

Caesar Rodney School District-Snow Day Activity Board

<p style="text-align: center;">Reading</p> <p style="text-align: center;">30 Minutes of Rider Reading Time</p> <p>All students will bring home their Rider Reading Bags with 3-5 books to support reading and power goal work. Please complete the 100 Book Challenge Reading Log.</p>	<p style="text-align: center;">Math- Grade Level Practice Problems</p> <p>All students will work on grade level practice problems based on previously taught concepts.</p>
<p style="text-align: center;">Science</p> <p>Students will work on the science extensions.</p> <p style="text-align: center;">Social Studies</p> <p><u>Grades K-2</u>: Students will create a story map using key memorable events of their life. (See Example)</p> <p><u>Grade 3</u>: Students will interview members of their household or community. (See Example)</p> <p><u>Grades 4-5</u>: Students will think of problems, challenges, or issues that affect your school or community. Create a business that will solve a problem.</p>	<p style="text-align: center;">Writing/Word Study</p> <p><u>Grades K-2</u>: Students will work on word study activities based on previously taught concepts</p> <p><u>Grades 3-5</u>: Students will work on writing activities based on previously taught concepts.</p>

Students can use the Clever platform to access apps including IXL , ARC bookshelf Reading, SORA, EPIC, etc.

Writing

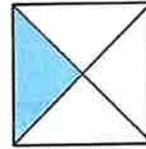
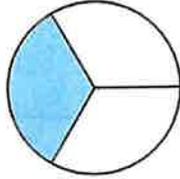
Design the book jacket for your ideal fiction book. Make sure to include all the essential literature text features.

A large, empty rectangular box with a thin black border, intended for students to design a book jacket for their ideal fiction book. The box is positioned centrally on the page, below the instruction text.

Section A: Practice Problems

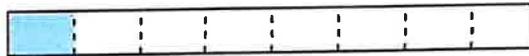
1. Pre-unit

What fraction of each figure is shaded?



2. Pre-unit

Explain why the shaded portion represents $\frac{1}{8}$ of the full rectangle.



3. Pre-unit

Label each tick mark with the number it represents. Explain your reasoning.



4. Pre-unit

Explain or show why $\frac{1}{2}$ and $\frac{2}{4}$ are equivalent fractions.

5. a. The entire diagram represents 1 whole. Shade the diagram to represent $\frac{1}{4}$.



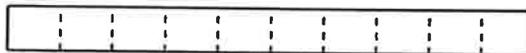
- b. To represent $\frac{1}{6}$ on the tape diagram, would we shade more or less than what we did for $\frac{1}{4}$? Explain your reasoning.

(From Unit 2, Lesson 1.)

6. a. The entire diagram represents 1 whole. What fraction does the shaded portion represent? Explain your reasoning.



- b. Shade this diagram to represent $\frac{2}{10}$.



(From Unit 2, Lesson 2.)

7. For each pair of fractions, decide which is greater. Explain or show your reasoning.

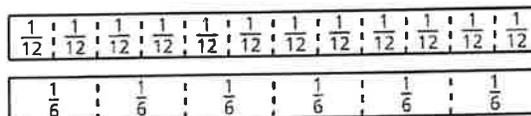
a. $\frac{1}{8}$ or $\frac{1}{10}$

b. $\frac{4}{10}$ or $\frac{7}{10}$

c. $\frac{4}{5}$ or $\frac{5}{4}$

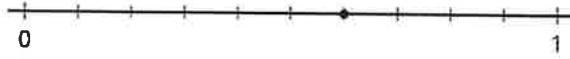
(From Unit 2, Lesson 3.)

8. Use the fraction strips to name three pairs of equivalent fractions. Explain how you know the fractions are equivalent.



(From Unit 2, Lesson 4.)

9. a. Explain or show why the point on the number line describes both $\frac{3}{5}$ and $\frac{6}{10}$.



- b. Explain why $\frac{6}{10}$ and $\frac{3}{5}$ are equivalent fractions.

(From Unit 2, Lesson 5.)

10. For each question, explain your reasoning. Use a number line if you find it helpful.

- a. Is $\frac{4}{5}$ more or less than $\frac{1}{2}$?



- b. Is $\frac{4}{5}$ more or less than 1?

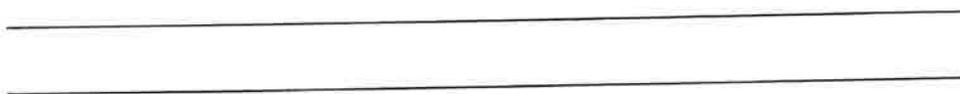
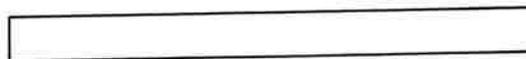


(From Unit 2, Lesson 6.)

