

# Amplify Science

## The Assessment System

### Grade 4, Unit 2: Vision and Light

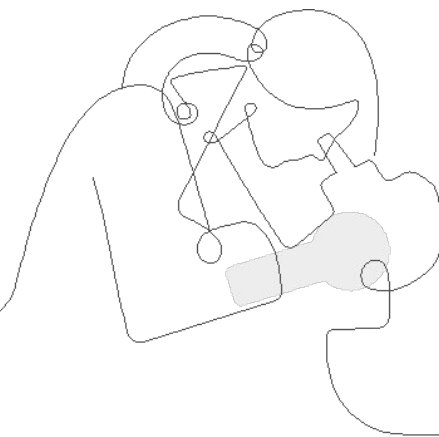
#### Part 3

#### Strengthen workshop

School/District Name

Date

Presented by Your Name



# 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

# Schoolology



[← Back to Schoology Home Page](#)

## LMS App Center

The LMS App Center provides a catalog of District-approved digital content and learning tools (including digital components of adopted textbooks) that are available for classroom teachers and students to access within the learning management system, Schoolology.

For information on District-approval policies and procedures, please visit: [udipp.lausd.net](#).

- To search the full list of digital learning tools, click "Submit".
- To search by Publisher Name or Textbook Title, type in a word associated to your adopted publisher, then click "Submit".
- To narrow your search with filters such as Content Area, Grade Level, or Content Type, select from the dropdown menu, then click "Submit".

To learn more about using the LMS App Center, please refer to the following video overview.

Publisher Name Starts With

Content Area All

Grade Level All

Content Type All

Textbook Title Starts With

All Amplify Products



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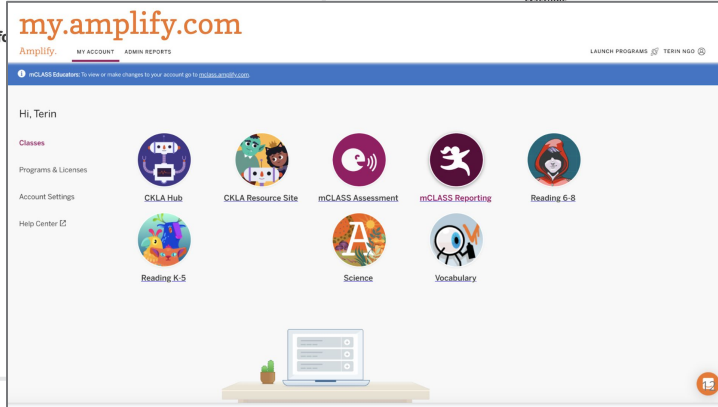
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[← Search Again](#)

### Amplify

Content Area: ELA  
Grade Level: ES  
Content Type: Supplemental  
Integration Type: App (Left Navigation)  
Purchase Type: District and School  
[Getting Started Guide](#)  
Other Info: School licenses required  
mCLASS  
CKLA  
Amplify Reading  
Amplify Science  
Creative

Vendor Support Desk:  
P: 800.823.9969  
E: [help@amplify.com](mailto:help@amplify.com)  
S: [amplify.com/support/](mailto:amplify.com/support/)  
Textbook Title(s):  
NA



Vendor Support Desk:  
P: 800.823.9969  
E: [help@amplify.com](mailto:help@amplify.com)  
S: [amplify.com/support/](mailto:amplify.com/support/)  
Textbook Title(s):  
NA

op is for only)

# 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.

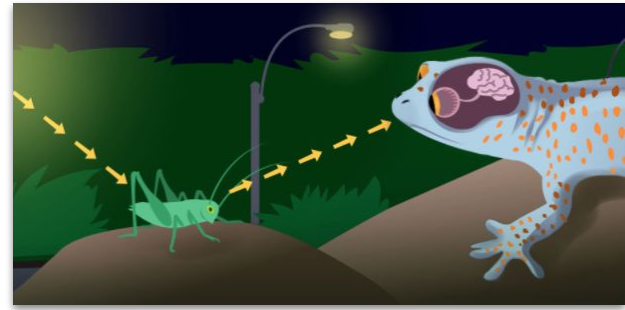
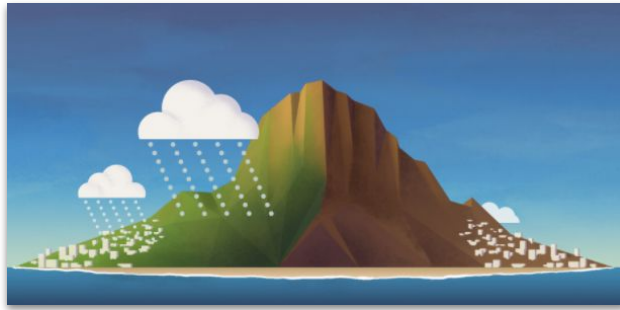
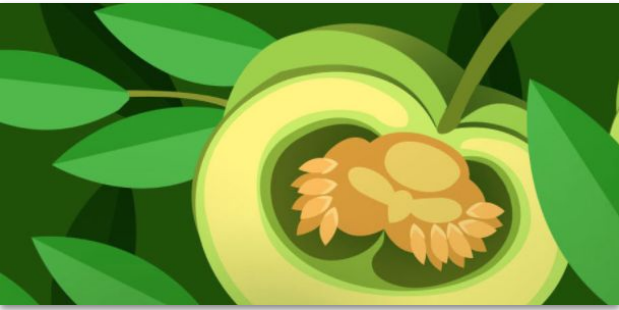
1 = Extremely Uncomfortable

2 = Uncomfortable

3 = Mild

4 = Comfortable

5 = Extremely Comfortable



# Plan for the day

- Introduction
- Assessment System
- Progress Build
- Assessments
- Model Lesson
- Planning
- Closing

# Overarching goals

- ❑ Describe the structure and purpose of the Amplify Science Assessment System
- ❑ Plan for the strategic use of assessment resources to analyze and respond to student work

Let's connect  
this goal to  
our students



# 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.

# Opening reflection

Why do we assess our students?

What is **challenging** about assessing our students?



Participants Notebook

<http://bit.ly/3UqNp84>

*Opening Reflection: Assessment*

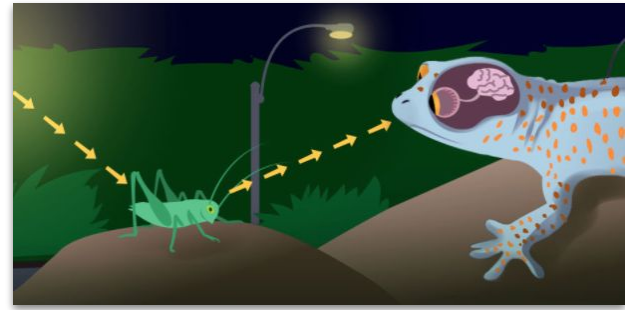
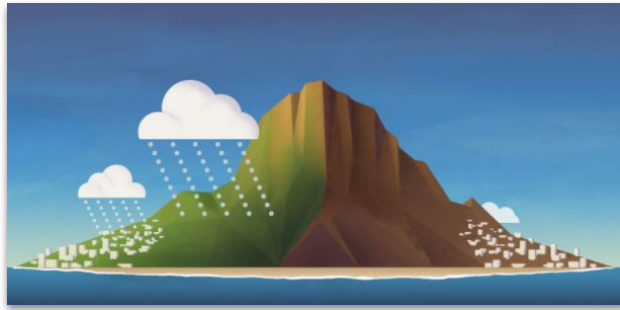
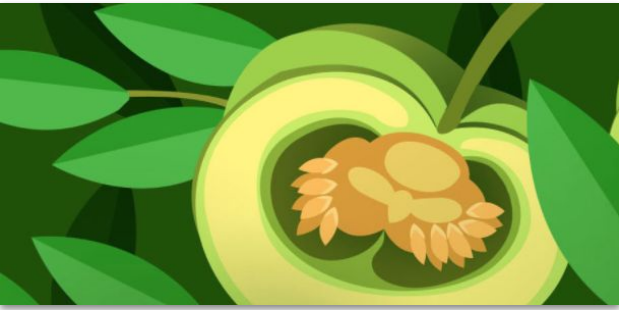


# Why do we assess our students?



# Why do we assess our students?





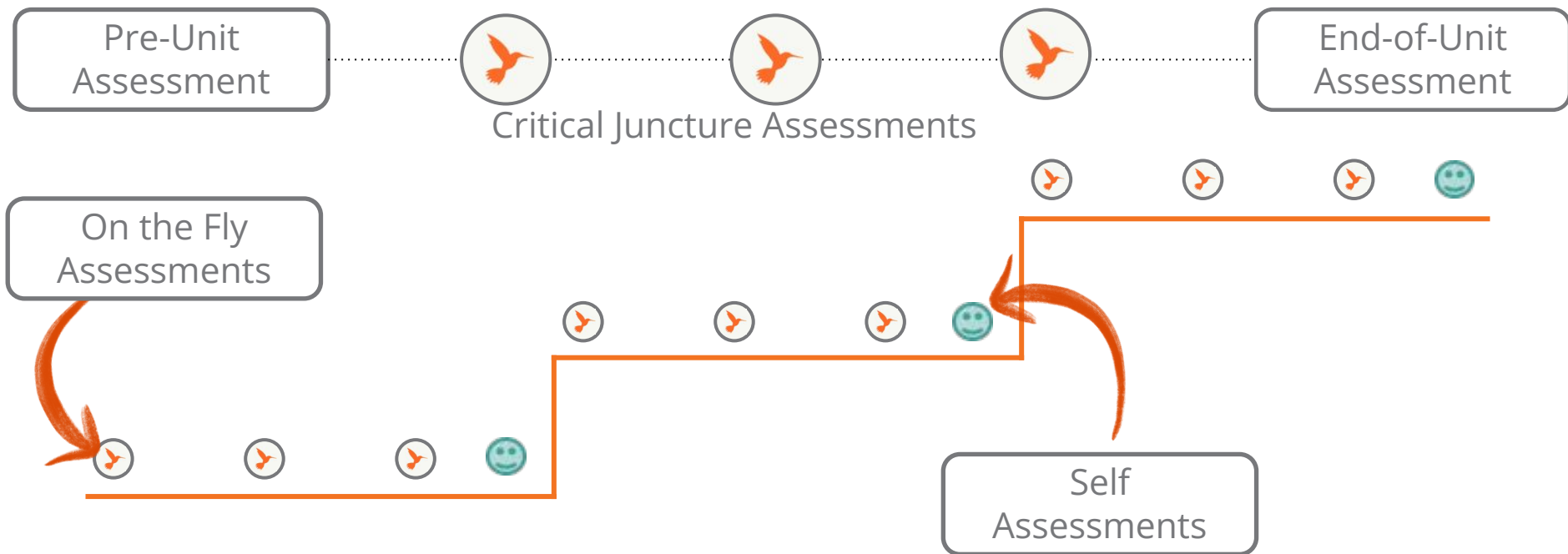
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- Introduction
- **Assessment System**
- Progress Build
- Assessments
- Model Lesson
- Planning
- Closing

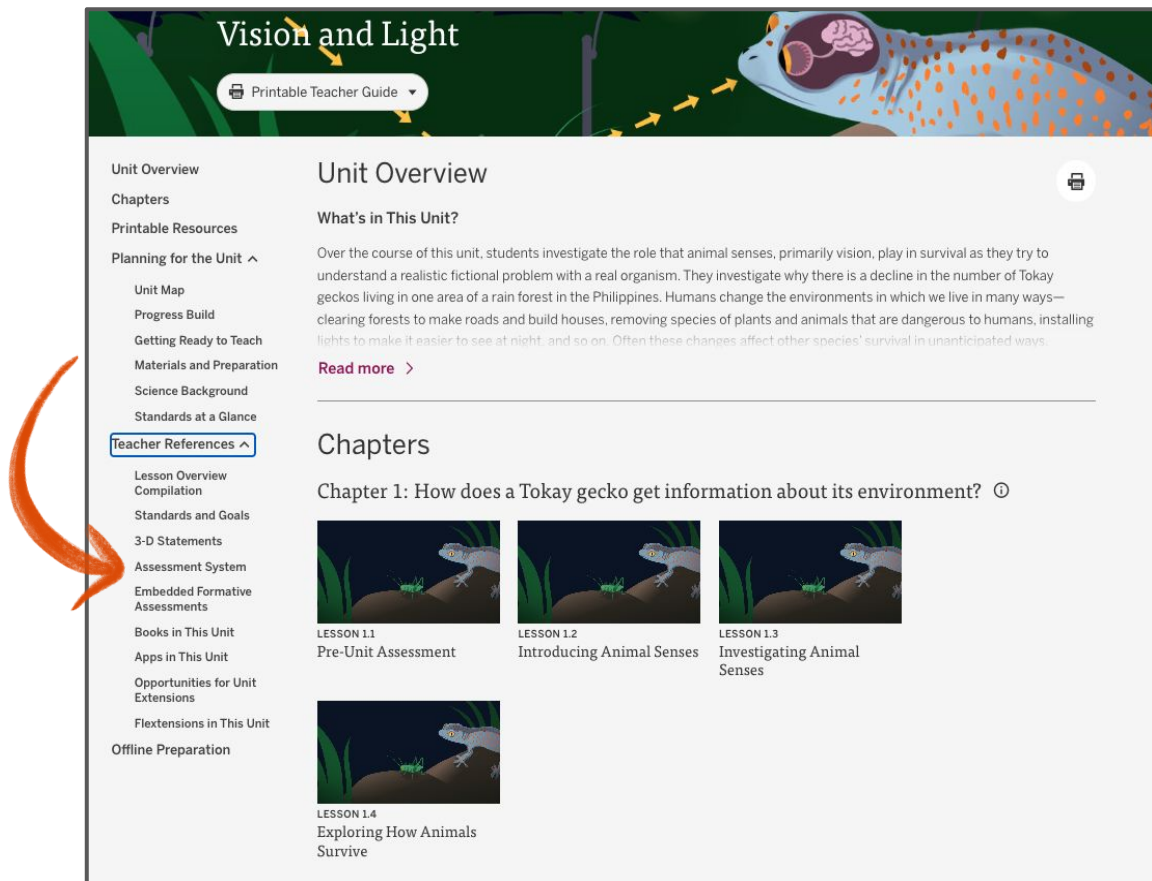


# K-5 Assessment System

Pg. 4



# Assessment System Document



**Vision and Light**

Printable Teacher Guide

**Unit Overview**

**What's in This Unit?**

Over the course of this unit, students investigate the role that animal senses, primarily vision, play in survival as they try to understand a realistic fictional problem with a real organism. They investigate why there is a decline in the number of Tokay geckos living in one area of a rain forest in the Philippines. Humans change the environments in which we live in many ways—clearing forests to make roads and build houses, removing species of plants and animals that are dangerous to humans, installing lights to make it easier to see at night, and so on. Often these changes affect other species' survival in unanticipated ways.

[Read more >](#)

**Chapters**

Chapter 1: How does a Tokay gecko get information about its environment? ⓘ

LESSON 1.1  
Pre-Unit Assessment

LESSON 1.2  
Introducing Animal Senses

LESSON 1.3  
Investigating Animal Senses

LESSON 1.4  
Exploring How Animals Survive

**Unit Overview**

**Chapters**

**Printable Resources**

**Planning for the Unit ^**

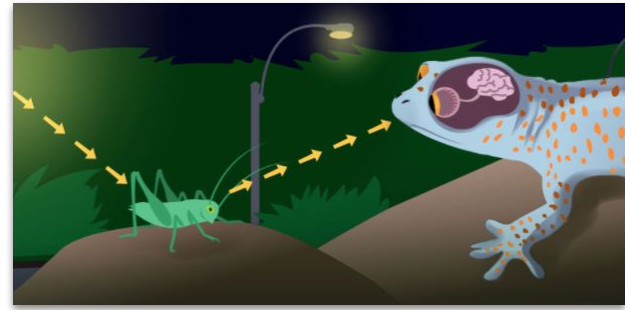
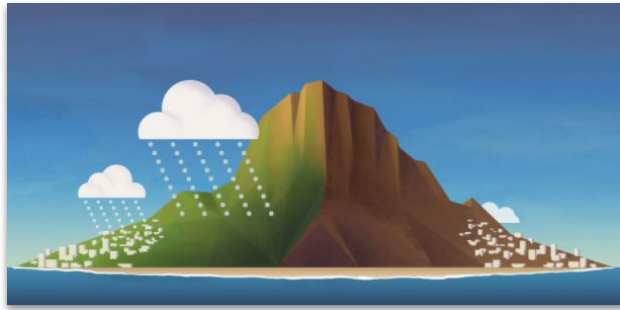
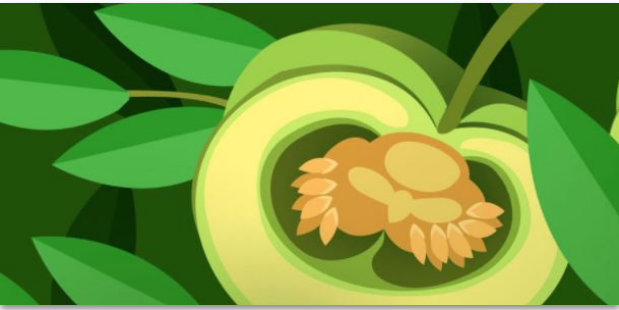
- Unit Map
- Progress Build
- Getting Ready to Teach
- Materials and Preparation
- Science Background
- Standards at a Glance
- Teacher References ^**

- Lesson Overview
- Compilation
- Standards and Goals
- 3-D Statements
- Assessment System
- Embedded Formative Assessments
- Books in This Unit
- Apps in This Unit
- Opportunities for Unit Extensions
- Flextensions in This Unit

**Offline Preparation**

# Questions?





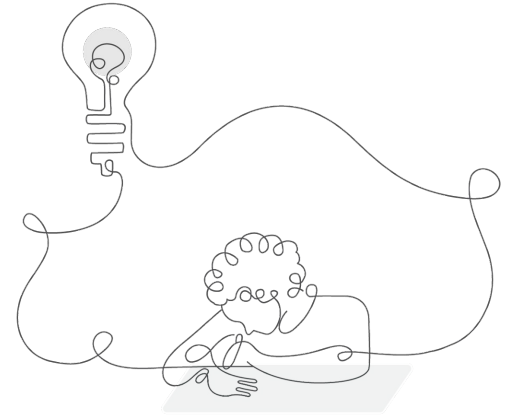
# Plan for the day

- Introduction
- Assessment System
- **Progress Build**
- Assessments
- Model Lesson
- Planning
- Closing

# Reviewing the unit phenomenon

## Vision and Light

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



# 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.

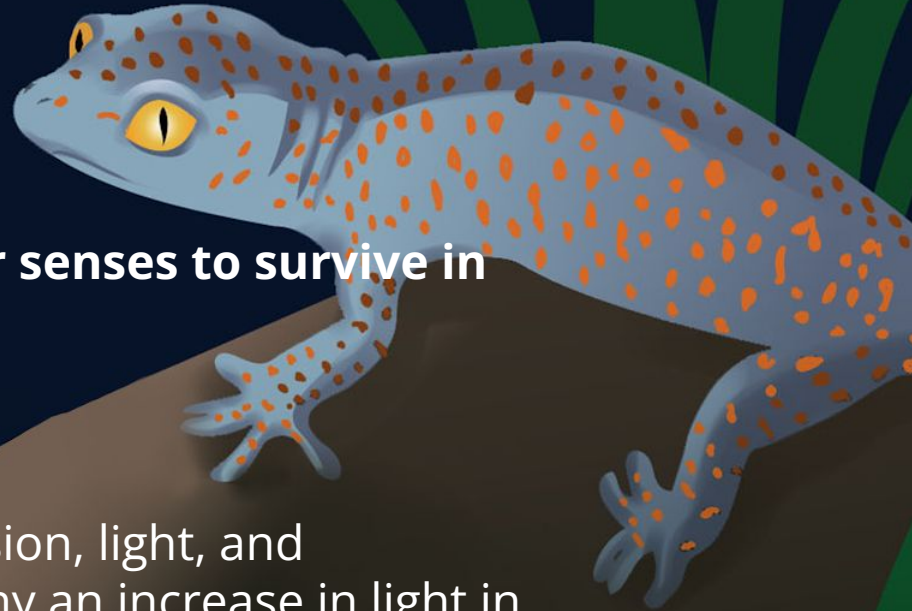


# Vision and Light

## 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.



# Explaining the phenomenon: Science Concepts

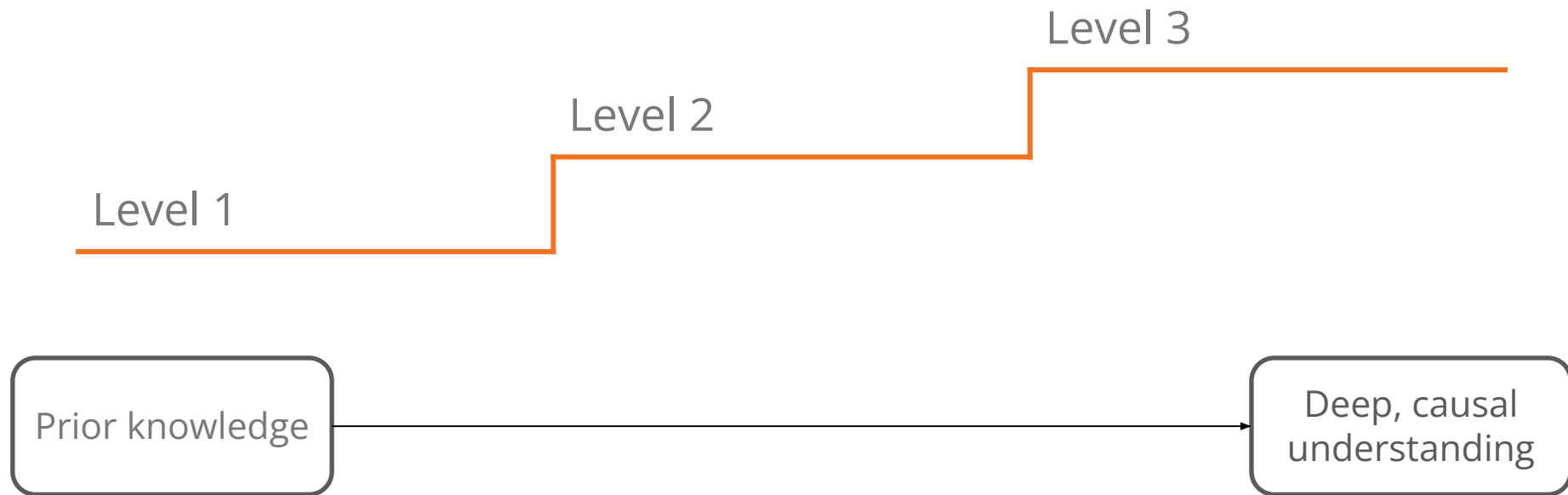
What **science concepts** do you think students need to understand in order to **explain the phenomenon**?





