



HARMONY BROOK WATERSHED

Activity Workbook

Join Leo, Owl, Fox and Frog as they learn about nature and how human activities can impact their home in Harmony Brook Watershed.



WATER
ROCKS!



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This booklet is also available on the Water Rocks! website in PDF format:
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What's in a Sign?

Episode I

with Frog, Fox, and Ann

Frog and Fox found out that they live in a watershed! A watershed is an area of land that drains to a common water body.

Why were Frog and Fox upset about the sign that went up in Harmony Brook Watershed?

A healthy watershed has (circle your answers):

Good water quality

Lots of plants

Healthy plants

Muddy water

Lots of animals

Clear water

Trash

Oil spills

What are some recreational activities you can do in a healthy watershed? Unscramble the words to find out! Remember, a watershed is an area of land that drains to a common water body—so the activities below include activities you do on land AND in the water!

_____ AYKKA

_____ SIFH

_____ KLWA

_____ DLDEAP BRAOD

_____ AONEC

_____ DEWA

_____ WIMS

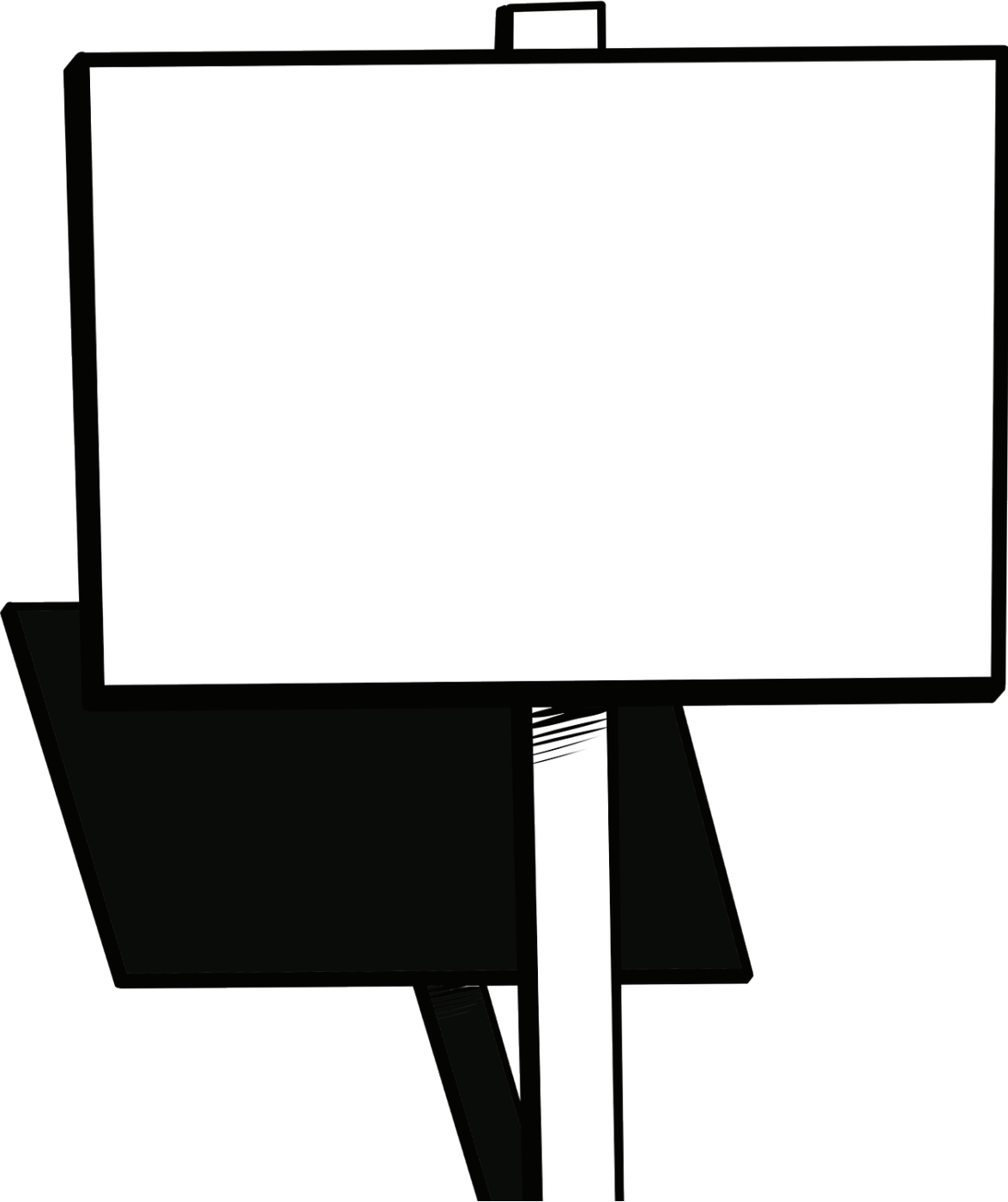
_____ BKIE

_____ IKHE

_____ PAYL



Create your own watershed sign!



Watersheds for Everyone

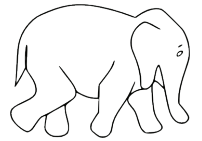
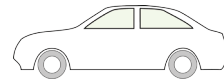
Episode 2

with Fox, Frog, Owl, and Ann

Frog, Fox, and Ann are working together to fix the Harmony Brook Watershed sign when Owl swoops in to assess the situation. Owl doesn't know what a watershed is! Can you help her learn more?

What does the word watershed mean?

Who or what is part of Harmony Brook Watershed? (Circle your answers.)



True or False?

Rain falls and it stops. _____

Everyone lives in a watershed. _____

Owls molt; they do not shed. _____

Harmony Brook is part of a watershed. _____

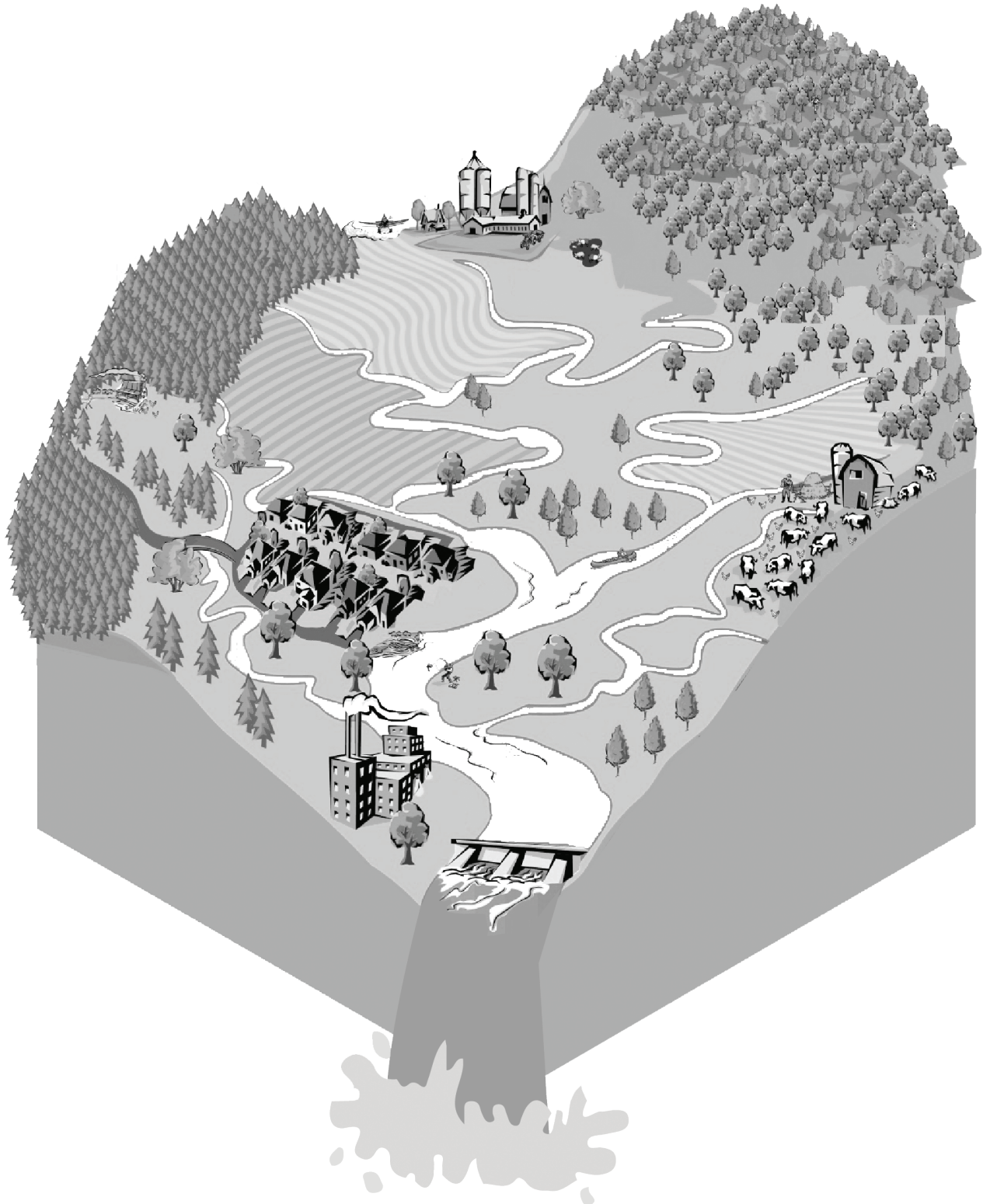
Owl is not part of the Harmony Brook Watershed. _____

Frog lives in a wetland. _____



A **watershed** is an area of land that drains to a common water body.

In the image below, draw rain clouds in the sky. Use a blue crayon or marker to draw arrows showing how the water moves across the land.



Name: _____

Watershed Mystery

Episode 3

with Fox, Leo, and Nathan

Fox and Leo are on a mission to figure out what is polluting Harmony Brook. Can you help them solve this mystery?

Fill in the blanks.

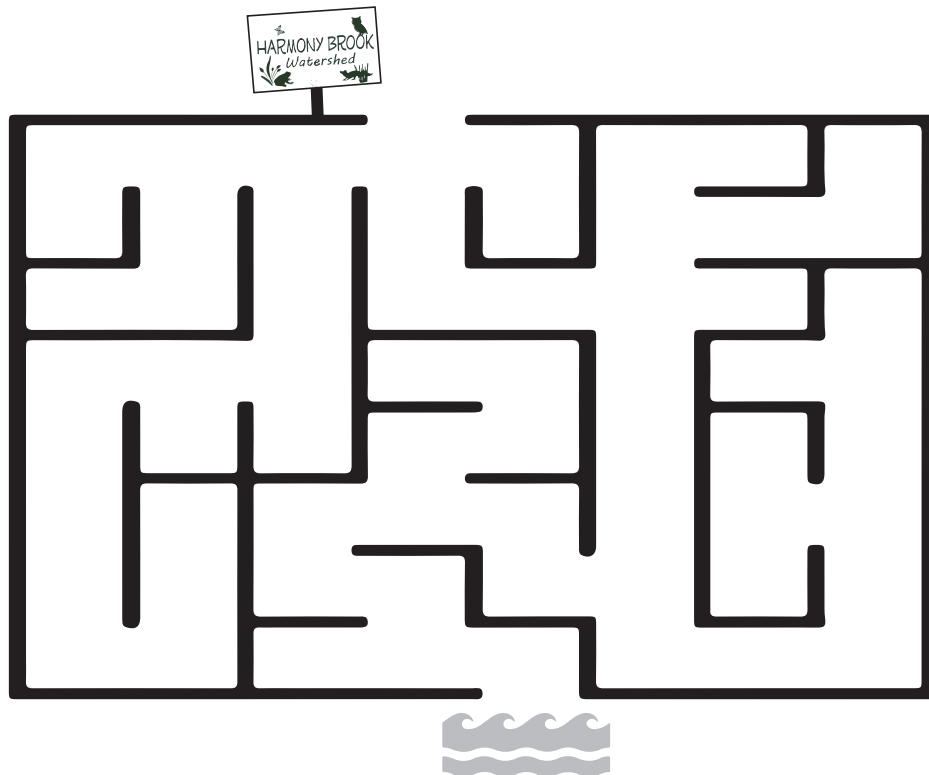
Nathan's scientist friends are from _____.

The scientists are going to run some _____ on the water to make sure it is safe.

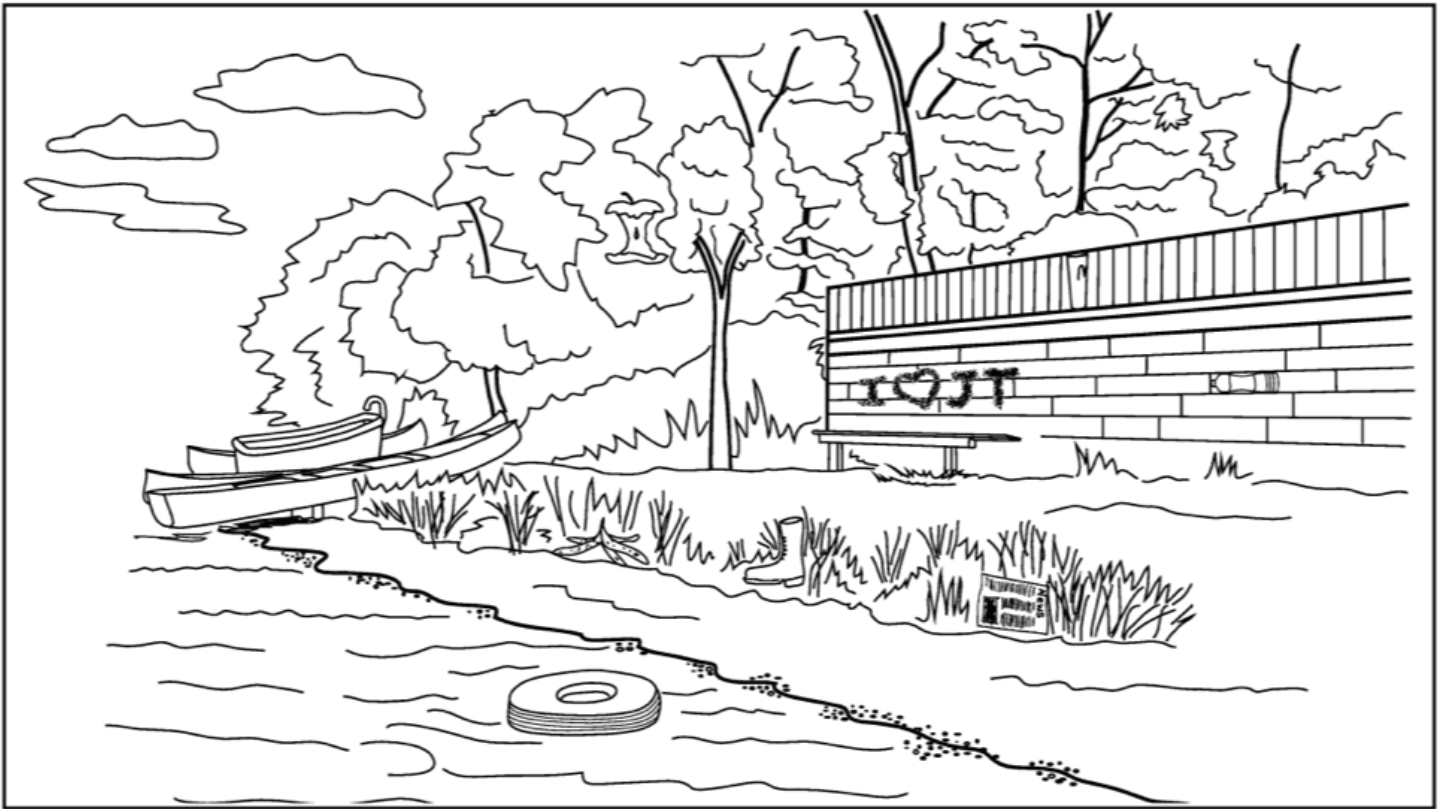
The water at the beginning of the stream is _____, but the water at the end of the stream is _____.

Harmony Brook flows into a _____.

Complete the maze that starts at Harmony Brook and ends at the ocean!



Fox found several signs of pollution in her environment. *Circle the signs of pollution you can find in this picture!*



What is pollution?

Why is water pollution a problem?



Name: _____

Sedimental Journey

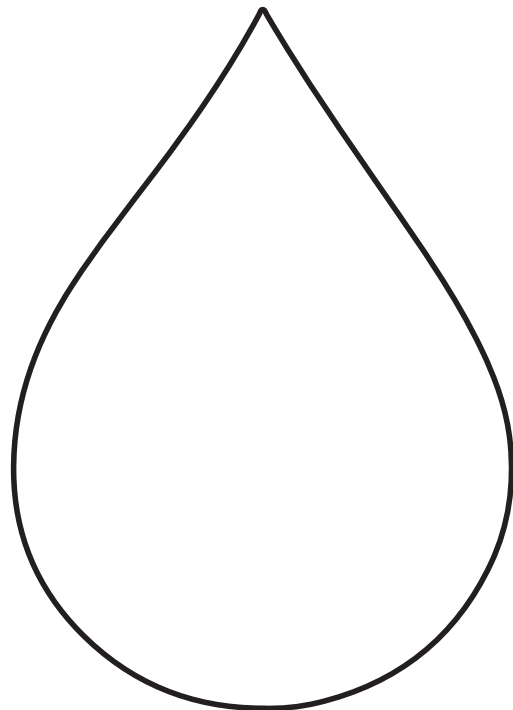
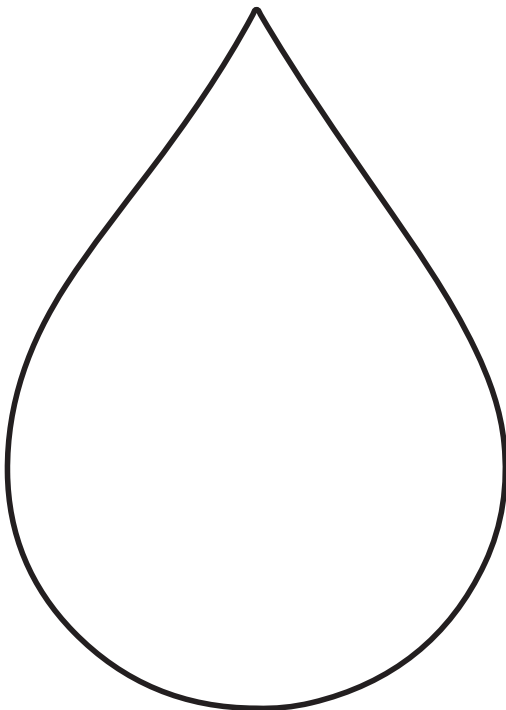
Episode 4

with Owl, Leo, Fox, Frog, and Nathan

Fox and Leo are getting closer to solving the mystery of the dirty water! Follow them down the stream and help them answer some questions!

One of Fox and Leo's stops was at the wetland. Frog mentioned that a wetland makes water cleaner. *How does the wetland make water cleaner?*

At the end of the brook, a farm appears, and the water looks dirtier. *Color in one water droplet to match the water upstream at the start of the brook and the other water droplet to match the water downstream.*



Can you find all the words about soil? Words can be forward, backward, or diagonal. *Circle or highlight the words as you find them!*

F I O N H V X D G H Q H T R E
W B X N Z M I R M Q E U E U R
W M I F U R F W S G G S S C O
I O I P T B M D P M P R N Z S
Y S L Y O K L D Q O Q M B B I
X G K H Q R F K N B P V D F O
G Q R Y G K C S F Y J T P N N
J L V P K V I R L S P Y O E N
W G A C P B Y I E G C O L L I
Z A T H I L A Y E V R Y L I I
P X T L N A T H A N O E U O F
L H I E Z S R O E L J C T S O
O T P L R X R K T H B X A R X
Y A G R I C U L T U R E N K G
E P N H T N E M I D E S T W F

WORD BANK

AGRICULTURE

EROSION

NATHAN

SEDIMENT

COVER CROP

FOX

POLLUTANT

SOIL

DIRTY

LEO

RESPONSIBILITY

WATER



What Does A Brook Want to Do?

