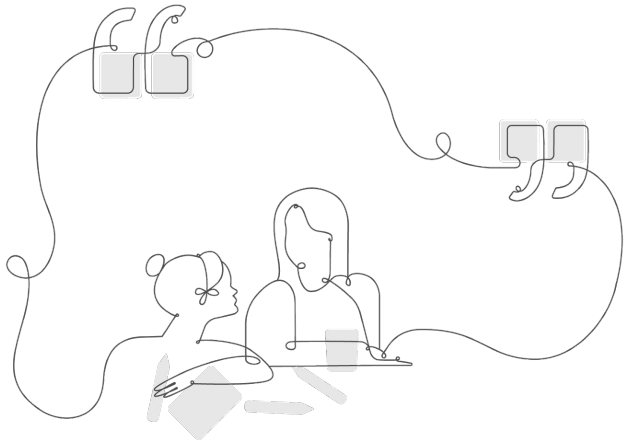
**Heart:** something you're feeling

**Feet:** something you're planning to do

# Onsite Upcoming Professional Development!

## Part 3: Unit 2 - with a focus on assessments

- December 3 (grades 3-6)
- December 12 ( grades K-2)



# Additional resources and ongoing support

## Customer Care

Seek information specific to enrollment and rosters, technical support, materials and kits, and teaching support, weekdays 7AM-10PM EST and weekends 10AM-6PM EST.

help@amplify.com

800-823-1969

Amplify Chat

# Please provide feedback!

surveymonkey.com/r/InitialAmplifySciPL

**Presenter name:**

**Workshop title:**

Part 1: Relaunching the Standard Curriculum

Part 2: Guided Planning (Planning for a Lesson)

**Modality:**

Remote