# Progress Build

## A unit-specific learning progression



# Logging in (demo account)

## Safari or Chrome

1. Go to **learning.amplify.com**
2. Select **Log in with Google**
3. If you're already logged in with other Google accounts, click **Use another account**
4. Enter teacher demo account credentials

- xxxxxxxx@pd.tryamplify.net
- Password: xxxx

Steps 1-2

Welcome to **Amplify**

**G** Log In with Google

**C** Log In with Clever

**A.** Log In with Amplify

SSO login

Step 3

Choose an account to continue to Amplify Curriculum Delivery Application

**T** Teacher Lambertsen  
t.lambertsen@tryamplify.net

**S** Sophia Lambertsen  
slambertsen@tryamplify.com

**U** Use another account

To continue, Google will share your name, email address, language preference, and profile picture with Amplify Curriculum Delivery Application. Before using this app, you can review Amplify Curriculum Delivery Application's [privacy policy](#) and [terms of service](#).

Step 4

Sign in with Google

Sign in to continue to Amplify Curriculum Delivery Application

Email or phone

Forgot email?

To continue, Google will share your name, email address, language preference, and profile picture with Amplify Curriculum Delivery Application. Before using this app, you can review Amplify Curriculum Delivery Application's [privacy policy](#) and [terms of service](#).

Create account

Next

Sign in with Google

Hi Teacher

**n** nationalsc20@pd.tryamplify.net

Enter your password

☐ Show password

To continue, Google will share your name, email address, language preference, and profile picture with Amplify Curriculum Delivery Application. Before using this app, you can review Amplify Curriculum Delivery Application's [privacy policy](#) and [terms of service](#).

Forgot password?

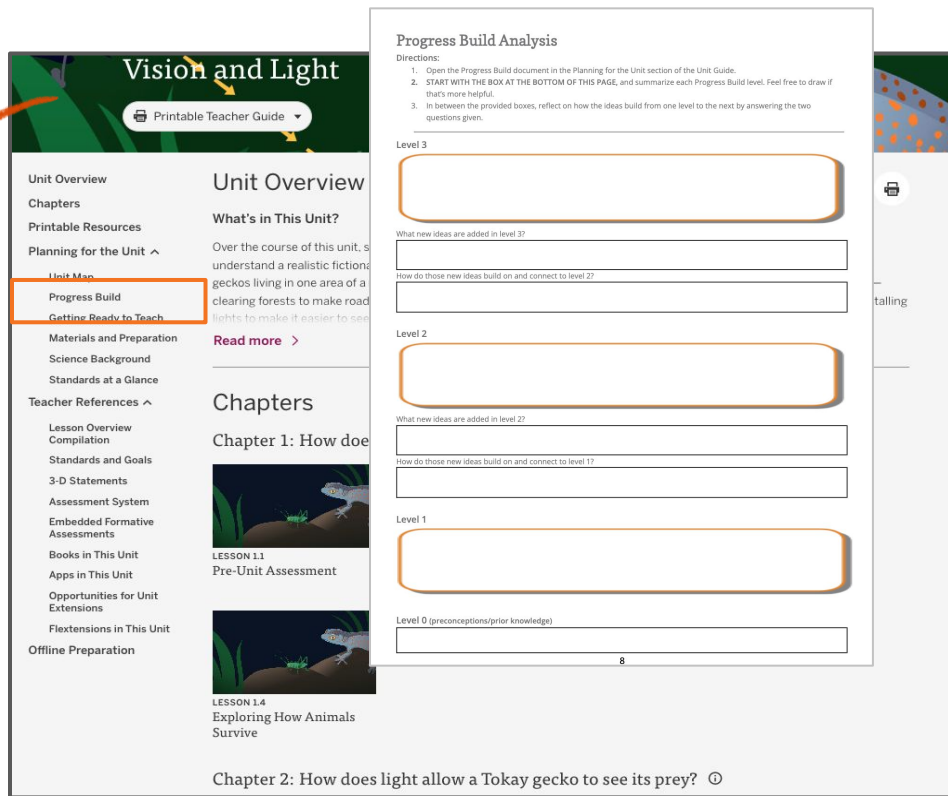
Next

# Progress Build analysis

## Work time

Read and analyze your unit's Progress Build.

Pgs.  
7-9



**Vision and Light**

Printable Teacher Guide

Unit Overview

Chapters

Printable Resources

Planning for the Unit ^

Unit Map

**Progress Build**

Gettine Ready to Teach

Materials and Preparation

Science Background

Standards at a Glance

Teacher References ^

Lesson Overview

Compilation

Standards and Goals

3-D Statements

Assessment System

Embedded Formative Assessments

Books in This Unit

Apps in This Unit

Opportunities for Unit Extensions

Flextensions in This Unit

Offline Preparation

**Unit Overview**

**What's in This Unit?**

Over the course of this unit, students understand a realistic fiction geckos living in one area of a clearing forests to make road lights to make it easier to see.

[Read more >](#)

**Chapters**

**Chapter 1: How does**

**LESSON 1.1**

**Pre-Unit Assessment**

**LESSON 1.4**

**Exploring How Animals Survive**

**Chapter 2: How does light allow a Tokay gecko to see its prey? ①**

**Progress Build Analysis**

Directions:

1. Open the Progress Build document in the Planning for the Unit section of the Unit Guide.
2. START WITH THE BOX AT THE BOTTOM OF THIS PAGE, and summarize each Progress Build level. Feel free to draw if that's more helpful.
3. In between the provided boxes, reflect on how the ideas build from one level to the next by answering the two questions given.

**Level 3**

What new ideas are added in level 3?

How do those new ideas build on and connect to level 2?

**Level 2**

What new ideas are added in level 2?

How do those new ideas build on and connect to level 1?

**Level 1**

What new ideas are added in level 1?

How do those new ideas build on and connect to level 0?

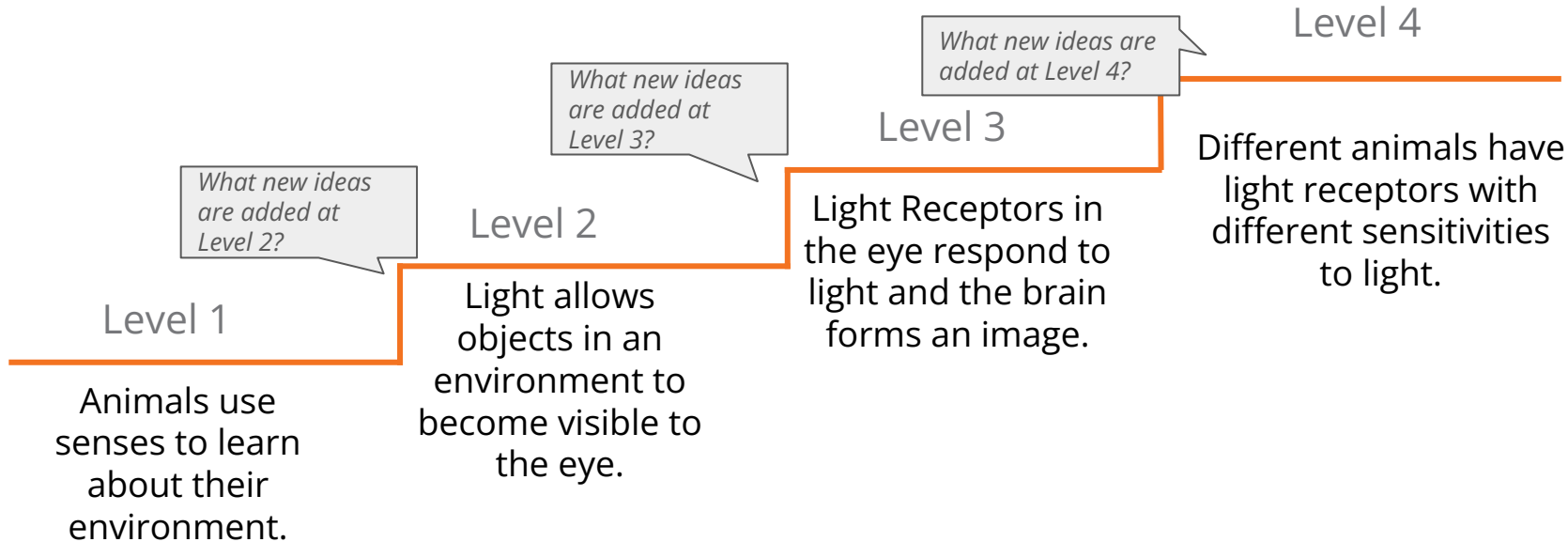
**Level 0 (preconceptions/prior knowledge)**

8

# 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.



# Progress Build analysis

## Group work time

- With your group or partner, create a visual representation of one level of the progress build.

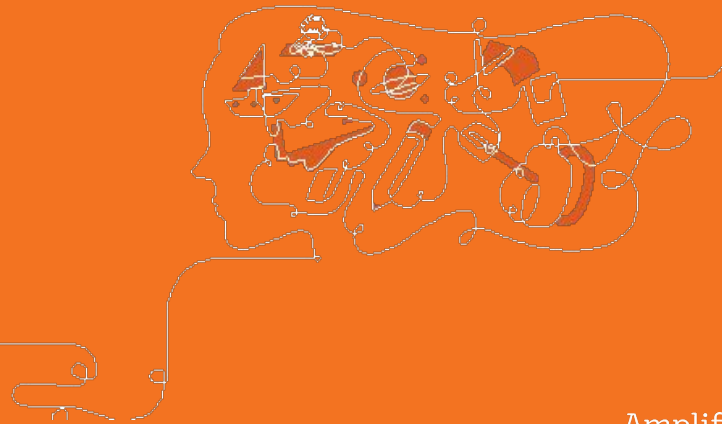


# Progress Build analysis

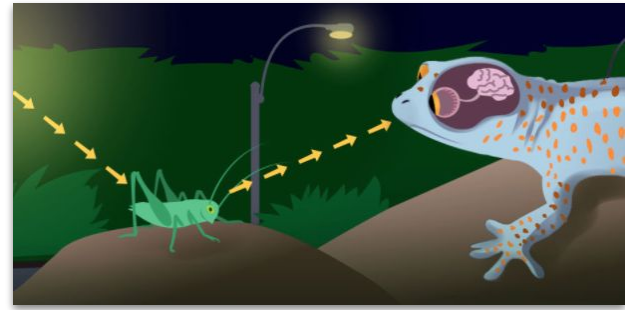
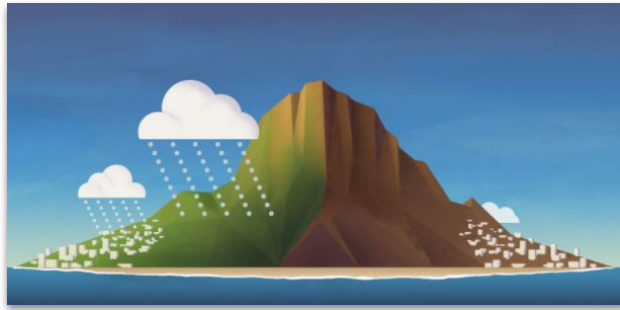
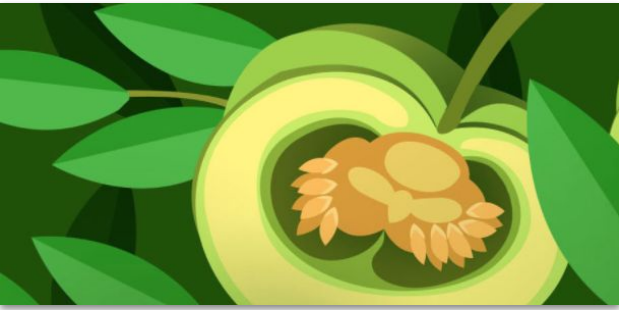
## Gallery Walk



# Break



Amplify.

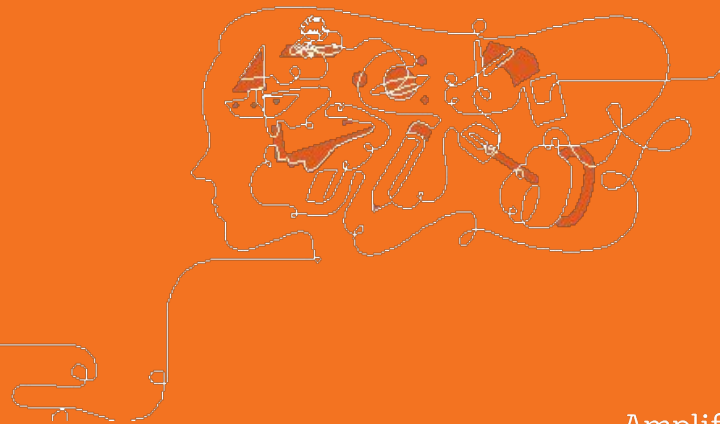


# Plan for the day

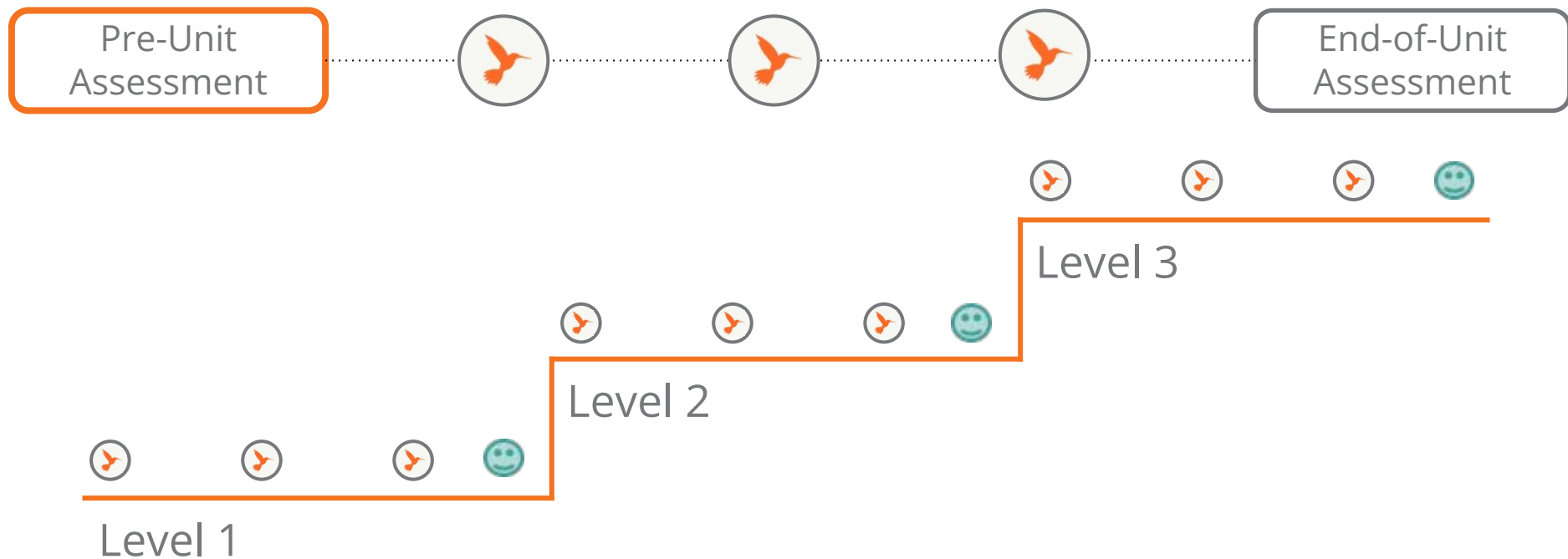
- Introduction
- Assessment System
- Progress Build
- **Assessments**
- Model Lesson
- Planning
- Closing



# Pre-Unit Assessment



# Pre and End-of-Unit Assessment



# 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.

Level 4

Level 3

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

Level 2

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

Level 1

Animals use senses to learn about their environment.

Different animals have light receptors with different sensitivities to light.

# Pre-Unit Assessment

## Lesson 1.1

Locate the Pre-Unit Assessment (Writing) and Assessment Guide in Lesson 1.1 of your unit and skim through them.

Open up the classroom slides and see how the pre-unit assessment is embedded in the lesson.