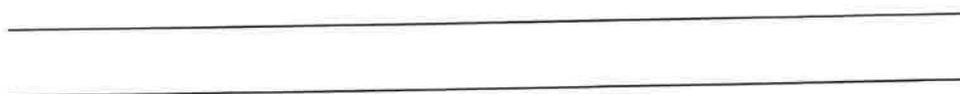
11. Exploration

Make fraction strips for each of these fractions. How did you fold the paper to make sure you have the right-size parts?

a. $\frac{1}{3}s$



b. $\frac{1}{5}s$

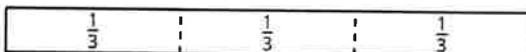
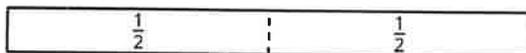


c. $\frac{1}{10}s$

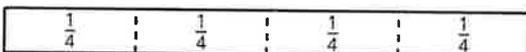
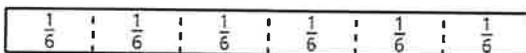


12. **Exploration**

a. Andre looks at these fraction strips and says "Each $\frac{1}{2}$ is $\frac{1}{3}$ and another half of $\frac{1}{3}$ ". Do you agree with Andre? Explain your reasoning.



b. What relationship do you see between $\frac{1}{6}$ and $\frac{1}{4}$? Explain your reasoning.



c. Can you find a relationship between $\frac{1}{6}$ and $\frac{1}{8}$ using fraction strips?



Section A: Practice Problems

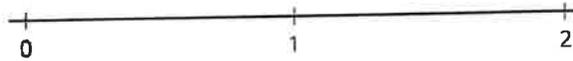
1. Pre-unit

What fraction of the rectangle is shaded? Explain how you know.



2. Pre-unit

a. Locate and label $\frac{3}{4}$ and $\frac{6}{4}$ on the number line.

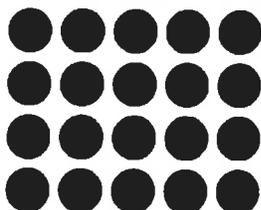


b. Explain why your points represent $\frac{3}{4}$ and $\frac{6}{4}$.

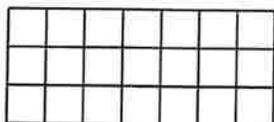
3. Pre-unit

Write a multiplication expression for each image. Explain your reasoning.

a.



b.

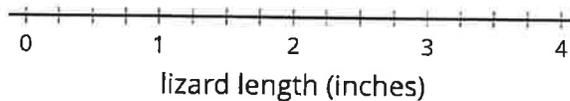


4. Pre-unit

Here are the lengths of some lizards in inches. Use the lengths to complete the line plot.

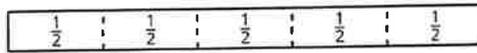
- | | | | | | |
|----------------|----------------|----------------|---|----------------|---|
| $2\frac{1}{4}$ | $1\frac{1}{2}$ | $2\frac{2}{4}$ | 3 | $3\frac{2}{4}$ | 2 |
| $2\frac{1}{4}$ | $2\frac{1}{4}$ | $2\frac{3}{4}$ | 2 | $2\frac{1}{4}$ | 3 |

Length of Lizards

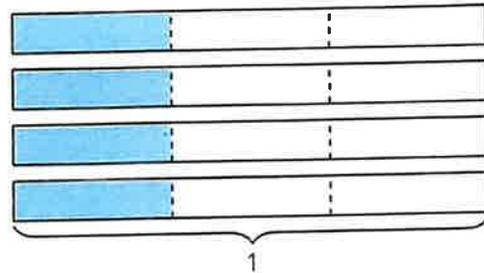


5. Write an expression that matches each diagram. Then, find the value of each expression.

a.



b.

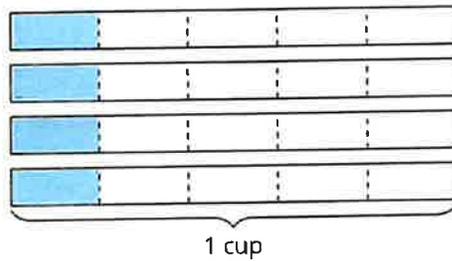


(From Unit 3, Lesson 1.)

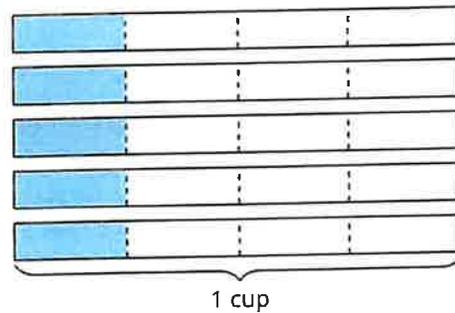
6. Five friends go on a hike. They each bring $\frac{1}{4}$ cup of nuts.

a. If the shaded parts represent the amount of nuts the friends bring on their hike, which diagram matches the story? Explain your reasoning.

A



B



b. How many cups of nuts do the friends bring on the hike?

(From Unit 3, Lesson 2.)

7. Kiran's cat eats $\frac{1}{2}$ cup of food each day.
- How much food does Kiran's cat eat in a week?
 - Draw a diagram to represent the situation.

(From Unit 3, Lesson 3.)

8. a. Draw a diagram to show $3 \times \frac{7}{8}$.