Episode 5

with Frog, Fox, Leo, Owl, and Ann

The animals at Harmony Brook are arguing about how the brook moves. Can you help them understand how their brook moves?

Which animal said what? *Match the animal to the way they think the brook moves.*

Owl

"It hops and jumps, up and down!"

Fox

"It twists and turns, left and right!"

Frog

"It's fast and slow; it wiggles and tickles!"

What does the word perspective mean?

Fill in the blanks with the words in the word bank provided.

Our way of _____ about and _____ the world around us is shaped by how we experience it.

We all have a unique _____.

When the brook moves back and forth, we call it _____.

Frog can feel the brook _____ and _____ when he is in the water.

WORD BANK

WIGGLE

KNOWING

MEANDERING

THINKING

TICKLE

PERSPECTIVE



Based on your own perspective, draw your own brook and describe how it moves!



Instructions: Using crayons, colored pencils or markers, draw the path of your brook. Does it twist and turn? Or is it a straight line? Draw creatures that live in your brook and add some more plants that grow around your brook!



Home on the Sponge

Episode 6

with Frog, Fox, and Nathan

In this episode, Nathan helps Frog and Fox understand how wetlands work. Use this worksheet to explore the different properties of wetlands.

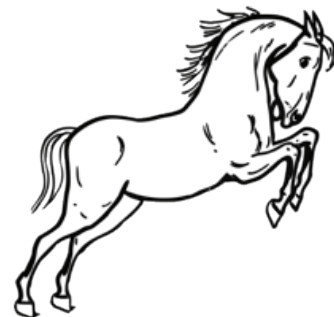
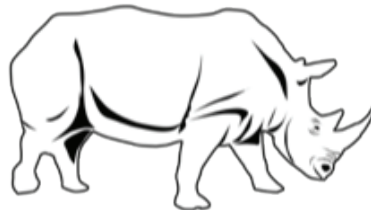
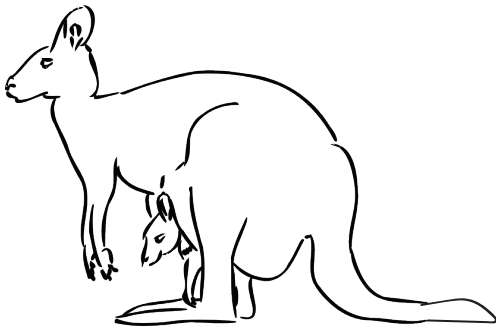
Read the following sentences about wetlands. Color the circles next to the sentences that are false. The remaining letters will help you fill in the blank at the bottom of the page.

- S** Wetlands store water.
- A** Wetland soils are very dry.
- M** Frog lives in a tree.
- P** Frog lives in a wetland.
- O** Nathan said the wetland acts like a sponge.
- I** Wetlands are not important.
- N** Hydric soils are soft and full of holes.
- J** Nathan was looking for a real sponge at the wetland.
- G** Wetlands hold water in the ground.
- L** Wetlands do not help during droughts.
- E** Wetlands slow down flooding.

In a wetland, the soil is one great big _____.



What creatures would you find in a wetland? Circle your answers.



Name: _____

Dig It!

Episode 7

with Fox, Owl, and Nathan

Fox and Owl learn from Nathan that soil is really important and full of living organisms!

Who was Nathan taking soil samples for?

Unscramble the words on the left and match them with the "soil" words on the right by drawing lines between them.

LSOI
ACTBEIRA
MPLSAES
RTHAE
PNTSLA
RIDT
OGRNASIMS
GDI
GINFU
VELSHO
RSOPC

BACTERIA
SOIL
CROPS
SAMPLES
DIG
EARTH
DIRT
SHOVEL
PLANTS
ORGANISMS
FUNGI



Complete each blank by matching the number to the letter to figure out the message below.

1	2	3	4	5	6	7	8	9
A	B	C	D	E	F	G	H	I

10	11	12	13	14	15	16	17	18
J	K	L	M	N	O	P	Q	R

19	20	21	22	23	24	25	26
S	T	U	V	W	X	Y	Z

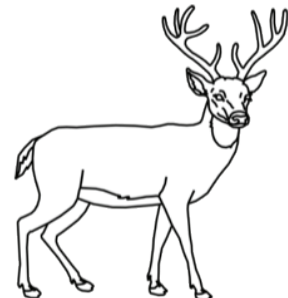
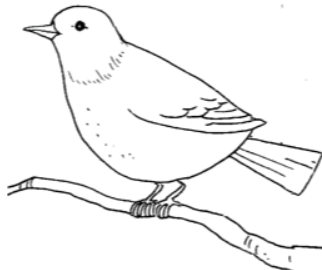
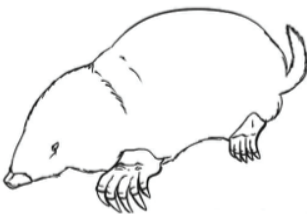
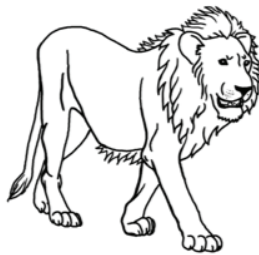
19 15 9 12

3 15 14 20 1 9 14 19

15 14 5 20 8 9 18 4 15 6 1 12 12

12 9 22 9 14 7 15 18 7 1 14 9 19 13 19

Nathan said there are more living creatures in a single shovelful of soil than there are humans on Earth! Circle the creatures below that you may find in the soil.



Nosy Neighbors

Episode 8

with Fox and Ann

Fox is trying to find her new neighbors when Ann explains that her neighbors live all around her! Can you help Fox learn more about her new friends?

Fill in the blanks.

Fox lives in a _____.

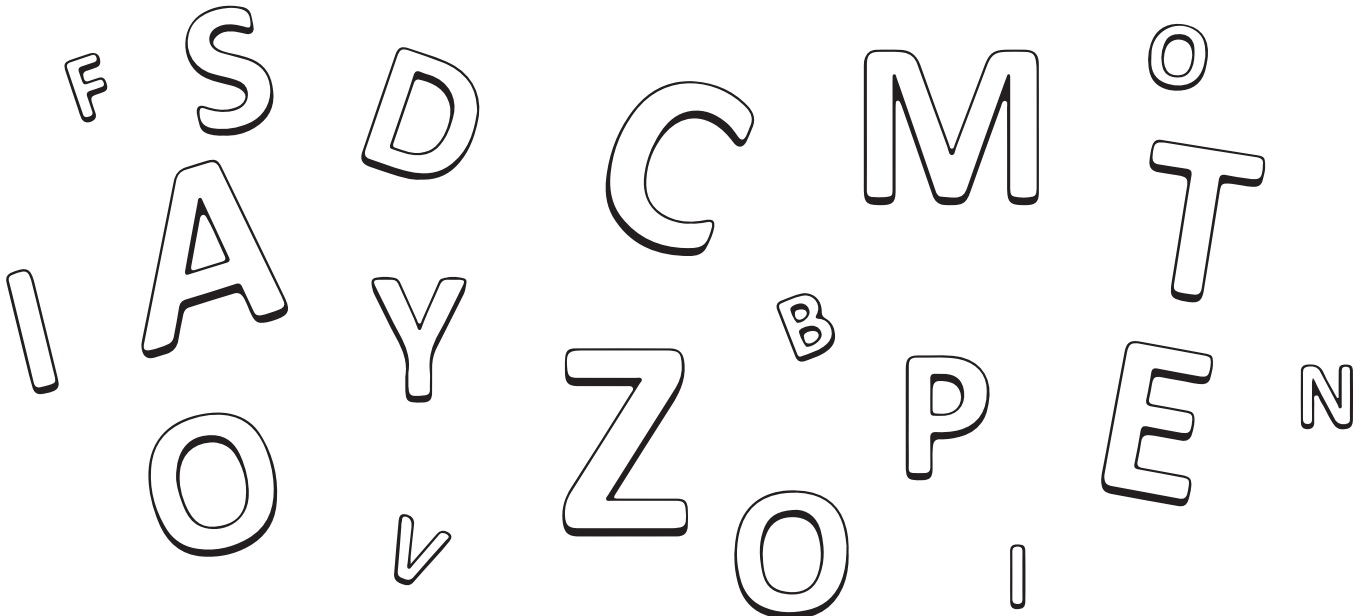
Frog lives in the _____ and Owl lives up in the _____.

Many soil creatures eat and break down dead plant and _____ material. We call these soil creatures _____.

_____ are so small you can't see them with your bare eyes!

Soil organisms create _____, which are tunnels that allow air and water to move through.

Find and color the letters in the word DECOMPOSITION.



Ann told Fox that there are all sorts of interesting things underground. Some of them are small and some are so very, very tiny you can't see them with your bare eyes. *Write words on the lines next to the pictures to name some of these creatures that live under our feet.*



B _____



F _____



W _____



I _____



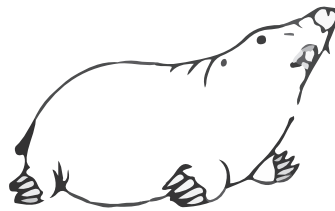
B _____



B _____



A _____



M _____

Water Cycle

Episode 9

with Frog, Owl, and Ann

Frog and Owl are learning about the water cycle with Ann. They are a little confused as to how the cycle works. Can you help them understand the different steps of the water cycle?

Circle *T* or *F* to note which statements are true or false.

T / F The water cycle is a vehicle.


T / F Evaporation is a part of the water cycle.

T / F Water stays still; it does not move.

T / F When vapor changes back into water, it's called condensation.

T / F Rain is part of the water cycle.

T / F When water gets cold, it turns into steam.

Unscramble each of the clue words. Take the letters that appear in  boxes and unscramble them for the final message!


WETRA

				
-------------------------------------------------------------------------------------	--	--	-------------------------------------------------------------------------------------	--

TIITERCOPNAIP

											
--	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	--	--	--	--	--	--	--	--

PINRAOTEVAO

									
-------------------------------------------------------------------------------------	--	--	--	--	--	--	-------------------------------------------------------------------------------------	--	--

SAOTINENCOND

											
-------------------------------------------------------------------------------------	--	--	--	--	--	--	--	--	-------------------------------------------------------------------------------------	--	--

VAOPR

				
--	-------------------------------------------------------------------------------------	--	--	--

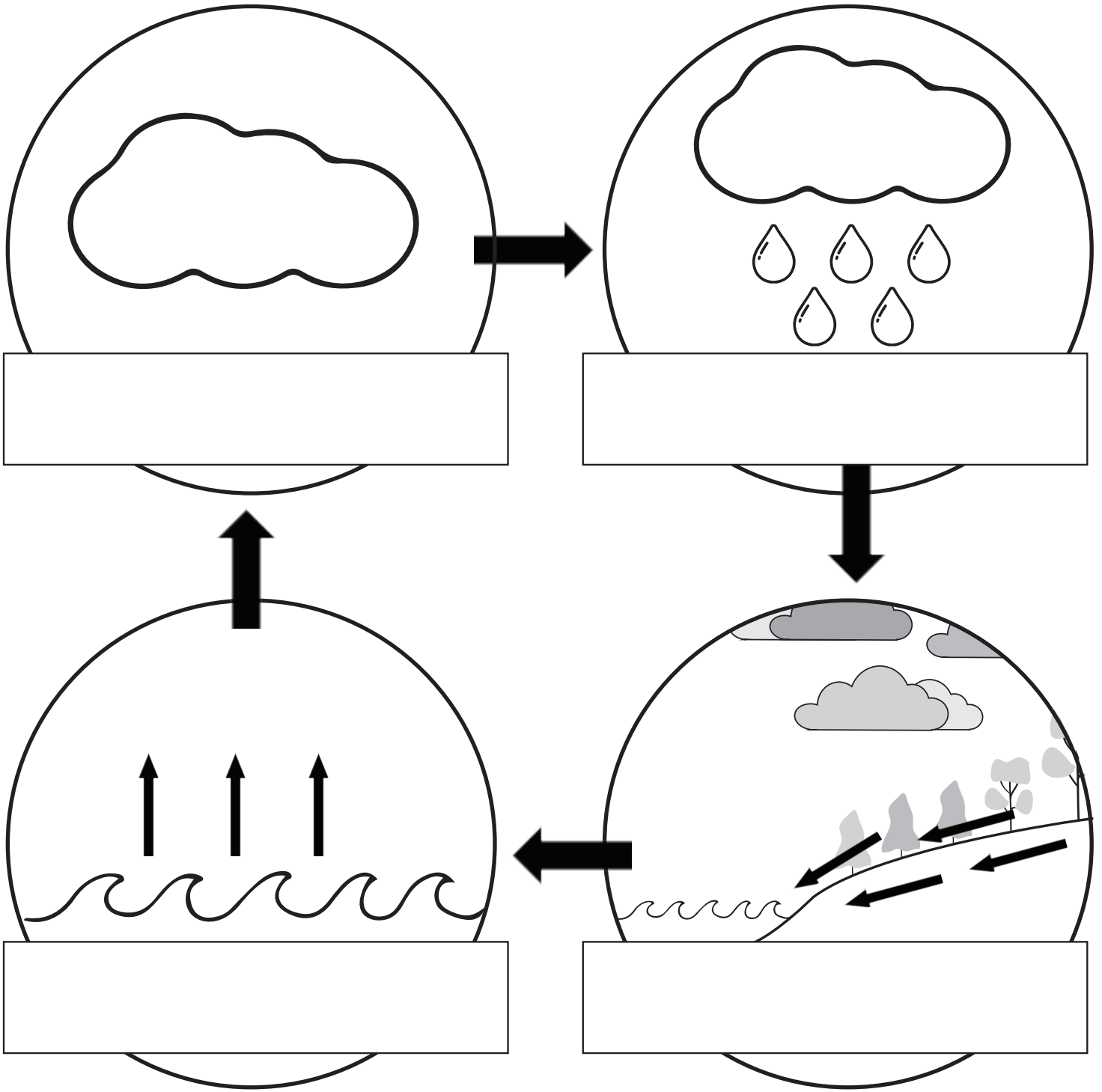
	H	
--	---	--

--	--	--	--	--

	Y		L	
--	---	--	---	--



Color and complete the cycle with these words:
Precipitation, Condensation, Evaporation, and Collection



Name: _____

Coffee Talk

Episode 10

with Fox and Nathan

Fox finds Nathan taking water samples in the wetland. He explains that wetlands can act like filters on the landscape, much like a coffee filter. Can you help Fox understand how this filter works?

Who is Nathan taking water samples for?

What is a filter?

Unscramble the tiles to reveal an important job wetlands do.

TER	LAN	TER	WET	WA	DS	FIL
-----	-----	-----	-----	----	----	-----

--	--	--	--	--	--	--



Pretend that the maze below is a wetland. Start at "Dirty Water" and filter your way through the maze to "Clean Water."



Pyramid Scheme

Episode 11

with Owl, Leo, and Ann

Owl and Leo are learning about ecosystems with Ann. They learn that each creature in the ecosystem has a special role, and that different creatures get their energy in different ways!

What is an ecosystem?

Use the letters next to the words provided in the table to fill in the blanks.

A. Wetlands	B. Biodiversity	C. Producers	D. Herbivores	E. Omnivores
F. Ecosystem	G. Niche	H. Secondary Consumers	I. Carnivores	J. Decomposers

1. _____ A community of living things and their environment.
2. _____ One of the most biologically diverse ecosystems on planet Earth.
3. _____ Lots of different creatures around, all with different jobs to keep the ecosystem healthy.
4. _____ A special job, or role, in the ecosystem.
5. _____ Organisms that get their energy from the sun.
6. _____ Organisms that eat producers.
7. _____ Organisms that eat herbivores and some plants.
8. _____ Animals who eat other animals, but do not eat plants.
9. _____ Animals who eat both animals and plants.
10. _____ Organisms that break down dead plant and animal materials, creating the foundation of the food pyramid.



Choose any living organism in the world, other than human, and fill out the questions below to describe yourself and your ecosystem!

Name of living organism

Draw a picture.

Where do you live?

Draw a picture.

What do you need to survive in your ecosystem?

Draw a picture.

How do you get your energy? (Another way to think of it: What do you eat?)

Circle the word that best describes you.

Producer **Herbivore**

Omnivore **Carnivore**

Decomposer



Meet Me in the Wetland

Episode 12 *with Owl and Ann*

Owl is waiting for her friend Goose to arrive. While she waits, she wonders why Goose wants to meet at a wetland instead of the woods. Ann explains to Owl why wetlands are so important, especially for her friend Goose!

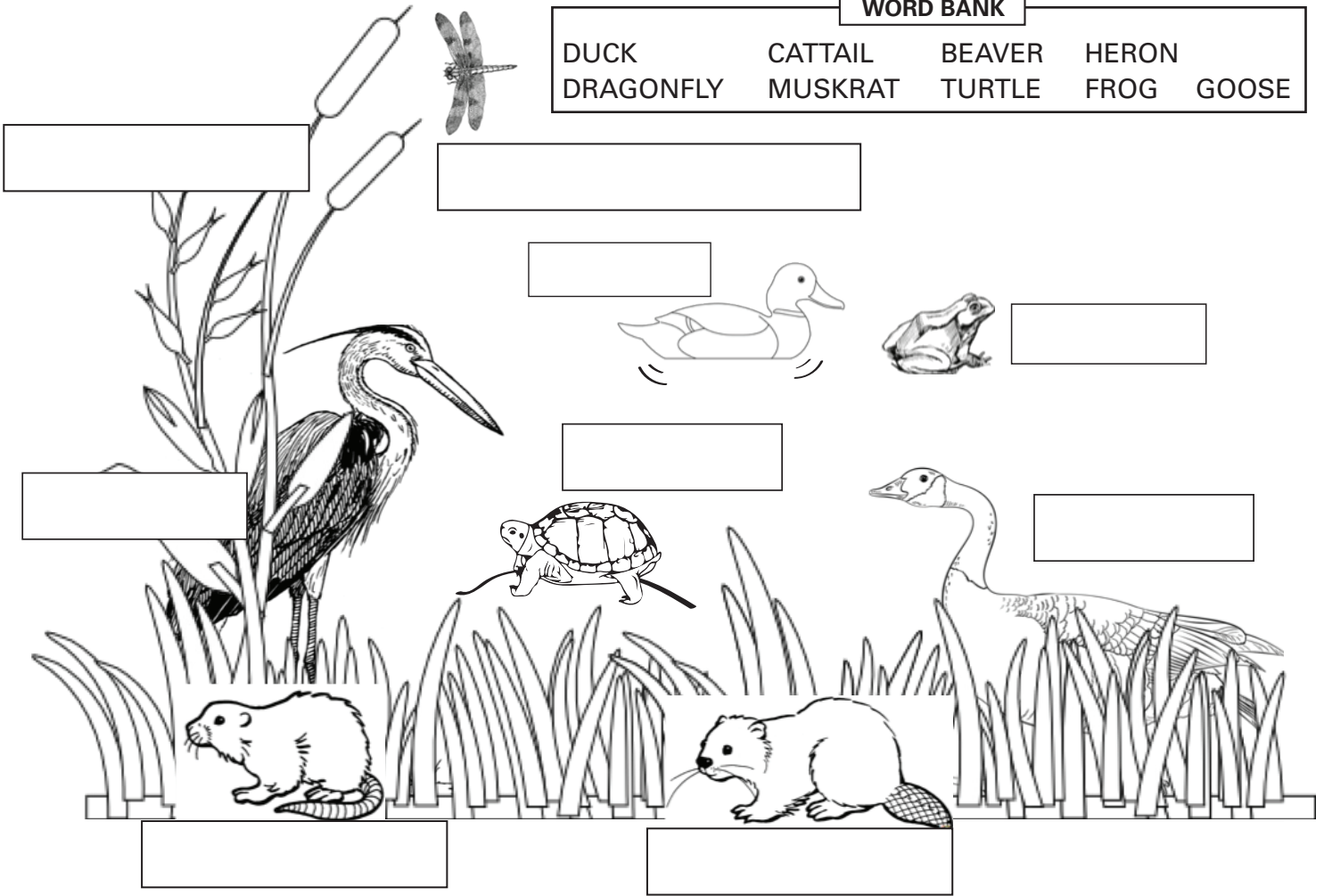
Goose has a long journey ahead. What do you think Owl's friend is thinking about on this journey of migration? Where will he stop for food? Water? Rest?



