

THE WHYNAUTS:

Episode 3: Staying Alive

EDUCATOR GUIDE SUGGESTED GRADE LEVELS K-2

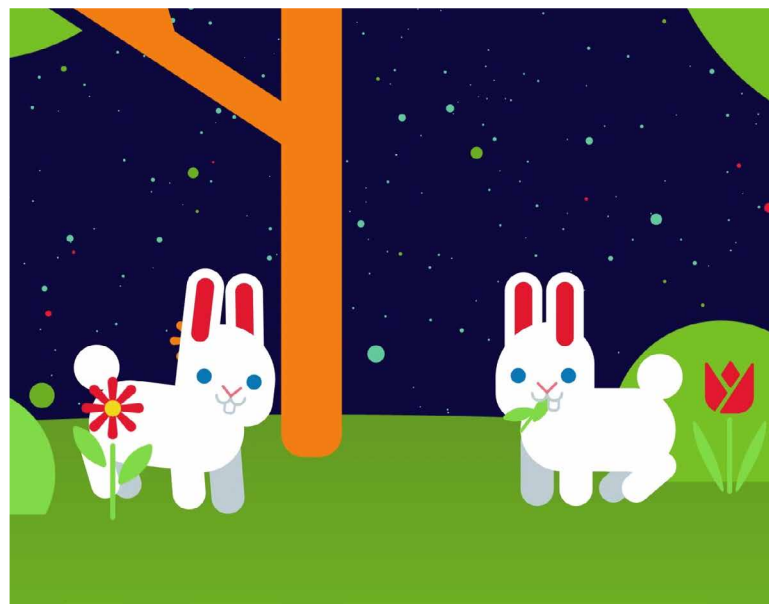


Table of Contents

INTRODUCTION	3-5
How to Use This Guide	3
Learning Objectives	3
Standards Alignment	3
Background Information	4-5
VIEWING STRATEGIES AND TOOLS	6-8
Discussion Questions	6
Pre- and Post-Video Assessment	7-8
SUPPLEMENTAL ACTIVITIES	9-35
Scavenger Hunt: Living and Nonliving Things	9-13
Animal Trading Cards	14-19
Plant Investigation	20-28
Find Your Food Chain	29-35
ADDITIONAL RESOURCES	36-40
Glossary	36
Reading List	37
Online Resources	38

INTRODUCTION

HOW TO USE THIS GUIDE

The Whynuats **“Staying Alive”** Video explores the basic needs of plants and animals, and how living and nonliving things are connected through interdependence. This guide is designed to help you incorporate the video into a complete learning experience for your students. It is composed of three main sections:

The **Viewing Strategies and Tools** section includes suggested discussion questions and a pre- and post-assessment to track student learning.

The **Supplemental Activities** section includes four activities which can be used in any order or combination.

The **Additional Resources** section includes a glossary, reading list, and links to continue learning.



LEARNING OBJECTIVES

Students will be able to:

- Identify the basic needs of plants and animals.
- Explain and give examples of interdependence, such as in a terrarium or in the pet and caregiver relationship.

TEKS ALIGNMENT

K.12A. Observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

K.12B. Observe and identify the dependence of animals on air, water, food, space, and shelter.

1.12A. Classify living and nonliving things based upon whether they have basic needs and produce young.

1.12B. Describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

2.12B. Create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

NGSS ALIGNMENT

K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

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

BACKGROUND INFORMATION

All **living things** have basic needs that need to be met for them to survive. Living things also respond to their environment. For example, **plants** will grow towards light, and **animals** may seek shelter from bad weather. Another characteristic of living things is that they need energy to survive and grow. Light provides energy so plants can grow, and animals get their energy from the food they eat. Living things also **reproduce**, meaning they make more living things - or **offspring** - of their own kind. For example, humans have babies, and trees have seedlings.

5 Things Plants Need



Air



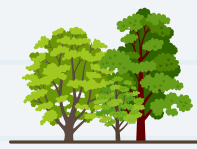
Water



Nutrients



Light



Space

The **basic needs of plants** include: air, water, nutrients, light and space.

- **Air** can move plant seeds from place to place. Plants also take in carbon dioxide from the air and release oxygen back into the air.
- **Water** is absorbed by the plant's roots.
- **Nutrients** are found in the soil; they are absorbed through the plant's roots.
- **Light**, like sunlight, provides energy that plants use to make their own food.
- **Space** is the room a plant needs to grow.

5 Things Animals Need



Air



Water



Food



Shelter



Space

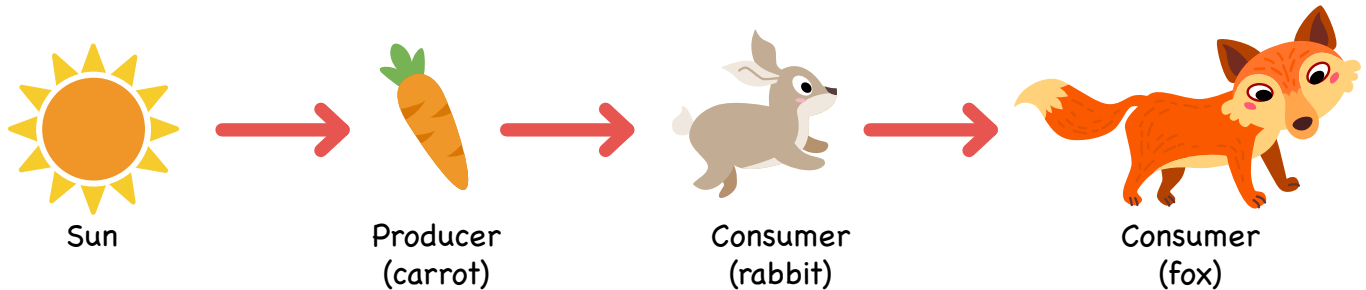
The **basic needs of animals** include: air, water, food, shelter and space.

- **Air** contains oxygen, which is what animals, and humans, breathe. You may not be able to see air, but you can feel it when the wind blows or if you blow on your own hand.
- **Water** can come from different sources, like a lake, puddle, stream, or the food an animal eats.
- **Food** gives animals energy to grow. Animals may eat plants or other animals to get energy.
- **Shelter** provides a place to rest or sleep, and protection from bad weather or other animals.
- **Space** is the room an animal needs to grow and move around to find the other basic needs.