- b. How does the diagram help you find the value of the expression $3 \times \frac{7}{8}$?

(From Unit 3, Lesson 4.)

9. Find the number that makes each equation true. Draw a diagram if it is helpful.
- $\frac{10}{3} = \underline{\hspace{1cm}} \times \frac{1}{3}$
 - $\frac{10}{3} = \underline{\hspace{1cm}} \times \frac{2}{3}$
 - $\frac{10}{3} = \underline{\hspace{1cm}} \times \frac{5}{3}$

(From Unit 3, Lesson 5.)

10. Each bead weighs $\frac{5}{8}$ gram. How much do 7 beads weigh? Explain or show your reasoning.

(From Unit 3, Lesson 6.)

11. Exploration

- Measure how thick your workbook is to the nearest $\frac{1}{8}$ inch.
- If all of your classmates stacked their workbooks together, how tall would the stack be? Explain or show your reasoning.

- Check your answer by measuring, if possible.

12. Exploration

Diego walked the same number of miles to school each day. He says that he walked $\frac{48}{5}$ miles in total, but does not say how many days that distance includes.

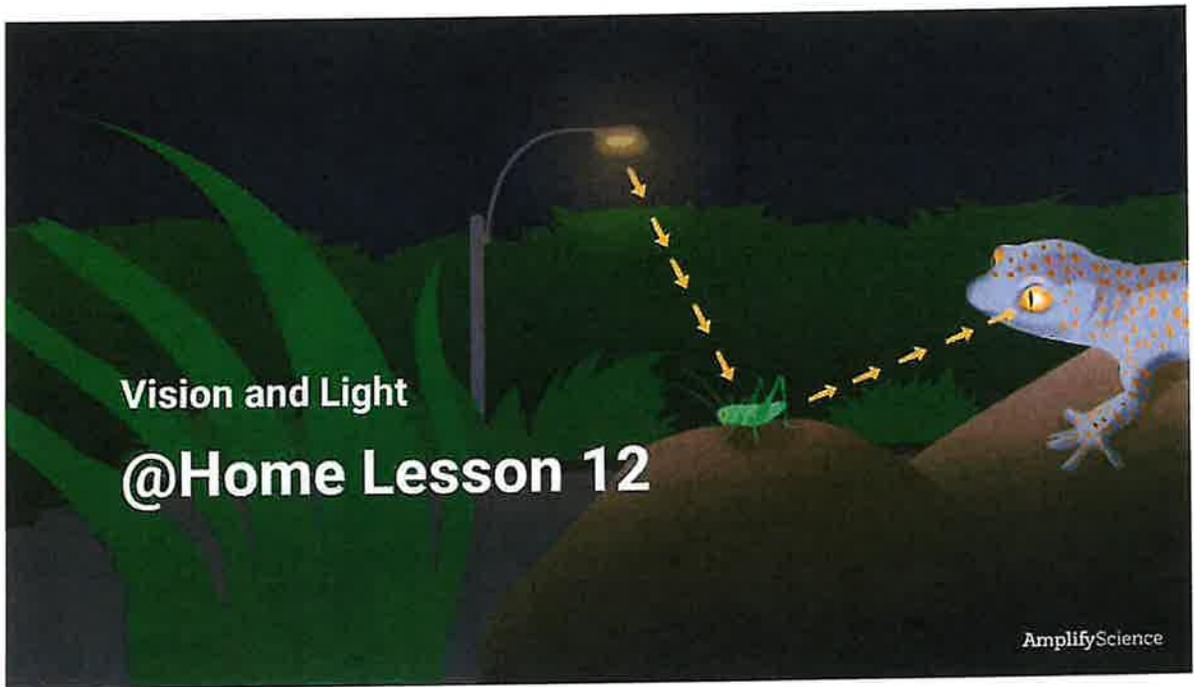
What are some possible number of days Diego counted and the distance he walked each of those days?