**Lesson 1.1:  
Pre-Unit Assessment**

[Printable Lesson Guide](#)

**Teacher-Led Discussion**  
Discussing What Animals  
Need for Survival

**3 Student-to-Student  
Discussion**  
How Animals Get  
Information from the...

**4 Writing**  
Writing Initial Explanations

[RESET LESSON](#)

**Overview**  
Materials &  
Preparation  
Differentiation  
Standards  
Vocabulary  
Unplugged?

**Overview**

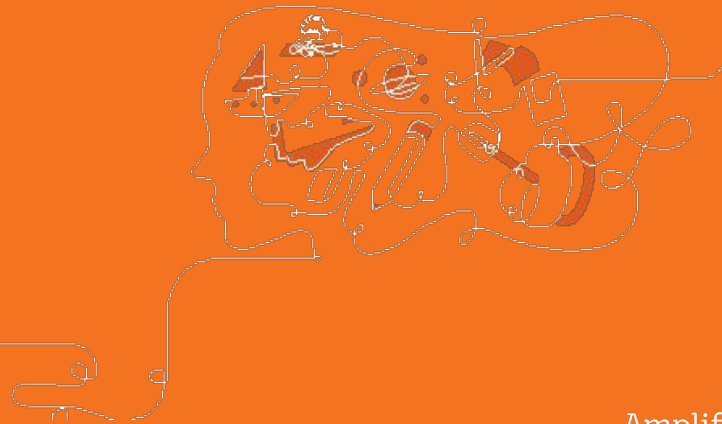
**Students' Initial Explanations**

Students are introduced to the *Vision and Light* unit and to their role as conservation biologists. Then, students write their initial explanations about how animals use their senses to survive, focusing on how vision and light help an animal survive. Students' written explanations serve as a pre-unit assessment for formative purposes, designed to reveal students' initial understanding of unit content—including unit-specific science concepts and the crosscutting concept of Structure and Function—prior to instruction. As such, students' explanations offer a baseline from which to measure growth of understanding over the course of the unit and can also provide the teacher with insight into students' thinking. This three-dimensional assessment will allow the teacher to draw connections to students' experiences and to watch for preconceptions that might get in the way of students' understanding. In this lesson, students also receive their Investigation Notebooks and learn some of the ways that scientists use notebooks. The purpose of this lesson is to introduce the unit and allow students to demonstrate their current

**Digital Resources**

- [Classroom Slides 1.1 | PowerPoint](#)
- [Classroom Slides 1.1 | Google Slides](#)
- [All Projections](#)
- [Assessment Guide: Interpreting Students' Pre-Unit Explanations About Why the Bird Could Not Find Its Food](#)
- [Pre-Unit Writing: Explaining Why the Bird Could Not Find Its Food copymaster](#)
- [Pre-Unit Writing Background Story: Explaining Why the Bird Could Not Find Its Food](#)
- [Vision and Light Investigation Notebook](#)
- [Questioning Strategies for Grades 2-5](#)
- [Vision and Light Investigation Notebook, pages](#)

# Formative Assessments

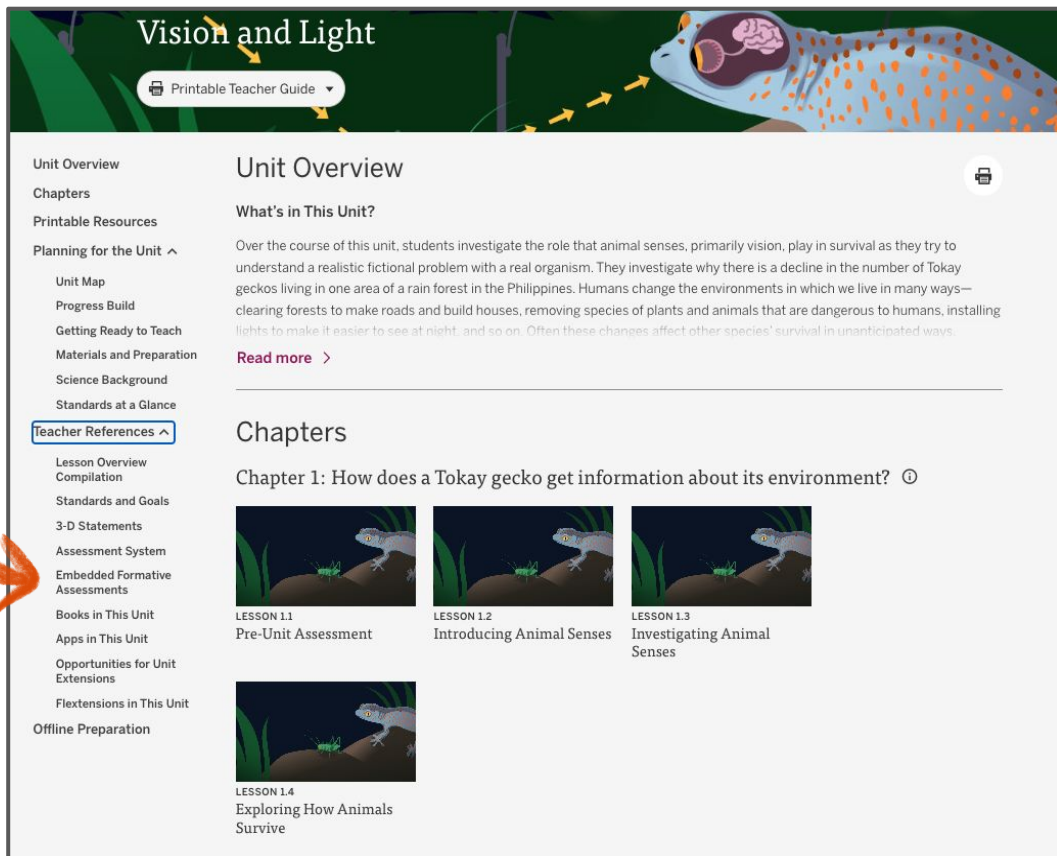


# K-5 Assessment System



# Formative Assessment Document

## Vision and Light



**Vision and Light**

Printable Teacher Guide

**Unit Overview**

**What's in This Unit?**

Over the course of this unit, students investigate the role that animal senses, primarily vision, play in survival as they try to understand a realistic fictional problem with a real organism. They investigate why there is a decline in the number of Tokay geckos living in one area of a rain forest in the Philippines. Humans change the environments in which we live in many ways—clearing forests to make roads and build houses, removing species of plants and animals that are dangerous to humans, installing lights to make it easier to see at night, and so on. Often these changes affect other species' survival in unanticipated ways.

[Read more >](#)

**Chapters**

**Chapter 1: How does a Tokay gecko get information about its environment?** ⓘ

**LESSON 1.1**  
Pre-Unit Assessment

**LESSON 1.2**  
Introducing Animal Senses

**LESSON 1.3**  
Investigating Animal Senses

**LESSON 1.4**  
Exploring How Animals Survive

**Unit Overview**

**Chapters**

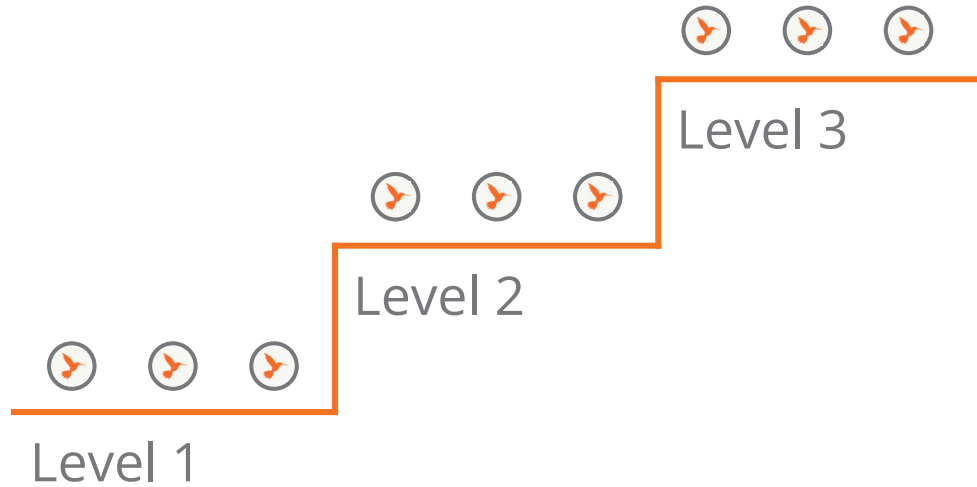
**Printable Resources**

**Planning for the Unit** ^

- Unit Map
- Progress Build
- Getting Ready to Teach
- Materials and Preparation
- Science Background
- Standards at a Glance
- Teacher References** ^
- Lesson Overview
- Compilation
- Standards and Goals
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- Apps in This Unit
- Opportunities for Unit Extensions
- Flextensions in This Unit
- Offline Preparation

# On-the-Fly Assessments

- Track student progress within a Progress Build level
- Embedded into instruction
- Assessment resource includes “Look for” and “Now what”
- Incremental build towards the Critical Juncture





# Formative assessment information

## Locating assessment resources

Full text of assessment

- Embedded Formative Assessments document
- Instructional guide
- Classroom Slides notes

Unit Overview Embedded Formative Assessments

### Lesson 1.2: Introducing Animal Senses

Printable Lesson Guide

Lesson 1.2: Introducing Animal Senses

Activity 3



What is this?

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

ON-THE-FLY

**Teacher action:**  
Have pairs discuss the question and then call on volunteers to share.

**Students may respond:**  
• A nose  
• To smell things.

**On-the-Fly Assessment 1:**  
**External Structures and Function**  
**Look for:** This is students' first opportunity to demonstrate their understanding of how animals have sensory structures that perform various functions that help them get information from their environment. As students discuss with their partners in response to each picture of sensory structure in the following slides, listen for their identification of each body part, as well as the description of its structure and how it relates to its function. For example, a student might say that the ears they see on slide 31 are pointy and they stick out from the animal's head, which helps the ears capture sound coming from the animal's environment.  
**Now what?** Focus students' attention on the general concept of how something's structure, or shape, is related to its function. To give students more experience with this idea, offer more examples of objects that students encounter in their everyday lives, such as a spoon or backpack. Ask targeted questions about how the shape of these objects make them well suited to serving their particular function. Ask students to consider whether the object would still serve the same function if it had a different shape. For example, ask students how the structure of a spoon makes it well suited for eating cereal. Then, to further their thinking about the relationship between shape and function, ask them why they wouldn't eat cereal with a differently shaped utensil, such as a fork or knife. Have students come up with their own examples of everyday objects with unique structures that are related to particular functions.

# Classroom slides

## Lesson 1.2, Activity 3

### Lesson 1.2: Introducing Animal Senses

Printable Lesson Guide

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 information. Next, they are introduced to and employ the Think-Write-Pair-Share discourse routine to reflect on what they've learned so far in relation to the Investigation Question. Last, they view a slideshow that introduces them to body structures that serve different functions to allow animals to get information from their environment. 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.

#### Digital Resources

Classroom Slides 1.2 | PowerPoint

Classroom Slides 1.2 | Google Slides

All Projections

Careful Smelling

Vision and Light Investigation Notebook, pages 6–8

Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds

### Vision and Light

Printable Teacher Guide

Unit Overview

### Unit Overview



What is this Unit?

Use of this unit, students investigate the role that animal senses, primarily vision, play in survival as they try to solve a realistic fictional problem with a real organism. They investigate why there is a decline in the number of Tokay geckos in one area of a rain forest in the Philippines. Humans change the environments in which we live in many ways—by building roads, making roads, removing species of plants and animals that are dangerous to humans, installing streetlights, and so on. Often these changes affect other species' survival in unanticipated ways.

ers

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



Assessment

LESSON 1.2

Introducing Animal Senses

LESSON 1.3

Investigating Animal Senses

How Animals

## structure

How does something's shape or what it is made out of affect what it can do or its 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.

## PI 2

What is this?

What is its function?

What is it used for?

## PI 2

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

What is its function?

What is it used for?

## PI 2

What are these?

What is their function?

What are they used for?

## PI 2

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

What is their function?

What are they used for?

## PI 2

What is this?

What is its function?

What is it used for?

## PI 2

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

What is its function?

What is it used for?

## Lesson 1.2: Introducing Animal Senses

## Activity 3



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What is this?

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

ON-THE-FLY



### Teacher action:

Have pairs discuss the question and then call on volunteers to share.



### Students may respond:

- A nose.
- To smell things.

### On-the-Fly Assessment 1:

#### External Structures and Function

**Look for:** This is students' first opportunity to demonstrate their understanding of how animals have sensory structures that perform various functions that help them get information from their environment. As students discuss with their partners in response to each picture of sensory structure in the following slides, listen for their identification of each body part, as well as the description of its structure and how it relates to its function. For example, a student might say that the ears they see on slide 31 are pointy and they stick out from the animal's head, which helps the ears capture sound coming from the animal's environment.

**Now what?** Focus students' attention on the general concept of how something's structure, or shape, is related to its function. To give students more experience with this idea, offer more examples of objects that students encounter in their everyday lives, such as a spoon or backpack. Ask targeted questions about how the shape of these objects make them well suited to serving their particular function. Ask students to consider whether the object would still serve the same function if it had a different shape. For example, ask students how the structure of a spoon makes it well suited for eating cereal. Then, to further their thinking about the relationship between shape and function, ask them why they wouldn't eat cereal with a differently shaped utensil, such as a fork or knife. Have students come up with their own examples of everyday objects with unique structures that are related to particular functions.

# Embedded Formative Assessment

## Lesson 1.2, Activity 3

### On-the-Fly Assessment 1: External Structures and Function



**Look for:** This is students' first opportunity to demonstrate their understanding of how animals have sensory structures that perform various functions that help them get information from their environment. As students discuss with their partners in response to each picture of sensory structure in the slideshow, listen for their identification of each body part, as well as the description of its structure and how it relates to its function. For example, a student might say that the ears they see on the slide are pointy and they stick out from the animal's head, which helps the ears capture sound coming from the animal's environment.

**Now what?** Focus students' attention on the general concept of how something's structure, or shape, is related to its function. To give students more experience with this idea, offer more examples of objects that students encounter in their everyday lives, such as a spoon or backpack. Ask targeted questions about how the shape of these objects make them well suited to serving their particular function. Ask students to consider whether the object would still serve the same function if it had a different shape. For example, ask students how the structure of a spoon makes it well suited for eating cereal. Then, to further their thinking about the relationship between shape and function, ask them why they wouldn't eat cereal with a differently shaped utensil, such as a fork or knife. Have students come up with their own examples of everyday objects with unique structures that are related to particular functions.



## Lesson 1.2, Activity 3

### On-the-Fly Assessment 1: External Structures and Function

**Look for:** This is students' first opportunity to demonstrate their understanding of how animals have sensory structures that perform functions that help them get information from their environment. As students discuss with their partners in response to each picture of sensory structure in the slideshow, **listen for their identification of each body part, as well as the description of its structure and how it relates to its function.** For example, a student might say that the ears they see on the slide are pointy and they stick out from the animal's head, which helps the ears capture sound coming from the animal's environment.

**Now what?** Focus students' attention on the general concept of how something's structure, or shape, is related to its function. To give students more experience with this idea, offer more examples of objects that students encounter in their everyday lives, such as a spoon or backpack. Ask targeted questions about how the shape of these objects make them well suited to serving their particular function. Ask students to consider whether the object would still serve the same function if it had a different shape. For example, ask students how the structure of a spoon makes it well suited for eating cereal. Then, to further their thinking about the relationship between shape and function, ask them why they wouldn't eat cereal with a differently shaped utensil, such as a fork or knife. Have students come up with their own examples of everyday objects with unique structures that are related to particular functions.


# Example assessment (On-the-Fly, Lesson 1.2, Activity 3)


## Reflection


- What **data** can a teacher collect from this activity?
- What can a teacher **do** with this information?

Lesson 1.2: Introducing Animal Senses

Activity 3



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



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ON-THE-FLY

## Collecting formative assessment data

Create a system that's easy for you to use.

## Grade :

Lesson

Look for 1:

Look for 2:

[illegible]

# K-1 Clipboard Assessment Tool

The Clipboard Assessment Tool offers a support for collecting data for the On-the-Fly and Critical Juncture Assessments that align to each Progress Build level in the unit.

## Chapter 3: Clipboard Assessment Tool

x = incorrect  
✓ = correct

Progress Build Level 2: The longer that sunlight shines on the surface, the warmer it gets.

Question to ask students	Students who understand...
Lesson 3.3, Activity 4: Why is the playground surface warmer in the afternoon than it was in the morning?	should say that it is warmer because <u>sunlight has been shining on it for a long or longer time</u> (than in the morning).
Lesson 3.4, Activity 1: Has the sunlight been shining on the rock for a longer time in this picture than in the other one, or for a shorter time?	should walk to the <u>shorter</u> yard if the picture shows the surface when it is cooler than in the other picture, or walk to the <u>longer</u> yard if the picture shows the surface when it is warmer than in the other picture.
Lesson 3.4, Activity 2: Walk to the time of day when: • ① the surface is cold. • ② the surface is warm. • ③ the surface is hot. • ④ sunlight is not shining on the surface. • ⑤ sunlight has been shining on the surface for a long time. • ⑥ sunlight has been shining on the surface for a short time.	<p>① should walk to <u>nighttime</u>.            ② should walk to <u>morning</u>.            ③ should walk to <u>afternoon</u>.            ④ should walk to <u>nighttime</u>.            ⑤ should walk to <u>afternoon</u>.            ⑥ should walk to <u>morning</u>.</p> <p>M = Morning A = Afternoon N = Nighttime</p>

3 Images  
1. Lizard (L)  
2. Feet (F)  
3. Chocolate (C)

Student's name	Notes	* CJ * 2	
		Lesson 3.3, Act 1	Lesson 3.4, Act 2
Student A	"There are no clouds in the sky."	L = x F = x C = x	① x M ④ x M ② x N ⑤ x N ③ ✓ ⑥ ✓
Student B	"Because kids played on it."	L = x F = x C = x	① x M ④ ✓ ② x N ⑤ x N ③ ✓ ⑥ ✓
Student C		L = ✓ F = x C = ✓	① ✓ ④ ✓ ② x A ⑤ ✓ ③ ✓ ⑥ ✓



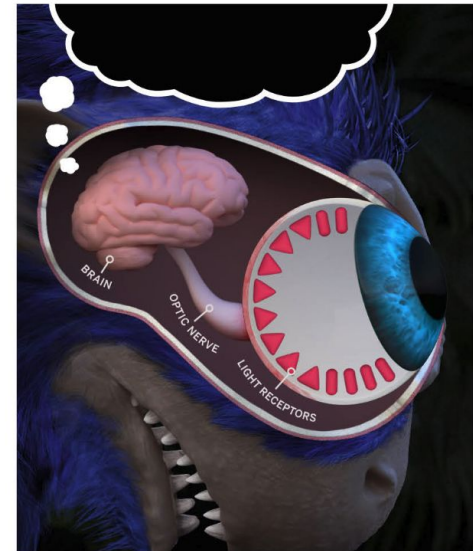
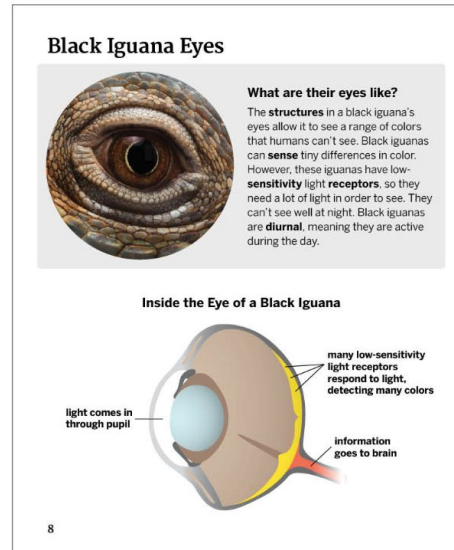
# Additional formative assessment information

## On-the-Fly Assessments

In addition to assessing concepts in the Progress Build, some On-the-Fly Assessments provide data about:

- Science and Engineering Practices
- Crosscutting Concepts
- Literacy skills
- Student collaboration