Wetlands are full of life! Fill in the boxes with the words provided in the word bank.

WORD BANK

DUCK CATTAIL BEAVER HERON
DRAGONFLY MUSKRAT TURTLE FROG GOOSE



Why are wetlands so important to geese and other migrating creatures?

What is the difference between a highway and a flyway?



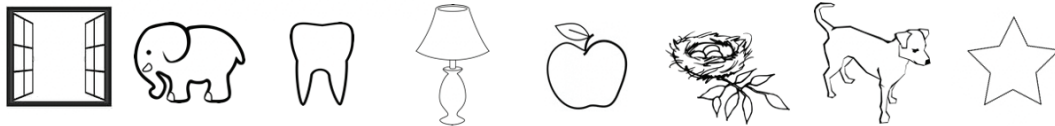
Keeping It Together

Episode 13

with Frog, Owl, and Nathan

Owl's friend Goose told her that wetlands are essential for migrating bird species. However, Nathan explains to Frog and Owl that wetlands are disappearing, making it harder for these species to thrive!

Write the beginning letter of each picture to decode the secret sentence.



--	--	--	--	--	--	--	--



--	--	--



--	--	--	--	--	--	--	--	--

Write the secret sentence below.

--

Fill in the blanks using the words provided in the word bank.

Goose is a _____ bird species.

_____ make great rest stops for Goose on his migration journey.

Wetlands are _____, making it harder for birds like Goose to migrate.

Wetlands have been _____ to make room for crop fields, towns and roads.

When Owl's feathers fall out, it's called _____. Then new ones grow in.

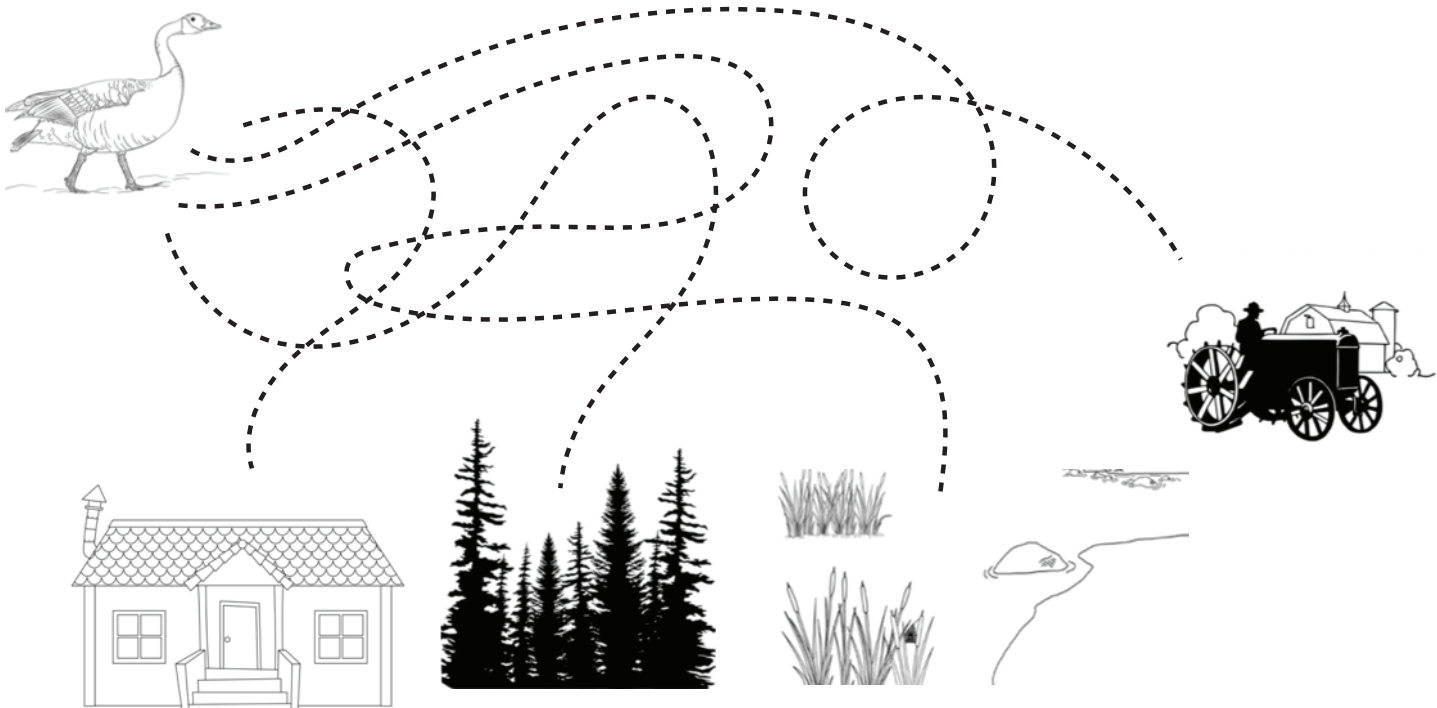
Wetland ecosystems provide _____, meaning they are full of many different types of living organisms.

We can help out wetlands by _____ water, _____ wetlands, and practicing _____ by tracking plant and animal species on our smartphones or tablets.

WORD BANK

DISAPPEARING MOLTING CITIZEN SCIENCE DRAINED VISITING
MIGRATING BIODIVERSITY USING LESS WETLANDS

Using a colored pencil or marker, trace the line leading Goose to the wetland!



Introduction to Pollen

Episode 14

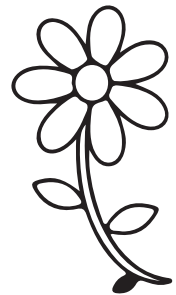
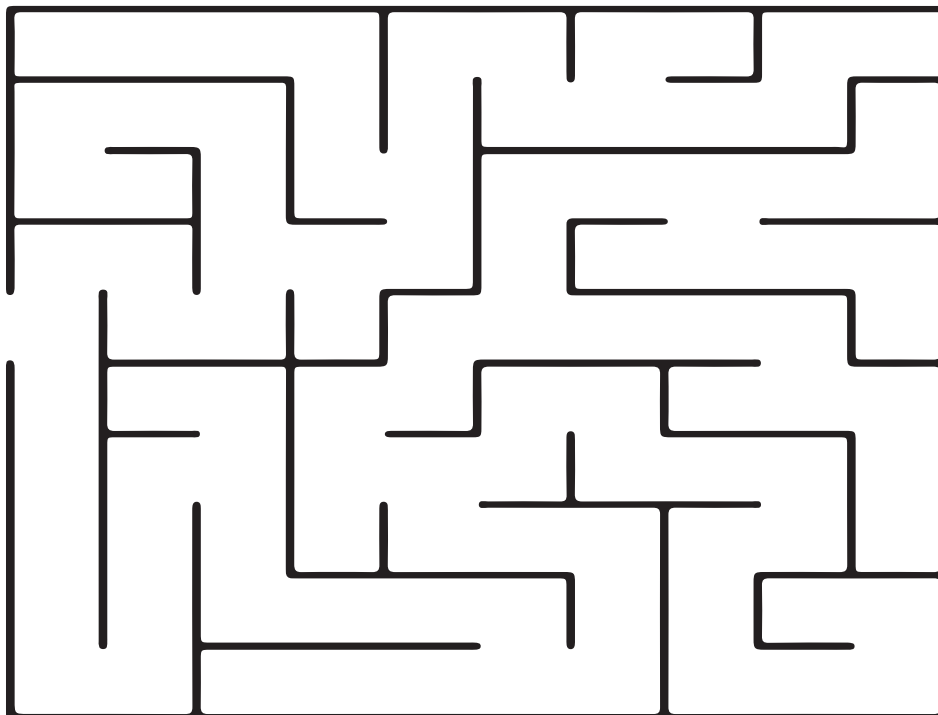
with Fox, Frog, Leo, and Ann

Fox, Frog, and Leo learn from Ann how pollen is spread from flower to flower!

Number the steps from 1-5 in the process of Leo pollinating flowers. The first one is done for you.

- _____ Leo moves on to a new flower to find more nectar.
 - _____ The pollen from the first flower fertilizes the second flower in the process of pollination.
 - 1 Leo lands on a flower to sip nectar.
 - _____ Once Leo lands on the second flower, some of the pollen that was attached to him falls off.
 - _____ While Leo is sipping nectar, pollen attaches itself to his feet.
-

Leo needs help finding his next flower. Can you guide him to it?

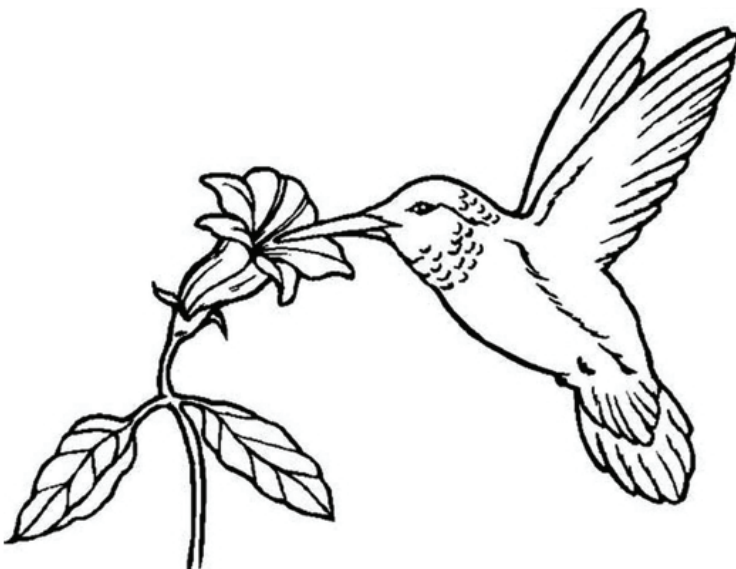
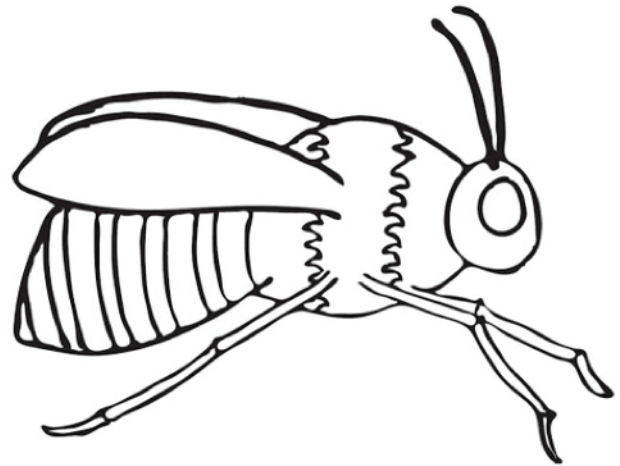


Here are some fun facts about pollinators. After reading each fact, color in the different pollinator!



Pollinators are essential to creating and maintaining ecosystems that many animals rely on for food and shelter.

Pollination is a very important part of the life cycle of plants and they cannot produce fruit or seeds unless they are pollinated.



1/3 of all the food we eat relies on pollinators.

Who Pollinates?

Episode 15

with Leo, Owl, and Ann

Leo and Owl are arguing over who is the best pollinator. Ann reminds them that all pollinators are extremely important!

What is pollen?

List as many pollinators as you can think of below.

Read, think and write! Write fact or opinion next to each statement.

- _____ Pollen is a fine powdery substance that allows plants to make seeds and fruit.
- _____ Leo is the best pollinator.
- _____ Owl is the best pollinator.
- _____ Bees and butterflies drink nectar from flowers.
- _____ Bees have fuzzy bodies that attract pollen from flowers.
- _____ Leo is not an important pollinator.
- _____ Bees have small baskets on their legs that help carry pollen from flower to flower.
- _____ All pollinators are important!



Find each word on the list in the word search below. Words can be forward, backward, or diagonal.

Q E O S A P W B P P B I I Z M
J W A N L I R D E U L D F G D
L M N N Q W T A T E D A U W Z
E P C H N D B T Z M S O N G G
C M I Y S E E D V M X R J T Q
M X O P U R T F L O W E R S S
H X S T F U F N A A L S B O W
F A D L H O P G A E U J A I Y
W B I U Q S N O O I L J T X V
C E A I W M R E L A R I S M W
S T W B A E S H C L C F N K N
C W Q G R Y G D Z T E E V S L
F N N Q A C A T R C A N X S P
A C R I K L M G X I X R K T T
R I M P H F C Z O K B N W V D

WORD BANK

ANN

BEES

FLOWERS

MOTHS

NECTAR

POLLEN

ANTENNAE

PLANTS

BIRDS

LEO

OWL

WASPS

BATS

BUTTERFLIES



Name: _____

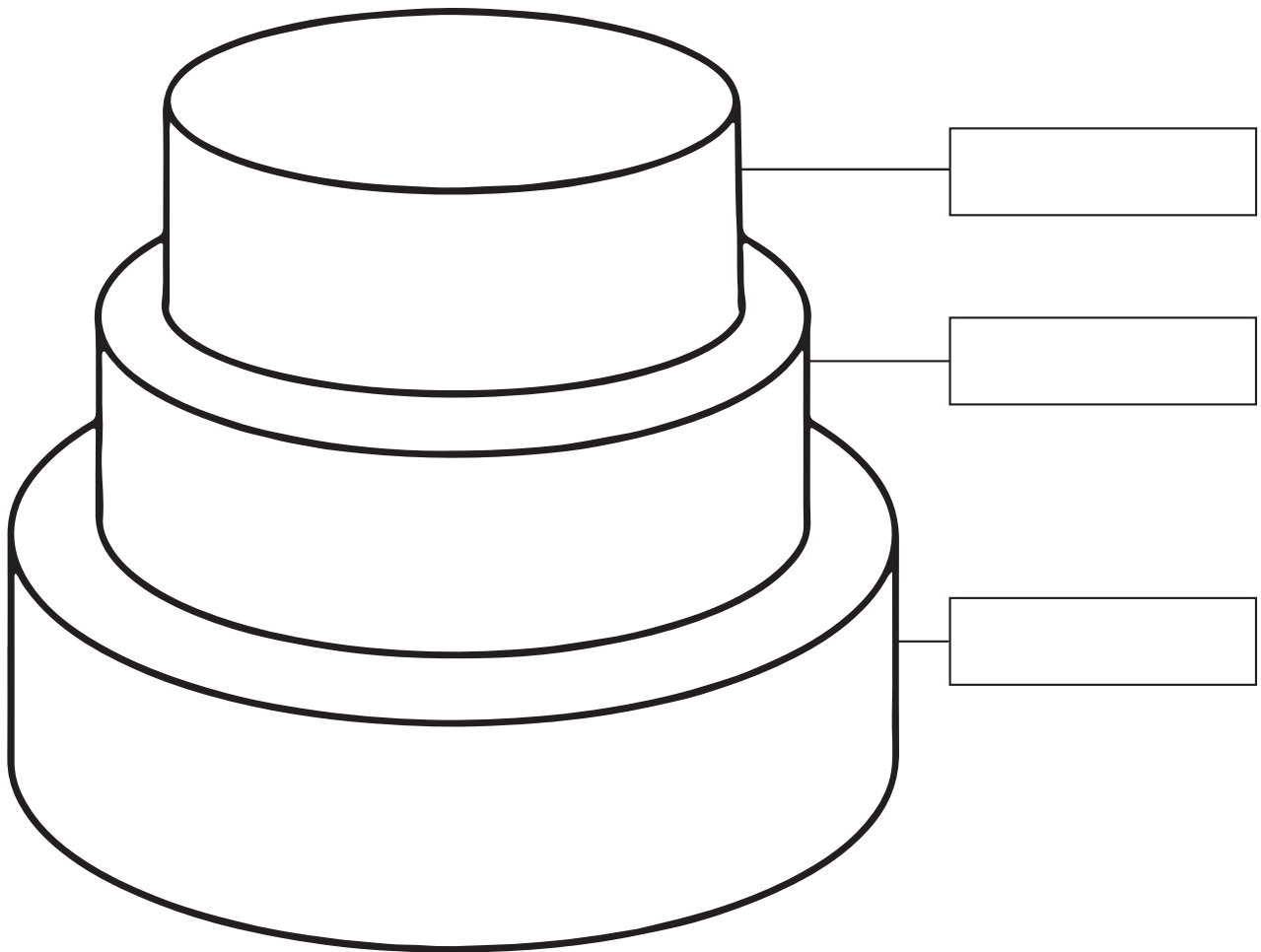
This Takes the Cake

Episode 16

with Frog, Leo, and Nathan

It's the anniversary of Harmony Brook getting its name and Nathan is making a cake! It's not just any normal cake, but a cake that represents the different layers of the soil!

*Label and decorate each layer of cake to look like each layer of soil.
Use the word bank to help you.*



WORD BANK		
BEDROCK	SUBSOIL	TOPSOIL

Draw a line to match the words and pictures below.

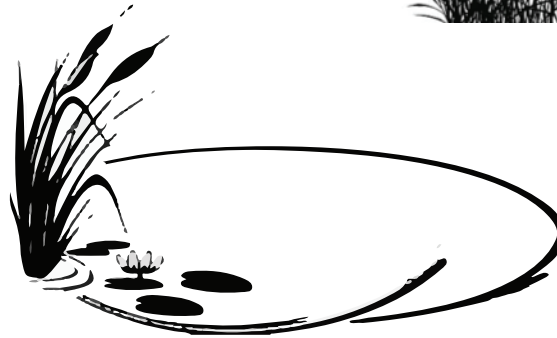
Waterway



Prairie



Woodland



Cropland



Wetland



Six Degrees of Soil

Episode 17

with Frog, Owl, and Ann

Owl thinks that soil is not important, but Ann reminds her that soil is the foundation of food, clothing, and many other objects that are used every day!

Ann told Owl about several things that come from the soil.

Make an X by the things Ann told Owl about.