Science

Fourth Grade

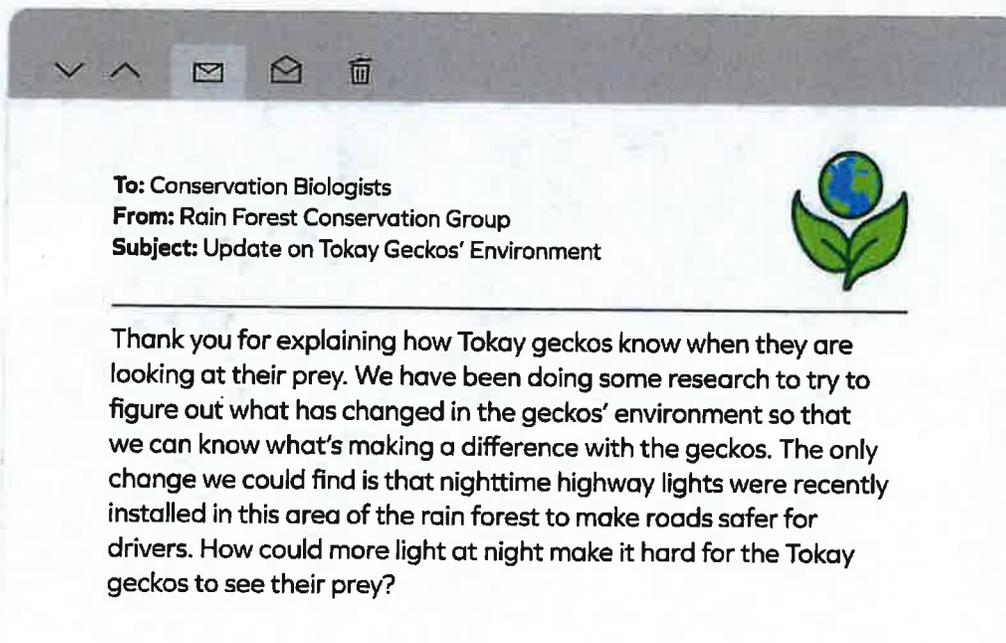
Science





Vision and Light

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



Watch and Light 1

Some students read that message and thought it sounded strange. More light at night makes it **easier** for us to see.

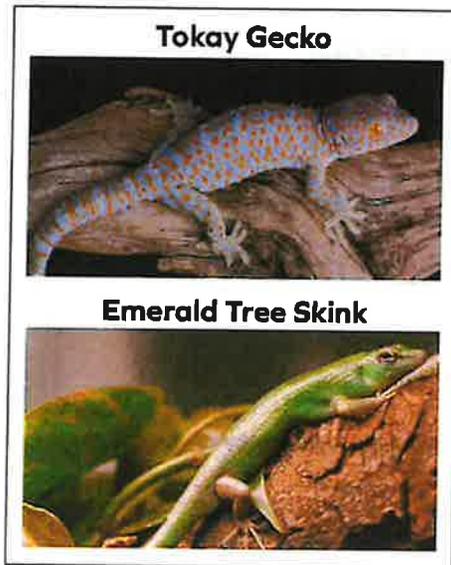
In this chapter, we will work to figure out:

Chapter 4 Question

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

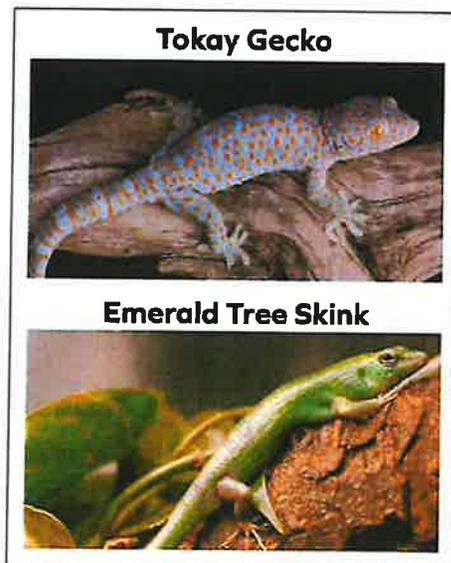


We will work to figure out how geckos **interact with light**. When we know why more light at night makes it harder for geckos to see, we can **explain why they're having trouble surviving**.



Is more light making it hard for **other animals** to see their prey?

Is **every** animal here having trouble seeing prey?



To help answer these questions, we'll use **observations** a scientist made of the Tokay gecko and another lizard from the same area that **also uses vision to find its prey**. You will need a **partner** to talk with.

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This scientist **investigated the vision** of a Tokay gecko and an Emerald Tree Skink in her laboratory.

Her observations in her **scientist's notebook** may help us understand why the highway lights affect the way some animals see but not others.

Let's look at her notebook.



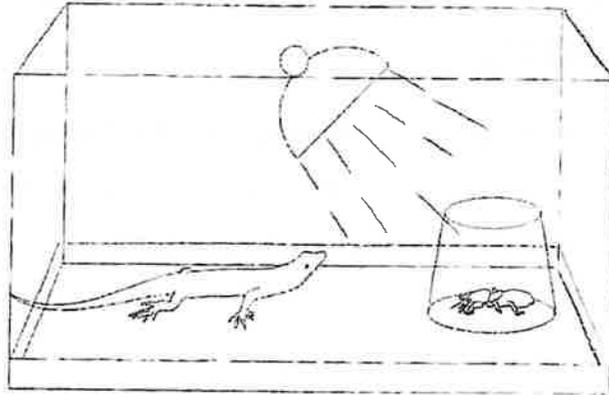
Observe each page of the scientist's notes.

Discuss your observations with your partner.

Skink Observation #1

Time: 1:15 PM

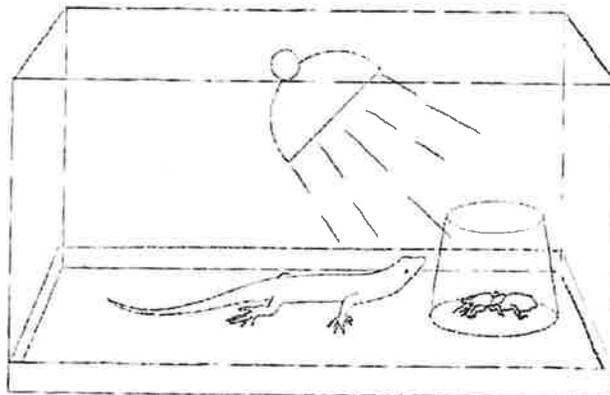
Observation: I placed the prey underneath a clear plastic cup in the terrarium with the Emerald Tree Skink and turned on the light. The skink turned its head toward the prey.