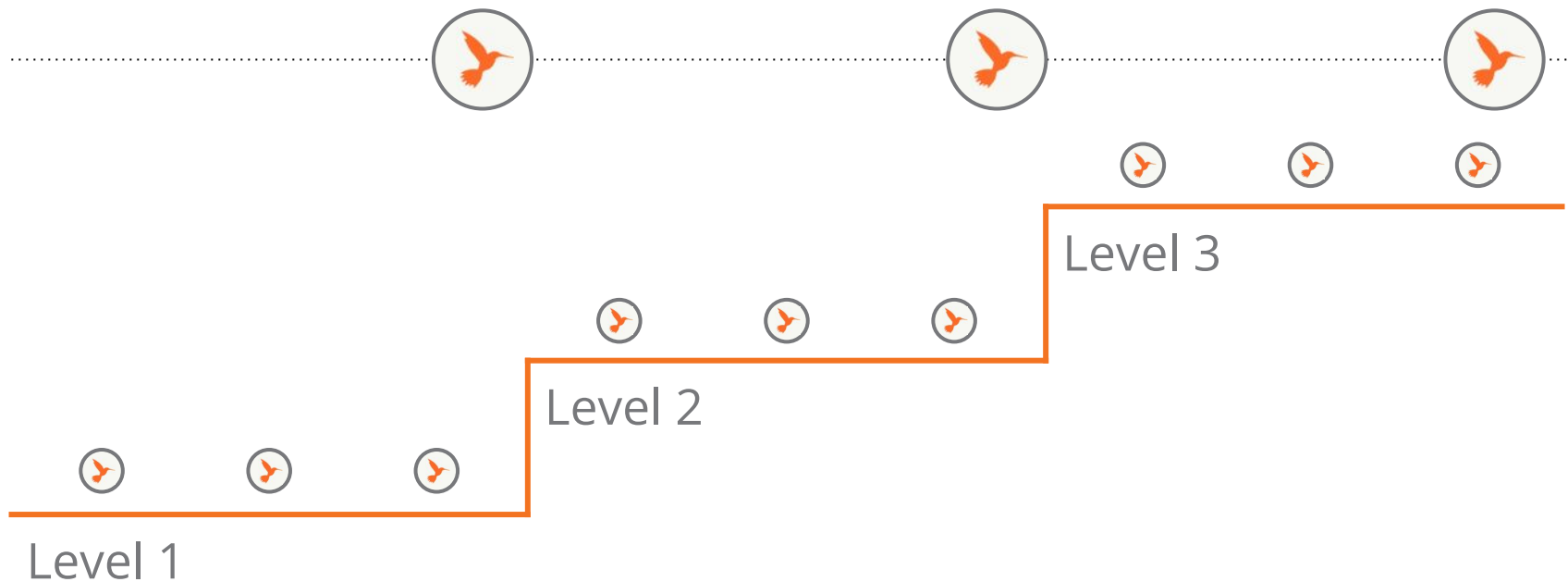
## Eyes in the Reference Book and Sim



# Questions?

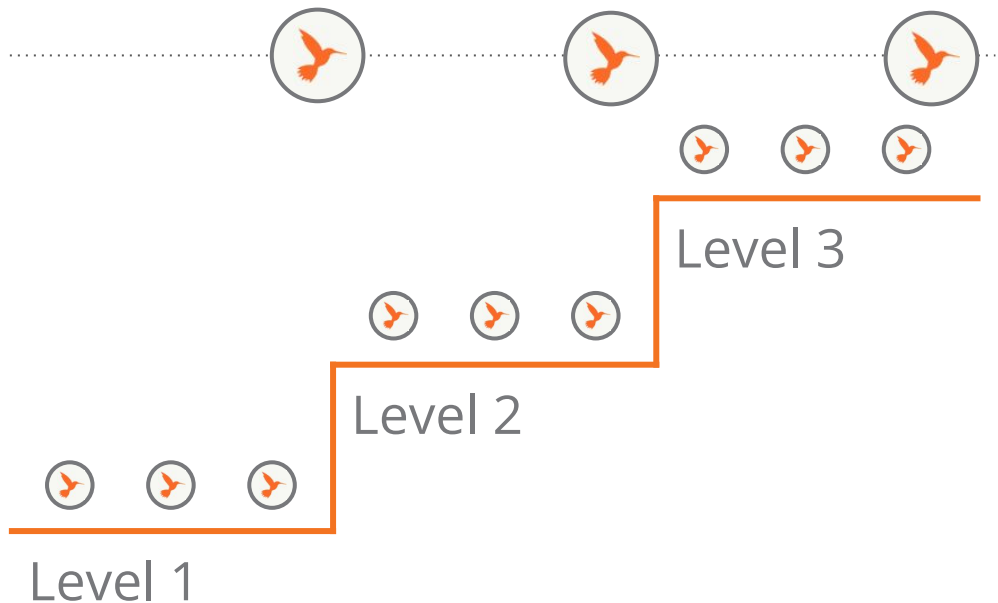


# Critical Juncture Assessments

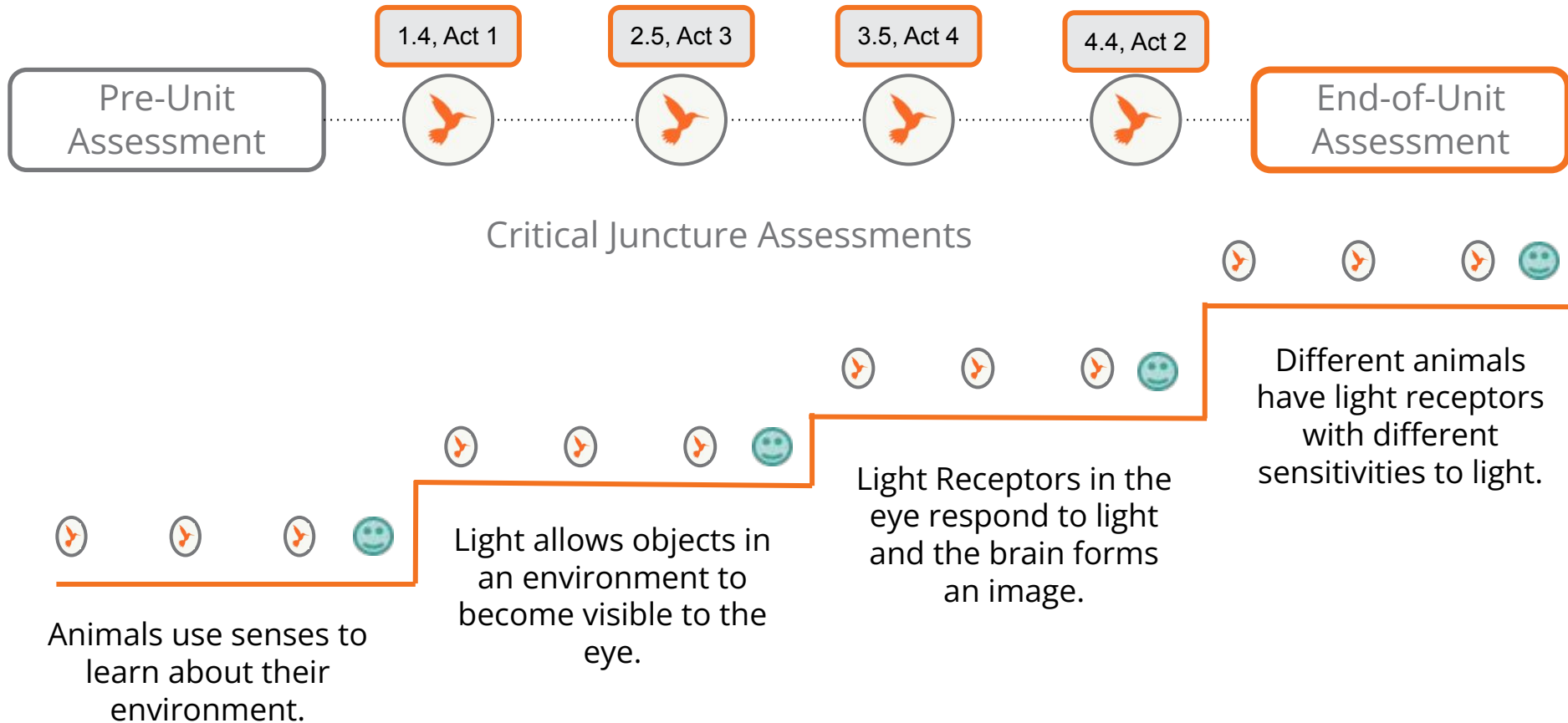


# Critical Juncture Assessments

- Track student progress between Progress Build levels
- Embedded into instruction
- Assessment resource includes “Assess Understanding” and “Tailor Instruction”



# K-5 Assessment System



# Formative assessment information

## Locating assessment resources

### Full text of assessment

- Embedded Formative Assessments document
- Instructional guide
- Classroom Slides notes

The screenshot displays a digital assessment interface. At the top, a navigation bar shows two tabs: '1 WRITING Critical Juncture: Writing to Reflect' and '2 HANDS-ON Introducing the Mystery Box'. The main content area is titled 'Critical Juncture: Writing to Reflect' and includes the instruction: 'Students demonstrate their understanding of the content presented thus far through a short writing activity. (15 min)'. On the right side, there are two icons: 'EMBEDDED FORMATIVE ASSESSMENT' and 'INSTRUCTIONAL GUIDE'. Below this, a sidebar on the left shows a vertical list of slides numbered 17 through 24. The main content area features a writing prompt titled 'Writing About How Animals Use Senses' with a text box for the student's response. To the right of the text box, there is a large red arrow pointing to the text: 'Think about the animal videos you just watched. Answer the questions.' Below the writing prompt, there is a section titled 'Critical Juncture Assessments 1: Writing About How Animals Use Senses' which contains detailed instructions for the teacher and students. A red arrow points from the 'Critical Juncture' label in the bottom right corner of the interface to the 'Critical Juncture Assessments 1' section.

1 WRITING Critical Juncture: Writing to Reflect

2 HANDS-ON Introducing the Mystery Box

Critical Juncture: Writing to Reflect

Students demonstrate their understanding of the content presented thus far through a short writing activity. (15 min)

EMBEDDED FORMATIVE ASSESSMENT

INSTRUCTIONAL GUIDE

Lesson 14: Exploring How Animals Survive

Activity 1

Turn to page 15 in your notebooks.

Think about the animal videos you just watched.

Answer the questions.

CRITICAL JUNCTURE

**Teacher action:**  
Read the instructions and the writing prompt out loud.

**Teacher action:**  
Circulate as students work, helping as necessary.

**Critical Juncture Assessments 1:**  
**Writing About How Animals Use Senses**

**Assess understanding:** The purpose of this Critical Juncture is to assess students' understanding of how animals use senses to get information about their environment. At this point in the unit, students should be able to demonstrate their understanding that scent and sound carry information from the environment and that animals have sensory structures, such as a nose and ears, to receive that information. Students should be able to make the connection that being able to receive such information is necessary to fulfill the animal's various needs for survival. Students should be able to identify the different ways in which animals gather information about their environment using different sensory structures. In their responses, look for students to demonstrate this understanding by connecting sensory structures (e.g., nose) to the information they get from the environment (e.g., scents).

**Tailor instruction:** If students are not yet understanding the various senses that an animal might use to get information about its environment, have them act out what it would be like for the animals in the videos they watched earlier to not be able to use their sensory structures to get information. For example, for the antelope, have students cover their ears in order to not hear well. For the raccoon, have students be unable to use their hands. Without the functions of those structures, have students try to get information about something in the environment (e.g., the classroom) using other senses. Ask students questions such as *What kinds of information are you able to get without this function?* and *What other senses are you using and what structures are helping you get the information?* This could serve as a review of the senses and the structures that are responsible for them. Alternatively, you can lead a discussion to review each sense—what it does and what structures are involved.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Writing About How Animals Use Senses**

1. Think about the videos you just watched of animals using their senses.
2. Answer the questions below.

The antelopes ran away when they heard their predator. If an antelope couldn't hear well, how could this antelope know when there is a predator nearby?

---

---

---

---

The raccoon was using its paws to feel for food in the water. If a raccoon couldn't feel things well, how could this raccoon find its food?

---

---

---

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Turn to page 15 in your notebooks.



**Think** about the animal videos you just watched.

**Answer** the questions.

Name \_\_\_\_\_ Date \_\_\_\_\_

**Writing About How Animals Use Senses**

1. Think about the videos you just watched of animals using their senses.  
2. Answer the questions below.

The antelope ran away when they heard their predator. If an antelope couldn't hear well, how could this antelope know when there is a predator nearby?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The raccoon was using its paws to feel for food in the water. If a raccoon couldn't feel things well, how could the raccoon find its food?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Water and Light - Lesson 1.4

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**15**

Turn to page 15 in your notebooks.



**Think** about the animal videos you just watched.

**Answer the questions.**

## CRITICAL JUNCTURE

 **Teacher action:**

Read the instructions and the writing prompt out loud.

👉 **Teacher action:**

Circulate as students work, helping as necessary.

## Critical Juncture Assessments 1:

## Writing About How Animals Use Senses

**Assess understanding:** The purpose of this Critical Juncture is to assess students' understanding of how animals use senses to get information about their environment. At this point in the unit, students should be able to demonstrate their understanding that scent and sound carry information from the environment and that animals have sensory structures, such as a nose and ears, to receive that information. Students should be able to make the connection that being able to receive such information is necessary to fulfill the animal's various needs for survival. Students should be able to identify the different ways in which animals gather information about their environment using different sensory structures. In their responses, look for students to demonstrate this understanding by connecting sensory structures (e.g., nose) to the information they get from the environment (e.g., scents).

**Tailor instruction:** If students are not yet understanding the various senses that an animal might use to get information about its environment, have them act out what it would be like for the animals in the videos they watched earlier to not be able to use their sensory structures to get information. For example, for the antelope, have students cover their ears in order to not hear well. For the raccoon, have students be unable to use their hands. Without the functions of those structures, have students try to get information about something in the environment (e.g., the classroom) using other senses. Ask students questions such as *What kinds of information are you able to get without this function?* and *What other senses are you using and what structures are helping you get the information?* This could serve as a review of the senses and the structures that are responsible for them. Alternatively, you can lead a discussion to review each sense—what it does and what structures are involved.





# Embedded Formative Assessment

## Critical Juncture Lesson 1.4, Activity 1

### Critical Juncture Assessment 1: Writing About How Animals Use Senses

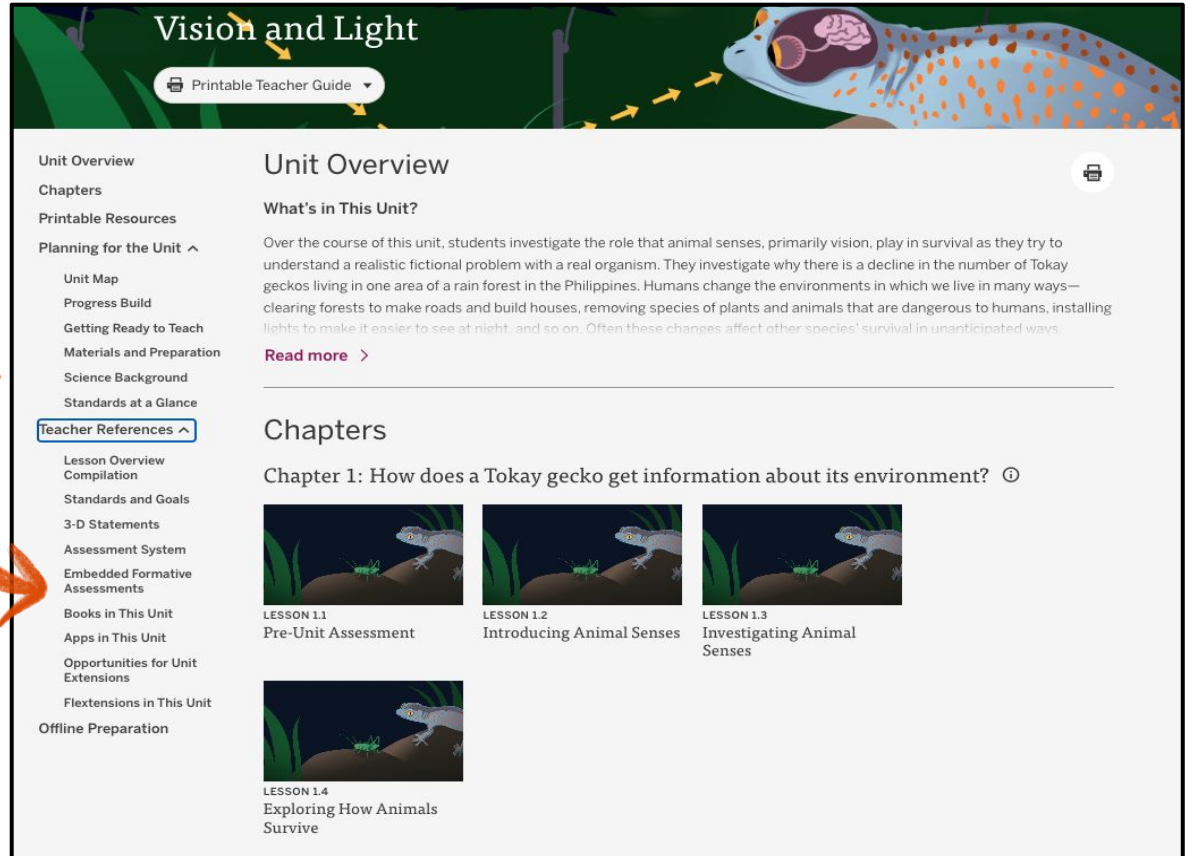
**Assess understanding:** The purpose of this Critical Juncture is to assess students' understanding of how animals use senses to get information about their environment. At this point in the unit, students should be able to demonstrate their understanding that scent and sound carry information from the environment and that animals have sensory structures, such as a nose and ears, to receive that information. Students should be able to make the connection that being able to receive such information is necessary to fulfill the animal's various needs for survival. Students should be able to identify the different ways in which animals gather information about their environment using different sensory structures. In their responses, look for students to demonstrate this understanding by connecting sensory structures (e.g., nose) to the information they get from the environment (e.g., scents).

**Tailor instruction:** If students are not yet understanding the various senses that an animal might use to get information about its environment, have them act out what it would be like for the animals in the videos they watched earlier to not be able to use their sensory structures to get information. For example, for the antelope, have students cover their ears in order to not hear well. For the raccoon, have students not be able to use their hands. Without the functions of those structures, have students try to get information about something in the environment (e.g., the classroom) using other senses. Ask students questions such as *What kinds of information are you able to get without this function?* and *What other senses are you using and what structures are helping you get the information?* This could serve as a review of the senses and the structures that are responsible for them. Alternatively, you can lead a discussion to review each sense—what it does and what structures are involved.

# Formative Assessments

Work time

Explore the Critical  
Juncture Assessments



## Vision and Light

Printable Teacher Guide

- Unit Overview
- Chapters
- Printable Resources
- Planning for the Unit ^
  - Unit Map
  - Progress Build
  - Getting Ready to Teach
  - Materials and Preparation
  - Science Background
  - Standards at a Glance
  - Teacher References ^**
    - Lesson Overview
    - Compilation
    - Standards and Goals
    - 3-D Statements
    - Assessment System
    - Embedded Formative Assessments
    - Books in This Unit
    - Apps in This Unit
    - Opportunities for Unit Extensions
    - Flextensions in This Unit
  - Offline Preparation

### Unit Overview


**What's in This Unit?**

Over the course of this unit, students investigate the role that animal senses, primarily vision, play in survival as they try to understand a realistic fictional problem with a real organism. They investigate why there is a decline in the number of Tokay geckos living in one area of a rain forest in the Philippines. Humans change the environments in which we live in many ways—clearing forests to make roads and build houses, removing species of plants and animals that are dangerous to humans, installing lights to make it easier to see at night, and so on. Often these changes affect other species' survival in unanticipated ways.


[Read more >](#)

### Chapters


Chapter 1: How does a Tokay gecko get information about its environment? ⓘ




LESSON 1.1  
Pre-Unit Assessment



LESSON 1.2  
Introducing Animal Senses



LESSON 1.3  
Investigating Animal Senses



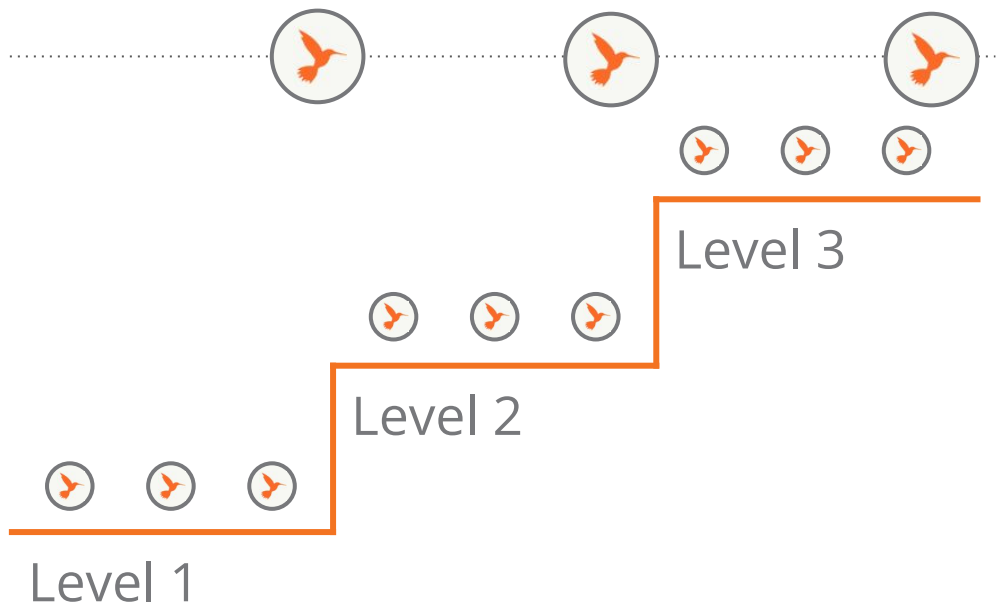
LESSON 1.4  
Exploring How Animals Survive

# Embedded formative assessments

## Reflection

In 1-2 sentences, describe the relationship among:

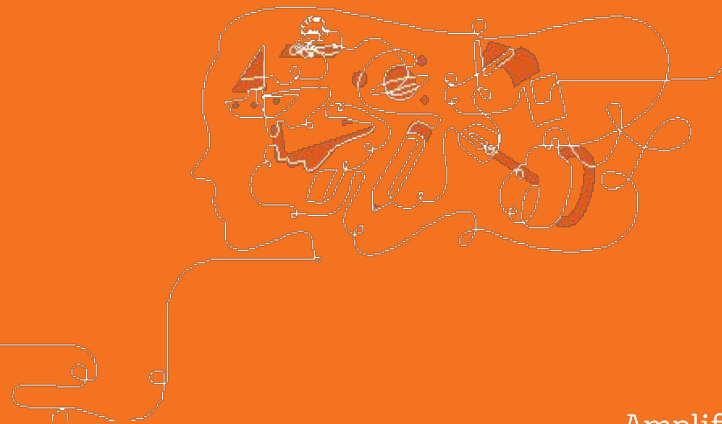
- Progress Build
- On-the-Fly Assessments
- Critical Juncture Assessments



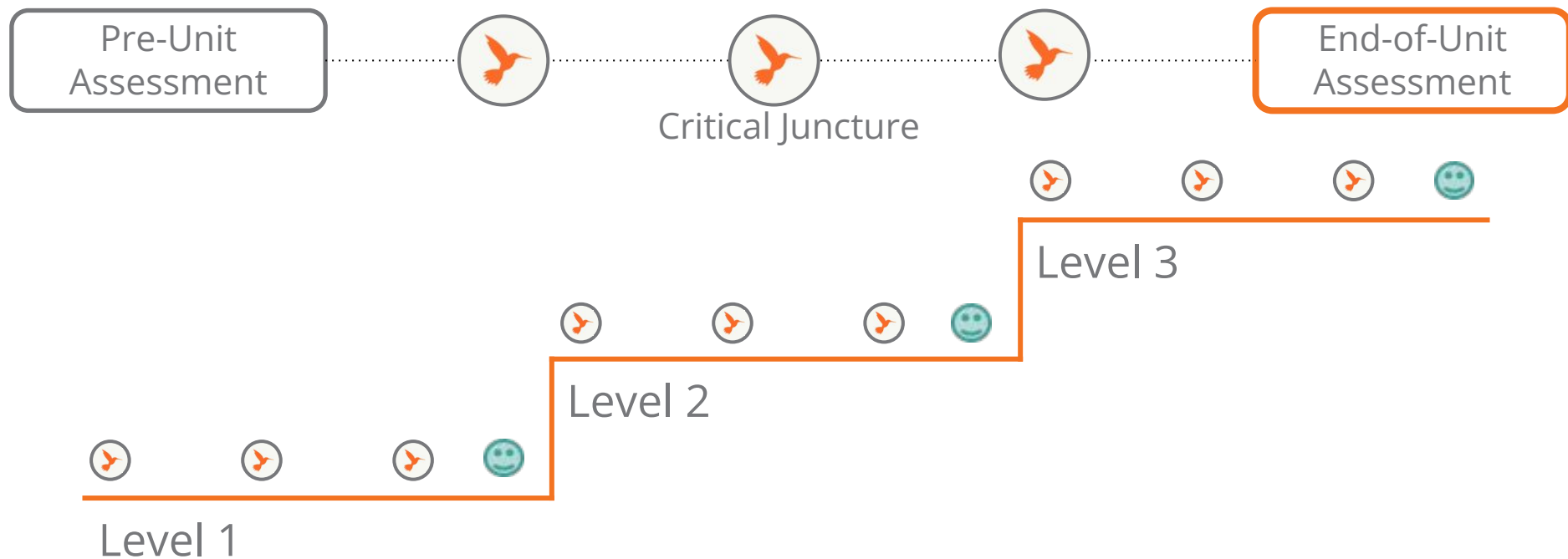
# Questions?