_____ Ice cream

_____ Folding the laundry

_____ Socks and other clothing items

_____ Pianos

_____ Plastics

_____ Baseball mitts

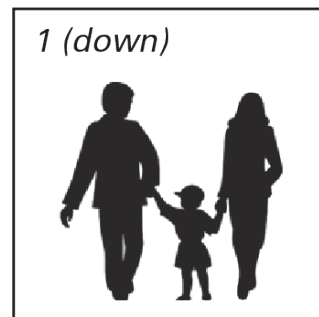
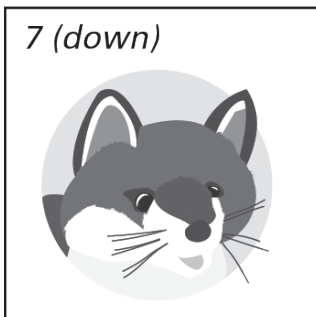
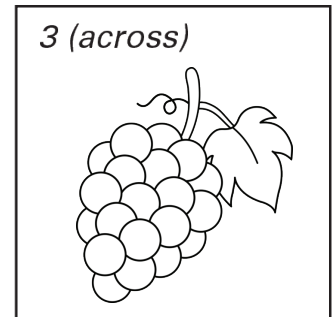
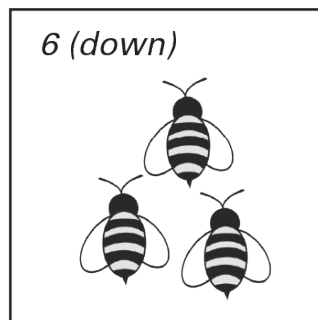
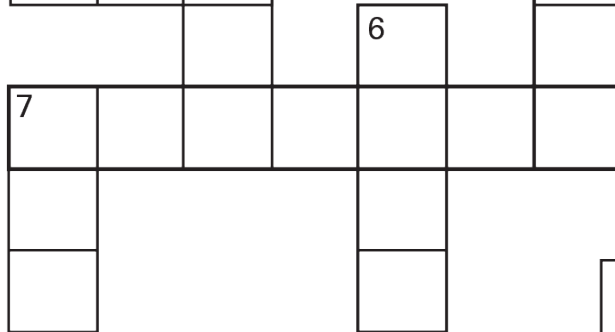
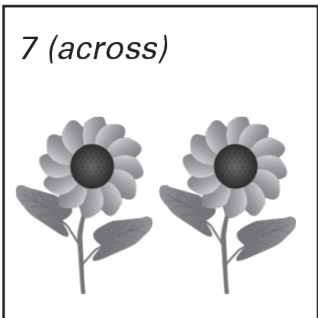
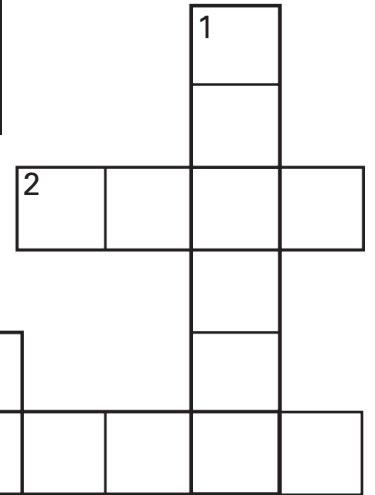
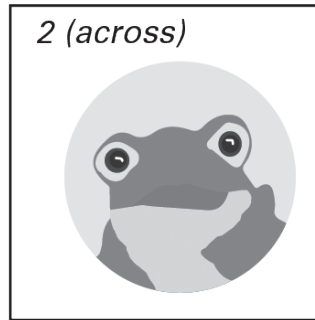
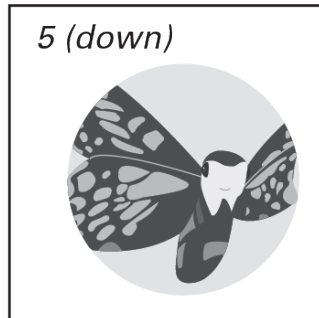
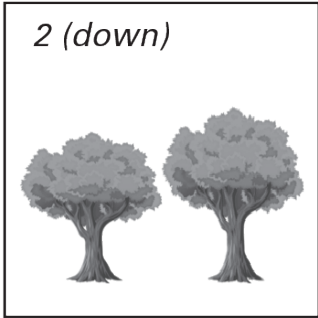
_____ Phones and computers

Why is soil important to Owl?

Provide two examples of ways humans use soil (without using the words from above).



Fill in the crossword puzzle below to show who and what needs healthy soil to thrive.



Name: _____

Sneaky Water


Episode 18

with Fox and Nathan

Fox learns that she is not the sneakiest sneaker in the watershed. Nathan explains that water is sneakier than you may think!

How can water be sneakier than a fox?

What does the word porous mean?

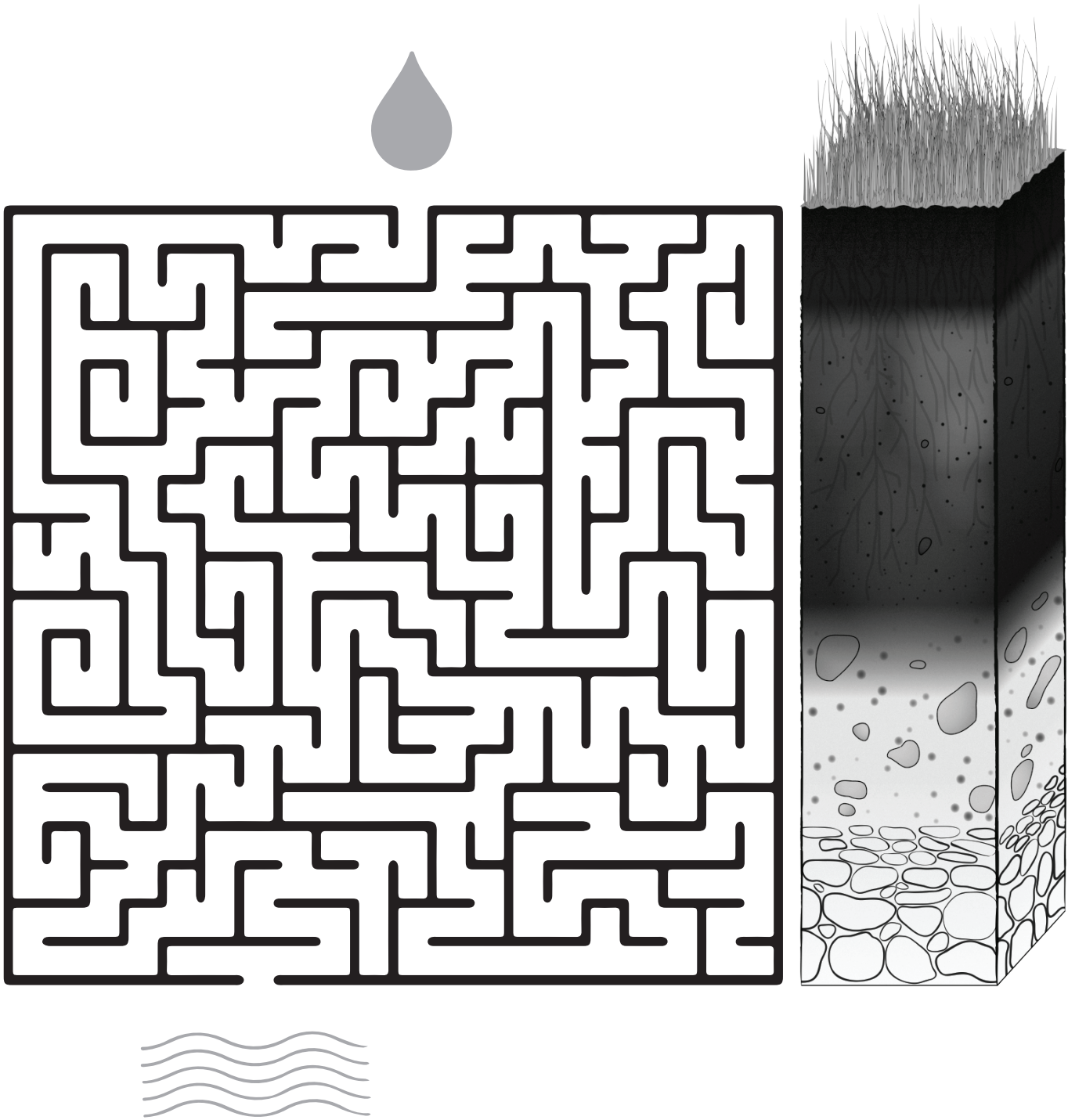
Unscramble each of the clue words. Take the letters that appear in  boxes and unscramble them for the final message!

KYNSAE	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
TAREW	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
RODNUTWAGER	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
PROSOU	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
SAIFEQRU	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
REATW LETBA	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> C <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> N <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> H <input type="checkbox"/> N <input type="checkbox"/>
<input type="checkbox"/> <input type="checkbox"/> X !				



Can you help the rain drop find its way through the ground and into the aquifer?



Dino Time

Episode 19

with Owl, Fox, and Ann

Owl and Fox learn about the water cycle and how the water we drink today is the same water that the dinos once drank!

Fill in the blanks using the words in the word bank.

_____ is another word for rain; it is part of the water cycle.

In the _____, water rains down and then gets misty and turns into clouds, then turns back into water so it can rain again.

_____ and _____ are two other words that help describe what happens during the water cycle.

WORD BANK		
PRECIPITATION	WATER	CYCLE
EVAPORATION	CONDENSATION	

Circle T or F to show which statements are true or false.

T / F Condensation is when water turns into vapor and goes up into the clouds.

T / F The water cycle can make new water.

T / F Precipitation is another word for rain.

T / F The water we drink today is the same water the dinosaurs drank.

T / F Evaporation is not part of the water cycle.



Find all the words from the word bank below. Words can be forward, backward, or diagonal.

N B C R Y A W Z R S T T Z T C
N O S E A N S Q R R P L A E O
M O I D L I Y L J O R E J Z L
U Z I T U C N M B T S K D O L
A A X T A O Y T A S P R G N E
G M U F A T L C L E E Y E P C
R E T A W S I C Z C L G P Q T
G N V C U L N P Q N W F E K I
S K J N M B R E I A O Z B J O
U U O P H G P L D C E K Z Y N
S R U A S O N I D N E A V D X
F E U A U Z C C Y Q O R N C R
N O I T A R O P A V E C P N P
X O F U P F A W T E G B S S K
H Z J N Y L C I Z F L P K G F

WORD BANK

ANCESTORS

COLLECTION

DINOSAURS

WATER

ANN

CONDENSATION

PRECIPITATION

CLOUDS

FOX

OWL

EVAPORATION

RAIN



Name: _____

Tree Party

Episode 20

with Owl, Leo, Fox, and Frog

Our friends at Harmony Brook are having a party to celebrate the trees in their watershed! Frog seems to be confused about why trees are so important. Luckily Owl, Leo, and Fox tell him all about... about how amazing trees are!

Unscramble the words below to reveal different types of trees.

VIRRE RICHB _____

RBU KOA _____

LLWIOW _____

XBO DLERE _____

TTNOCODOOW _____

EENRG SHA _____

DRE NIEP _____

Circle T or F to indicate which statements are true or false about trees.

T / F Trees provide oxygen for us to breathe.

T / F Trees do not provide shelter.

T / F Some trees change color when the seasons change.

T / F Trees come in many shapes and sizes.

T / F Trees make water speed up.

T / F Trees protect humans and animals.

T / F Trees are good for building houses and other buildings.



Below is a picture of a woodland. Use your imagination and creativity to draw creatures that may use the woodland as their habitat. Be sure to include Owl, Leo, Fox and Frog as well!



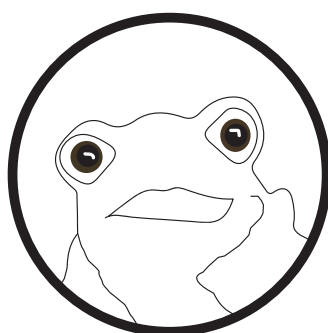
OWL



LEO



FOX



FROG

Trees Are Weird

Episode 21

with Fox and Ann

Our curious friend Fox learns more about the trees in her habitat. Ann stops by to explain why trees are the way that they are!

Why do trees grow so high?

How do they get so big and round?

What is the protective layer around the tree called and why is it important?

Fox listed three ways that trees help humans. *Can you add three more ways trees help us to the list below?*

1. They shelter us
2. They mark the seasons
3. They help the land, water, and air

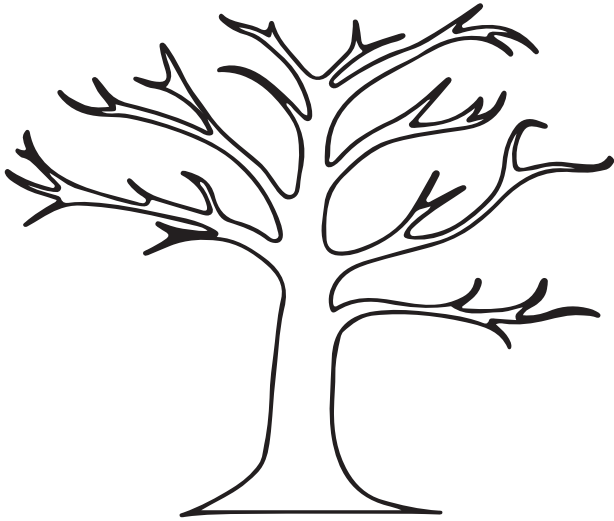
4. _____

5. _____

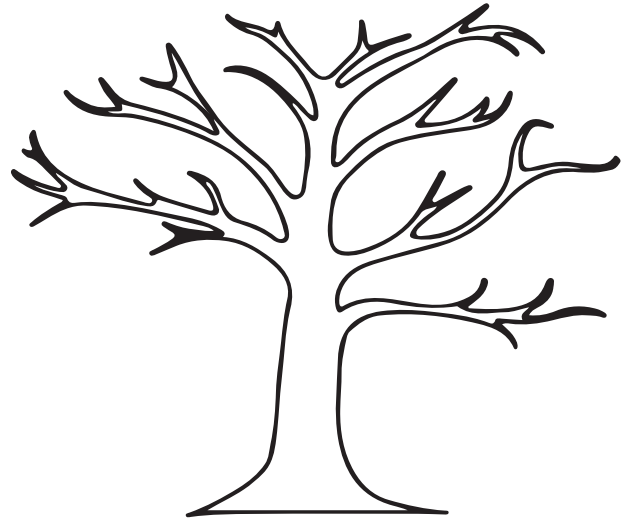
6. _____



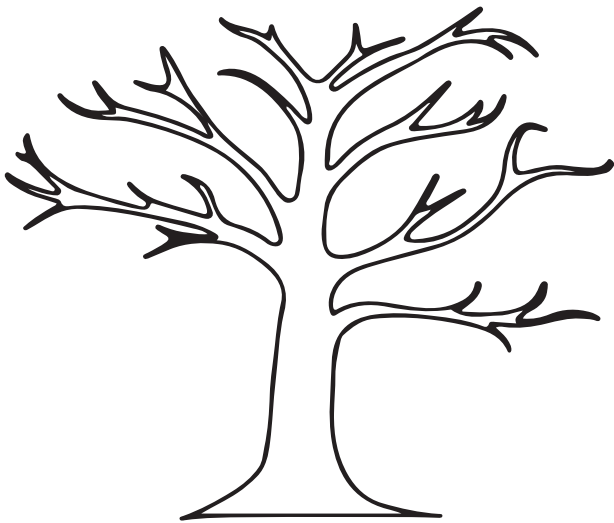
Fox mentioned that trees help mark the seasons. Below are four trees to represent each of the four seasons. *Color each tree to represent each season.*



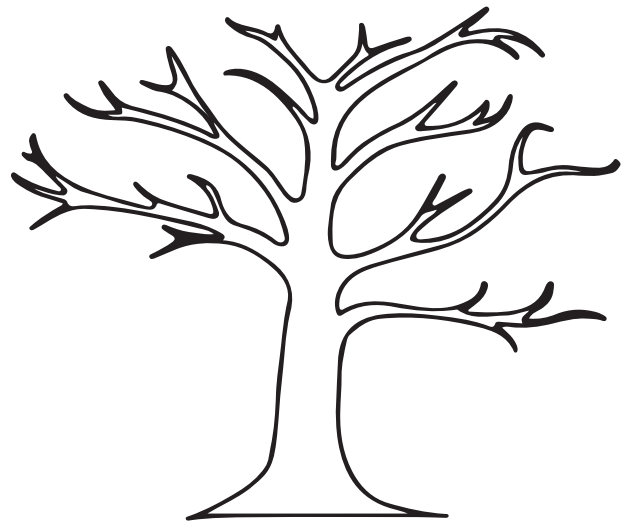
WINTER



SPRING



SUMMER



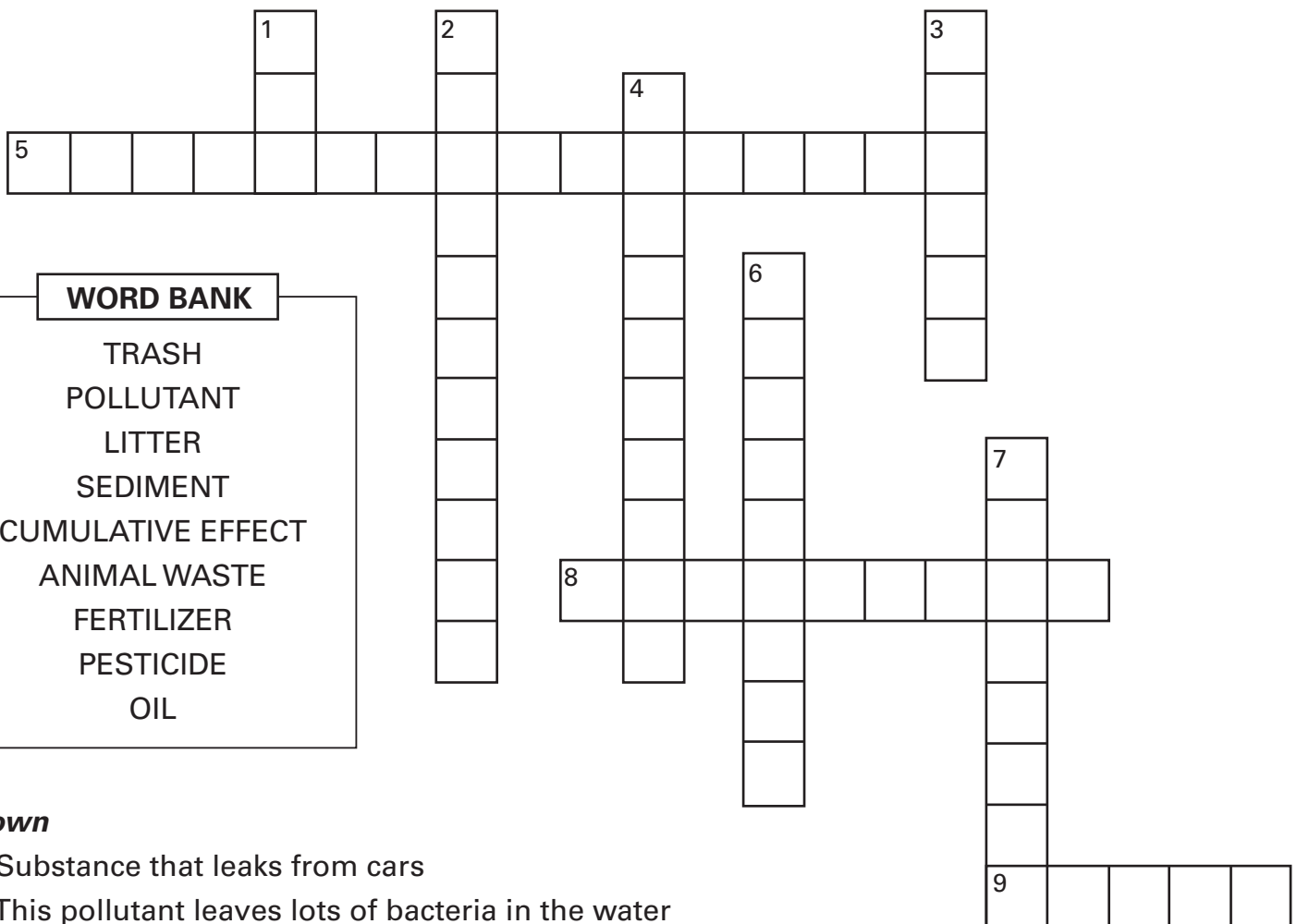
FALL

Litter in the Watershed

Episode 22

with Frog, Leo, and Ann

Frog is having trouble seeing because his head is covered with a piece of trash. Ann stops by to explain how littering affects our water. Enter the answers to the clues into the crossword puzzle.