Skink Observation #2

Time: 1:16 PM

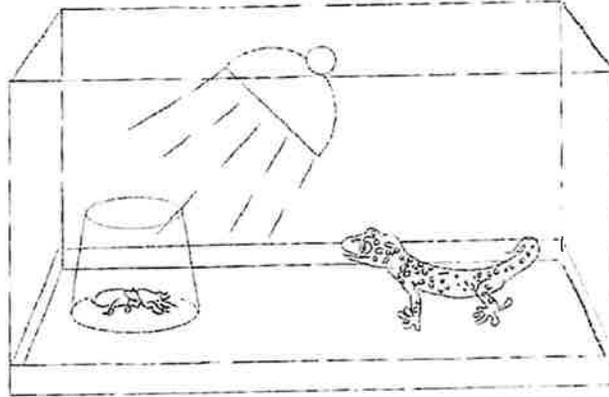
Observation: Within a few seconds of turning on the light, the Emerald Tree Skink leapt quickly toward the cup and started pushing the cup with its head, trying to get its prey inside.



Gecko Observation #1

Time: 1:15 PM

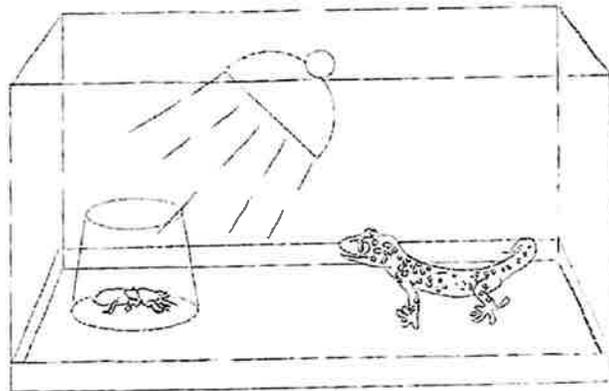
Observation: I placed the prey underneath a clear plastic cup in the terrarium with the Tokay gecko and turned on the light. The gecko did not react.

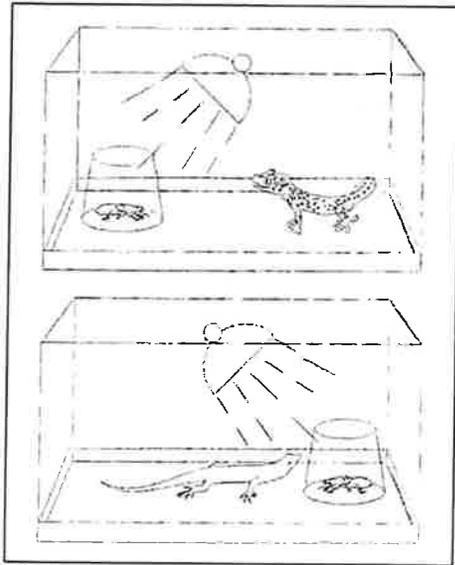


Gecko Observation #2

Time: 1:25 PM

Observation: I have observed the Tokay gecko for 10 minutes and it has not reacted to the prey at all. Can it see the prey?





What was the **main difference** between what the Tokay gecko did and what the Emerald Tree Skink did when the **light was turned on**?

Let's review how animals process information from light.

Light enters the eye through the **pupil** and gets to the light receptors. The **light receptors** respond and send the information to the **brain**. The brain processes information from light to create an **image** and then compares this image to **memories**.



Both lizards got information from light about the prey.



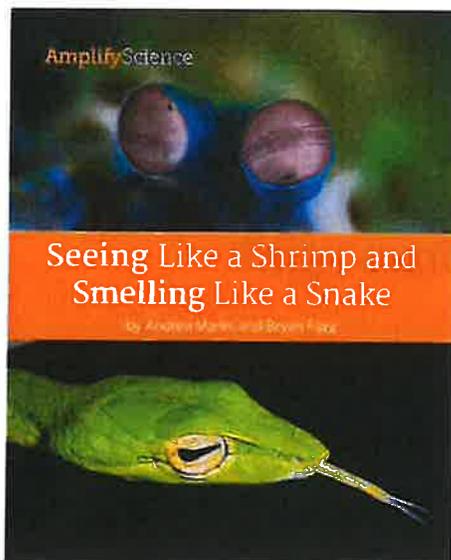
How did the **skink** process this information?



How did the **gecko** process the information it got from light?

Both animals were in an environment with bright light, so the **same amount of information** about the prey **was carried by the light to their eyes**. However, it seems like the gecko didn't even **see** its prey!

The two lizards must have **processed the same information in different ways**.



Let's read to find out more about how animals sense information about their environment in different ways.

This could help us figure out **why the nighttime highway lights are causing a problem** for the gecko.