# End-of-Unit Assessment



# K-5 Assessment System



# End-of-Unit Assessment

## 3-dimensional assessment opportunity

- Summative assessment of mastery of science concepts
- Formative assessment of Science and Engineering Practices



# End of Unit Assessments

## What are students being asked to do?

How does a Tokay gecko usually see?

Why does more light at night make it hard for it to see?





# 3 Dimensional Learning

## **Science and Engineering Practices**

- Practice 6: Constructing Explanations and Designing Solutions
  - CEDS-E1: Construct an explanation of observed relationships (e.g., the distribution of plants in the back yard).
- Practice 8: Obtaining, Evaluating, and Communicating Information
  - INFO-E5: Communicate scientific and/or technical information orally and/or in written formats, including various forms of media and may include tables, diagrams, and charts.

## **Disciplinary Core Ideas**

- LS1.A: Structure and Function:
  - LS1.A-E1: ...animals have both internal and external structures that serve various functions in... survival [and] behavior... (4-LS1-1)
- LS1.D: Information Processing:
  - LS1.D-E1: Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions. (4-LS1-2)
- PS4.B: Electromagnetic Radiation:
  - PS4.B-E1: An object can be seen when light reflected from its surface enters the eyes. (4-PS4-2)

## **Crosscutting Concepts**

- Structure and Function
  - SF-E2: Substructures have... parts that serve functions.

# End of Unit Assessment Rubric

Note that while the examples provided in this rubric accurately reflect unit, students may provide alternate accounts that, if causal and explanatory, move toward developing the practice of constructing a scientific explanation.

## Rubric 1: Assessing Students' Performance of the Practices of Obtaining, Evaluating, and Communicating Information Clearly

Criteria	Description of level
<b>Causal and explanatory</b>	The writing does not go beyond, or add to, what was observed to explain why more light made it harder for the Tokay gecko to see?
Does the explanation go beyond, or add to, what can be observed to explain why more light made it harder for the Tokay gecko to see?	Possible feedback: <i>You described the Tokay gecko better in low light, but how does a gecko see? Why affect an animal's ability to see?</i>
	The writing goes beyond describing that Tokay geckos see the highway lights but cannot see with them to process the light of the gecko's eyes, which send information to the brain to form a clear image.
	OR
	• Why the amount of light affects whether or not they can see (e.g., if there is too much light, the gecko's brain can't respond too much and the brain can't form a clear image).
	Possible feedback: <i>You gave a partial explanation: light carries information to their eyes, which send where it can be processed, but can you explain why they can't see (e.g., why more light would make it harder for them to see)?</i>
	The writing goes beyond describing that Tokay geckos see the highway lights but cannot see with them to process the light of the gecko's eyes, which send information to the brain to form a clear image.
	AND
	• Why the amount of light affects whether or not they can see (e.g., if there is too much light, the gecko's brain can't respond too much and the brain can't form a clear image).
	Possible feedback: <i>Is there anything else that could affect why the Tokay gecko cannot see when there is more light?</i>

## Rubric 1: Assessing Students' Performance of the Practices of Obtaining, Evaluating, and Communicating Information Clearly

Criteria	Description of level
<b>Communicates information clearly</b>	Questions to guide review of student writing: In assigning a level for this criterion, take into account the supports and expectations emphasized in your unit. Note that not all questions are instructional priorities. Note that not all questions are for your classroom, and/or you may choose to use a score from 0–2, but you may adjust the scale to fit your instructional priorities. Note that not all questions are for your classroom, and/or you may choose to use a score from 0–2, but you may adjust the scale to fit your instructional priorities.
Is the explanation written in a way that will allow the audience to understand it?	<ul style="list-style-type: none"> <li>Does the explanation begin with a topic sentence that summarizes the explanation and answers the question?</li> <li>If you ask, can the student describe how the explanation is appropriate to the audience (e.g., Conservation Group)?</li> <li>Is the explanation logically organized in a way that allows the audience to follow the argument?</li> <li>Does the explanation use appropriate scientific language (e.g., light receptors, brain, process)?</li> </ul>

**Rubric 2: Assessing Students' Understanding of Science Ideas Encountered**  
This rubric applies to both the writing and the diagram on the End-of-Unit Writing: Explaining Why More Light Makes It Harder for a Tokay Gecko to See student sheet. Rubric 2 students' explanations (writings and diagrams) are consistent with the relevant science ideas encountered in the unit. This rubric may be used summatively by tallying the points for each application demonstrated, as described below.

## Rubric 2: Assessing Students' Understanding of Science Ideas Encountered

Criteria	Questions to keep in mind
<b>Grounded in evidence</b>	Does the student show understanding that an animal sees from a source reflects off an object and enters the animal's eye?
Is the explanation consistent with the relevant science ideas that students have experienced so far?	<ul style="list-style-type: none"> <li>A diagram that shows the path of light from the highway lights, to the prey, to the gecko's eyes.</li> </ul>
	Does the student show understanding of how the eye and brain work together to allow animals to see? (1 point)
	Evidence could include:
	• An explanation describing that when a gecko sees, light enters the eye where light receptors respond and send information to the brain, which processes the information to form an image.
	Does the student show understanding that light receptors have different sensitivities, and therefore different animals are able to see in different amounts of light? (1 point)
	Evidence could include:
	• An explanation describing that additional light from the highway lights results in too much light for the type of receptor the gecko has. The brain can no longer form a clear image from the receptors that are sending.
	Note: It's not important that students be able to name "high" light receptors. Rather, look for their understanding that light receptors require different amounts of light in order to form a clear image.
	<b>Total (0–3)</b>

## Rubric 3: Assessing Students' Understanding of the Crosscutting Concept of Structure and Function

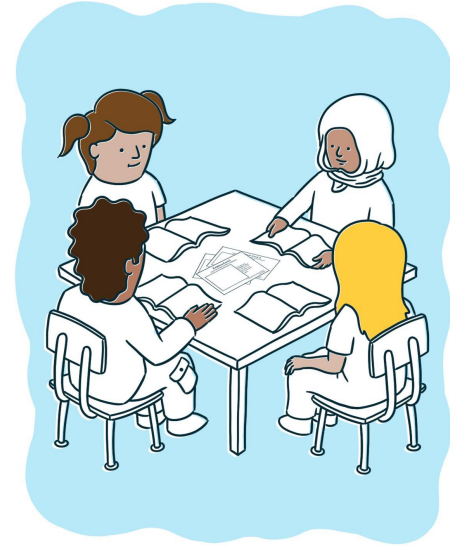
This rubric is specific to the understanding demonstrated in students' scientific explanations (Part 2) of the End-of-Unit Writing: Explaining Why More Light Makes It Harder for a Tokay Gecko to See student sheet. Rubric 3 considers how well students are able to apply the crosscutting concept of Structure and Function to a specific phenomenon. This rubric may be used summatively by tallying the points for each application demonstrated, as described below.

Rubric 3: Assessing Students' Understanding of the Crosscutting Concept of Structure and Function		
Criteria	Questions to keep in mind	Score
<b>Grounded in evidence</b>	Does the explanation describe the structure of the eye and how it functions to get light information from the environment? (1 point)	
Does the explanation include a description of structures with substructures that serve functions?	Does the explanation describe light receptors as substructures of the eye and how they respond to light with the function of sending information to the brain? (1 point)	
	<b>Total (0–2)</b>	

# End-of-Unit Assessment

## Work time

- Open your Participant Notebook to page 12.
- Score the three student responses (page 16) with rubric 2 only (science ideas).
- Come together with your group and discuss your scores.
- Share out



# End-of-Unit Assessment

## Vision and Light

- Go to the The **End-of-Unit Writing** and the **End-of Unit Assessment Guide** on the lesson page
- Compare your scores with the student responses in the guide.
- Discuss with your group if there were any differences.

### Lesson 4.6: End-of-Unit Assessment

[Printable Lesson Guide](#)

WRITING  
Writing Final Explanations

RESET LESSON

#### Overview

**Materials & Preparation**

**Differentiation**

**Standards**

**Vocabulary**

**Unplugged?**

#### Overview

##### Students' Explanations

This lesson, in which students write their final scientific explanations for the Rain Forest Conservation Group, serves as an end-of-unit assessment (before students move on to investigate other senses in Chapter 5). The end-of-unit assessment is designed to reveal students' understanding of unit-specific science concepts, the crosscutting concept of Structure and Function, and the practice of constructing explanations. To begin, students share their Vision Models with other students. As they share, they explain the structures associated with animal vision, as well as the function of the light receptors in regard to why different animals need different amounts of light to see well. This activity provides students the opportunity to review key unit content prior to writing. Students then write their final explanations, answering the Chapter 4 Question: *How can more light at night make it hard for a Tokay gecko to see its prey?* The purpose of this lesson is for students to apply all they have learned about animal vision in order to write a scientific explanation of why the Tokay geckos are having trouble surviving in the rain.

#### Digital Resources

- [Classroom Slides 4.6 | PowerPoint](#)
- [Classroom Slides 4.6 | Google Slides](#)
- [All Projections](#)
- [Assessment Guide: Assessing Students' End-of-Unit Explanations About Why More Light Makes It Harder for a Tokay Gecko to See](#)
- [End-of-Unit Writing: Explaining Why More Light Makes It Harder for a Tokay Gecko to See Version A copymaster](#)
- [End-of-Unit Writing: Explaining Why More Light Makes It Harder for a Tokay Gecko to See Version B copymaster](#)
- [Vision and Light Investigation Notebook, pages 88–90](#)

# End-of-Unit Assessment


## Form A and B

### Digital Resources

 Classroom Slides 4.6 | PowerPoint


 Classroom Slides 4.6 | Google Slides

 All Projections

 Assessment Guide: Assessing Students' End-of-Unit Explanations About Why More Light Makes It Harder for a Tokay Gecko to See

 End-of-Unit Writing: Explaining Why More Light Makes It Harder for a Tokay Gecko to See Version A copymaster

 End-of-Unit Writing: Explaining Why More Light Makes It Harder for a Tokay Gecko to See Version B copymaster

 Vision and Light Investigation Notebook, pages 88–90

Name: \_\_\_\_\_ Date: \_\_\_\_\_

#### End-of-Unit Writing: Explaining Why More Light Makes It Harder for a Tokay Gecko to See (continued)

How does a Tokay gecko usually see? Why does more light at night make it hard for it to see?


Name: \_\_\_\_\_ Date: \_\_\_\_\_

#### End-of-Unit Writing: Explaining Why More Light Makes It Harder for a Tokay Gecko to See (continued)

How does a Tokay gecko usually see? Why does more light at night make it hard for it to see?

How a gecko usually sees its prey:

When light gets to a Tokay gecko's eyes, \_\_\_\_\_


Why bright lights at night are a problem for a gecko:

Since the highway lights have been installed, there is more light at night.

This means \_\_\_\_\_


# Formative assessment information

## Possible student responses

- Within assessments:
  - “Look fors” (OtF)
  - “Assess Understanding” (CJ)
- Possible responses within the Instructional Guide
- Digital resources
  - Assessment Guides
  - Teacher References

Lesson Brief (3 Activities) < 1 HANDS-ON Using Senses to Get Information 2 STUDENT-TO-STUDENT DISCUSSION Sharing Ideas 3 TEACHER-LED DISCUSSION Introducing Structure and Function

### Using Senses to Get Information

Students use their senses to get information about objects in their environment.(30 min)

INSTRUCTIONAL GUIDE

Step-by-step Teacher Support **Possible Responses** My Notes

1. Refer to students' role and lead a discussion about the chapter question to leverage prior knowledge and experiences. (See the [Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds](#) guide for more information.) Remind students that they are working as conservation biologists as they help the Rain Forest Conservation Group figure out why the Tokay geckos are having trouble surviving in the conservation area.

Q We will first work to answer the Chapter 1 Question: *How does a Tokay gecko get information about its environment?*

Q As we think about this question we can refer to the Our Experiences and What We Think We Know charts to see if any of our ideas might help us understand the Tokay gecko.

Q Do any of our first ideas help us answer this question?

Q Let's keep these ideas in mind as we investigate.

2. Introduce the Investigation Question. Point to the Investigation Question and read it out loud. Then point out the Chapter

↓ Scroll for more ↓

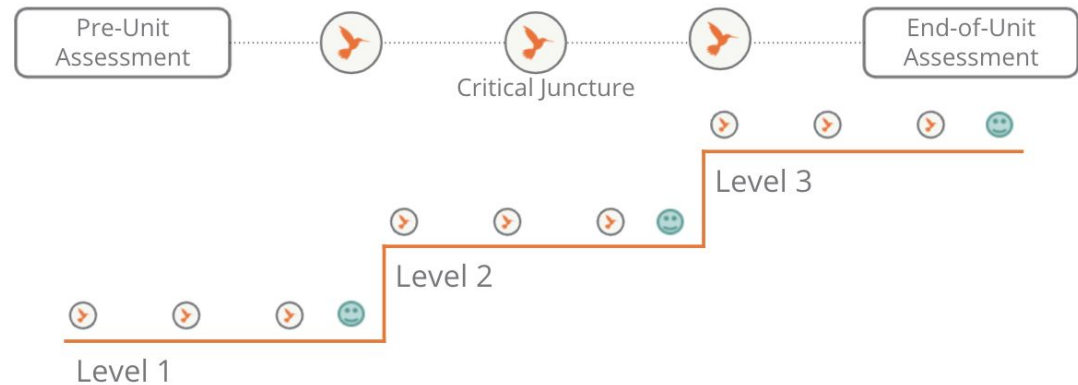
# Assessment System

## Reflection

How do the Progress Build and assessments work as a system?

What are the benefits of this system for students? For teachers?

### K-5 Assessment System



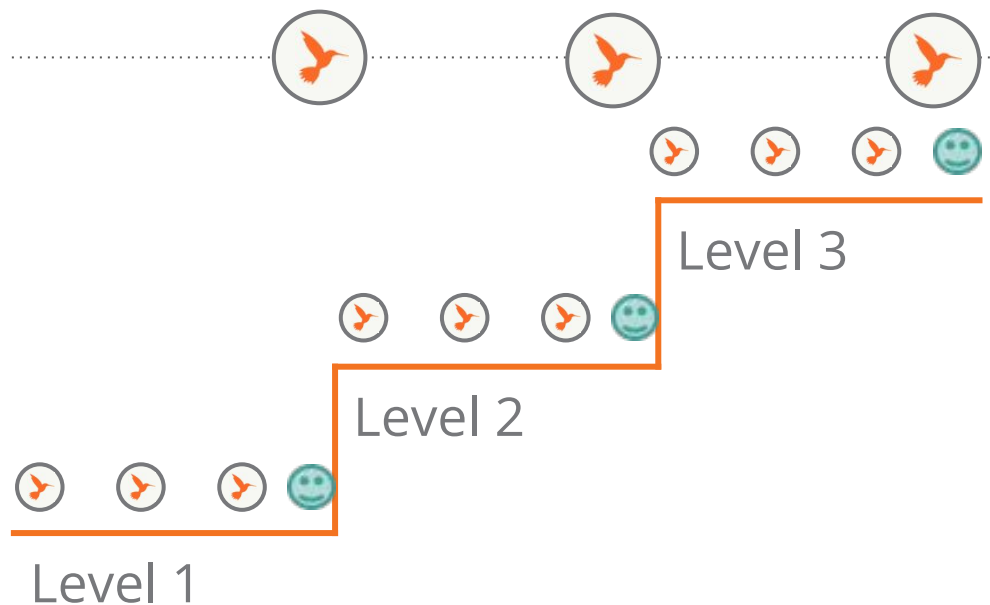
# Lunch Break



# Additional formative assessment information

## Student Self-Assessments

- End of each chapter
- Grades K-1: Pair Share activity
- Grades 2-5: Independent Investigation Notebook activity



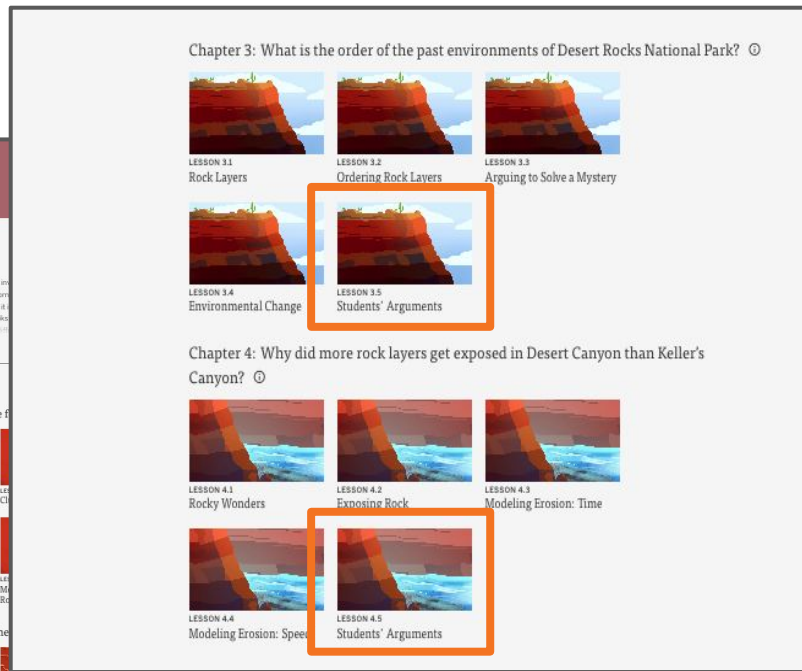
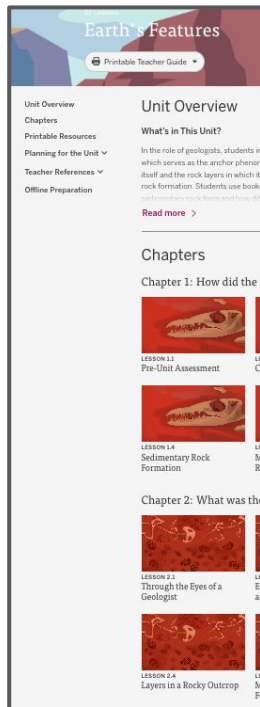
# Additional assessment information

## End of Unit Assessments: 2 Parts

End of Unit Assessment Part 1

End of Unit Assessment Part 2

## Unit 3: Earth's Features



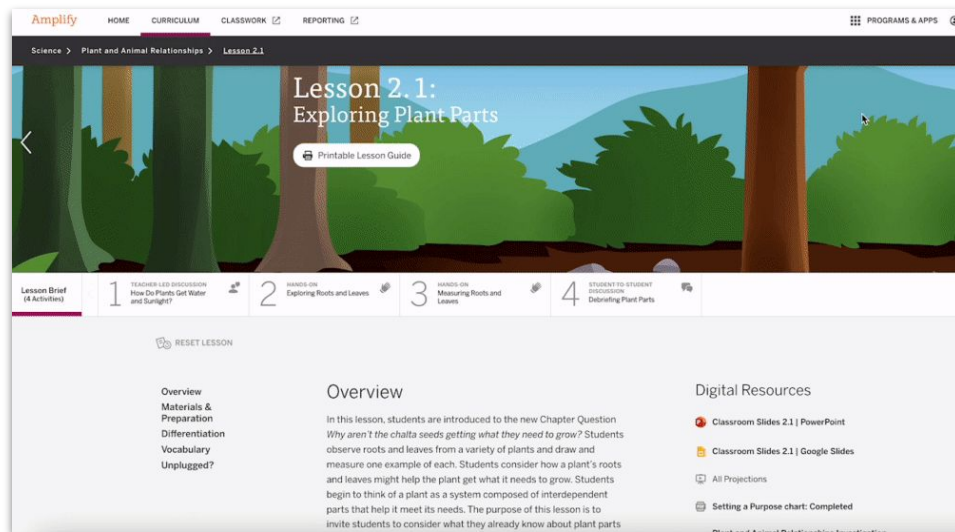
# Questions?