The crossword puzzle grid consists of the following numbered squares:

- 1:** Down, 2 squares
- 2:** Down, 10 squares
- 3:** Down, 5 squares
- 4:** Down, 8 squares
- 5:** Across, 15 squares
- 6:** Down, 6 squares
- 7:** Down, 5 squares
- 8:** Across, 7 squares
- 9:** Across, 4 squares

WORD BANK

- TRASH
- POLLUTANT
- LITTER
- SEDIMENT
- CUMULATIVE EFFECT
- ANIMAL WASTE
- FERTILIZER
- PESTICIDE
- OIL

Down

1. Substance that leaks from cars
2. This pollutant leaves lots of bacteria in the water
3. What is the word for throwing trash on the ground?
4. Food for plants
6. Something that messes up the environment
7. The most common pollutant in Iowa

Across

5. What do we call it when a lot of little things add up to one big thing?
8. Protects plants from pests
9. What was stuck on Frog's head?



Match the problem to the solution.

Trash in the river

Fix oil leaks

Fertilizer and pesticides in the river

Use proper timing for chemicals

Oil spills in the river

Don't litter and pick up trash on the ground

Sediment or soil in the river

Cover soil to keep it in place

What can you do to make sure trash does not end up in your river?



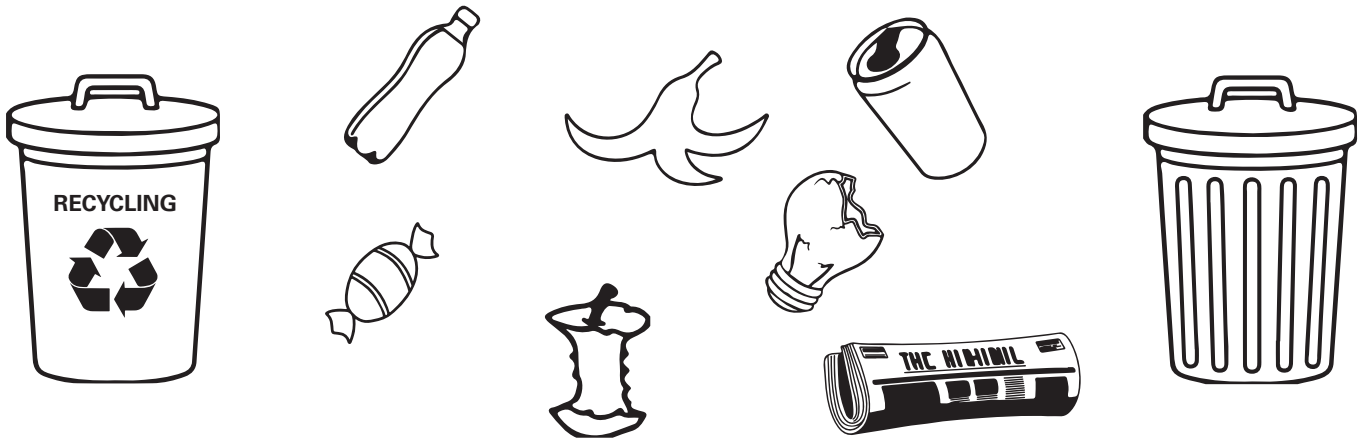
Pollution Solutions

Episode 23

with Leo, Frog, Fox, Owl, and Ann

Our friends at Harmony Brook are having a trash pickup party! They all know how important it is to protect the environment.

Do the items below belong in the trash bin or the recycling bin? Draw an arrow from each item to the correct bin. Use a different color for items going to the recycling bin and trash bin.



Unscramble the words below and use the numbers beneath certain letters to solve the mystery phrase.

TETRIL _____
 4 1 1 2

LLOPTNIUO _____
 4 4 3 1

SSOPRCE _____
 2

ILTERF _____
 4 1 2

TERAWHEDS _____
 1 2 2

_____H_____ C_____M_____A_____I V_____ _____F F_____C_____

1 2 3 3 4 1 2 2 2 1



Describe the different steps in the water cycle that Ann mentioned.

What is one thing in nature that acts like a filter?

What is one thing that is human-made that acts like a filter?



Name: _____

Fox Eggs

Episode 24

with Frog, Leo, Owl, and Fox

It's Fox's birthday! Our friends at the brook look back on the day they were born, but they can't quite figure out where Fox came from when she was born.

Match our friends at Harmony Brook to the way they remember younger versions of themselves.



Owl, Frog, and Leo all came from eggs. *List five more creatures below that you can think of that also come from eggs.*

1. _____
 2. _____
 3. _____
 4. _____
 5. _____
-

Using each letter of the word "biodiversity," write a word or phrase about an animal or plant that you might find at Harmony Brook Watershed.

- B _____
- I _____
- O _____
- D _____
- I _____
- V _____
- E _____
- R _____
- S _____
- I _____
- T _____
- Y _____



When You Were a Tadpole

Episode 25

with Frog, Fox, and Adam

Frog and Fox find out that animals live their lives very differently. Adam stops by to explain how the life cycle of a frog works and to observe some blue-winged teal in the wetland.

Match the descriptions below with the words on the right.

- | | |
|-------------------------------------------------------------------------|---------------------|
| 1. _____ This is what Adam specializes in. | A. Tadpole |
| 2. _____ What bird was Adam looking for in the wetland? | B. Wetland |
| 3. _____ The habitat that Frog lives in. | C. Blue-Winged Teal |
| 4. _____ The stage of Frog's life when he had a tail and swam in water. | D. Wildlife |
-

Draw a picture of yourself when you were a baby, what you look like now, and a picture of what you think you'll look like when you are an adult.

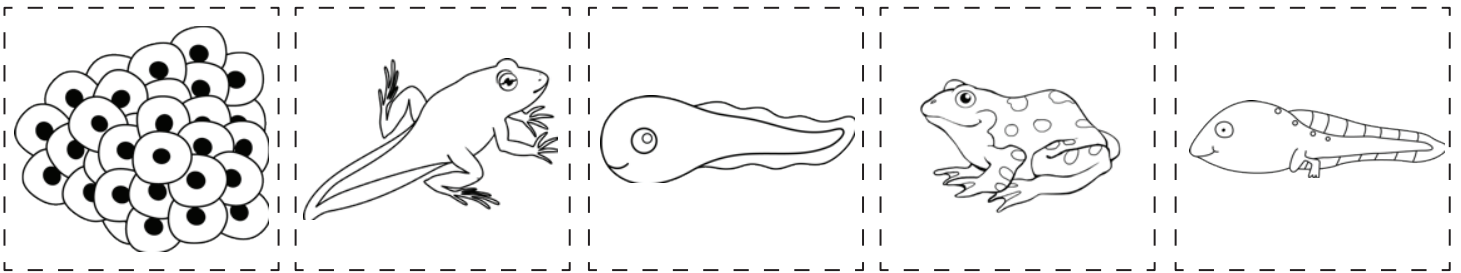
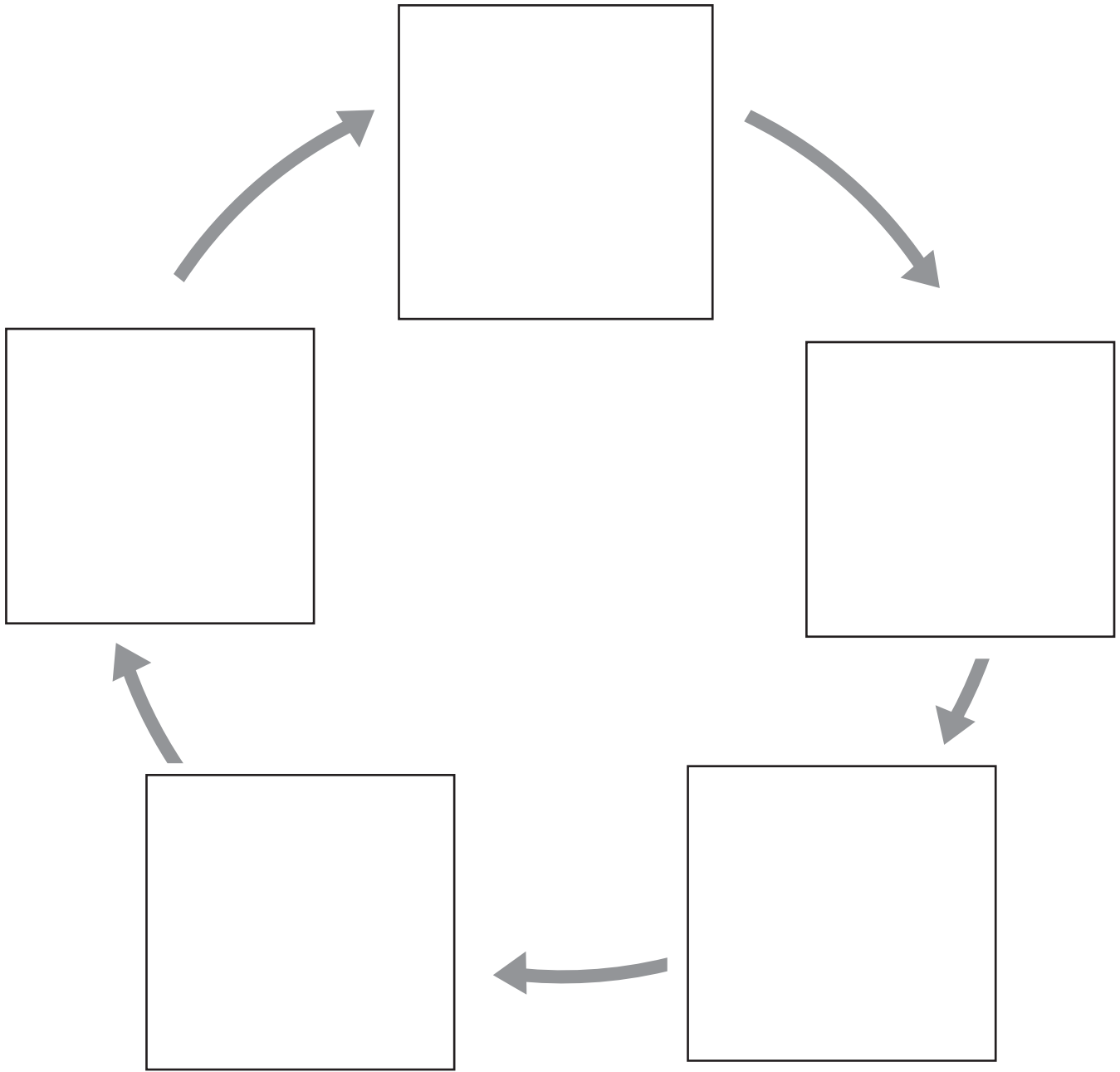
What I looked like as a baby:

What I look like now:

What I'll look like in the future:



Cut, color, and paste the images at the bottom of the page to show Frog's life cycle.



Easy, Peasy, Buzzy, Beesy

Episode 26

with Leo, Fox, and Nathan

Fox learns how busy bees really are, while Leo and Nathan help her through some tongue twisters and help her understand the importance of pollination!

Use the descriptions in each box to draw the different steps of pollination.

Step 1: The bee flies to a flower.

Step 2: The bee lands on the flower to drink nectar, collecting pollen in the process.

Step 3: The bee flies to another flower to drink more nectar.

Step 4: The pollen from the first flower is rubbed off onto the second flower.



How do bees make their buzzing noise?

What are three different types of bees Nathan listed?

1. _____
2. _____
3. _____

Fox was in quite a tizzy trying to say "buzzy busy bees". That tongue-twisting phrase is an example of alliteration, when words that start with the same letter (or sound) are repeated over and over. *Can you think of 10 more words that start with the same letter?*

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____



The Feeling is Mutual

Episode 27

with Leo, Owl, and Ann

Leo and Owl are trying to figure out a way that they can both spread pollen even when Owl needs to take a nap. Ann stops by to explain that they can both help each other out and there is a special word to describe it!

What is pollen?

Why is pollen important?

Draw a picture to answer each question below.

What does pollen look like?

Where does pollen attach to Leo's body?

How does Leo move pollen from one flower to another?

Explore the word search below to find different examples of pollinators. Words can be forward, backward, or diagonal.

S P S Z H B V A B L S O L S S
L L N P I V N J V W R H W E T
S W R R S I B A T S A P Y L O
C E D Q M A Y M W L L O V P G
H S I A K S W T J O L B R E M
M B L L N J G E E M I U M Z J
P S V A F V K Z L Y P N J B V
U A M D B R A T Z J R S I P S
I U B E E S E R G A E S N S W
H W K M L R S T N V T K C W P
Z C X M R D O L T F A N Y Y T
W F L O V O D O V U C P Z J L
X B M M X X R X W M B U O J Z
P I R I B Q T M W X F H X Q U
N K K T E E I V W V Q G Q R S

WORD BANK

BIRDS

BATS

BEES

HUMANS

BUTTERFLIES

CATERPILLARS

WASPS

LEO

OWL



Name: _____

Tree Magic

Episode 28

with Owl, Fox, Frog, and Nathan

Owl was practicing the fancy new tree words that Nathan taught her, when Fox mistakes Owl's new words for MAGIC words! Fox is convinced Owl knows magic, but Frog and Nathan show her that the words mean something else!

Unscramble the words to label each leaf type. Then color in each leaf!



OTAVE _____



PLAMTAE _____

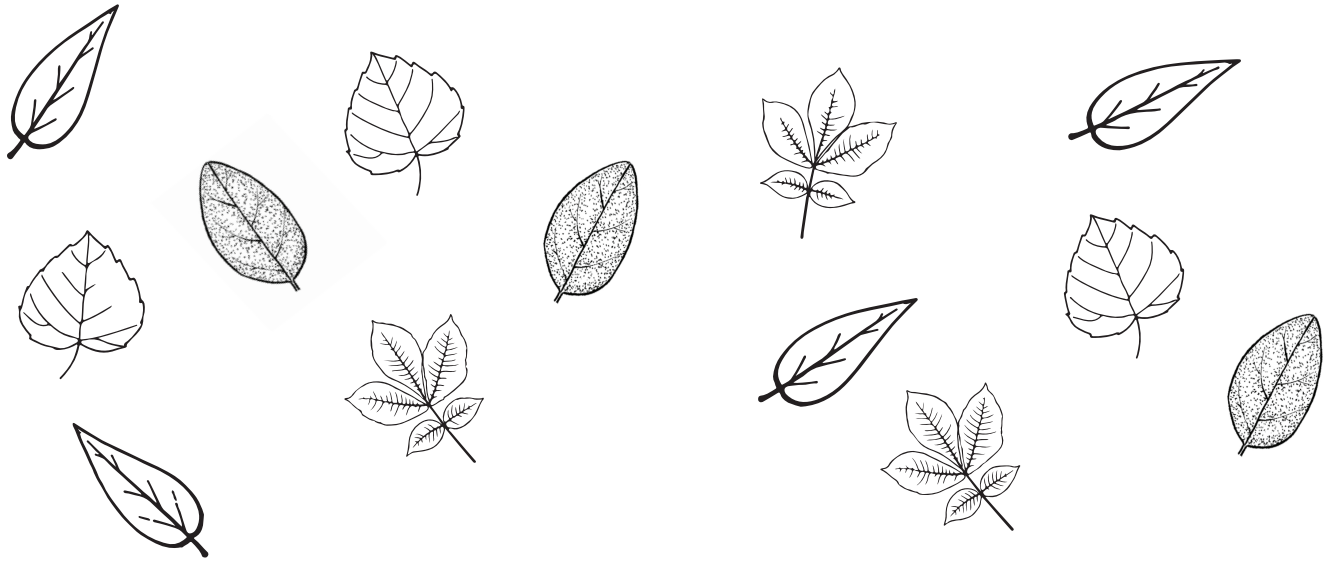


ANLECOTALE _____



ROCTEDA _____

Take a look at the leaves below. Color the lanceolate shaped leaves RED, color the palmate shaped leaves YELLOW, color the cordate shaped leaves BLUE, and color the ovate shaped leaves GREEN.



Go outside and find a leaf or use the internet to find a picture of a leaf, then fill out the leaf report below.

My leaf is this color
(circle one):

RED

YELLOW

ORANGE

GREEN

BLUE

PURPLE

BROWN

Here is what my leaf looks like (draw a picture of your leaf):

My leaf is (circle one):

SMALL

MEDIUM

LARGE

I like my leaf because:



Name: _____

Leaf It to Me

Episode 29

with Owl, Leo, and Nathan

Fill in the blanks using the words from the word bank.

When humans and animals breathe IN, we breathe in

_____.

When humans and animals breathe OUT, we breathe out

_____.

Trees take _____ carbon dioxide and _____ oxygen.

Trees keep the air _____.

WORD BANK

BALANCED

OXYGEN

IN

PRODUCE

CARBON

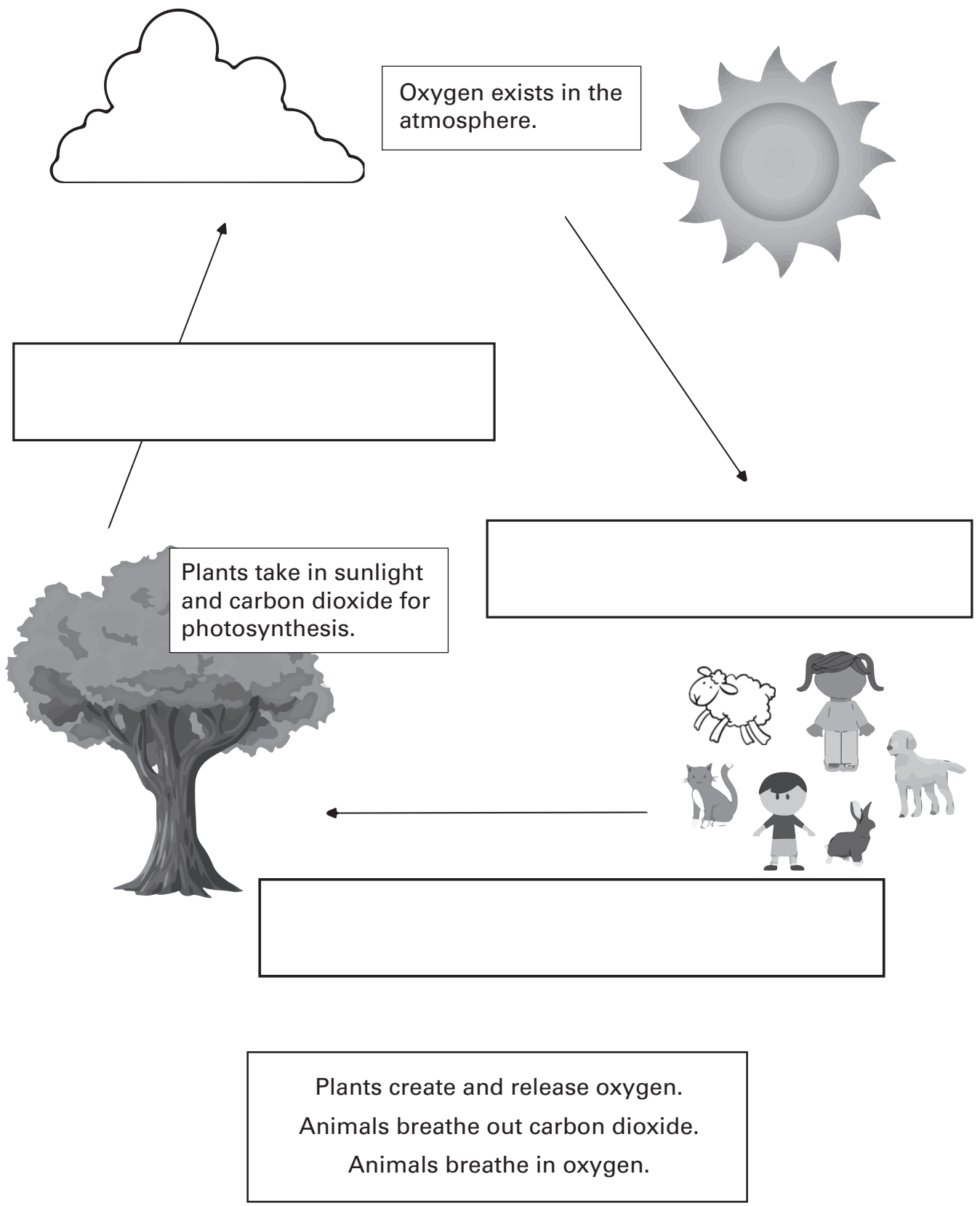
DIOXIDE

Why don't we run out of oxygen on Earth?