Nonliving things don't have any basic needs for survival, they don't respond to their environment, and they don't grow or reproduce. A rock, water, or glasses are all examples of nonliving things.

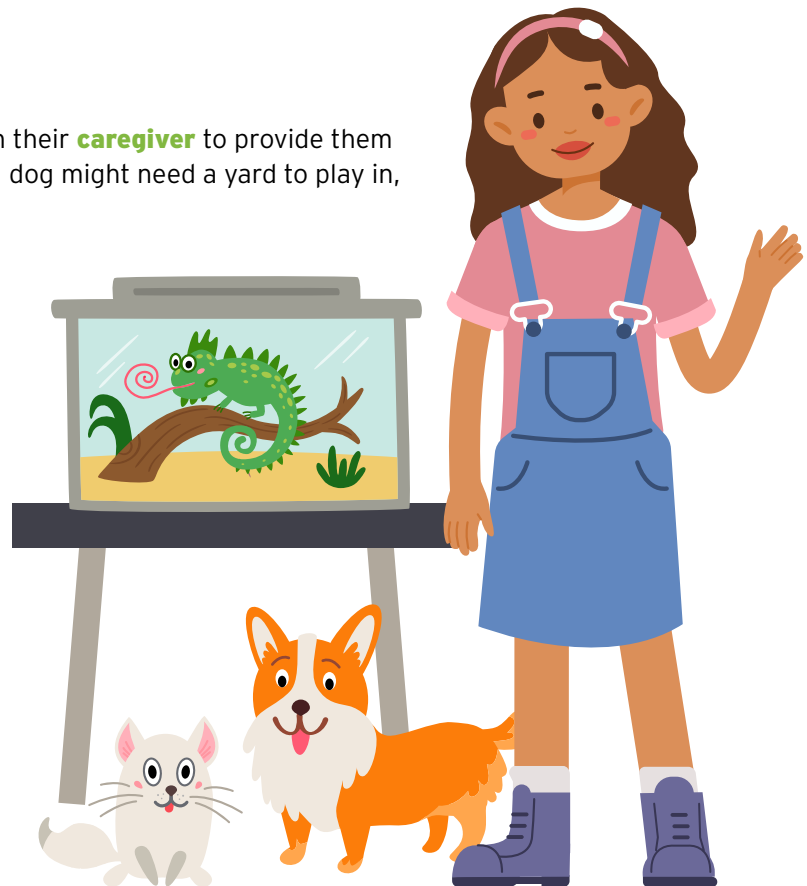
Plants and animals can find everything they need to survive - living and nonliving - in their **habitat**. Living things depend on other living and nonliving things to survive - this is known as **interdependence**. Some examples may be a toad hiding under a rock for shelter, or plants relying on animals to carry their seeds to a new location.

Another example of interdependence is what living things depend on for energy. Plants are **producers**. They make their own food using light energy, so they depend on the Sun, a nonliving thing. Animals are **consumers**, so they depend on other living things for their food. When an animal eats a plant or another animal, some energy is transferred from that living thing to the consumer. This can be shown in a **food chain**.



Pets - like a cat, dog, or lizard - **depend** on their **caregiver** to provide them with food, water, and shelter. In addition, a dog might need a yard to play in, daily walks, or trips to the dog park.

A lizard needs a terrarium, a small enclosure for keeping plants and small animals. A caregiver prepares a terrarium by doing their best to recreate the natural conditions an animal lives in, meaning the terrarium should include all the things the lizard needs to survive.



DISCUSSION QUESTIONS

■ SECTION 1: LIVING/NONLIVING, BASIC NEEDS [BEGINNING - 6:26]

1. Look around the room, can you find something nonliving?
 - I found ____, it is nonliving because ____.
2. What are the basic needs of living things?
 - Plants need ____ to survive.
 - Animals need ____ to survive.
3. Kennet, says his home has all of his stuff, some things he needs and some things he wants. Can you name something you need and something you want?
 - Something I need is ____ because ____.
 - Something I want is ____ because ____.

■ SECTION 2: INTERDEPENDENCE [6:26 - 10:22]

1. Why is interdependence important?
 - Interdependence is important because ____.
2. Can you name some living and nonliving things you depend on?
 - A living thing I depend on is ____.
 - A nonliving thing I depend on is ____.

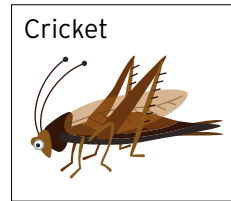
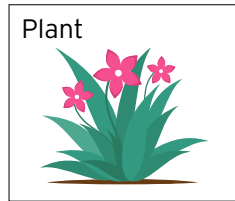
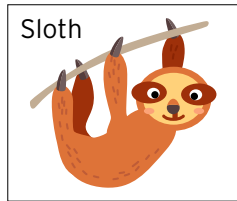
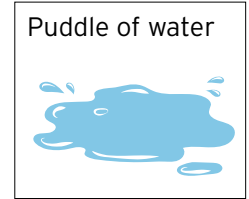
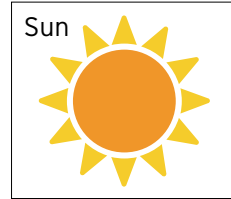
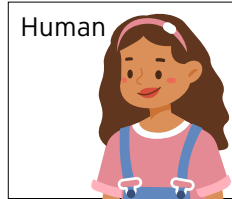
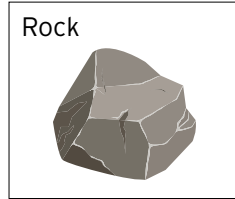
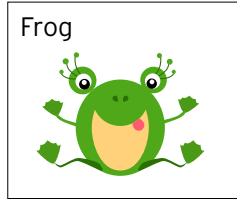
■ SECTION 3: GUEST [10:22 - END]

1. Humans are consumers. Can you name some producers that you eat?
 - Some producers I eat are ____.
2. If you could have ANY pet, what would it be? Why?
 - I would want my pet to be a ____, because ____.
3. If you were the caretaker, how would you replicate its habitat?
 - My pet would need to have ____ in its habitat, because ____.