How does a mantis shrimp look in two directions at once?

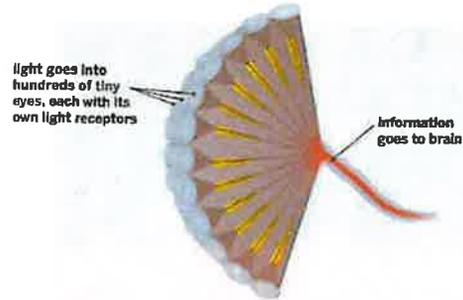
Move your eyes from side to side. What do you notice? Do your eyes move together and in the same direction? Now, try moving one eye up and one eye down. It's hard to do, right? For a mantis shrimp, this is no problem!

A mantis shrimp has two eyes, but each eye is made up of hundreds of tiny eyes. A mantis shrimp's eyes are raised up on stalks above its head. These **structures** let the mantis shrimp move its left eye and its right eye separately, in different directions. It can look both up and down, or both left and right.



4

Structures Mantis Shrimp Use to Sense Their Environment



Seeing in two directions at once is cool, but how does it help a mantis shrimp **survive**? Like many animals, mantis shrimp rely on their **sense of vision** to help them hunt. Being able to look in different directions gives a mantis shrimp more chances to spot **prey**. A mantis shrimp can look at a fish with its left eye and a clam with its right!

How does this work? Light **reflects** off the fish and gets to the shrimp's left eye, hitting light **receptors** at the back of the eye. The light receptors **respond** to the light and send information to the shrimp's brain. At the same time, the shrimp's right eye is sending the brain information based on light reflecting off the clam on the other side.

5

The shrimp's brain **processes** the information coming from both eyes. It recognizes the two kinds of prey and decides which will be easier to catch. Then the shrimp strikes! It uses its powerful claws to kill the fish instantly.

Mantis shrimp are colorful animals that live in colorful **environments**, in and around coral reefs. These animals have lots of different kinds of light receptors in their eyes—many more kinds than humans have. Nobody is sure exactly what the **function** of so many different light receptors might be. They must help a mantis shrimp survive in its environment. Maybe they help it identify its prey. How? That's a question scientists are still trying to figure out.



This mantis shrimp is eating a fish it caught. Mantis shrimp use vision to help them hunt prey.

6



Scientists still have many questions to answer about how mantis shrimp vision works.

Human Vision

Most humans can see hundreds of different colors. To see colors well, we need plenty of light. Humans are **diurnal** animals, which means we're mostly active during the daytime, when there's plenty of light to see or think clearly. Humans can't see well in the dark. It's called **nocturnal**. Some animals, like owls, can see better at night. People have **rod** cells in their eyes that help them see in low light. The brain also developed light-sensitive cells that provide us with extra eyes at night.

7

What do star-nosed moles use their strange-looking noses for?

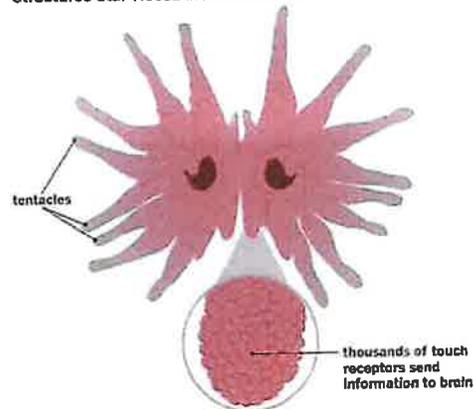
Star-nosed moles are named for a unique body structure: a star-shaped nose. Why do their noses have such a strange shape? It doesn't help the animal's sense of smell. The star-nosed mole does smell with its nose, but the tentacles that surround the nose have another function: sensing touch.



A star-nosed mole has lots of sensitive tentacles on its nose.

8

Structures Star-Nosed Moles Use to Sense Their Environment



Star-nosed moles have thousands of touch receptors on their nose tentacles. That means star-nosed moles are very sensitive to touch—much more sensitive than a person. Even a human fingertip, which is one of the most sensitive parts of the body, only has about 3,000 touch receptors. The star-nosed mole has about 25,000 touch receptors in its nose, which is about the same size as a fingertip.

9

Why is the sense of touch so important to a star-nosed mole? Feeling around is the best way for these moles to get information about their underground environment. Star-nosed moles spend all their time in tunnels they dig in the dirt, hunting for worms, insects, and other small animals. A star-nosed mole can't find its prey using vision because there is no light in its environment. Even nocturnal animals with high-sensitivity light receptors need some light in order to see. In the complete darkness underground, eyes are useless. The star-nosed mole has to rely on other senses.

A star-nosed mole uses the tentacles on its nose to find prey. The tentacles move around as the mole searches for food. Receptors in the tentacles take in information about everything they touch.



Star-nosed moles hunt for worms and other prey underground.

10



Star-nosed moles find prey using their sense of touch.

The mole can feel tiny differences between objects in the dark. When a mole touches a small object with its tentacles, the touch receptors send information to the mole's brain, which processes the information. The mole then decides whether the object is something tasty, like a worm. The touch receptors in its nose tentacles help a star-nosed mole survive in its underground environment.