# Resources for NGSS progress monitoring

## NGSS Benchmark assessments

- Accessible in the Global Navigation menu
- Grades 3-5
- 4 assessments per grade



# Resources for NGSS progress monitoring

## 3D Assessment Objectives

- Located in the Unit Guide
- Identifies where each dimension of the target Performance Expectations are assessed in the unit, in the grade, or in the grade-band.

**2-LS2-1.** Plan and conduct an investigation to determine if plants need sunlight and water to grow.

**SEP:** Planning and Carrying Out Investigations

*Needs of Plants and Animals (Grade K)*

OTFA 7: Lesson 2.3, Activity 3  
OTFA 10: Lesson 3.1, Activity 2

*Pushes and Pulls (Grade K)*

PRE: Lesson 1.1, Activity T  
OTFA 4: Lesson 2.1, Activity 2

*Sunlight and Weather (Grade K)*

OTFA 2: Lesson 2.1 Activity 4  
INV: Lesson 4.1, Activities 3 + 4 (S)  
OTFA 14: Lesson 5.2, Activity 4

*Light and Sound (Grade 1)*

OTFA 2: Lesson 1.3, Activity 3  
OTFA 7: Lesson 3.1, Activity 2  
INV: Lesson 4.1, Activity 3 (S)

*Spinning Earth (Grade 1)*

OTFA 7: Lesson 3.1, Activity 2  
OTFA 8: Lesson 3.3, Activity 4  
OTFA 11: Lesson 4.1, Activity 2

*Plant and Animal Relationships (Grade 2)*

OTFA 4: Lesson 1.6, Activity 4  
OTFA 9: Lesson 3.3, Activity 3  
OTFA 12: Lesson 4.1, Activity 4  
OTFA 13: Lesson 4.2, Activity 4  
INV: Lesson 4.3, Activity 4 and Lesson 4.3, Activities 1–4 (S)  
OTFA 14: Lesson 4.3, Activity 3

**DCI:** LS2.A: Interdependent Relationships in Ecosystems

*Plant and Animal Relationships (Grade 2)*

PRE: Lesson 1.1, Activity 3  
CJ 1: Lesson 1.7 Activity 2  
OTFA 7: Lesson 2.3, Activity 3  
CJ 2a: Lesson 2.4, Activity 3  
CJ 2b: Lesson 2.5, Activity 3  
INV: Lesson 4.3, Activity 4 and Lesson 4.3, Activities 1–4 (S)  
EOU: Lesson 4.4, Activity 3 (S)

**CCC:** Cause and Effect

*Pushes and Pulls (Grade K)*  
PRE: Lesson 1.1, Activity T  
EOU: Lesson 6.3, Activity 1 (S)

*Sunlight and Weather (Grade K)*  
PRE: Lesson 1.3, Activity 4  
OTFA 13: Lesson 4.4, Activity 1  
EOU: Lesson 5.6, Activity 1 (S)

*Animal and Plant Defenses (Grade 1)*  
OTFA 3: Lesson 1.4, Activity 3

*Light and Sound (Grade 1)*  
PRE: Lesson 1.1, Activity 1  
OTFA 3: Lesson 1.4, Activity 3  
OTFA 9: Lesson 3.6, Activity 1  
INV: Lesson 4.1, Activity 3 (S)  
EOU: Lesson 4.6, Activity 1 (S)

*Changing Landforms (Grade 2)*  
OTFA 5: Lesson 2.4, Activity 2

*Properties of Materials (Grade 2)*  
OTFA 8: Lesson 2.3, Activity 5  
OTFA 16: Lesson 4.3, Activity 4  
EOU: Lesson 4.4, Activity 2 (S)

# Generating grades

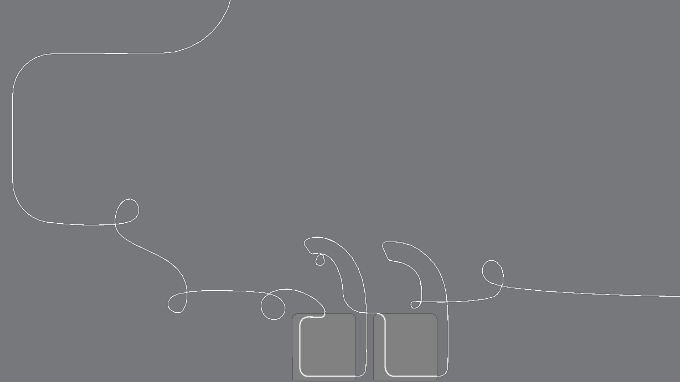
## Group collaborative discussion

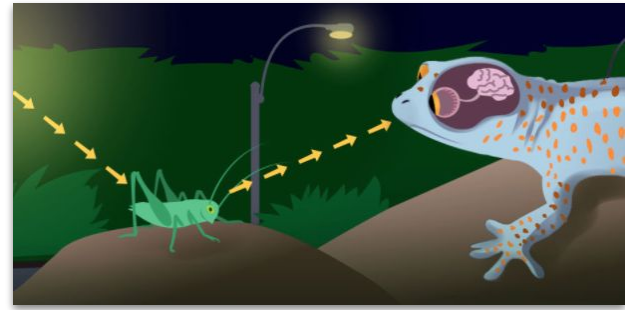
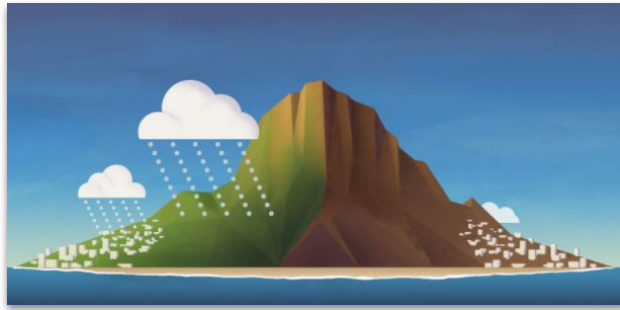
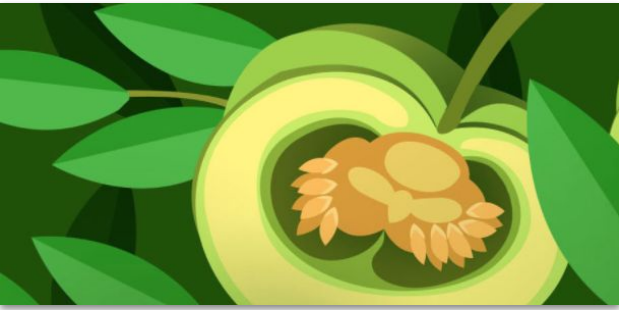
What are your district's grading requirements for science?

How will you use Amplify Science assessments to generate grades?



# Questions?





# Plan for the day

- Introduction
- Assessment System
- Progress Build
- Assessments
- **Model Lesson**
- Planning
- Closing



# 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.



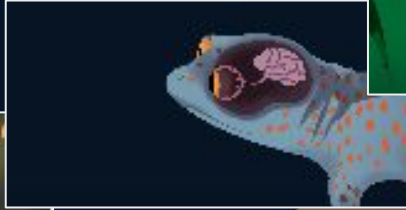
# Coherent Storylines



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?

# Coherence Flowchart

## Chapter 1

### Unit Anchor Phenomenon

*Problem students work  
to solve*

### Chapter-level Anchor Phenomenon

*Chapter 1 Question*

### Investigation Questions

Evidence sources and  
reflection opportunities

### Key concepts

Application of key  
concepts to the problem

Explanation that students  
can make to answer the  
Chapter 1 Question

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

*How do animals use their senses to get information about their environment? (1.2-1.4)*  
(Note: See Lesson Overviews for lesson-level Investigative Phenomena)

- 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)

- 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)

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

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.

# Vision and Light

Leading up to our model lesson

L 1.1-Pre-Unit Assessment and Introduction to Phenomenon

L 1.2-Exploring how senses help people get information about objects in their environment.

L 1.3-Reading *Investigating Animal Senses* and investigating how information about objects can be blocked from the senses through a full-class demonstration

## Chapters

Chapter 1: How does a Tokay gecko get information about its environment? ⓘ



LESSON 1.1  
Pre-Unit Assessment



LESSON 1.2  
Introducing Animal Senses



LESSON 1.3  
Investigating Animal Senses



LESSON 1.4  
Exploring How Animals Survive

# Vision and Light

## Model lesson 1.4

- Observing videos of animals and plants using senses to help them survive.
- Investigating what is needed to see objects inside a Mystery Box.

## Chapters

Chapter 1: How does a Tokay gecko get information about its environment? ⓘ



LESSON 1.1  
Pre-Unit Assessment



LESSON 1.2  
Introducing Animal Senses



LESSON 1.3  
Investigating Animal Senses



LESSON 1.4  
Exploring How Animals Survive

# The Lesson Brief and Classroom Slides

## Lesson 1.4: Exploring How Animals Survive

Printable Lesson Guide

CRITICAL JUNCTURE: Writing to  
Reflect

2

HANDS-ON  
Introducing the Mystery Box

RESET LESSON

Overview

Materials &  
Preparation

Differentiation

Standards

Vocabulary

Unplugged?

### Overview

Students view videos of animals using their senses, reflect on their learning through writing, and are introduced to the Mystery Box activity, which draws their attention to the sense of vision. First, students observe videos of animals and plants using certain structures to get information about their environment, which helps them survive. Students use their understanding of structure and function to discuss plant and animal reproduction. Students then engage in a brief writing activity that allows them to demonstrate their learning thus far in the unit. This writing activity serves as a Critical Juncture Assessment through which students demonstrate their understanding of chapter content thus far. This Critical Juncture Assessment, the first of four in the unit, will reveal students' readiness to move on to the next chapter by determining whether they have gained the foundational understanding about how animals use their senses to get information about their environment that will enable them to be successful in the remaining chapters of the unit. Through a new message from the Rain Forest Conservation Group, students receive an important piece of information about how Tokay geckos find their food. This draws students' focus to investigating

### Digital Resources

- Classroom Slides 1.4 | PowerPoint
- Classroom Slides 1.4 | Google Slides
- All Projections
- Classroom Videos 1.4 | Zip
- Mystery Box Reference
- Video: Animal Senses—Antelopes
- Video: Animal Senses—Grizzly
- Video: Animal Senses—Raccoon
- Video: Animal Senses—Sidewinder
- Video: Plants Growing Toward Light



# Vision and Light

## Materials & Preparation

### Materials

#### For the Classroom Wall

- vocabulary: *vision*
- key concept: *Animals have different structures that allow them to get information from their environment, which helps them survive.*
- key concept: *Light, sound, and scent can carry information about the environment to an animal.*
- Unit Question: *How do animals use vision and other senses to survive in their environment?*

#### For the Class

- masking or packing tape, approximately 2" wide\*
- box cutter\*
- optional: black paper or opaque tape\*
- optional: Chapter 1 Home Investigation: Asking Questions copymaster

#### For Each Group of Four Students

- 1 cardboard box
- 1 binder clip

#### For Each Student

- *Vision and Light* Investigation Notebook (pages 14–19)
- optional: 1 copy of the Chapter 1 Home Investigation: Asking Questions student sheet

\*teacher provided

## Immediately Before the Lesson

1. **Write the Investigation Question on the board.** If the Investigation Question from Lesson 1.1 was erased, rewrite "How do animals use their senses to get information about their environment?"
2. **Write the reflection questions for the Animal Sense videos on the board:**
  - "How did the animal get information about what was in its environment?"
  - "What structure did it use?"
  - "How did the information from the environment get to the animal?"
  - "How will the animal use that information to survive?"
3. **In a separate section of your board, write the reflection questions for the Plant video:**
  - "How did the plants get information about what was in its environment?"
  - "How will the plants use that information to survive?"
4. **Have on hand the following materials:**
  - materials for classroom wall
  - prepared Mystery Boxes
  - masking tape
  - optional: copies of the Chapter 1 Home Investigation: Asking Questions student sheet

## Digital Resources


 **Classroom Slides 1.4 | PowerPoint**

 **Classroom Slides 1.4 | Google Slides**

 **All Projections**

 **Classroom Videos 1.4 | Zip**

 **Mystery Box Reference**


 **Video: Animal Senses—Antelopes**

 **Video: Animal Senses—Grizzly**

 **Video: Animal Senses—Raccoon**

 **Video: Animal Senses—Sidewinder**

 **Video: Plants Growing Toward Light**

 **Optional: Chapter 1 Home Investigation: Asking Questions copymaster**

 **Vision and Light Investigation Notebook, pages 14–19**

 **Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds**

# Vision and Light

## Classroom Wall - (Before the Lesson 1.4)

### Problem:

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

### Chapter 1 Question:

**Investigation Questions:** How do animals use their senses to get information about their environment?

### Key Concepts:

Animals have different structures that allow them to get information from their environment.

Sound and scent can carry information about the environment to an animal.

### Vocabulary:

environment

survive

sense

function

structure

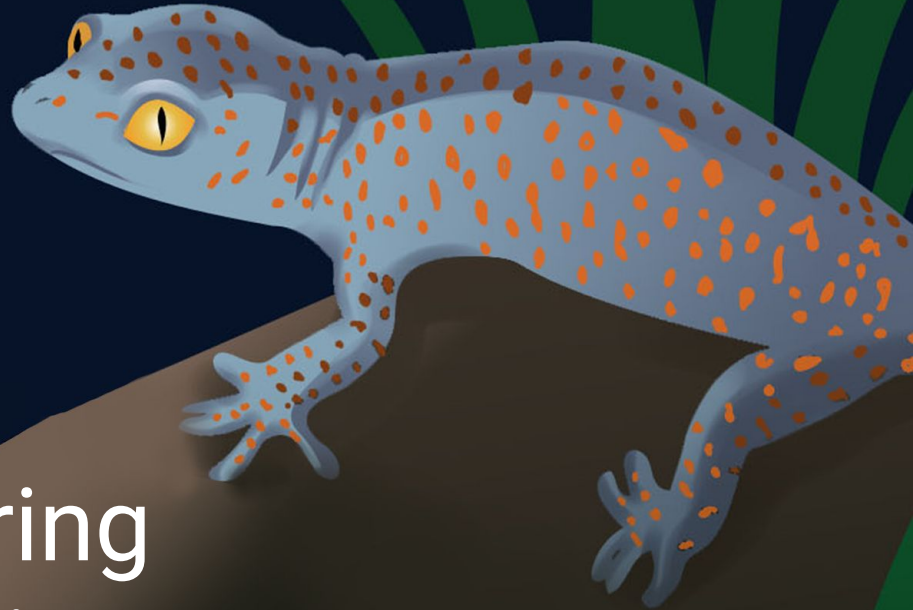
observe

investigation



**Grade 4 | Vision and Light**

# **Lesson 1.4: Exploring How Animals Survive**



## Activity 1

# Critical Juncture: Writing to Reflect



Remember that we are investigating this question:

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



How do some of the animals you read about in the book get **information** from their **environment**?

Some animals get information from \_\_\_\_\_.



We will investigate both **animal and plant senses.**

You will observe videos of different animals and plants using their senses to get information about the environment.

## Reflection Questions for Animal Videos

- How does the animal get information about what is in its environment?
- What structure does it use?
- How does the information from the environment get to the animal?
- How will the animal use that information to survive?















Why is it important for animals to get information from the environment?

It is important for animals to get information from the environment because\_\_\_\_\_.

## Key Concept

Animals have different structures that allow them to get information from their environment, which helps them survive.

## Kangaroo Structure And Survival



Young kangaroos in pouches



What do you think the **function** of a kangaroo pouch is?

I think the function of the pouch is \_\_\_\_\_.

How does that function help kangaroos **survive**?

The pouch helps kangaroos survive by \_\_\_\_\_.

## Reflection Questions for Plant Video

- How do the plants get information about what is in their environment?
- How will the plants use that information to survive?





Do you think **plants** have **senses**?

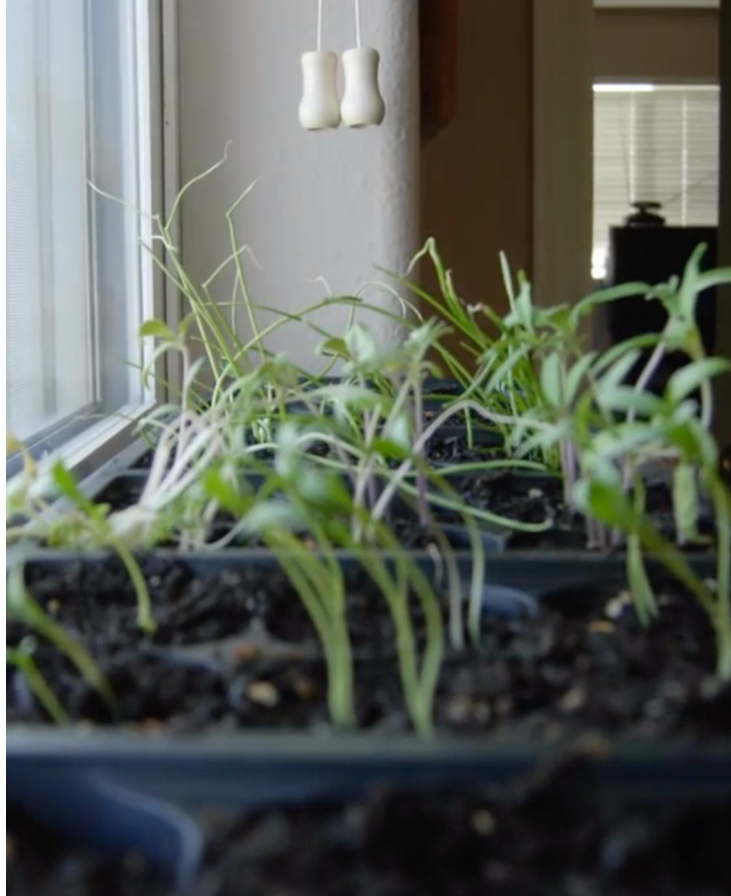
What **evidence** do you have?

The evidence I have is \_\_\_\_\_.

How could moving toward light be helpful for a plant's **survival**?

It is helpful for the plant's survival by \_\_\_\_\_.





Plants have **internal structures** that allow them to **sense** and move toward **light**, which they need in order to **survive**.

## Plant Structures and Survival



branches



seeds



leaves



roots



What do you think each part does for a plant?

I think \_\_\_\_\_ does \_\_\_\_\_.

How does this help the plant **survive**?

\_\_\_\_\_ helps the plant survive by \_\_\_\_\_.



**leaves**



What do you think the **veins** in a leaf do for a plant?

The veins in a leaf \_\_\_\_\_.

How does this help the plant **survive**?

\_\_\_\_\_ helps it to survive by \_\_\_\_\_.

You've been learning about how plant and animal **senses help with survival**.

Understanding this might give you a clue as to why the **Tokay geckos** are having **trouble surviving**.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Writing About How Animals Use Senses**

1. Think about the videos you just watched of animals using their senses.
2. Answer the questions below.

The antelopes ran away when they heard their predator. If an antelope couldn't hear well, how could this antelope know when there is a predator nearby?

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---

---

---

The raccoon was using its paws to feel for food in the water. If a raccoon couldn't feel things well, how could this raccoon find its food?

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Turn to page 15 in your notebooks.