Pre- and Post-Video Assessment

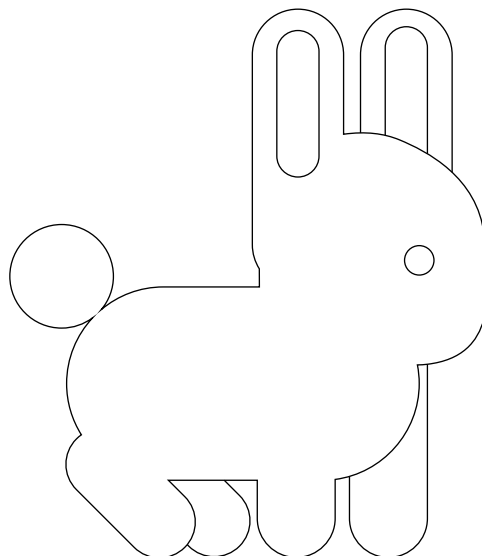
1. Examine the images below. Circle all the living things.



2. What do plants need to survive?

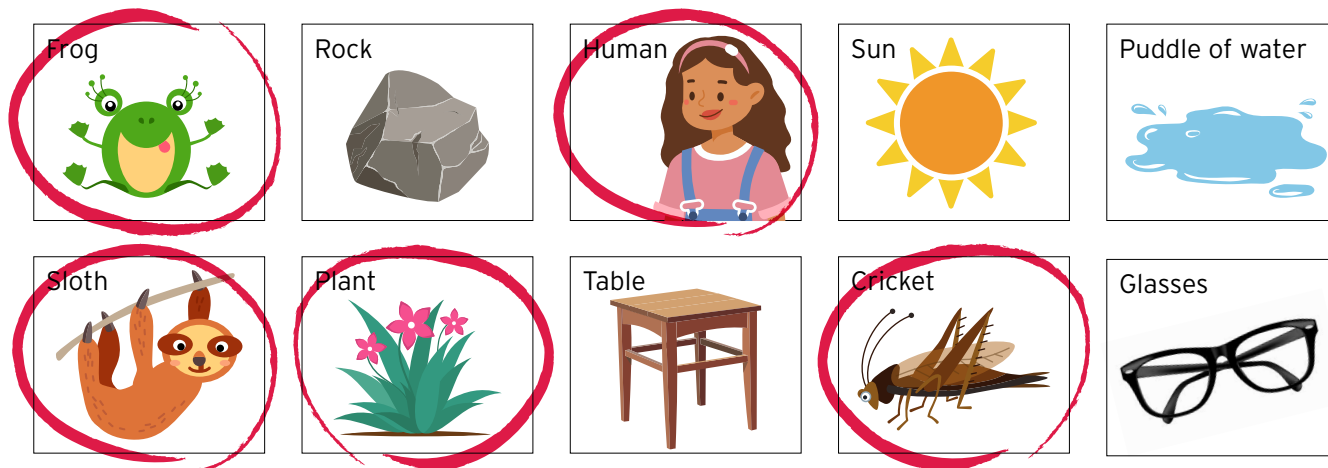
Plants need _____ to survive.

3. Draw and label the living and nonliving things the bunny depends on to survive.



Pre- and Post-Video Assessment

1. Examine the images below. Circle all the living things.

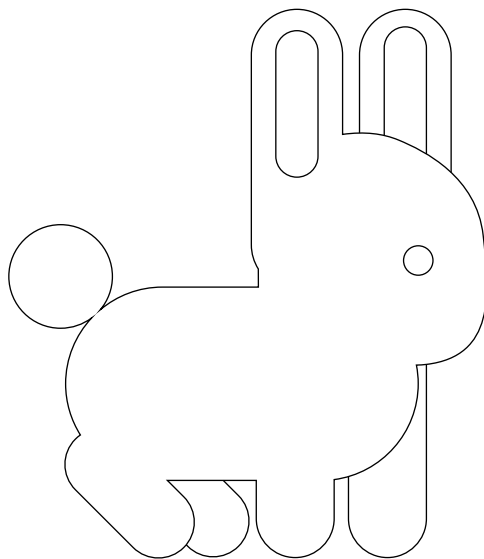


2. What do plants need to survive?

Plants need air, water, nutrients, light and space to survive.

3. Draw and label the living and nonliving things the bunny depends on to survive.

Answers will vary, but should include examples of food, water and shelter.



Scavenger Hunt: Living and Nonliving Things



Scavenger Hunt: Living and Nonliving Things

HOW DO WE KNOW IF SOMETHING IS A LIVING OR A NONLIVING THING?

Objective:

Students will go on a scavenger hunt to identify living and nonliving things based upon whether they have basic needs and produce offspring.

Materials:

- Worksheet
- Something to write with

Lesson Outline:

1. Begin with a class discussion about living and nonliving things:
 - a. Show students a nonliving thing. Ask students to describe what they know or observe about it.
 - b. Show students a living thing. Ask students to describe what they know or observe about it.
 - Guide conversation towards basic needs and the ability to reproduce.
 - c. Compare and contrast the characteristics of the living and nonliving things they observed.
2. Have students complete the scavenger hunt.
3. Discuss the living and nonliving things they identified.
 - a. What do the nonliving things have in common?
 - b. What do the living things have in common?
 - c. How did you know ____ was a nonliving thing?
 - d. How did you know ____ was a living thing?

Extensions:

- Math Extension - Ask students to count how many living and nonliving things they found. Have them find the difference between the two numbers.
- ELAR Extension - Pick a book from the list provided, or from your own library. Have students identify and classify the living and nonliving things in the story.



Scavenger Hunt: Living and Nonliving Things






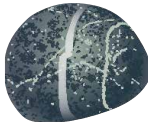



HOW DO WE KNOW IF SOMETHING IS A LIVING OR A NONLIVING THING?

INTRODUCTION:

Look around! What do you see? You probably see a combination of living and nonliving things. Insects, plants, and humans are all examples of **living things**. Living things have basic needs in order for them to survive, they respond to their environment, use energy to grow, and they **reproduce**.