Explain how trees help keep our air clean and healthy.



Fill out the diagram below to complete the key steps of photosynthesis and respiration. Use the phrases in the word bank to help you.



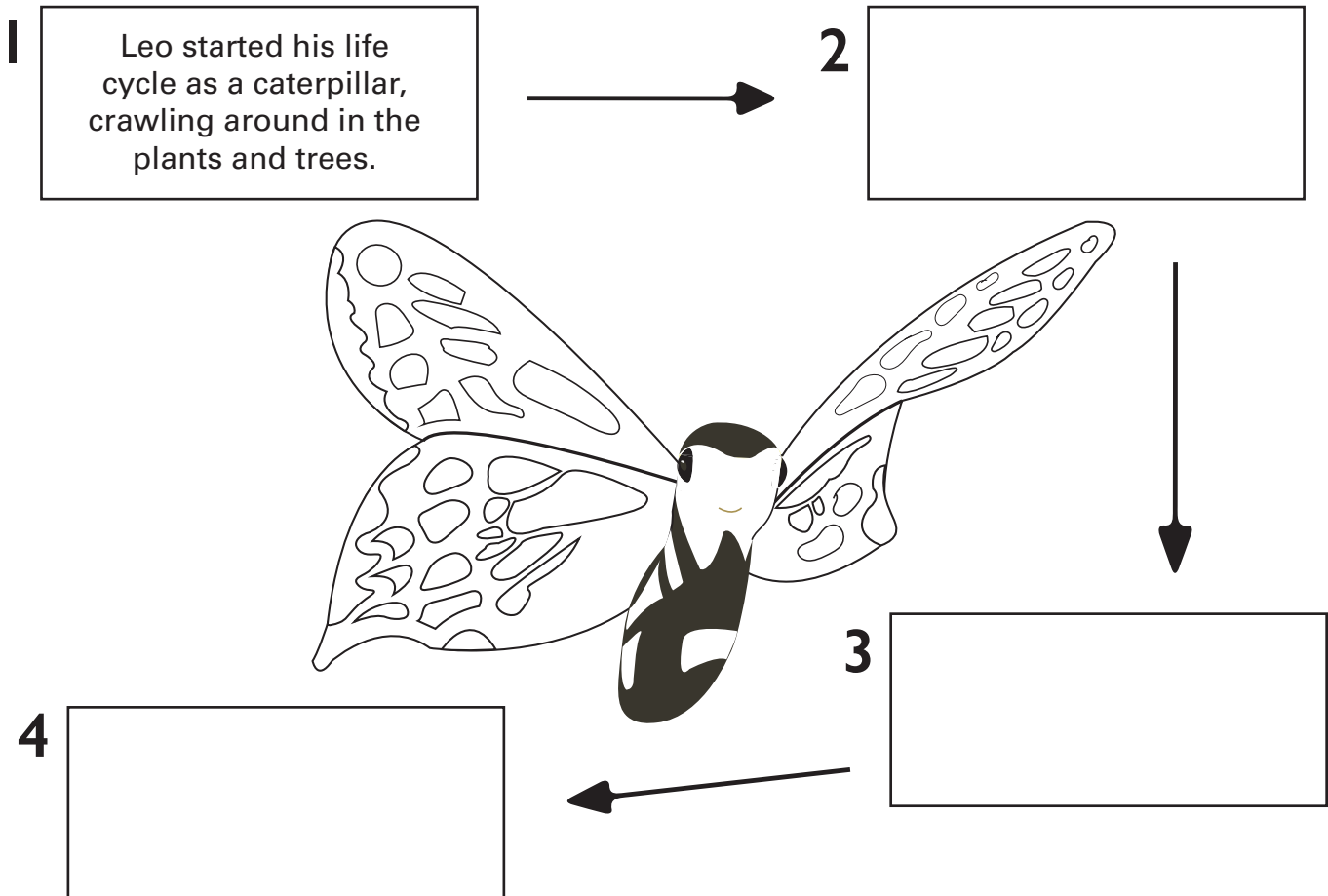
A Matter of Taste

Episode 30

with Leo, Frog, and Adam

Adam stops by to chat with Leo and Frog about the different needs animals have throughout their lives.

Cut out the steps of Leo's metamorphosis below, then paste in the appropriate boxes and color Leo the butterfly. The first step has been completed for you.



Leo ate lots of leaves and shed his skin every once in a while.

Leo went to sleep and when he woke up, he burst out of his shell and became a butterfly!

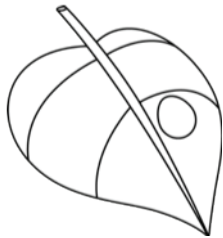
On a cool day, Leo stuck himself onto a twig and shed his skin, revealing a hard shell or chrysalis.

What is a metamorphosis?

Match the picture with the correct stage of the butterfly life cycle.



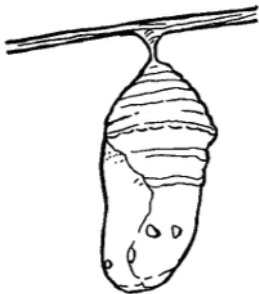
EGG



BUTTERFLY



CHRYSALIS



CATERPILLAR

Name: _____

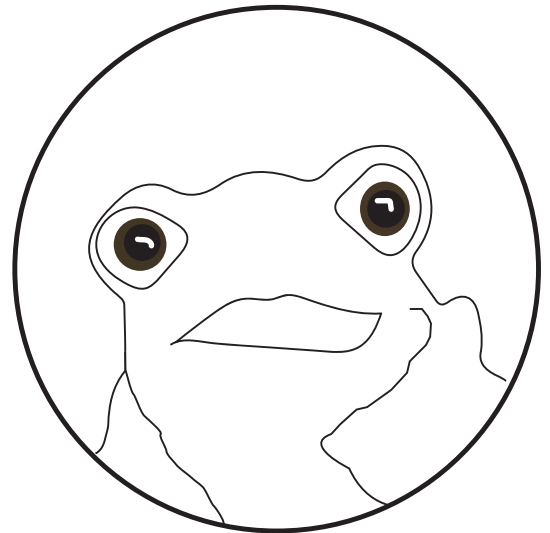
Water Powers

Episode 3 I with Frog and Ann

Frog sees Ann's tool on the ground and tries to bring it to her, but he isn't quite strong enough. This makes Frog sad, but Ann reminds him we are all strong in our own ways!

Frog may not be big enough to pick up Ann's tool, but frogs are good at many other things. *List five things that frogs are really good at below, then color in the picture of our friend Frog!*

1. _____
2. _____
3. _____
4. _____
5. _____



Fill in the blanks using the words provided in the word bank.

Water has different powers at different times. It all depends on how it's _____.

Water moves with lots of _____.

Electric power made from water is called _____.

When water freezes, it's called _____.

WORD BANK

ICE

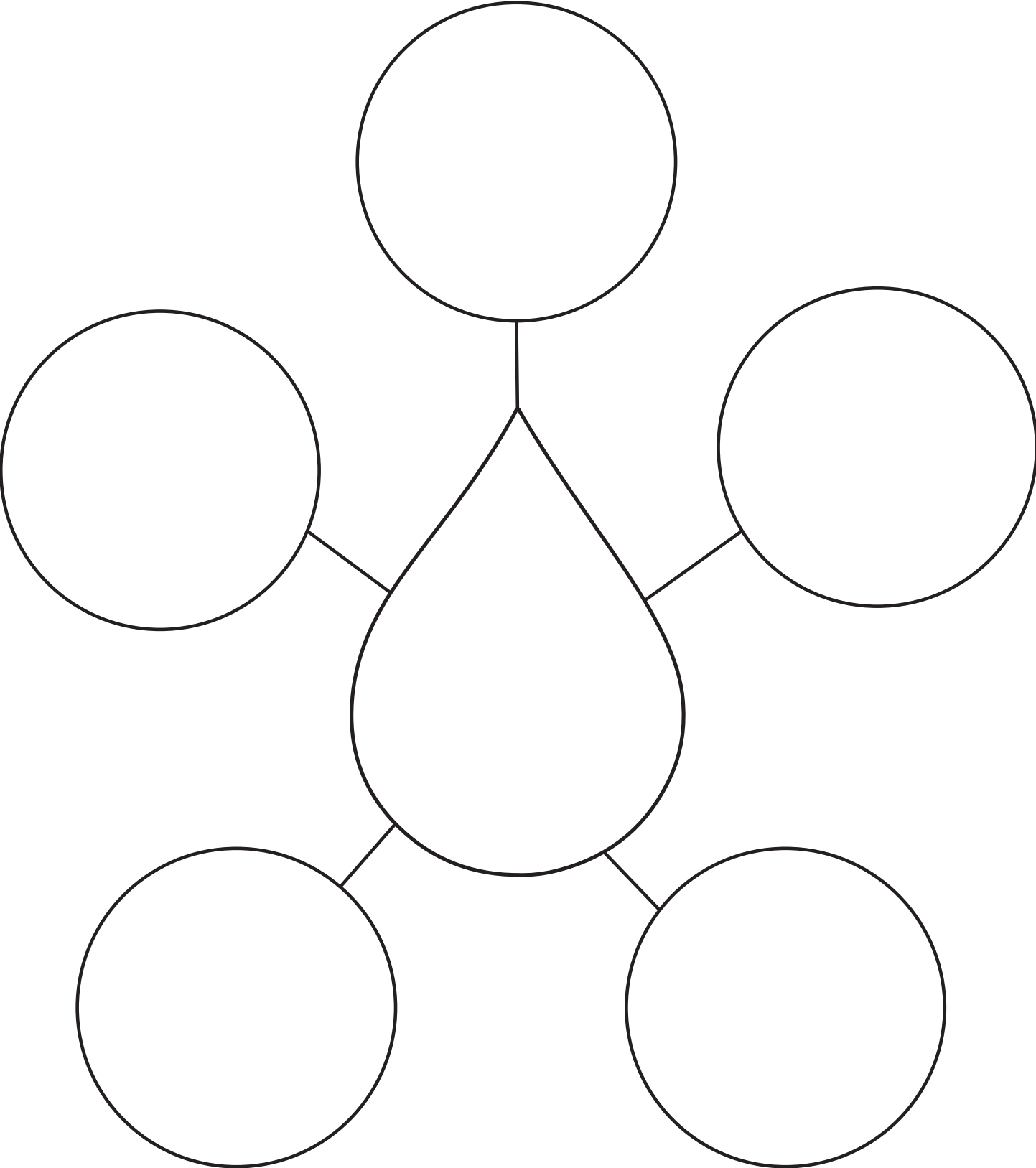
MOVING

HYDROELECTRICITY

ENERGY



Ann explained the different ways water can be strong. *In the circles below, write or draw ways water is strong, and ways that living things use water.*

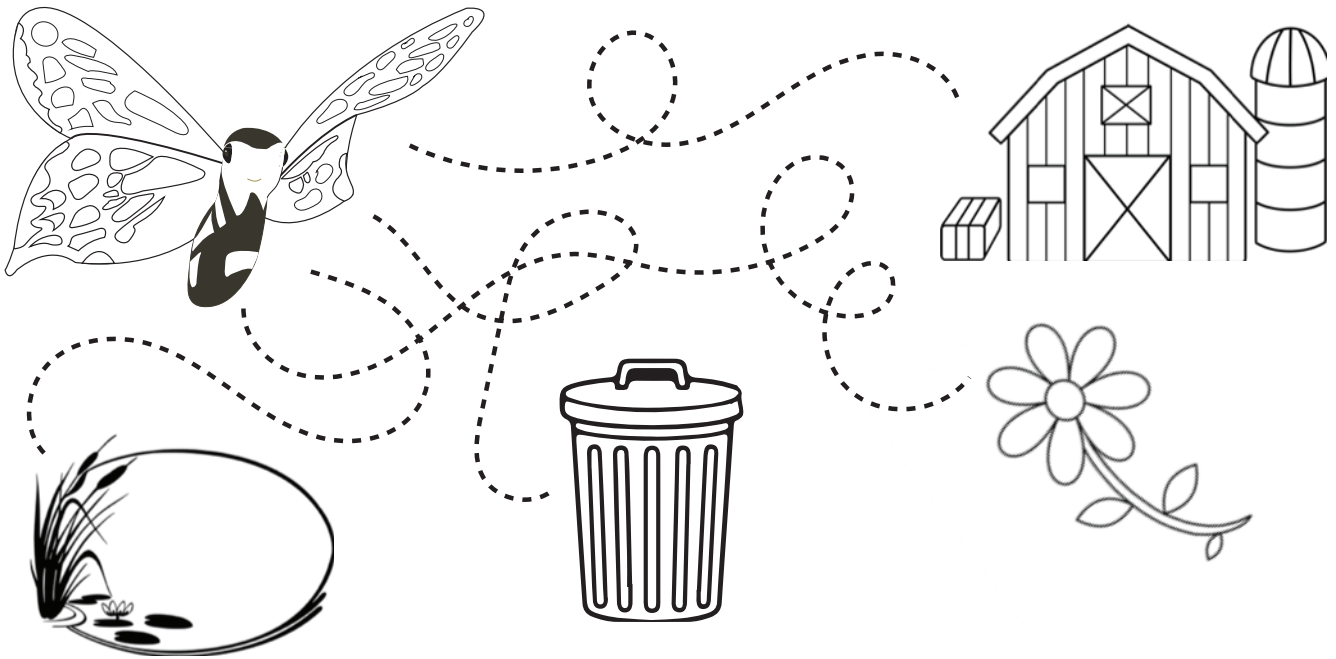


Be Our Guess

Episode 32 with Leo and Nathan

While Nathan is on his lunch break, Leo stops by to learn how pollinators make the world go 'round!

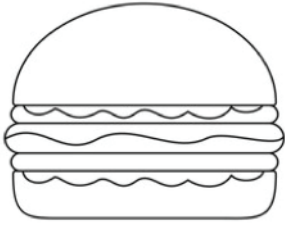
Using a colored pencil or marker, trace the path that leads Leo to the flower.



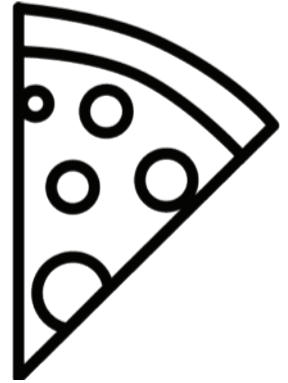
Match the letter to the correct phrase below.

- | | |
|-------------------------------------------------------------------------------|----------------|
| _____ What Leo eats for lunch every day. | A. Pollination |
| _____ The powdery substance Leo spreads from flower to flower. | B. Nectar |
| _____ The important process that's needed to grow many different human foods. | C. Farms |
| _____ Most human food comes from these places. | D. Pollen |
| _____ The food cows eat to help them grow and produce milk. | E. Alfalfa |

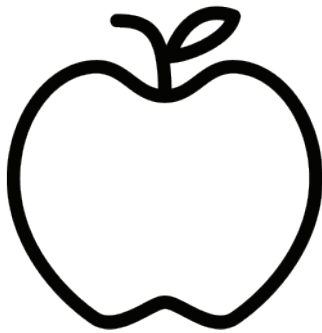
A world without pollinators would be pretty sad. In fact, most of our food would disappear!
Next to the food item below, write down how a pollinator helped that food get to our plates.



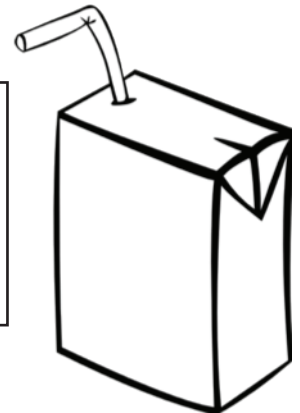
Cheeseburger:



Pizza:



Apple:



Juice:



Ice Cream:

Tree Time

Episode 33

with Frog, Fox, and Ann

Frog and Fox learned more about how trees grow when they found a sapling planted in the ground. Ann stopped by to remind them how fascinating trees are!

Fill in the blanks using the words in the word bank.

A baby tree is called a _____.

Trees grow _____, not _____.

Saplings start as a _____ in the _____.

_____ grow upward, but _____ grow downward.

_____ gather sunlight for trees to use as energy.

WORD BANK

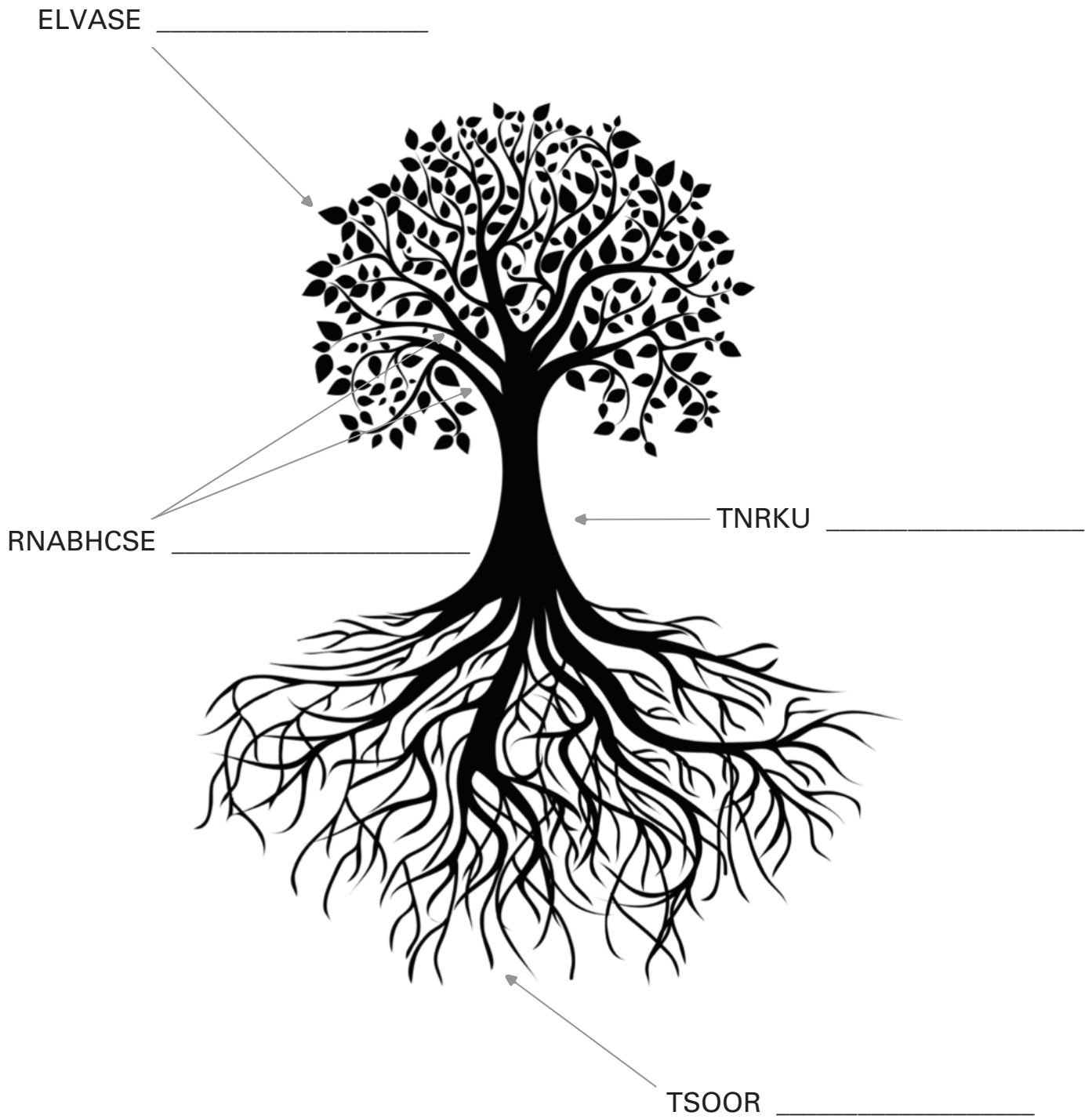
FAST	SHOOTS	ROOTS	LEAVES
SAPLING	SEED	GROUND	SLOW

Fill out the KWL chart below.