The Human Sense of Touch

The human body has touch receptors all over. The fingers, toes, and fingertips are the most sensitive parts of the body, with many touch receptors than other parts. Humans have different kinds of touch receptors that provide different kinds of information. For example, there are special touch receptors that respond to texture, heat, cold, pain, and even itching.

11

How is a catfish like a huge tongue?

Like humans, catfish have taste receptors on their tongues. However, catfish also have taste receptors all over their bodies! That means a catfish tastes anything it touches with its body. Catfish can even taste things at a distance, before touching them. Some people call catfish "swimming tongues!"



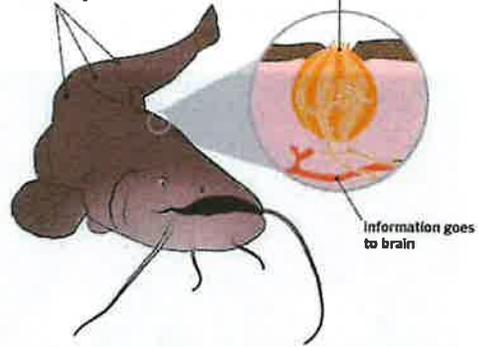
This girl can't taste the bottom of the river with her skin, but the catfish swimming next to her can!

12

Structures Catfish Use to Sense Their Environment

thousands of taste receptors in skin all over body

taste receptors take in information from flavors in water and anything they touch



Imagine tasting the flavor of anything you touched, sat on, or brushed past: a book, the grass, the seat of the school bus. . . . It might not sound so great to you, but tasting everything has an important function for a catfish: getting information about its environment.

13

Most catfish live in muddy water where it is hard to see. They swim along the bottom, searching for food. Many kinds of catfish are not picky about what they eat. They will eat plants or animals, living or dead. For a catfish, almost anything it touches might be food. The best way for a catfish to find out whether something is food is by tasting it!



Lots of things could be food for a catfish. A catfish will eat tadpoles, insects, plants, dead animals, and almost anything else it can find.

14



With taste receptors in the skin all over its body, a catfish doesn't have to bite something to taste it. As the catfish swims along the bottom of a river, its taste receptors take in flavors and send information to its brain. The brain processes the information and compares the flavors to things the catfish has eaten before. If a catfish tastes food with its skin, it opens its mouth and takes a bite.

The Human Sense of Taste

The human tongue is covered with little bumps that contain thousands of taste buds. Each taste bud has 50 to 100 taste receptors. All together, our taste buds can detect sweet, salty, sour, bitter, and umami (savory) flavors. Umami is sometimes called the "fifth taste." Taste buds are found in both the throat and the tongue.

15

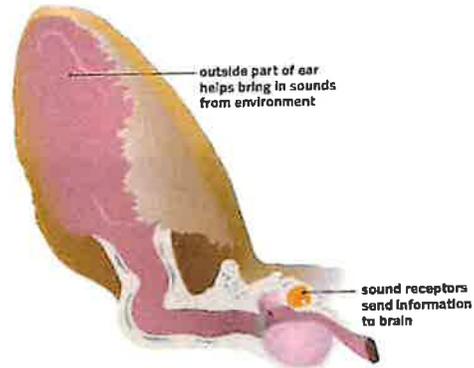
Why do such small foxes have such big ears?

Fennec foxes are tiny desert animals with fluffy fur. The fennec fox has two very large body structures: its huge ears. These big ears have two important functions. They help the fox stay cool in the hot desert environment and they help it hear.



16

Structures Fennec Foxes Use to Sense Their Environment



The ears of fennec foxes are big, but otherwise they work the same way human ears do. Lots of complicated ear structures work together for an important function: getting information from sounds in the environment.

Large ears help the fennec fox take in sound better. Like dogs, foxes can move their ears around and point them toward the source of a sound. When sounds come into the ear, sound receptors respond to the sounds and send information to the brain.

17

Fennec foxes are nocturnal hunters that use their sense of hearing to catch mice, insects, and other small animals in the dark. The foxes' large ears help them hear prey moving around underground! To find prey, a fennec fox points its ears toward the ground and moves its head from side to side, listening very carefully. The fox's brain processes sound information and uses it to figure out exactly where its prey is hiding. Then the fox quickly digs into the sand to grab the prey. Sensitive hearing helps a fennec fox find prey and survive in its desert environment.



Fennec foxes use their sense of hearing to hunt mice and other prey that live underground.

18



A fennec fox listens for prey in the desert.

The Human Sense of Hearing

The human ear contains the smallest bones in the body. These tiny bones vibrate when sound comes in. The sense of hearing usually changes as people get older. Birds can usually hear higher sounds than adults can. Still, some animals can hear sounds much higher or lower than any human can.