- **Basic Needs:** The basic needs of plants include air, water, nutrients, light and space. The basic needs for animals include air, water, food, shelter and space.
- **Response to Environment:** Plants will grow up towards the light. Animals may seek shelter if there is bad weather.
- **Energy to Grow:** Plants use light energy from the Sun to grow. Animals get energy from the food they eat.
- **Reproduce:** Humans have babies; dogs have puppies; trees have seedlings.

A rock, crayon, or water bottle are all examples of **nonliving things**. Nonliving things don't have any basic needs for survival, they don't respond to their environment, and they don't grow or reproduce.

LIVING THINGS	NONLIVING THINGS
     	     

Now it is your turn - go on a scavenger hunt! What living and nonliving things do you see?

PROCEDURE:

1. Go outside with your parent/guardian or teacher. This can be your backyard, a walk down your street, spending some time at the park, or even a trip to the Dallas Zoo!
2. Look around! What living and nonliving things do you see?
3. Record them in the chart below. Try to find at least 10 things.

RECORD YOUR OBSERVATIONS!

Draw or write in the chart.

LIVING THINGS	NONLIVING THINGS

QUESTIONS

1. Which was easier to identify, living or nonliving things? Why?

It was easier to identify

because

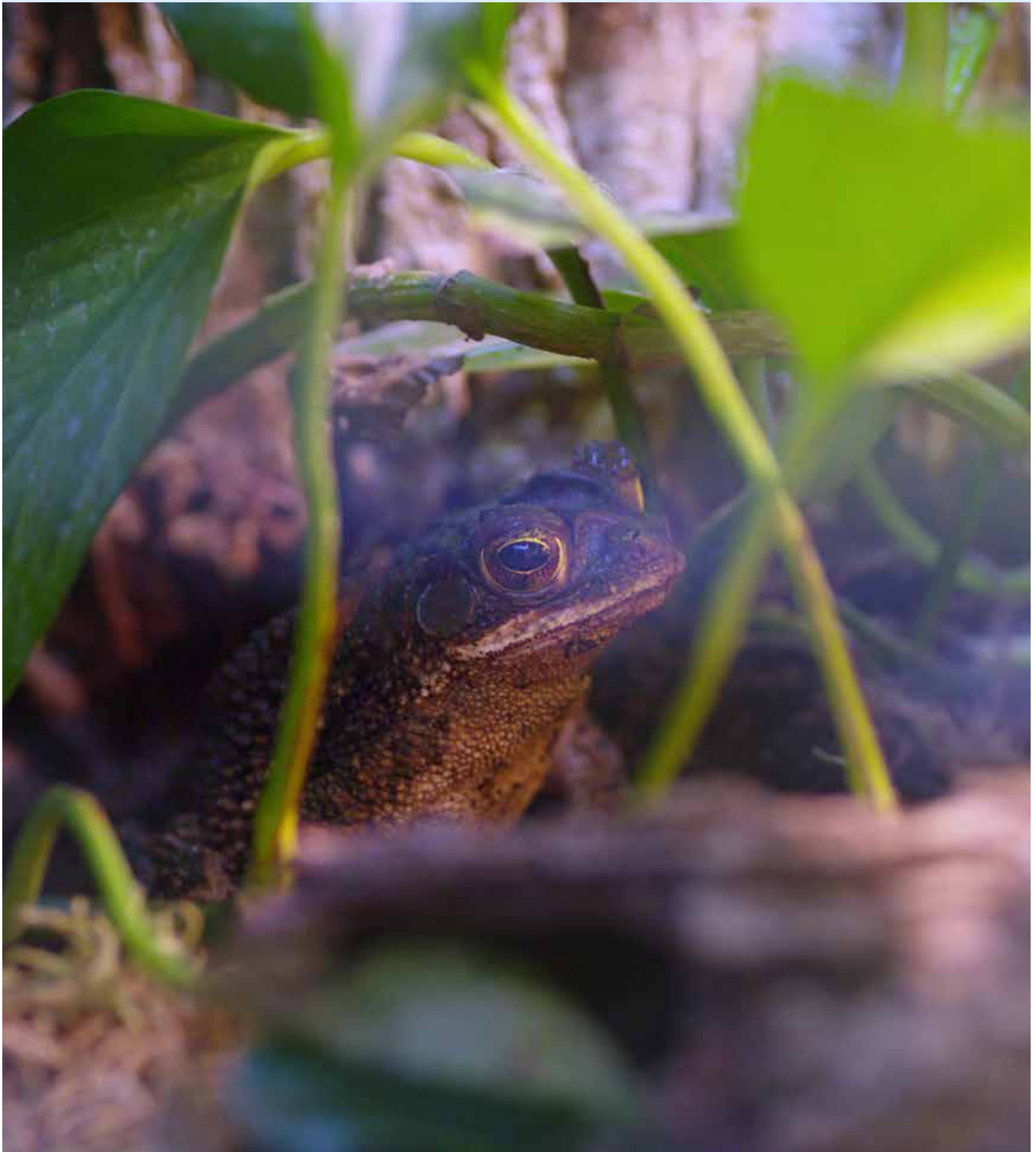
2. Describe ONE living thing you saw:

- a. Size: Big, Small, Short, Tall, Gigantic
- b. Color: Solid, Stripes, Spots
Black, Blue, Brown, Green, Orange, Purple, Red, White, Yellow
- c. Shape: Round, Oval, Square, Triangle
- d. Sound: Loud, Quiet, High, Low
- e. Number: One, Few, Many

3. Describe ONE nonliving thing you saw:

- a. Size: Big, Small, Short, Tall, Gigantic
- b. Color: Solid, Stripes, Spots
Black, Blue, Brown, Green, Orange, Purple, Red, White, Yellow
- c. Shape: Round, Oval, Square, Triangle
- d. Sound: Loud, Quiet, High, Low
- e. Number: One, Few, Many

Animal Trading Cards



Animal Trading Cards

WHAT ARE THE BASIC NEEDS OF ANIMALS?

Objective:

Students will create their own animal trading card to identify and describe the basic needs of animals.