What do you KNOW about trees?	What do you WANT to know about trees?	What did you LEARN about trees from the friends at Harmony Brook Watershed?



Unscramble the letters to label the different parts of a tree.



Name: _____

Wish Upon A Stone

Episode 34
with Owl, Frog, and Ann

Owl and Frog found what they believe to be a magic wishing stone! They talk about using the stone's powers for good and making a wish to help Harmony Brook Watershed.

If you found a wishing stone, what is one thing you would wish for?

Why couldn't Owl wish for all the trees and flowers in the watershed to be the same?

Owl finally decided what to wish for on the magic stone. *Unscramble the tiles to reveal her wish!*

BE	E T	EMS	NTS	PLA	TH	ELV	ND
TH	TO	ES!	REE	OTH	ER	FOR	S A



Frog reminded Owl how important it is to have different trees and flowers in the watershed. When there are a lot of different plants and animals in one place, we call that biodiversity. *Go outside or look out your window and observe nature. Keep track of how many plants, mammals, birds and insects you see and fill out the table below as you go. Is your backyard as biodiverse as Harmony Brook?*

Plants

Total number
of plants I saw:

Mammals

Total number
of mammals I
saw:

Insects

Total number
of insects I
saw:

Birds

Total number
of birds I saw:

+

Total number
of living things
I saw:



Ruling the Roost

Episode 35

with Leo, Owl, and Adam

Leo and Owl talked to Adam about how important it is to protect habitats for many different kinds of creatures.

Fill in the blanks using the words in the word bank.

The process where animals gradually change form is called _____.

A place for Owl to rest is called a _____.

Barn owls are an _____.

Some humans are planting _____ to provide cover to help certain animals survive.

WORD BANK

ENDANGERED
GRASSLANDS
ROOSTING

SITE
METAMORPHOSIS
SPECIES

Adam mentioned that certain animals are endangered because their habitats are disappearing. *Match the negative action to the positive solution by drawing lines below.*

Draining wetland habitats to make room for more farmland

Reduce our carbon footprint by using less air travel, driving efficiently and using clean energy

Chopping down large amounts of forested land for human use

Farm around the wetlands instead of draining them

Melting ice caps in Antarctica

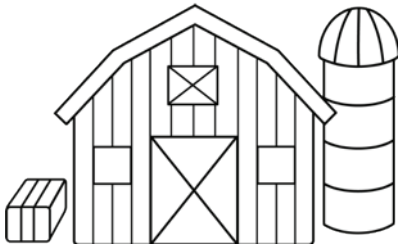
Use less wood products and switch to more sustainable materials like hemp, bamboo, and cork

Mowing ditches and fields

Let the grass in our ditches and fields grow by mowing less



List or draw as many animals as you can think of for each habitat below.



Farm

Woodland

Prairie



Wetland

Domestic (in or near your home)

Name: _____

Slow Food

Episode 36

with Leo and Nathan

Leo found what he thought was a pile of trash at the back of someone's garden, but Nathan explained that the pile was actually compost that helps plants grow!

Color the pictures that belong in the compost bin, then draw lines to connect them to the bin.



What is the difference between a garbage bin and a compost bin?

How does compost create good soil?

Circle T or F to note which statements are true or false.

T / F I can compost metal.

T / F I can't compost plant material like old fruits or vegetables.

T / F I can compost glass and plastic.

T / F I can compost paper.

T / F I can't compost meat.



A Different Kind of Plant

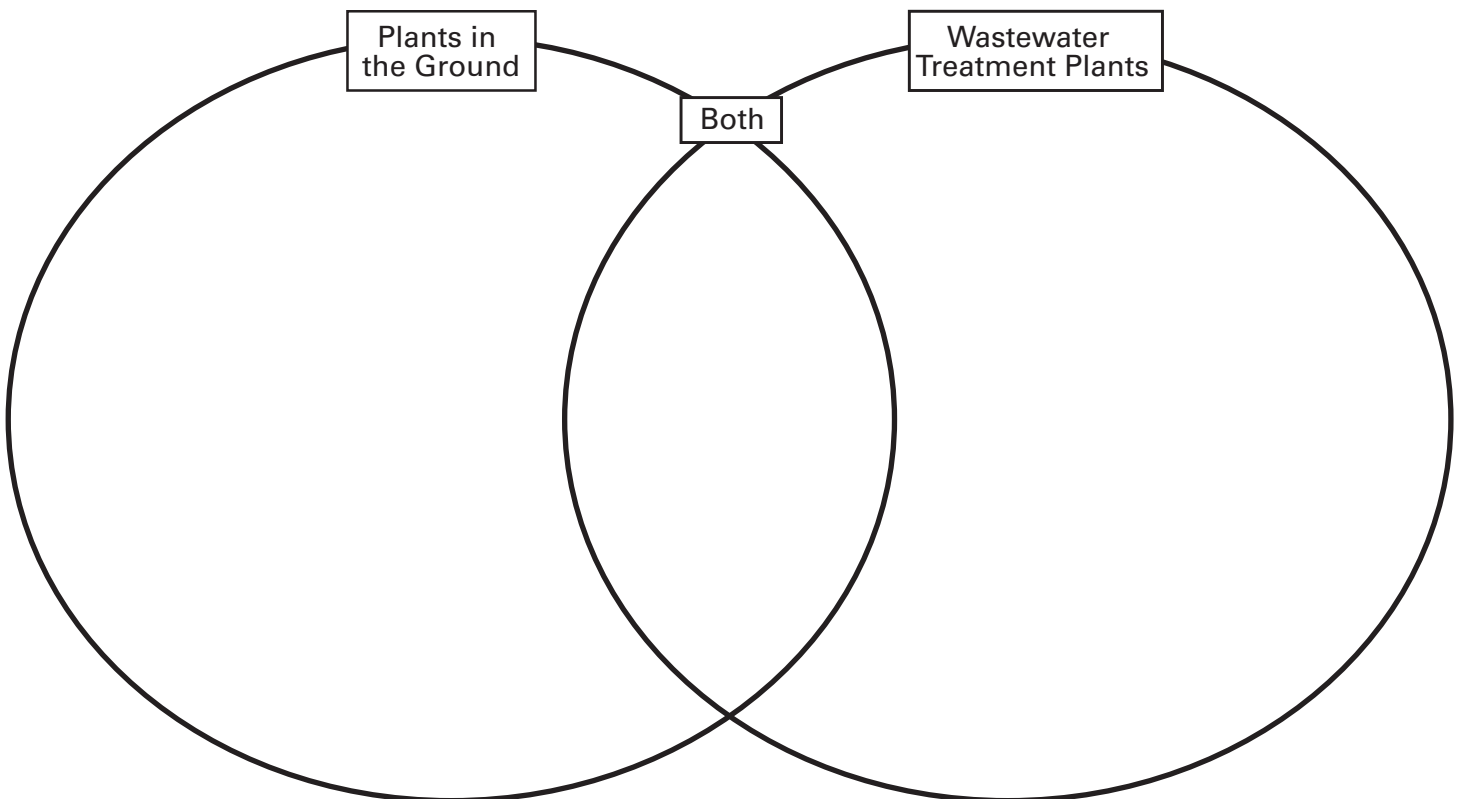
Episode 37

with Fox, Owl, and Ann

Fox and Owl tried to figure out how their brook was getting clean. Ann stopped by to explain how the brook gets clean and how the water humans use is cleaned at wastewater treatment plants!

A Venn diagram helps you compare and contrast two things. *Fill in the Venn diagram below to compare and contrast plants in the ground with wastewater treatment plants.*

In the outer parts of the ovals, write the phrases about plants in the ground and wastewater treatment plants that are different. In the center part where the ovals overlap, write the phrases that are alike between plants in the ground and wastewater treatment plants. Add any other words or phrases you can think of to the diagram.



provide oxygen to the atmosphere
built by humans
have roots
a place where dirty water goes

improves water quality
filters water
stores water
provides habitat

has large bar screens
uses good bacteria
helps us have safe water



List the four steps of the wastewater treatment process that Ann talked about in the video.

1. _____
 2. _____
 3. _____
 4. _____
-

What is the closest body of water to your home?

How can you and an adult in your family help improve water quality in your neighborhood?



What's in a Sign?

Episode 1

Why were Frog and Fox upset? *They thought the sign meant something was going to build on or in their home like a shopping mall.*

A healthy watershed has: *Good water quality, healthy plants, lots of animals, lots of plants, clear water*

Unscramble the words:

Kayak

Fish

Walk

Paddle Board

Canoe

Wade

Swim

Bike

Hike

Play

Watersheds for Everyone

Episode 2

What does the word watershed mean? *An area of land that drains to a common water body.*

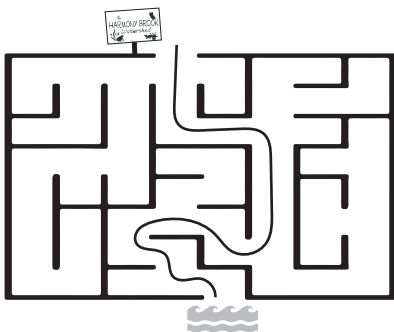
Who or what is part of Harmony Brook Watershed? *Fox, Frog, Owl, Leo, Ann, Nathan*

True False: *False, True, True, True, False, True*

Watershed Mystery

Episode 3

Fill in the blank: *Iowa State University, tests, clean, dirty, river*



Hidden pollution: *apple core, fast food cup, water bottle, graffiti, newspaper, boot, banana peel, bathtub*

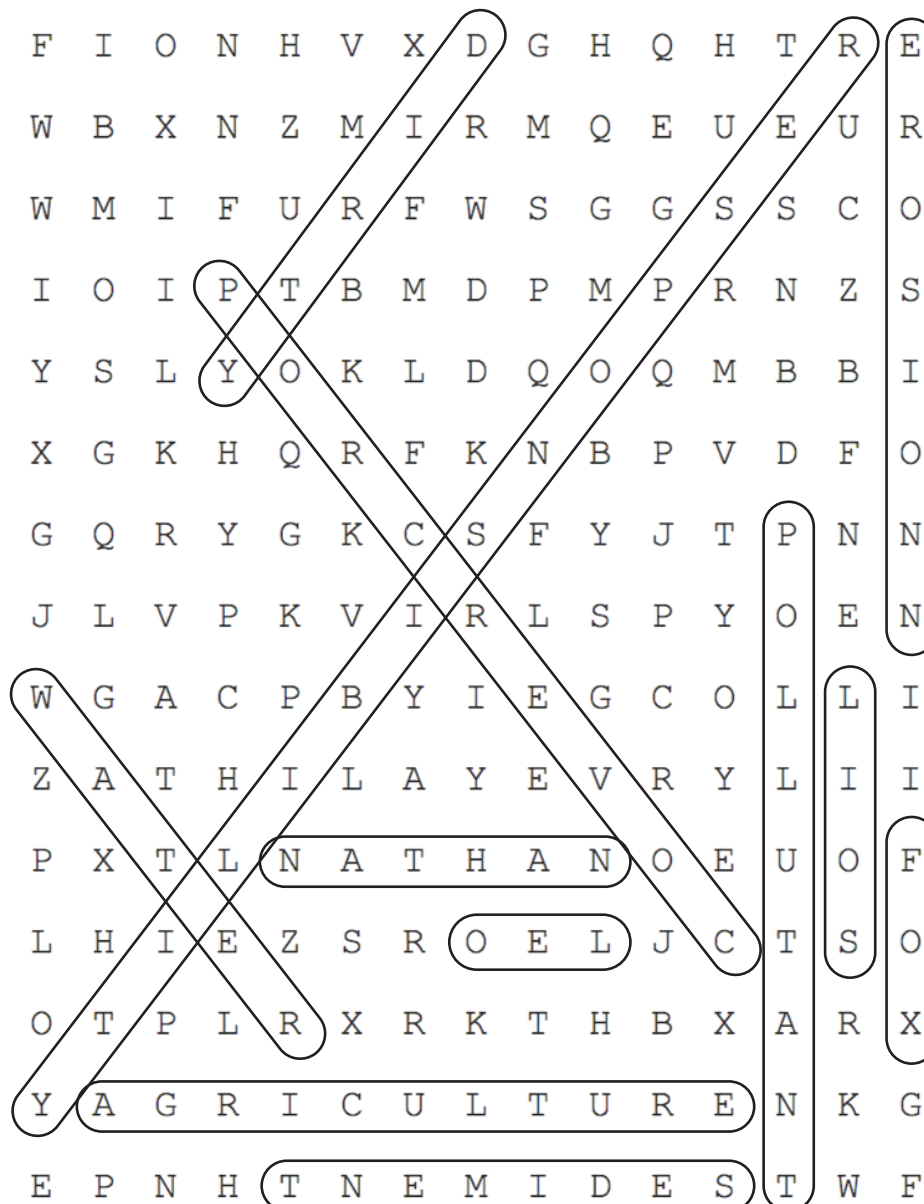
What is pollution? *Pollution is when the environment is made dirty by waste, chemicals and other harmful substances.*

Why is water pollution a problem? *Polluted water could be unsafe for us to drink, bathe with, or swim in. Pollution can also be harmful to other animals that live in the ecosystem.*

Sedimental Journey

Episode 4

How does a wetland make water cleaner? *The spongy ground and the grasses in the wetlands help to make the water cleaner.*



What Does A Brook Want to Do?

Episode 5

Which animal said what? Can you match the animal to the way they think the brook moves?

Owl ————— "It hops and jumps, up and down!"
Fox ————— "It twists and turns, left and right!"
Frog ————— "It's fast and slow, it wiggles and tickles!"

What does the word perspective mean?

Perspective is our way of thinking about and knowing the world around us.

Fill in the blank: *thinking, knowing, perspective, meandering, wiggle and tickle*

Home on the Sponge

Episode 6

S- Wetlands act like a sponge

P- Frog lives in a wetland

O- Nathan said the wetland acts like a sponge

N- Hydric soils are soft and full of holes

G- Wetlands hold water in the ground

E- Wetlands slow down flooding

In a wetland, the soil is one great big sponge.

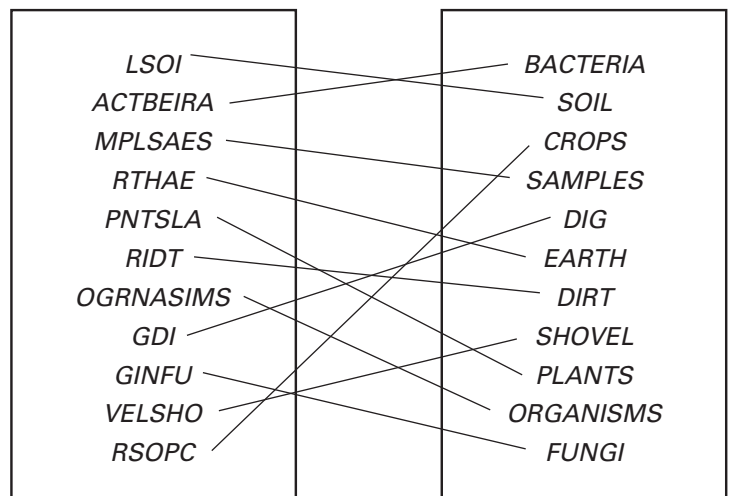
Dragonfly, turtle, frog, duck, and beaver

Dig It!

Episode 7

Who was Nathan taking soil samples for?

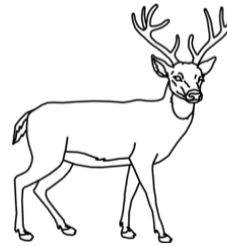
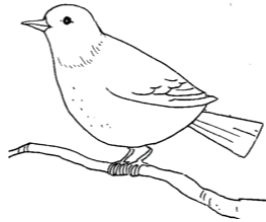
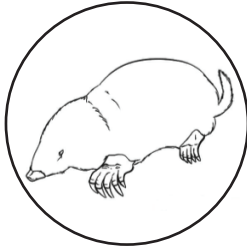
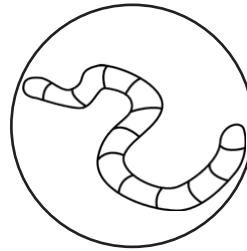
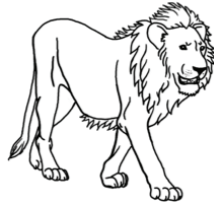
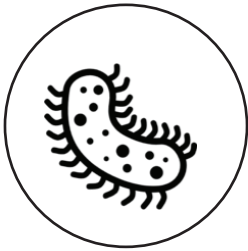
The Department of Agricultural and Biosystems Engineering at Iowa State University.



Word Puzzle Answer:

SOIL CONTAINS ONE-THIRD OF ALL LIVING ORGANISMS

Nathan said there are more living creatures in a single shovelful of soil than there are humans on Earth! Circle the creatures below that you may find in the soil.



Nosy Neighbors

Episode 8

Den

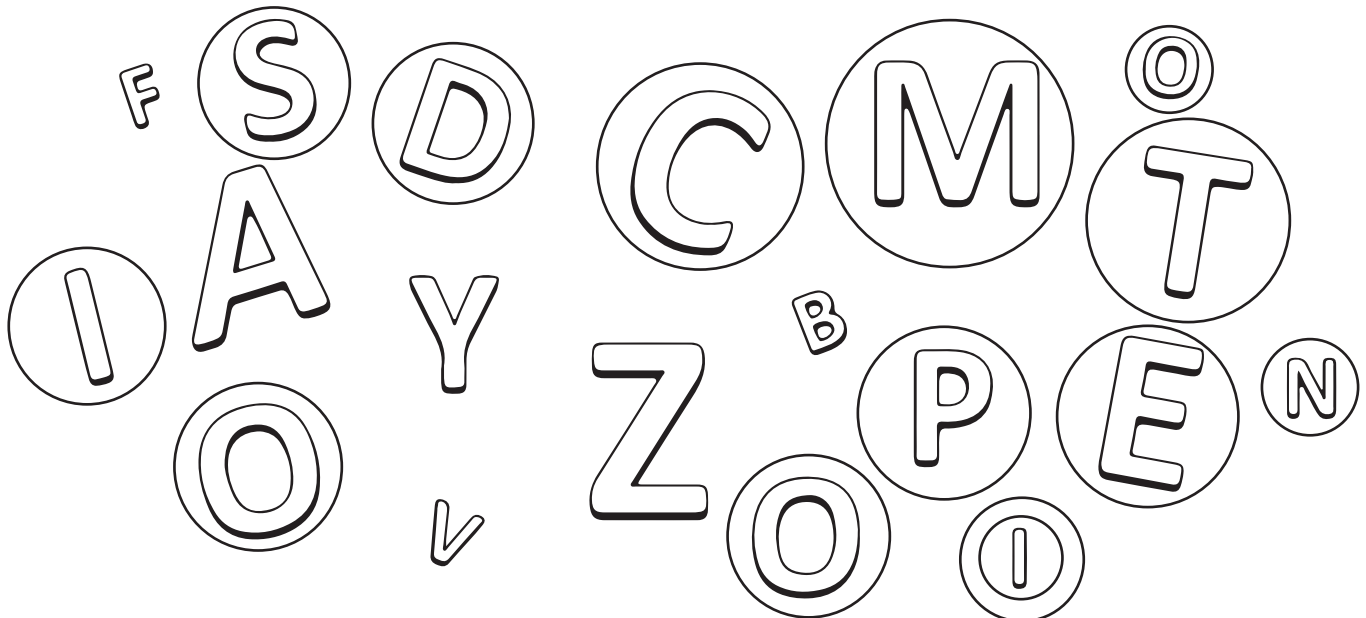
Wetland, trees

animal, decomposers

Some

Macropores

Find and color the letters in the word DECOMPOSITION.