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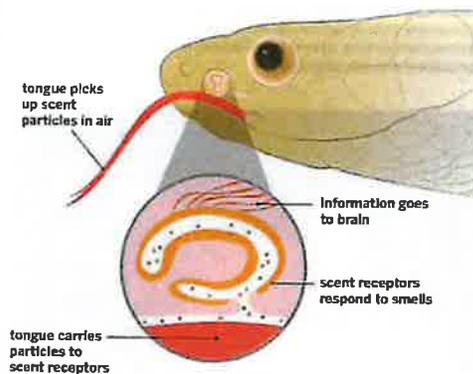
How can snakes smell with their tongues?

If you've ever **observed** a snake up close, you've noticed it flick its tongue in and out of its mouth. It seems to be tasting the air. Actually, the snake is smelling the air! A snake can pick up scents with its tongue.



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Structures Snakes Use to Sense Their Environment



Scents are made up of tiny, invisible **particles** that float through the air. A snake uses its tongue to catch lots of those tiny particles. The snake's tongue carries particles from the air into an area above its mouth. There, scent receptors respond to the particles and send information about the smells to the snake's brain.

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Why is a snake's tongue forked (split in two at the end)? A forked tongue helps a snake tell exactly where a smell is coming from. Just like having two eyes helps animals tell the distance and direction of things they see, having a two-ended tongue helps snakes tell the distance and direction of things they smell! This helps snakes hunt. Using only smell, a snake can figure out exactly where its prey is.

An excellent sense of smell helps snakes survive in many different environments.



A snake's excellent sense of smell helps it catch tree frogs and other prey.

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Snakes use their tongues to smell.

The Human Sense of Smell

When a human smells something, it's like that tongue sticking out to catch tiny particles on the scent receptors inside the person's nose. Humans have many different kinds of scent receptors that respond to different kinds of smells. Scientists are still learning how those smells humans can detect, but it's thought receptors are a thing. There is even a scent receptor in the human nose that is responsible for whether or not a person likes a certain food or a soapy smell.

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Glossary

environment: all the living and nonliving things in an area

function: what something can do

nocturnal: active at night

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

particle: a tiny piece of material that is too small to see

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

process: to change information from one form to another

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

reflect: to cause light to bounce off a material

respond: to change because of some information or event

sense: (noun) how an animal gets information about its environment (verb) to get information from the environment

sensitive: responding to small amounts of information

sensitivity: how strongly something responds to information

source: the place where something comes from

structure: a part that is good for a specific function

survive: to stay alive

vision: the ability to see

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Books for *Vision and Light*:

Investigating Animal Senses

I See What You Mean

Crow Scientist

Seeing Like a Shrimp and Smelling Like a Snake

Handbook of Animal Eyes

Lawrence Hall of Science:

Program Director: Johnnie R. Taylor and David F. Fisher

Curriculum Director, Grades 6-12: Andrew K. Skirrow

Curriculum Director, Grades 2-5: Jennifer T. Kun

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The star-nosed mole has thousands of **touch receptors** in its nose. The receptors are structures that help it live underground where there is **no light**.



 How does being very **sensitive to touch** help the star-nosed mole **survive**?

The star-nosed mole has sensitive touch receptors in its nose.

sensitive

responding to small amounts of information



We now know that different animals **sense and process information differently**. Some animals have sensitive receptors that can respond to small amounts of information.

End of @Home Lesson



Amplify.

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CREATE: A Business Idea

Congratulations, you are interested in starting your own business! The only problem is that you are unsure of what business idea you want to pursue. One approach to creating a successful business is to use the "Problem/Solution Lens" to identify needs in your community.



Part I: Identify Problems, Challenge, Issues

Think about some common issues that arise in your daily life that may also affect other people. Identifying common problems, challenges, and issues is a great place to start when coming up with problem-solving business ideas.

1. Think of as many problems, challenges or issues that affect you, your school, or your community. Create a list of as many of these issues that come to mind. At this phase, aim for quantity over quality and let your imagination run wild!

PART II: Brainstorm Solutions

Now that you have identified common issues that affect you, your school, and your community, let's identify the best ideas and take a closer look at some potential solutions.

- Let's start by cutting down your list. Consider the following questions and remove items from your list of ideas as necessary:
 - Is there already a well established solution to this problem that you cannot improve upon?** If there is already a well established solution then this might not be the best business idea.
 - Is this a problem that you are passionate about solving?** If not, then it might be best to remove it from you list of ideas
 - Is this a problem that you have the time and money to help solve?** If not, then you might want to remove it from your list.
- Select the top 2 issues for each category (you, your school, your community) from the remaining list. Put the 6 issues in the middle column of the table below.
- Complete the right column by brainstorming 3 potential solutions for each problem. *Hint:* Consider the following elements when brainstorming potential solutions:
 - Who are the people that are affected by these problems?
 - Are there currently existing solutions for these problems?
 - If not, how do you envision a solution?
 - If so, how can you *improve* upon existing solutions?

	Problem	Potential Solutions
1. You		
2. School		
3. Community		

Part III: Select a Business Idea

Now that you have a list of potential business ideas, it's time to start thinking about which one interests you and what skills you already have that you could use to grow that idea.

1. From the list of potential business ideas you brainstormed above, select what you consider to be the best business idea and explain why.