Materials:

- Printed Trading Card Template
- Writing/Coloring Supplies

Lesson Outline:

1. Think about Lola, the sloth from the Dallas Zoo featured in the *Staying Alive* episode. Have a discussion about her basic needs. Alternatively, you can visit one of the live animal cams listed in the resources at the end of this guide. Observe and discuss the animal's basic needs.
 - a. Water: Where does she get water?
 - b. Food: What does she eat?
 - c. Shelter: Where does she rest, sleep, or hide?
 - d. Space: How much space does she need to survive?
2. Have students use the template provided to create their own animal trading card. It can be an animal they are already familiar with, or it can be a new one they want to learn about. See Lola's card for an example.
3. Allow students time to trade their cards. Before trading, students should share with each other:
 - a. Why they chose their animal (if applicable).
 - b. One nonliving thing their animal depends on.
 - c. One living thing their animal depends on.
4. Have a wrap up discussion about the activity.
 - a. Describe any patterns that were observed.
 - b. What similarities and differences did you notice about the different animals?

Extensions:

- Math Extension - As the students are trading cards, have them record data on the living and/or nonliving things their animals depend on. Turn this data into a bar graph. Ask students which living or nonliving things were shared the most.
- ELAR Extension - Write a story about your animal. Be sure to include what it needs to survive.



Animal Trading Cards

WHAT ARE THE BASIC NEEDS OF ANIMALS?

Materials:

- Printed Trading Card Template
- Writing/Coloring Supplies

INTRODUCTION:

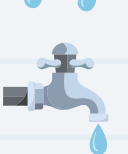
All living things have basic needs that need to be met for them to survive. The **basic needs for animals** include: air, water, food, shelter and space. Animals can find everything they need to survive in their habitat.

- **Air** contains oxygen, which is what animals, and humans, breathe. You may not be able to see air, but you can feel it when the wind blows or if you blow on your hand.
- **Water** can come from different sources, like a lake, puddle, stream, or the food an animal eats!
- **Food** gives animals energy to grow! Animals may eat plants or other animals to get energy.
- **Shelter** provides a place to rest or sleep, and protection from bad weather or other animals.
- **Space** is the room an animal needs to grow and move around to find the other basic needs.

5 Things Animals Need



Air



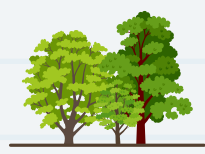
Water



Food



Shelter



Space

PROCEDURE:

1. Pick an animal. It can be an animal you are already familiar with, or it can be a new one you want to learn about.
2. Draw a picture of your animal on the Trading Card.
3. Fill in the other information on the Trading Card.
 - **Name:** What kind of animal is it? Does it have a name?
 - **Water:** Where does this animal get water from?
 - **Food:** What does your animal eat?
 - **Shelter:** Where does it rest, sleep, or hide?
 - **Space:** How much space does your animal need to survive?
 - **Fun Fact:** What else do you want someone to know about your animal?
4. Trade your card with friends, family or classmates!

Lola's Trading Card

Meet Lola, a two-toed sloth that lives at the Dallas Zoo. Check out her trading card to learn more about her basic needs. Then design your own animal trading card!

My name is Lola, I am a two-toed sloth.

My water source is a nice refreshing bowl of water in my habitat.

My favorite foods are sweet potatoes, apples, and grapes.

My shelter is in the trees or my nest box at the Zoo.

My space is my habitat at the Zoo.

Fun Fact: I can sleep more than 15 hours a day! I move slow and sleep often to help conserve energy.

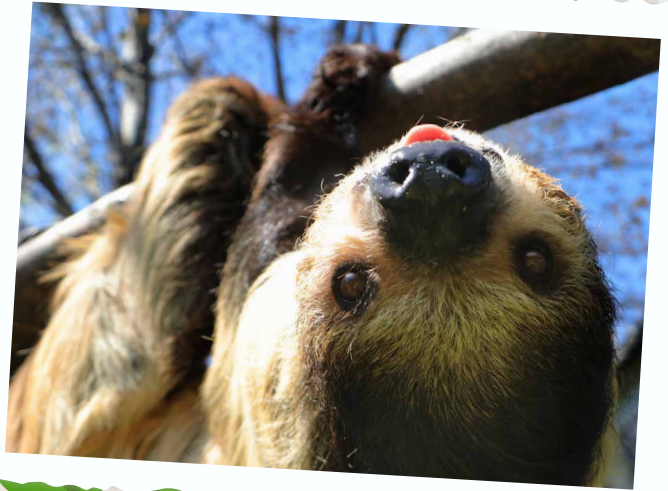
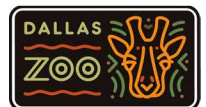
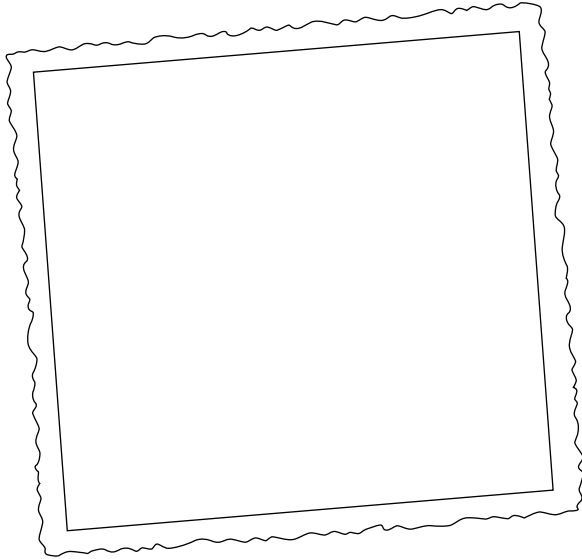


Photo courtesy
of Dallas Zoo



Trading Card Template

Name _____



Water _____

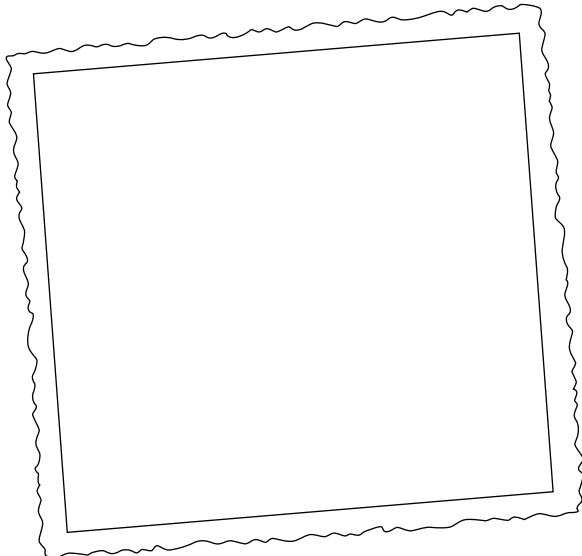
Food _____

Shelter _____

Space _____

Fun Fact _____

Name _____



Water _____

Food _____

Shelter _____

Space _____

Fun Fact _____

QUESTIONS

1. What animal did you choose? Why?

I chose _____

because _____

2. What living things does your animal depend on?

My animal depends on _____

for _____

3. What nonliving things does your animal depend on?

My animal depends on _____

for _____

Plant Investigation



Plant Investigation

WHAT ARE THE BASIC NEEDS OF PLANTS?