**Think** about the animal videos you just watched.

**Answer** the questions.

## Lesson 1.4, Activity 1

### Critical Juncture Assessment 1: Writing About How Animals Use Senses

**Assess understanding:** The purpose of this Critical Juncture is to assess students' understanding of how animals use senses to get information about their environment. At this point in the unit, students should be able to demonstrate their understanding that scent and sound carry information from the environment and that animals have sensory structures, such as a nose and ears, to receive that information. Students should be able to make the connection that being able to receive such information is necessary to fulfill the animal's various needs for survival. Students should be able to identify the different ways in which animals gather information about their environment using different sensory structures. In their responses, look for students to demonstrate this understanding by connecting sensory structures (e.g., nose) to the information they get from the environment (e.g., scents).

**Tailor instruction:** If students are not yet understanding the various senses that an animal might use to get information about its environment, have them act out what it would be like for the animals in the videos they watched earlier to not be able to use their sensory structures to get information. For example, for the antelope, have students cover their ears in order to not hear well. For the raccoon, have students not be able to use their hands. Without the functions of those structures, have students try to get information about something in the environment (e.g., the classroom) using other senses. Ask students questions such as *What kinds of information are you able to get without this function?* and *What other senses are you using and what structures are helping you get the information?* This could serve as a review of the senses and the structures that are responsible for them. Alternatively, you can lead a discussion to review each sense—what it does and what structures are involved.

**NGSS connection:** This formative assessment reveals student knowledge and use of Disciplinary Core Ideas LS1.A: Structure and Function (LS1.A-E1: ... animals have ... external structures that serve various functions in ... survival [and] behavior ...) and LS1.D: Information Processing (LS1.D-E1: Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal's brain ...).

### Additional 3-D Assessment Opportunities

To assess student understanding of the practice of Asking Questions and Defining Problems (SEP 1), ask students to come up with questions that someone could investigate to figure out which senses the animals in the videos were using to catch/scense

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Writing About How Animals Use Senses**

- 1. Think about the videos you just watched of animals using their senses.
- 2. Answer the questions below.

The antelopes ran away when they heard their predator. If an antelope couldn't hear well, how could this antelope know when there is a predator nearby?

---

---

---

---

The raccoon was using its paws to feel for food in the water. If a raccoon couldn't feel things well, how could this raccoon find its food?

---

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---



Share what you wrote.



## **Chapter 1 Question**

**How does a Tokay gecko get information about its environment?**





What **new ideas** do you have about how Tokay geckos get information?

How do you think this might **affect their survival?**

I think this affects their survival by \_\_\_\_\_.

## Activity 2

# Introducing the Mystery Box





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



---

Thank you for the update about how geckos get information from their environment in order to survive. We wanted to let you know we observed that the Tokay geckos rely mostly on their vision to find their prey, such as insects. We hope that this information is useful to you.

We just discussed that finding food is essential to an animal's survival.



What **new ideas** do you have about why the geckos might have **trouble surviving** in their area of the rain forest?

An idea I have about the geckos is \_\_\_\_\_.

# Vocabulary



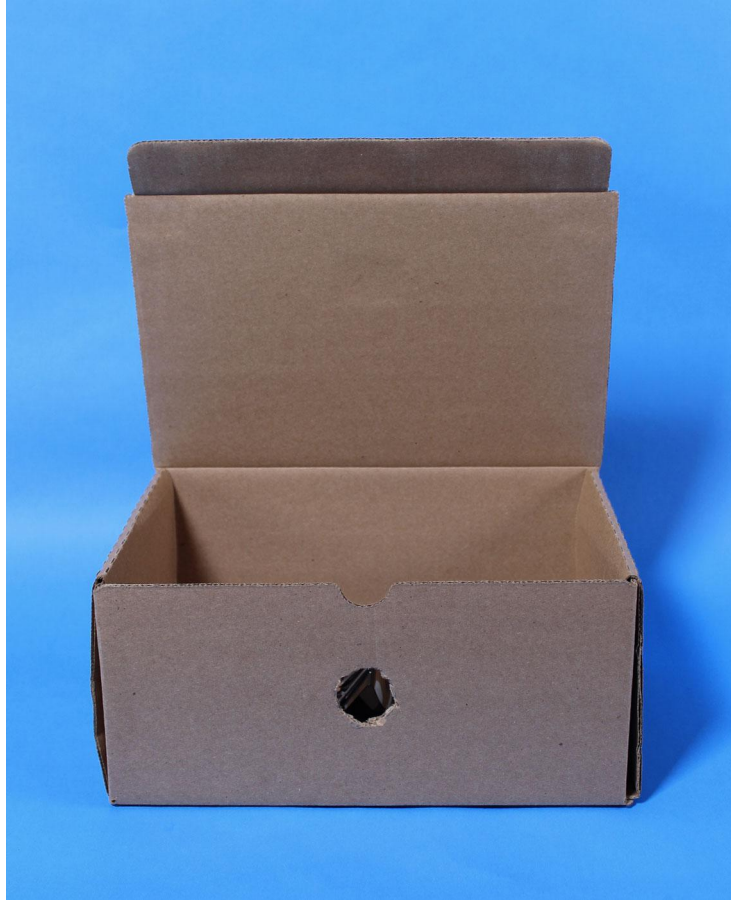
**vision**

the ability to see



## **Unit Question**

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



This is the **Mystery Box**. It will help us understand more about **vision** and how it can help animals get information about their environment.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Exploring the Mystery Box**

1. Follow the directions in each part to answer the questions below.

**Part 1**

When it is your turn, look through the eyehole of the Mystery Box. What do you see? Write your answer below and draw it in the box.

\_\_\_\_\_

\_\_\_\_\_



Stop here until your teacher says to go to Part 2.

e: \_\_\_\_\_

ued)

ut the answer to this  
hat is inside the box?

\_\_\_\_\_

\_\_\_\_\_

t the Mystery Box so  
hen look through the

\_\_\_\_\_

\_\_\_\_\_

ect inside the box?

\_\_\_\_\_

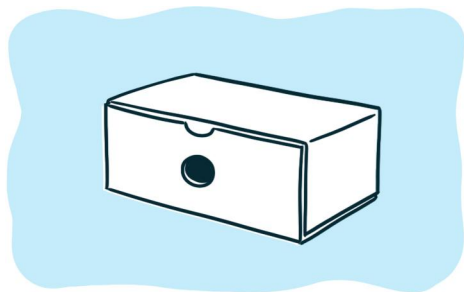
\_\_\_\_\_

Turn to pages 16–17 in your notebooks.

You will work in groups to figure out what you need in order to see your “food” in the box.

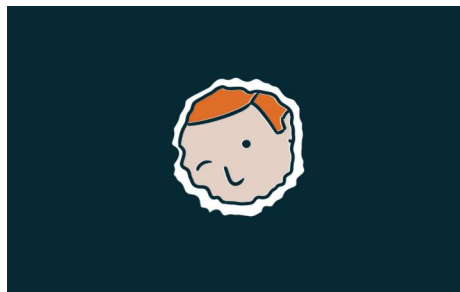


## Exploring the Mystery Box: Part 1



### Step 1

**Keep the box flat** on the table and **leave it closed**.



### Step 2

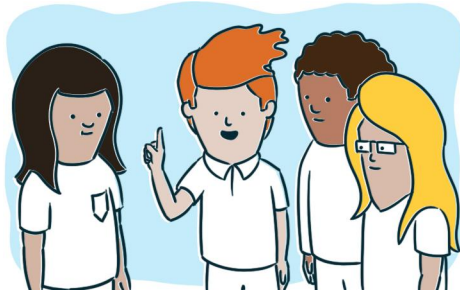
When it is your turn, **look through the eyehole** of the Mystery Box.



### Step 3

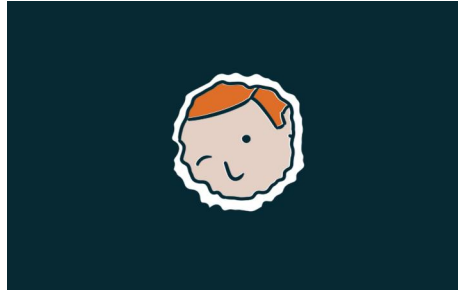
**Write or draw what you see** on page 16 in your notebook. Wait for the signal to move on to Part 2.

## Exploring the Mystery Box: Part 2



### Step 1

Discuss the question  
**What do you need in order to see the “food” that is inside the box?**



### Step 2

**Decide what one thing you will change** about the Mystery Box so you can see what is inside. **Make this change.** Then look through the eyehole.



### Step 3

**Answer the questions** on page 17 in your notebook.



What did you see when you first looked through the eyehole? Could you see what was inside?

At first, I saw \_\_\_\_\_.

**What did you need** in order to see your “food” inside the box?

I needed \_\_\_\_\_ to see my food inside the box.



What kind of **information** could you get about the object inside the box?

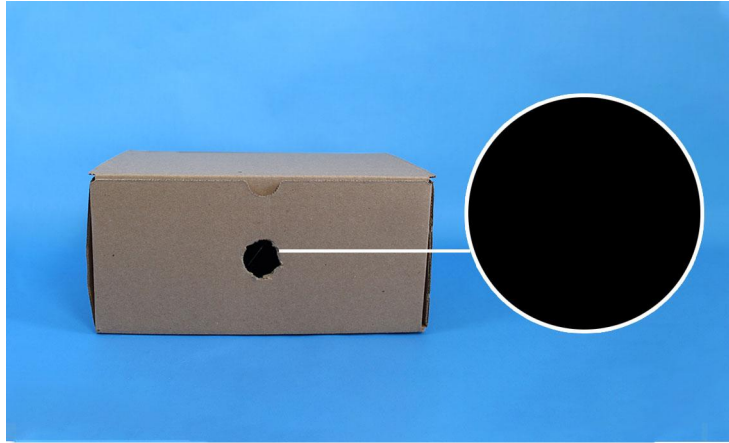
One information I can get is \_\_\_\_\_.

What **new ideas** does this give you about **what animals need** in order to see their food?

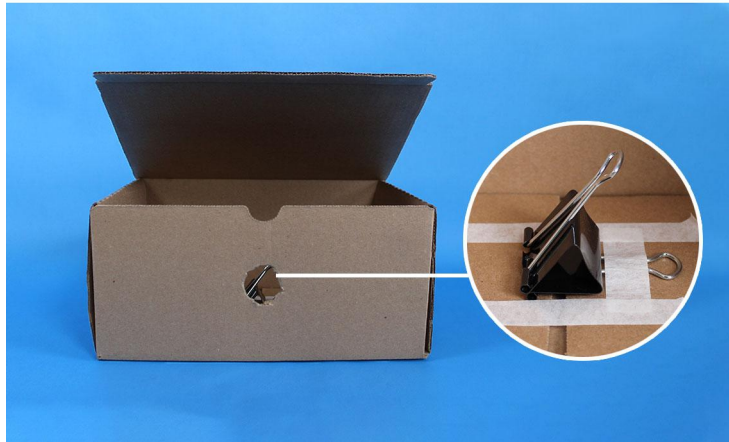
A new idea it gives me is \_\_\_\_\_.

## Key Concept

**Light**, sound, and scent can carry information about the environment to an animal.



**Without light**, you could **not see** what was inside.



**With light**, the **information** about what was inside could be carried to you. You could **sense it** with your eyes.



Scientists ask questions about how the **natural world** works and what parts of it are like. They try to answer their questions through **investigation**.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Asking Questions About Light

Record at least two new questions you have about light.

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Turn to page 18 in your notebooks.



**Record two or more questions that you have about light.**



# End of Lesson



THE LAWRENCE  
HALL OF SCIENCE  
UNIVERSITY OF CALIFORNIA, BERKELEY

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# Vision and Light

## Classroom Wall (After Lesson 1.4)

### Problem:

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

**Chapter 1 Question:** How does a Tokay gecko get information about its environment?

**Investigation Questions:** How do animals use their senses to get information about their environment?

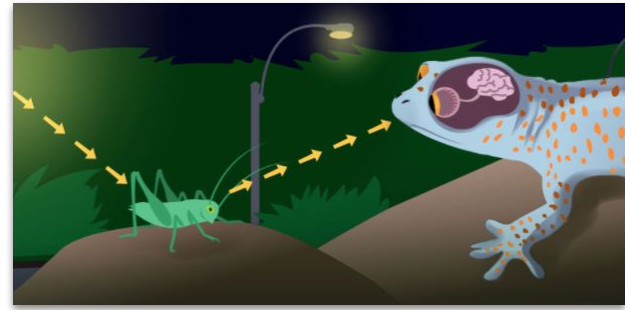
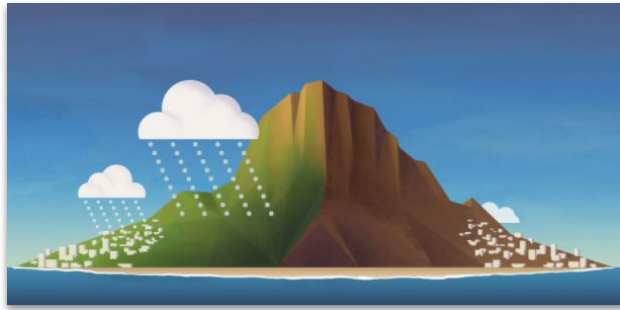
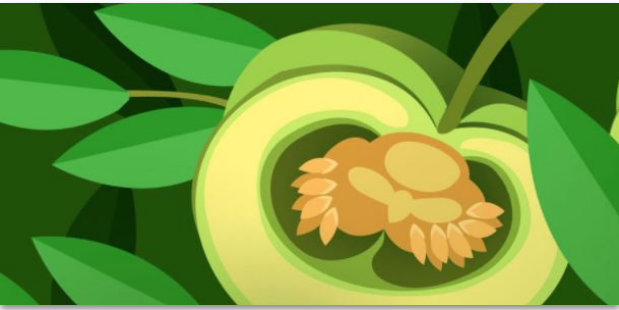
### Key Concepts:

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

### Vocabulary:

environment  
survive  
sense  
function  
structure  
observe  
Investigation  
vision

# Break

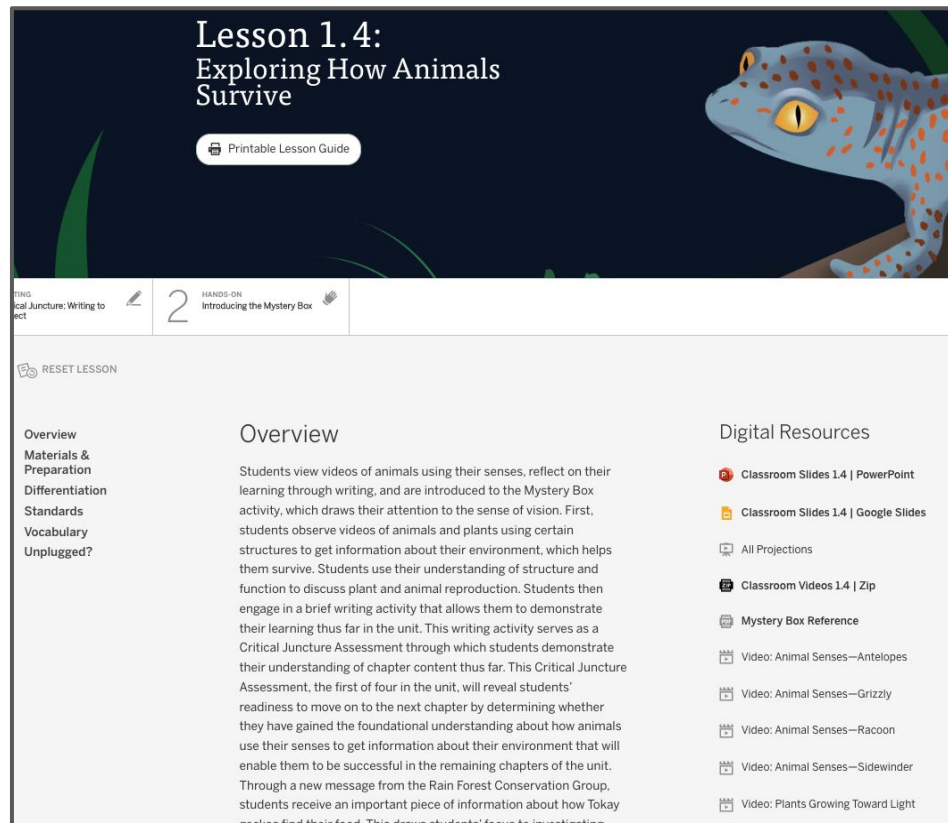


# Plan for the day

- Introduction
- Assessment System
- Progress Build
- Assessments
- Model Lesson
- **Planning**
- Closing

# Work time - Planning

- Navigate to a lesson that you'll be teaching in the upcoming week that has a formative assessment opportunity (you might want to refer to the **Embedded Formative Assessment or Assessment System** documents on the Unit Landing Page)
- Review the assessment type and guidance

The screenshot shows a digital lesson interface for "Lesson 1.4: Exploring How Animals Survive". At the top right is an illustration of a blue spotted salamander. Below the title is a button labeled "Printable Lesson Guide". A progress bar at the top shows two steps: "Critical Juncture: Writing to Reflect" (step 1) and "Hands-On: Introducing the Mystery Box" (step 2, currently active). The main content area is titled "Overview" and contains a paragraph about students using videos of animals to learn about senses and survival. On the left is a sidebar menu with options: Overview, Materials & Preparation, Differentiation, Standards, Vocabulary, and Unplugged?. On the right is a "Digital Resources" section listing various materials like Classroom Slides, Classroom Videos, and Mystery Box Reference, along with specific video links for animal senses.

# Work time - Planning

- Download and review the classroom slides
- Read the unit overview
- Read the Materials and Prep
- Read the differentiation
- Prepare any data collectors or assessment materials needed.

## Lesson 1.4: Exploring How Animals Survive

Printable Lesson Guide

1 Critical Juncture: Writing to  
reflect

2 HANDS-ON  
Introducing the Mystery Box

RESET LESSON

### Overview

Students view videos of animals using their senses, reflect on their learning through writing, and are introduced to the Mystery Box activity, which draws their attention to the sense of vision. First, students observe videos of animals and plants using certain structures to get information about their environment, which helps them survive. Students use their understanding of structure and function to discuss plant and animal reproduction. Students then engage in a brief writing activity that allows them to demonstrate their learning thus far in the unit. This writing activity serves as a Critical Juncture Assessment through which students demonstrate their understanding of chapter content thus far. This Critical Juncture Assessment, the first of four in the unit, will reveal students' readiness to move on to the next chapter by determining whether they have gained the foundational understanding about how animals use their senses to get information about their environment that will enable them to be successful in the remaining chapters of the unit. Through a new message from the Rain Forest Conservation Group, students receive an important piece of information about how Tokay geckos find their food. This draws students' focus to investigation

### Digital Resources

- Classroom Slides 1.4 | PowerPoint
- Classroom Slides 1.4 | Google Slides
- All Projections
- Classroom Videos 1.4 | Zip
- Mystery Box Reference
- Video: Animal Senses—Antelopes
- Video: Animal Senses—Grizzly
- Video: Animal Senses—Raccoon
- Video: Animal Senses—Sidewinder
- Video: Plants Growing Toward Light

# Work time - Planning

Be prepared to share out the:

- Lesson chosen
- Type of assessment
- “Look Fors” or “Assess for Understanding”
- “Now What” or “Tailor Instruction”
- Personal observations or reflections

## Amplify Science sample assessment data collection tool

Grade :

Lesson \_\_\_\_\_

Look for 1:

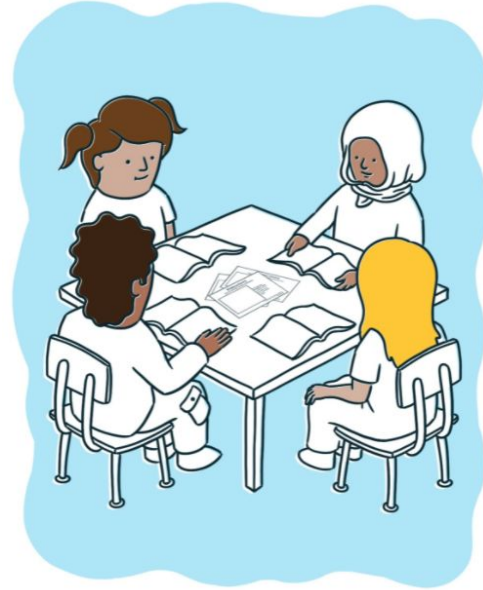
Look for 2:

[illegible]