Objective:

Students will conduct an investigation to examine the importance of sunlight on plant growth.

Materials:

- Plant seeds (garden beans- snap beans, string beans, or green beans, work great!)
- Marker
- Sandwich bags
- Paper towels
- Water
- Area with access to sunlight
- Area without access to sunlight

Lesson Outline:

1. Have a class discussion about the basic needs of plants.
 - a. Think of a plant you have at home or have seen at school or the park. How do you, or others, help take care of it?
 - b. What do you think plants need to survive? Why?
2. Guide students through setting up the investigation.
 - a. Ask students to make a prediction about what will happen to the bean plant given sunlight and the bean plant not given sunlight.
 - b. Record observations about the plants each day for at least 7 days.
3. Use the included questions to discuss students' results and conclusions from the investigation.
4. Optional: Ask students for observations about the physical characteristics of the plant that grew in the sunlight. Relate these structures to how they help plants meet their basic needs.

Extensions:

- Scientific Investigation - have students design their own investigation to examine the importance of water or another variable on plant growth.
- Career Connection - connect your students with a plant scientist! You can reach out to scientists in your community, or use a resource such as [skypeascientist.com](https://www.skypeascientist.com)



Plant Investigation

WHAT ARE THE BASIC NEEDS OF PLANTS?

Materials:

- Plant seeds (garden beans- snap beans, string beans, or green beans, work great!)
- Marker
- Sandwich bags
- Paper towels
- Water
- Area with access to sunlight
- Area without access to sunlight

INTRODUCTION:

All living things have basic needs that need to be met for them to survive, but those needs are different for plants and animals. The **basic needs of plants** include: air, water, nutrients, light and space.

- **Air** can move plant seeds from place to place. Plants also take in carbon dioxide from and release oxygen back into the air.
- **Water** is absorbed by the plant's roots.
- **Nutrients** are found in the soil. They are also absorbed through the plant's roots.
- **Light**, like sunlight, provides energy that plants use to make their own food.
- **Space** is the room a plant needs to grow.

5 Things Plants Need



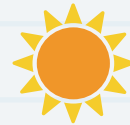
Air



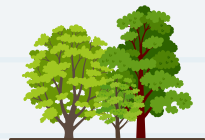
Water



Nutrients



Light



Space

For this experiment, you will try growing 2 bean plants: one given sunlight, and one not given sunlight. Before you begin, what do you think will happen to the plants?

I think the plant given sunlight will

I think the plant not given sunlight will

PROCEDURE:

1. Collect all of your materials. You may need the help of a parent/guardian or teacher.
2. Label both bags with the date. Then label one bag "Sunlight" and the other "No Sunlight"
3. Get a paper towel wet. You can dip it in the water and then squeeze out the excess, or you can use a spray bottle to spray the water onto the paper towel. *Note: Too much water in the bag can cause it to mold.*
4. Fold the paper towel in half and place in the "Sunlight" bag.
5. Place your bean in the "Sunlight" bag on one side of the paper towel- so you can see it! Mostly seal the bag- we want to leave a small portion open for air to get in and out.
6. Repeat steps 3-5 for the "No Sunlight" bag.
7. Tape the "Sunlight" bag to a window where the plant can get lots of direct sunlight.
8. Find a place away from the window, that doesn't get any direct sunlight. Tape the "No Sunlight" bag here.
9. Record your observations for 7 days!

LAB BOOK

Record your observations!

DAY 1

Date: _____

SUNLIGHT	NO SUNLIGHT

DAY 2

Date: _____

SUNLIGHT	NO SUNLIGHT

LAB BOOK

Record your observations!

DAY 3

Date: _____

SUNLIGHT	NO SUNLIGHT

DAY 4

Date: _____

SUNLIGHT	NO SUNLIGHT

LAB BOOK

Record your observations!

DAY 5 Date: _____

SUNLIGHT	NO SUNLIGHT

DAY 6 Date: _____

SUNLIGHT	NO SUNLIGHT

LAB BOOK

Record your observations!

DAY 7 Date: _____

SUNLIGHT	NO SUNLIGHT

QUESTIONS

1. What happened to the two plants?

The plant given sunlight

The plant not given sunlight

2. Does this match your prediction?

This **does/does not** match my prediction, because
(circle)

3. Based on your experiment, do plants need sunlight to grow?

My experiment shows plants **need/do not need** sunlight to grow because
(circle)

4. Let's imagine another experiment. If you give both beans sunlight, but only give one of them water, what do you think will happen to the plants?

I think the plant given water will

I think the plant not given water will

Find Your Food Chain



Find Your Food Chain

HOW DO PRODUCERS AND CONSUMERS INTERACT IN A FOOD CHAIN?

Objective:

Students will build a food chain and understand that it represents the movement of energy in an ecosystem.

Materials:

- Food chain cards- 1 card per student, printed and cut out

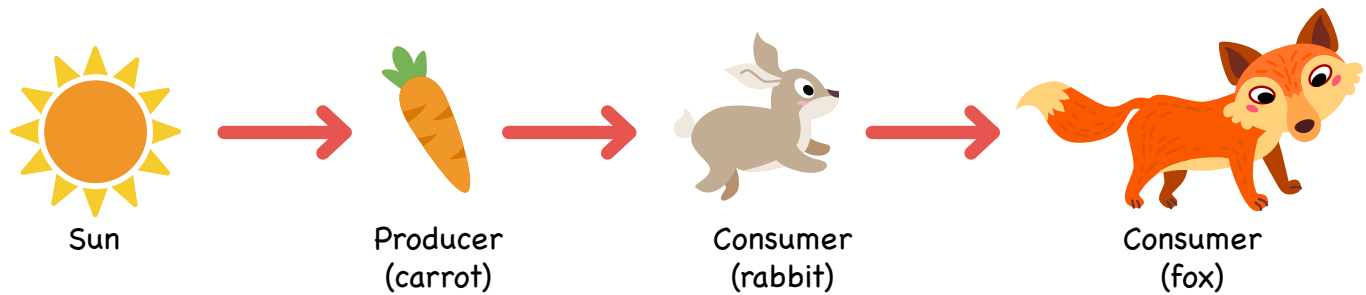
Introduction:

Plants and animals can find everything they need to survive in their **habitat**, or area where they live. Often times, plant and animal habitats overlap, meaning the plants and animals interact with each other in an **ecosystem**!



Interdependence is when living things depend on each other and nonliving things to survive. An animal may depend on a plant for shade, or a log for shelter. Some plants depend on animals to carry their seeds from place to place. Plants and animals also depend on nonliving things, like water and air.

All living things need energy to survive and grow. Plants are **producers**, because they use light energy from the Sun to make their own food. Animals are **consumers**, because they consume, or eat, other living things for their food. When an animal eats a plant or another animal, some energy is transferred from that living thing to the consumer. This can be shown in a **food chain**.



Lesson Outline:

1. Have a class discussion about energy.
 - a. How do you get energy?
 - b. How do plants get energy? (Producers)
 - c. How do animals get energy? (Consumers)
2. Food chains show how energy moves in an ecosystem.
 - a. Tell students the classroom is now an ecosystem. Give each student a card with a producer or consumer. They represent the living thing on their card. You may want to designate an object in the room to represent the Sun.
 - b. Give students a moment to think about their living thing. How does it get energy? Is it a producer or consumer?
 - c. Allow students to travel around the room to see what else lives in the ecosystem.
 - d. Allow students to travel around the room again. This time, instruct students to build a food chain with 3 other living things. Remind students that each food chain begins with the Sun.
3. Have each group share with the class. They should explain how the different living things in their food chain depend on each other for energy.

Extensions:

- Art Extension- Create a class mural displaying all the living things interacting in the environment. Students can also add nonliving things they think would be in the environment too.
- ELAR Extension- Write a story that includes examples of interdependence within the environment.

FOOD CHAIN CARDS



Grass



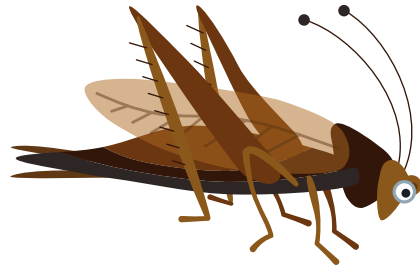
Mouse



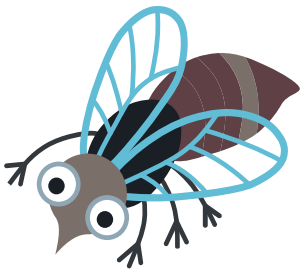
Fox



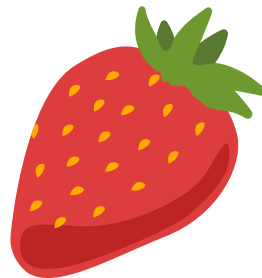
Cricket



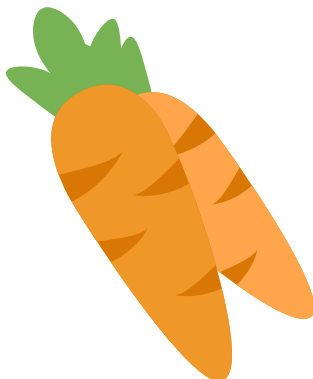
Fly



Berry



Carrot



Owl



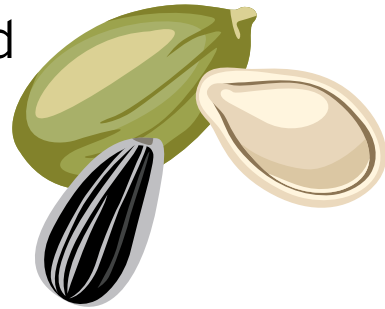
FOOD CHAIN CARDS



Rabbit



Seed



Frog



Bear



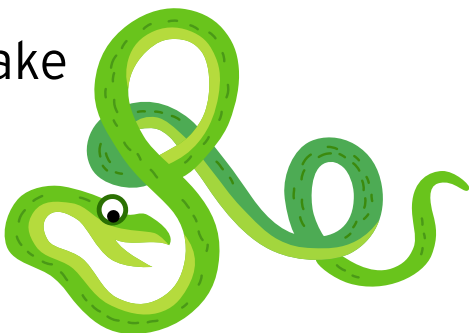
Hawk



Spider



Snake

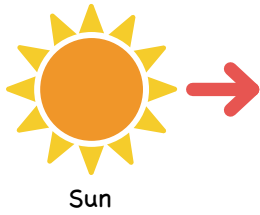


Opossum



QUESTIONS

1. Draw your food chain. Label the living things as producers or consumers.



2. Is your living thing a producer or a consumer? How do you know?

My living thing is a _____

because _____

3. What does your living thing depend on for energy?

My living thing depends on _____

_____ for energy.

4. What, if anything, depends on your living thing for energy?

_____ depends on my living thing for energy.

NOTE: These are common examples of relationships in nature. It is not a comprehensive list of all possibilities.