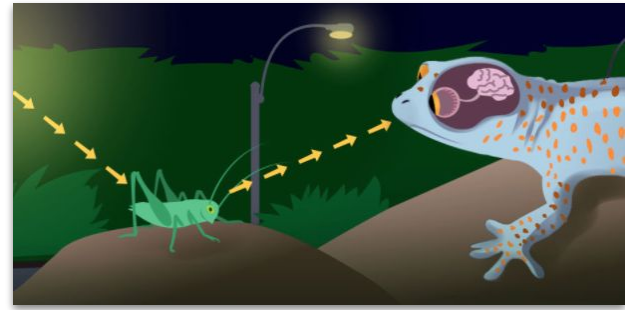
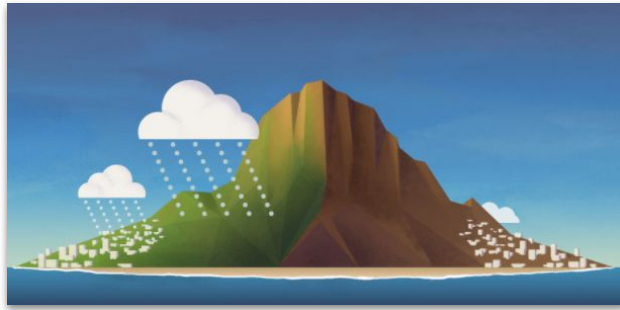
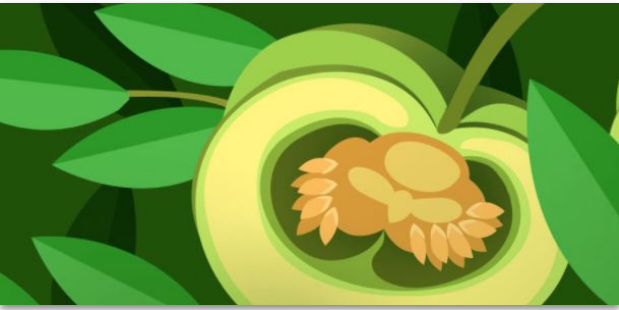
# Share Out

Share:

- Lesson chosen
- Type of assessment
- “Look Fors” or “Assess for Understanding”
- “Now What” or “Tailor Instruction”
- Personal observations or reflections





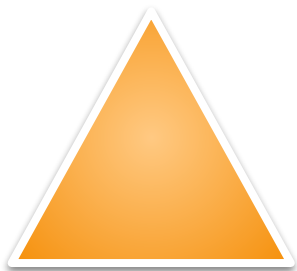


# Plan for the day

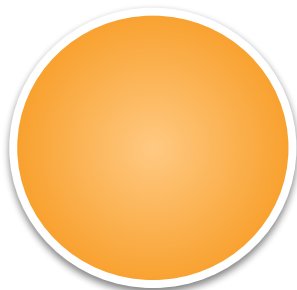
- Introduction
- Assessment System
- Progress Build
- Assessments
- Model Lesson
- Planning
- Closing

# Closing reflection

Based on our work today, share:



1-3 big points you're taking away from this session



A question or topic that's still circling in your mind



Something that's "squaring" (resonating) with you from this session

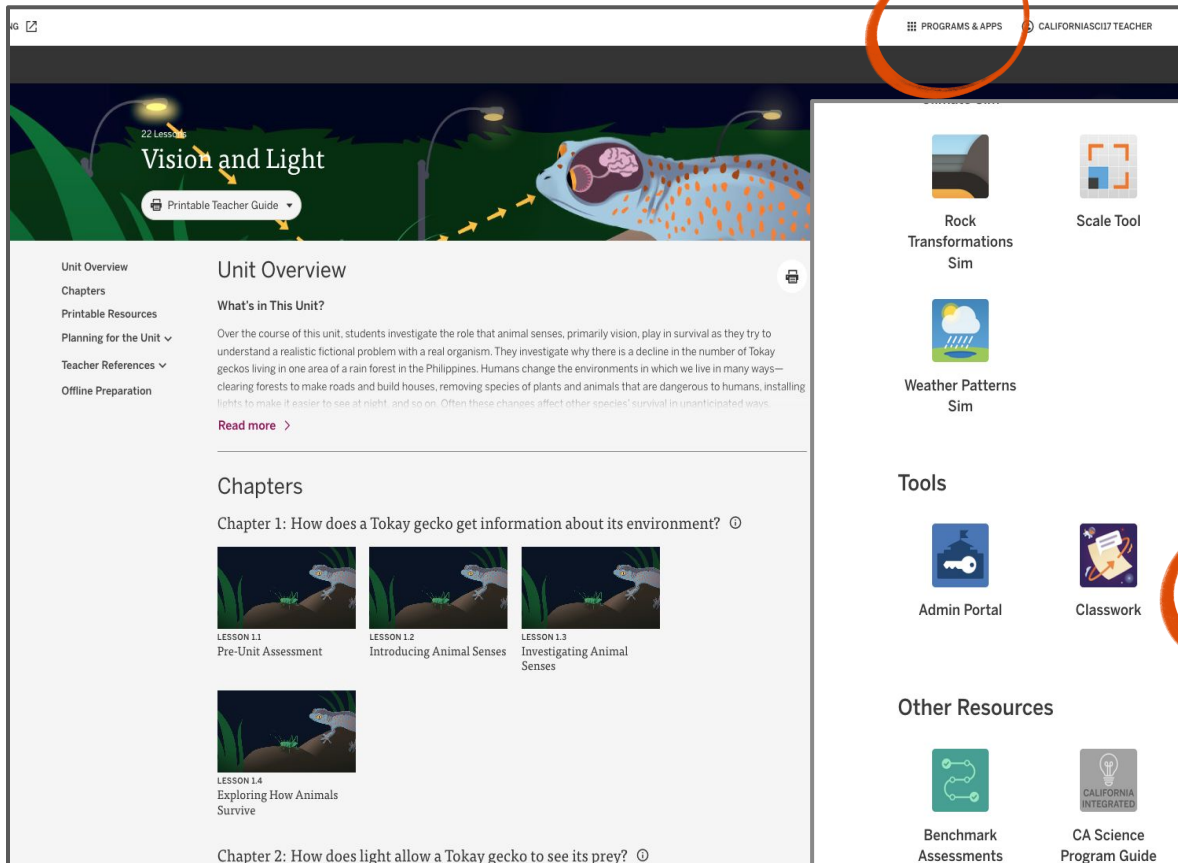
# Overarching goals

- ☑ Describe the structure and purpose of the Amplify Science Assessment System
- ☑ Plan for the strategic use of assessment resources to analyze and respond to student work

Let's connect  
this goal to  
our students



# Navigating to the Student Apps page



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?

Over the course of this unit, students investigate the role that animal senses, primarily vision, play in survival as they try to understand a realistic fictional problem with a real organism. They investigate why there is a decline in the number of Tokay geckos living in one area of a rain forest in the Philippines. Humans change the environments in which we live in many ways—clearing forests to make roads and build houses, removing species of plants and animals that are dangerous to humans, installing lights to make it easier to see at night, and so on. Often these changes affect other species' survival in unanticipated ways.

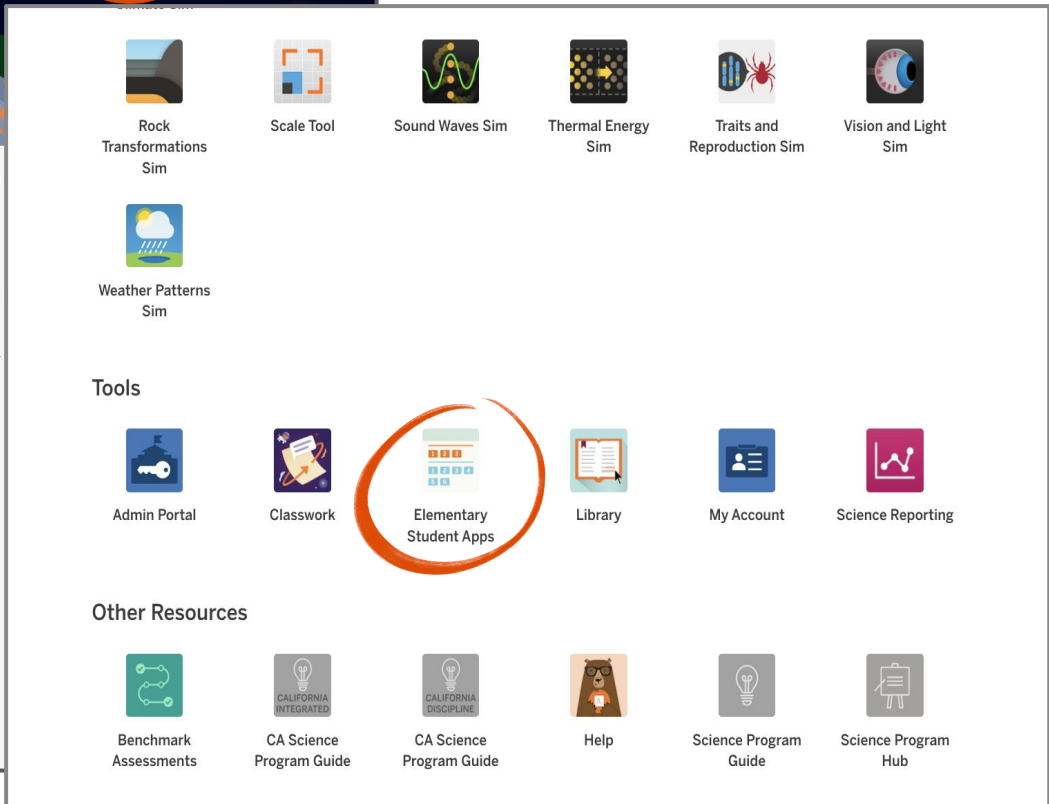
[Read more >](#)

### Chapters

Chapter 1: How does a Tokay gecko get information about its environment? ⓘ

- LESSON 1.1 Pre-Unit Assessment
- LESSON 1.2 Introducing Animal Senses
- LESSON 1.3 Investigating Animal Senses
- LESSON 1.4 Exploring How Animals Survive

Chapter 2: How does light allow a Tokay gecko to see its prey? ⓘ



Rock Transformations Sim

Scale Tool

Sound Waves Sim

Thermal Energy Sim

Traits and Reproduction Sim

Vision and Light Sim

Weather Patterns Sim

### Tools

Admin Portal

Classwork

**Elementary Student Apps**

Library

My Account

Science Reporting

### Other Resources

Benchmark Assessments

CA Science Program Guide

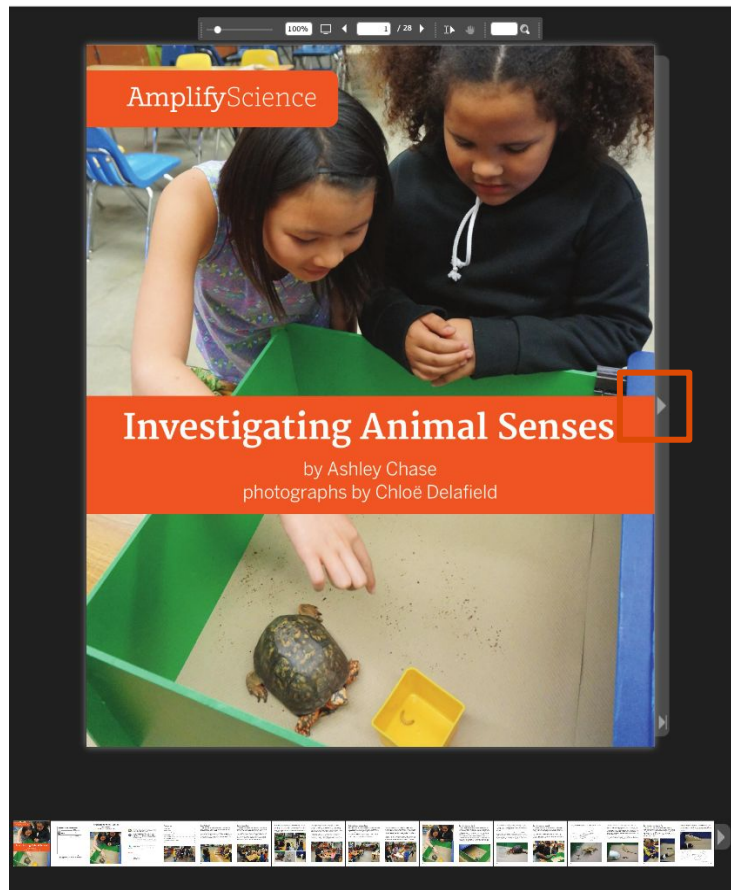
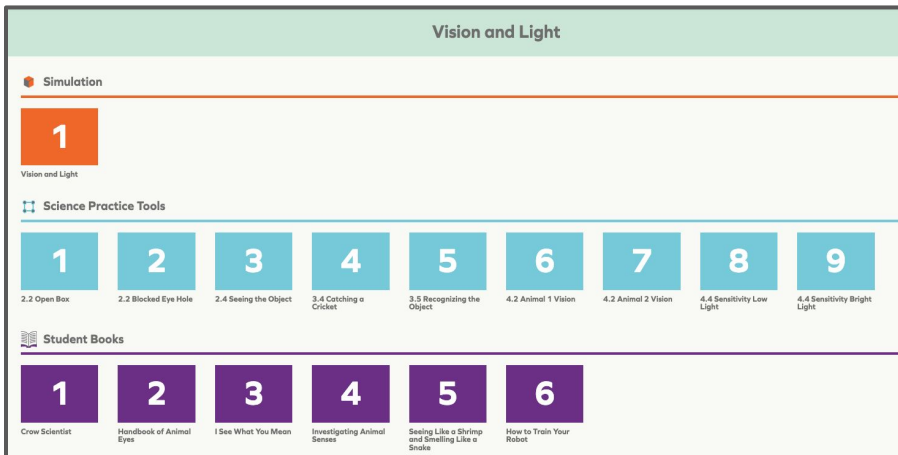
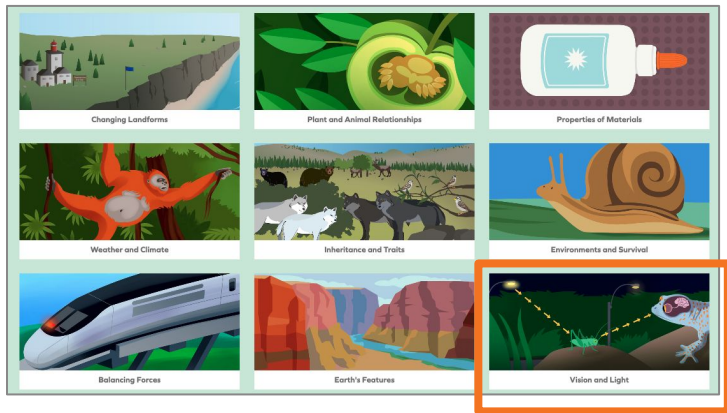
CA Science Program Guide

Help

Science Program Guide

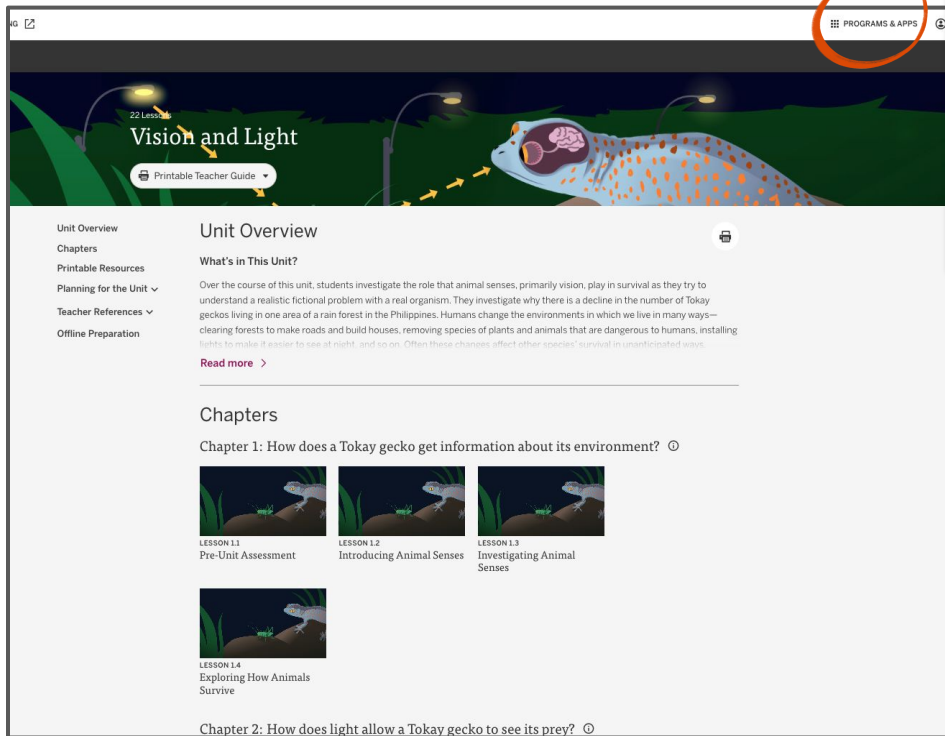
Science Program Hub

# 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.



Amplify

CURRICULUM CLASSWORK REPORTING PROGRAMS & APPS NATIONALSC1200 TEACHER

Science

Units

Program: 4th Grade Science Eng/Esp

AmplifyScience

Units

Energy Conversions  
22 Lessons

Vision and Light  
22 Lessons

Energy Conversions  
22 Lessons

Vision and Light  
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Unit Overview

Chapters

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[Read more](#)

Chapters

Chapter 1: How does a Tokay gecko get information about its environment?

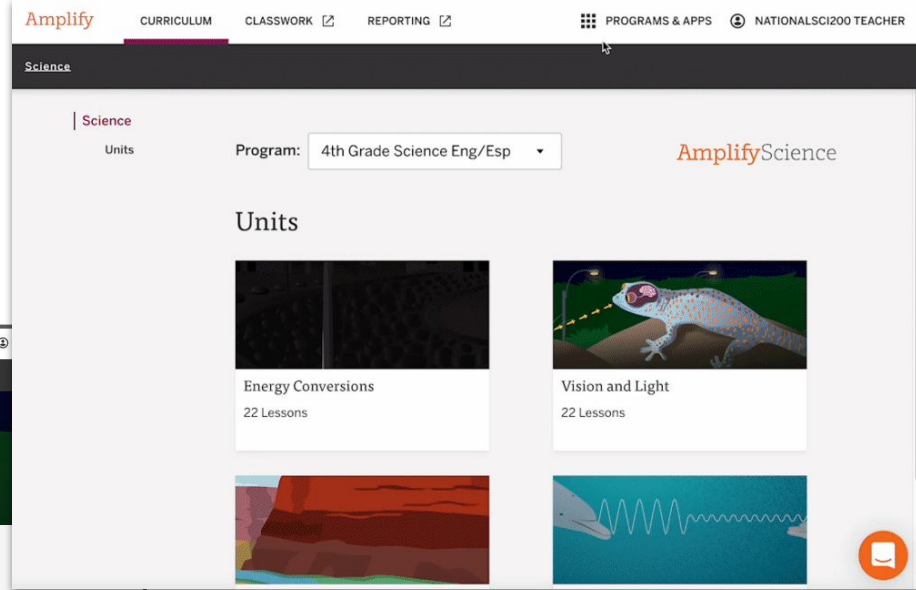
LESSON 1.1  
Pre-Unit Assessment

LESSON 1.2  
Investigating Animal Senses

LESSON 1.3  
Investigating Animal Senses

LESSON 1.4  
Exploring How Animals Survive

Chapter 2: How does light allow a Tokay gecko to see its prey?



Amplify

CURRICULUM CLASSWORK REPORTING PROGRAMS & APPS NATIONALSC1200 TEACHER

Science

Units

Program: 4th Grade Science Eng/Esp

AmplifyScience

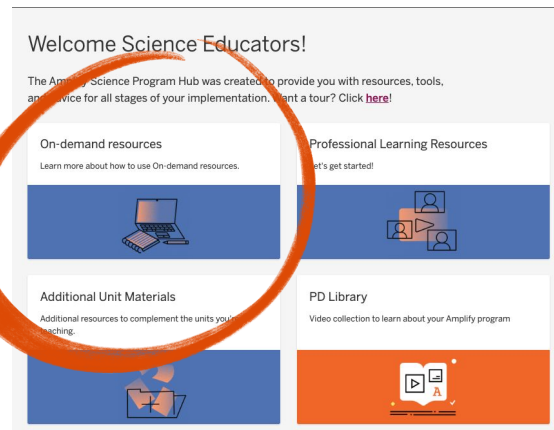
Units

Energy Conversions  
22 Lessons

Vision and Light  
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Energy Conversions  
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Vision and Light  
22 Lessons



Welcome Science Educators!

The Amplify Science Program Hub was created to provide you with resources, tools, and advice for all stages of your implementation. Want a tour? Click [here](#)!

On-demand resources

Learn more about how to use On-demand resources.

Professional Learning Resources

Let's get started!

Additional Unit Materials

Additional resources to complement the units you're teaching.

PD Library

Video collection to learn about your Amplify program

# Additional resources and ongoing support

Seek information specific to enrollment and rosters, technical support, materials and kits, and teaching support.



Amplify Chat