PLANT / ANIMAL	EATS	IS EATEN BY
Bear	Berry, carrot, cricket, fly, grass, mouse, seed, carrion (flesh of dead animals, like a fox)	
Berry		Bear, cricket, fly, fox, mouse, opossum, rabbit
Carrot		Bear, cricket, fox, mouse, opossum, rabbit
Cricket	Berry, carrot, grass, seed	Bear, fox, frog, hawk, mouse, opossum, owl, snake, spider
Fly	Decaying plants and animals	Bear, fox, frog, mouse, opossum, owl, snake, spider
Fox	Berry, carrot, cricket, fly, frog, grass, mouse, opossum, rabbit, seed, snake, spider	Bear
Frog	Cricket, fly, spider	Fox, hawk, opossum, owl, snake
Grass		Bear, cricket, fox, mouse, opossum, rabbit
Hawk	Cricket, frog, mouse, opossum, rabbit, snake	
Mouse	Berry, carrot, cricket, fly, grass, seed	Bear, fox, hawk, opossum, owl, snake
Opossum	Berry, carrot, cricket, fly, frog, grass, mouse, seed, snake, spider	Fox, hawk, owl
Owl	Cricket, fly, frog, mouse, opossum, rabbit, snake, spider	
Rabbit	Berry, carrot, grass	Fox, hawk, owl
Seed		Bear, cricket, fox, mouse, opossum
Snake	Cricket, fly, frog, mouse, spider	Fox, hawk, opossum, owl
Spider	Cricket, fly	Fox, frog, opossum, owl, snake

RESOURCES

GLOSSARY

Air - clear mixture of gases that surrounds Earth, in which living things live and breathe

Animal - a group of organisms that are typically made of multiple cells, consume food (plants or other animals) for energy, and are capable of moving around and responding to their environment

Basic Needs of Animals - includes food, water, shelter, and space

Basic Needs of Plants - includes air, water, nutrients, sunlight and space

Caregiver - person who provides direct care to a pet, animal or another person.

Consumer - a living thing that must eat other living things to grow and survive. Animals are consumers.

Depend - to rely on; a pet may rely on a caregiver to provide food, water, and shelter

Ecosystem - includes all the living and nonliving things in a given area interacting with each other

Food - substance that an organism consumes (usually a plant or animal) that provides energy and nutrients to maintain life

Food Chain - a representation of the flow of energy in an ecosystem in which living things are organized based on what they depend on for food

Habitat - place where an organism lives and all the conditions it needs to survive are met

Interdependence - when living things depend on each other and nonliving things to survive

Living Organism - an individual life form, such as a plant or animal. You are also an organism!

Living thing - anything that is now or has ever been alive. Some examples include: sunflower, birds, or logs. All living things are made of one or more cells, use energy, grow, reproduce, and respond to their environments.

Nonliving thing - anything that is not alive now, nor ever been alive. Some examples include: rocks, computers, glasses, or a volcano.

Nutrients - substances needed for healthy growth and development, plants obtain nutrients from soil

Offspring - a living thing's young

Plant - living thing that uses photosynthesis to make its own food

Producer - a living thing that makes its own food to grow and survive. Plants are producers.

Reproduce - the production of another living thing of the same kind

Shelter - structures that offer protection from weather or predators, such as nests, burrows, or lodges

Space - the amount of habitat a plant or animal will need to survive. This will vary by species, but an animal will be able to find the food, water and shelter necessary for survival within the space it travels.

Sunlight - light and energy that comes from the Sun. Plants absorb this energy to convert water and carbon dioxide into food so it can stay alive and grow.

Water - a substance that is essential for life and can be found in all ecosystems. Examples of water sources include streams, ponds, lakes, puddles, and rivers.

READING LIST

- Aston, Dianna. *A Seed Is Sleepy*. Chronicle Books, 2014.
- Austen, Elizabeth. *What Do Living Things Need?* Teacher Created Materials, 2014.
- Fullerton, Alma. *Community Soup*. Pajama Press, 2019.
- Hicks, Kelli. *Living or Nonliving?* Rourke Educational Media, 2011.
- Jenkins, Steve. *A House in the Sky and Other Uncommon Animal Homes*. Charlesbridge, 2018.
- Kensky, Jessica. *Rescue and Jessica: A Life-Changing Friendship*. Candlewick Press, 2018.
- Kurtz, Kevin. *Living Things and Nonliving Things: A Compare and Contrast Book*. Arbordale Publishing, 2017.
- Martinez, Claudia Guadalupe. *Not a Bean*. Charlesbridge, 2019.
- Messner, Kate. *Up in the Garden and Down in the Dirt*. Chronicle Books, 2017.
- Pfeffer, Wendy. *A Log's Life*. Aladdin Publishing Company, 2007.
- Samuels, Barbara. *The Chickens are Coming!* Farrar, Straus, Giroux (BYR), 2019.
- Schaefer, Lola. *Because of an Acorn*. Chronicle Books, 2016.
- Wenzel, Brendan. *A Stone Sat Still*. Chronicle Books, 2019.
- Zoehfeld, Kathleen. *Secrets of the Garden: Food Chains and the Food Web in Our Backyard*. Knopf Books for Young Readers, 2012.

ONLINE RESOURCES

PEROT MUSEUM

- [Amaze Your Brain at Home](#)
 - [Fantastic Frogs](#)
 - [Backyard Bug Exploration](#)

DALLAS ZOO

- [Protecting the Twelve](#)

LIVING THINGS

- [Animal Diversity Web](#)
- [Kids Gardening](#)
- NOAA - [Great Lakes Food Webs](#)
- National Park Service - [Who Eats Who \(Downloadable PDF\)](#)
- Texas Parks & Wildlife - [Wildlife Home Page](#)
- Victoria State Government Education and Training - [Living Things](#)
- World Wildlife Fund - [Sloth Facts](#)

LIVE CAMS

- [explore](#)
- [Hattiesburg Zoo Sloth Cam](#)
- [John Bunker Sands Wetland Center Eagle Tower](#)
- [Monterey Bay Aquarium](#)
- [San Diego Zoo](#)
- [Smithsonian National Zoo](#)
- [Warrior Canine Connection Puppy Cam](#)

STEM CARRERS

- [IF/THEN Collection](#)
 - [Kristen Lear, Bat Conservationist](#)
 - [Jo Varner, Pika Biologist](#)
- [Skype a Scientist](#)

KEY STAKEHOLDERS

SERIES SPONSORS

Perot Foundation

The Lamar Hunt Family

ADDITIONAL SERIES SUPPORT



LYDA HILL[®]
PHILANTHROPIES

IF/THEN



Office of
Arts & Culture



Museum of Nature and Science



For additional information, please email
schoolengagement@perotmuseum.org