B E E T L E



F U N G I



W O R M



I N S E C T



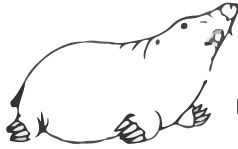
B A C T E R I A



B E E



A N T



M O L E

Water Cycle

Episode 9

T or F: F, T, F, T, T, F

WETRA

W A T E R

TIITERCOPNAIP

P R E C I P I T A T I O N

PINRAOTEVAO

E V A P O R A T I O N

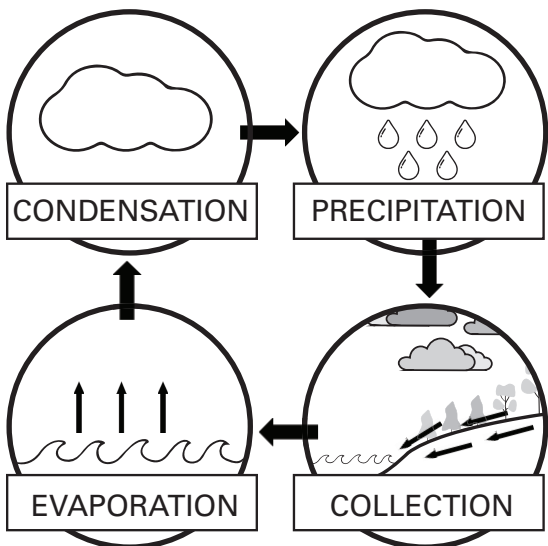
SAOTINENCOND

C O N D E N S A T I O N

VAOPR

V A P O R

T H E W A T E R C Y C L E



Coffee Talk

Episode 10

Who is Nathan taking water samples for?

The Department of Agricultural and Biosystems Engineering at Iowa State University

What is a filter?

A filter is something that cleans liquids, solids and gases by capturing particles that should not be in a clean substance.

W	E	T	L	A	N	D	S	F	I	L	T	E	R	W	A	T	E	R
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---



Pyramid Scheme

Episode 11

What is an ecosystem?

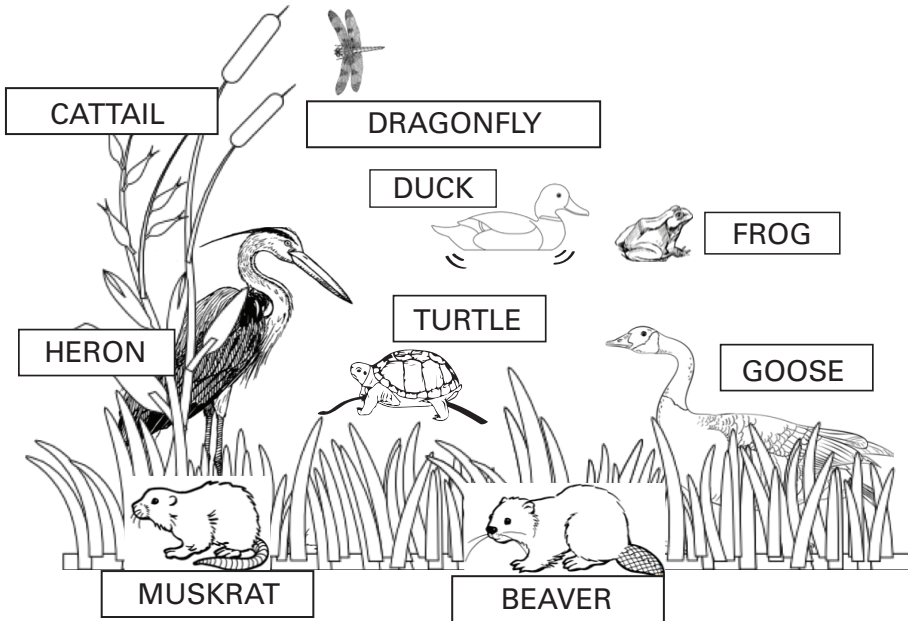
A community of living things and their environment.

Use the letters next to the words provided in the table to fill in the blank.

- | | |
|------|-------|
| 1. F | 6. D |
| 2. A | 7. H |
| 3. B | 8. I |
| 4. G | 9. E |
| 5. C | 10. J |

Meet Me in the Wetland

Episode 12



Why are wetlands so important to geese and other migrating creatures?

Geese use wetlands like rest stops or hotels on their migrating journey in the fall and spring. Wetlands provide food, water and habitat for these birds.

What is the difference between a highway and a flyway?

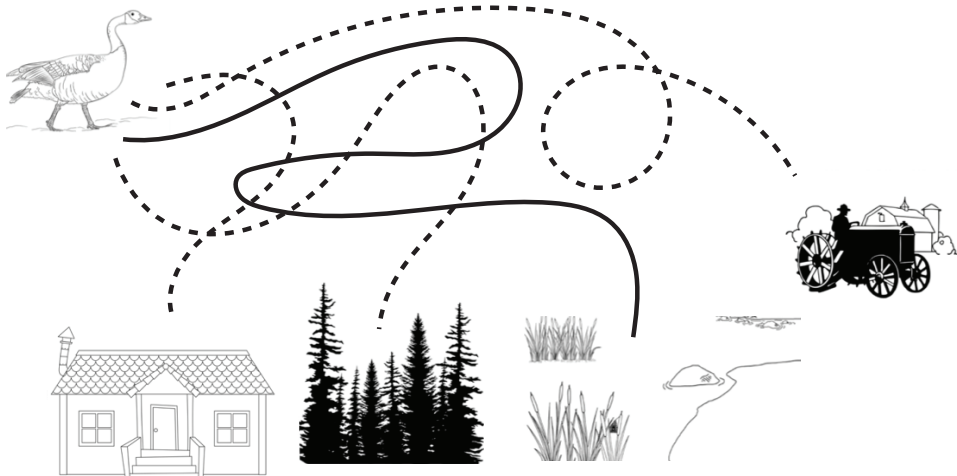
A highway is something humans use to travel from one place to another. A flyway is an invisible route in the sky that migrating birds use when they are making their journey north and south each year.

Keeping It Together

Episode 13

Secret sentence: *Wetlands are important.*

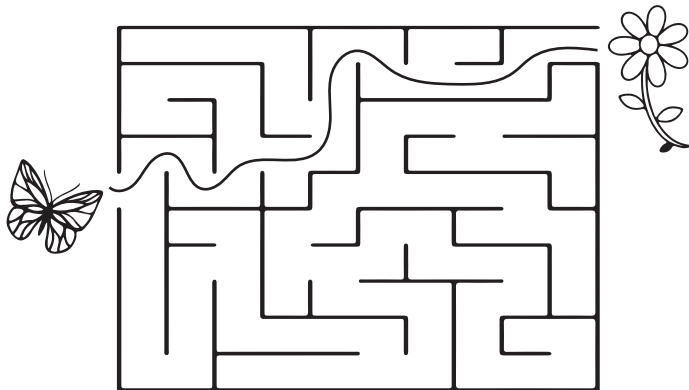
Fill in the blanks: *Migrating, wetlands, disappearing, drained, molting, biodiversity, using less, visiting, citizen science*



Introduction to Pollen

Episode 14

- 3 Leo moves on to a new flower to find more nectar.
- 5 The pollen from the first flower fertilizes the second flower in the process of pollination.
- 1 Leo lands on a flower to sip on nectar.
- 4 Once Leo lands on the second flower the pollen that was attached to him spreads to the new flower.
- 2 While Leo is sipping nectar, pollen attaches itself to his feet.



Who Pollinates?

Episode 15

What is pollen?

A fine powdery substance that allows plants to make seeds and fruit.

List as many pollinators as you can think of below.

Butterflies, humming birds, bats, bees, wasps

Read, think and write! Write fact or opinion next to each statement.

Fact Pollen is a fine powdery substance that allows plants to make seeds and fruit.

Opinion Leo is the best pollinator.

Opinion Owl is the best pollinator.

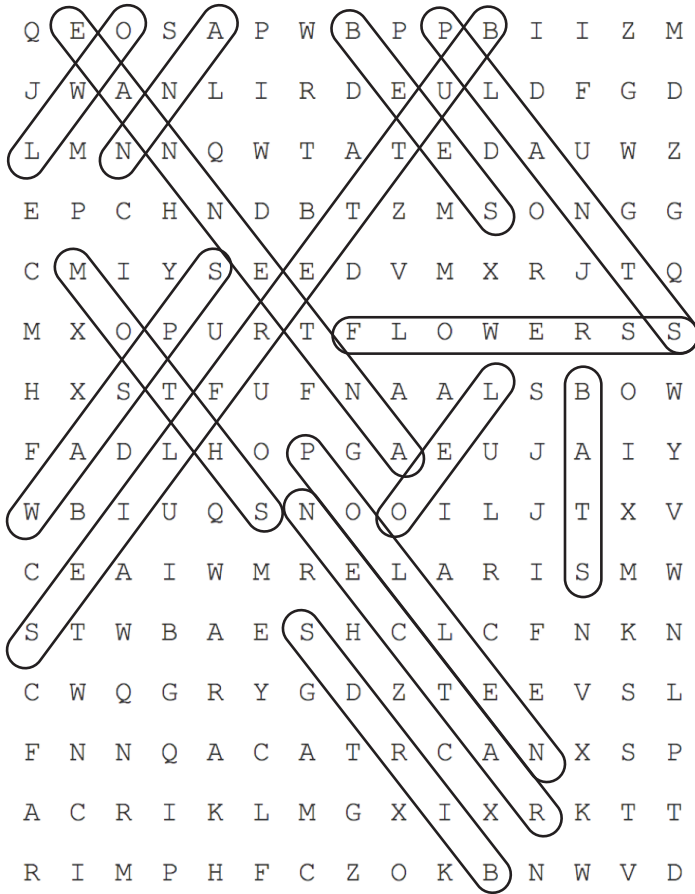
Fact Bees and butterflies drink nectar from flowers.

Fact Bees have fuzzy bodies that attract pollen from flowers.

Opinion Leo is not an important pollinator.

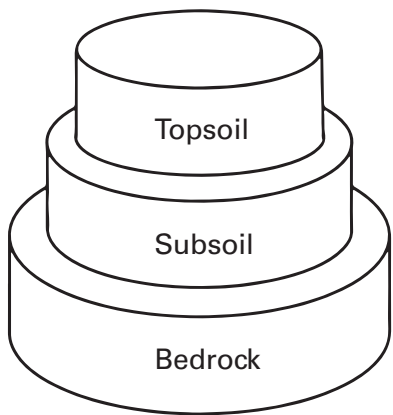
Fact Bees have small baskets on their legs that help carry pollen from flower to flower.

Fact All pollinators are important!



This Takes the Cake

Episode 16



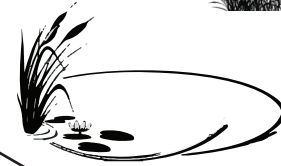
Waterway



Prairie



Woodland



Cropland



Wetland



Six Degrees of Soil

Episode 17

Ann told Owl about several things that come from the soil.
Make an X by the things Ann told Owl about.

- | | | | |
|----------|--------------------------------|----------|----------------------|
| <u>X</u> | Ice cream | _____ | Plastics |
| _____ | Folding the laundry | <u>X</u> | Baseball mitts |
| <u>X</u> | Socks and other clothing items | <u>X</u> | Phones and computers |
| <u>X</u> | Pianos | | |

Why is soil important for Owl?
Without soil, Owl wouldn't have a habitat.

Provide two examples of ways humans use soil (without using words from above):
Grow crops, grow food for our animals, landscaping, grow trees

Crossword answers

- | Down | Across |
|-----------|------------|
| 1. People | 2. Frog |
| 2. Trees | 3. Grapes |
| 5. Leo | 4. Owl |
| 6. Bees | 7. Flowers |
| 7. Fox | |

Sneaky Water

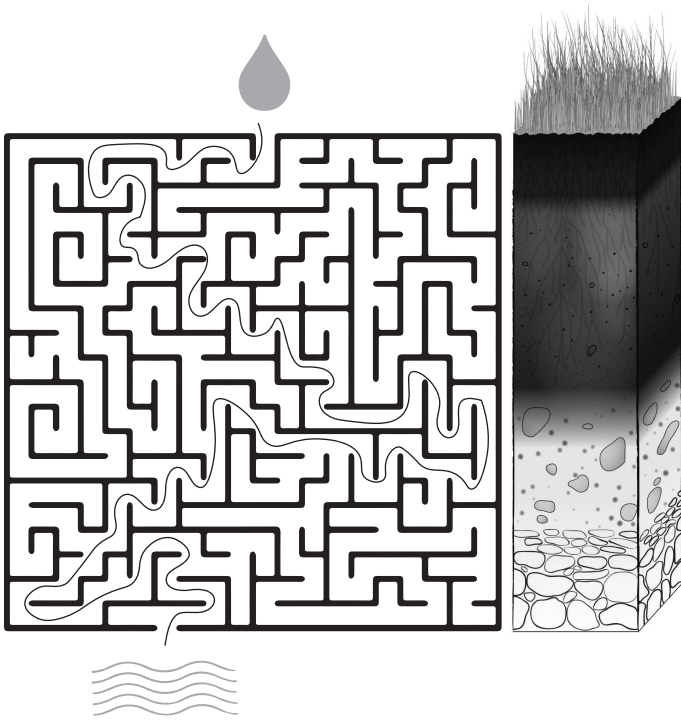
Episode 18

How can water be sneakier than a fox?
Water can be hidden underground and moves through the ground in cracks and fills up porous soil.

What does the word porous mean?
Porous means something has a lot of holes in it.

KYNSAE	S	N	E	A	K	Y					
TAREW	W	A	T	E	R						
RODNUTWAGER	G	R	O	U	N	D	W	A	T	E	R
PROSOU	P	O	R	O	U	S					
SAIFEQRU	A	Q	U	I	F	E	R	S			
REATW LETBA	W	A	T	E	R		T	A	B	L	E

G R O U N D W A T E R C A N B E S N E A K I E R T H A N A
F O X !



Dino Time

Episode 19

Fill in the blank: *Precipitation, water cycle, evaporation, condensation*

True or False: *F, F, T, T, F*

N	B	C	R	Y	A	W	Z	R	S	T	T	Z	T	C
N	O	S	E	A	N	S	Q	R	R	P	L	A	E	O
M	O	I	D	L	I	Y	L	J	O	R	E	J	Z	L
U	Z	I	T	U	C	N	M	B	T	S	K	D	O	L
A	A	X	T	A	O	Y	T	A	S	P	R	G	N	E
G	M	U	F	A	T	L	C	L	E	E	Y	E	P	C
R	E	T	A	W	S	I	C	Z	C	L	G	P	Q	T
G	N	V	C	U	L	N	P	Q	N	W	F	E	K	I
S	K	J	N	M	B	R	E	I	A	O	Z	B	J	O
U	U	O	P	H	G	P	L	D	C	E	K	Z	Y	N
S	R	U	A	S	O	N	I	D	N	E	A	V	D	X
F	E	U	A	U	Z	C	C	Y	Q	O	R	N	C	R
N	O	I	T	A	R	O	P	A	V	E	C	P	N	P
X	O	F	U	P	F	A	W	T	E	G	B	S	S	K
H	Z	J	N	Y	L	C	I	Z	F	L	P	K	G	F

Tree Party

Episode 20

Unscramble the words:

RIVER BIRCH

BUR OAK

WILLOW

BOX ELDER

COTTONWOOD

GREEN ASH

RED PINE

Circle T or F: T, F, T, T, F, T, T

Trees Are Weird

Episode 21

Why do trees grow so high? *They are trying to reach up to the sun for more sunlight.*

How do trees get so big and round? *They have large roots that can provide a stable foundation for a large tree.*

What is the protective layer around the tree called and why is it important? *It's called bark and it is important because it protects the tree like skin protects humans and fur protects some animals.*

Three ways trees help us: *They provide building materials for structures like houses, bridges, fences and barns (and much more), they slow down water and prevent erosion, and they provide habitat for many different creatures besides humans.*

Litter in the Watershed

Episode 22

Across:

5. Cumulative Effect

8. Pesticide

9. Trash

Down:

1. Oil

2. Animal Waste

3. Litter

4. Fertilizer

6. Pollutant

7. Sediment

Match the problem to the solution:

Trash in the river → *Don't litter and pick up trash on the ground*

Fertilizer and pesticides in the river → *Use proper timing for chemicals*

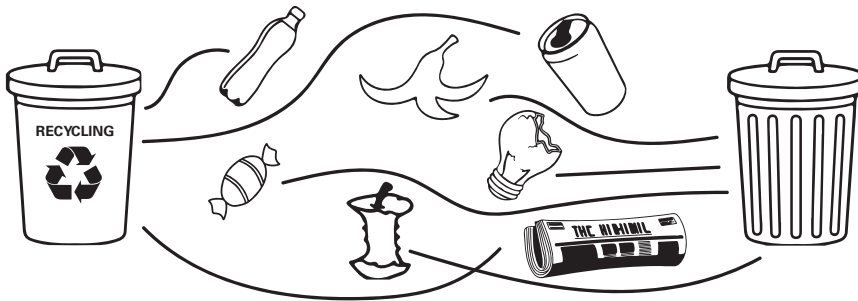
Oil spills in the river → *Fix oil leaks*

Sediment or soil in the river → *Cover soil to keep it in place*

What's the first step we can take to make sure litter does not end up in the river? *Pick up our trash and tell others not to litter!*

Pollution Solutions

Episode 23



Unscramble the words:

LITTER

POLLUTION

PROCESS

FILTER

WATERSHED

Mystery phrase: *THE CUMULATIVE EFFECT*

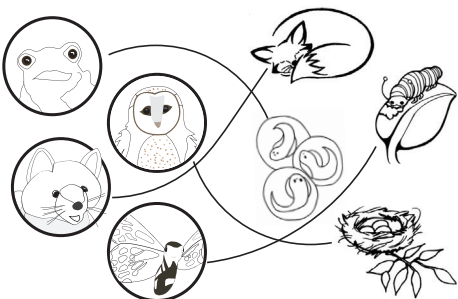
Describe the different steps in the water cycle that Ann mentioned: *Water evaporates up into the air, condenses in the clouds and falls out of the sky again.*

What is one thing in nature that acts like a filter? *Wetlands, soil, sand*

What is one thing that is human-made that acts like a filter? *Water treatment facilities*

Fox Eggs

Episode 24



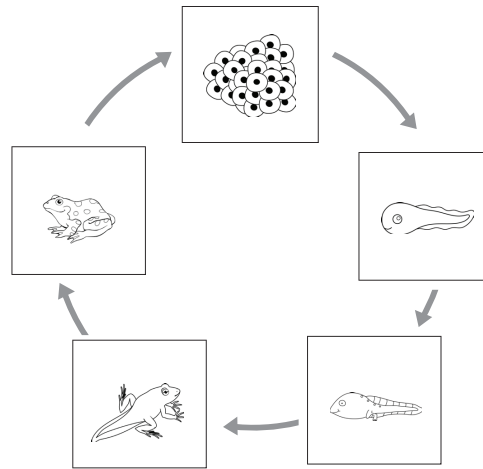
Five more creatures that come from eggs:
Chickens, snakes, turtles, platypus, and fish
(several right answers to this question)

When You Were a Tadpole

Episode 25

Match the descriptions to the words:

- 1-D
- 2-C
- 3-B
- 4-A



Easy, Peasy, Buzzy, Beesy

Episode 26

How do bees make their buzzing noise? *The bees' wings move so fast that it sounds like buzzing.*

Three types of bees Nathan listed: *honey bees, bumble bees, leaf-eating bees or mining bees*

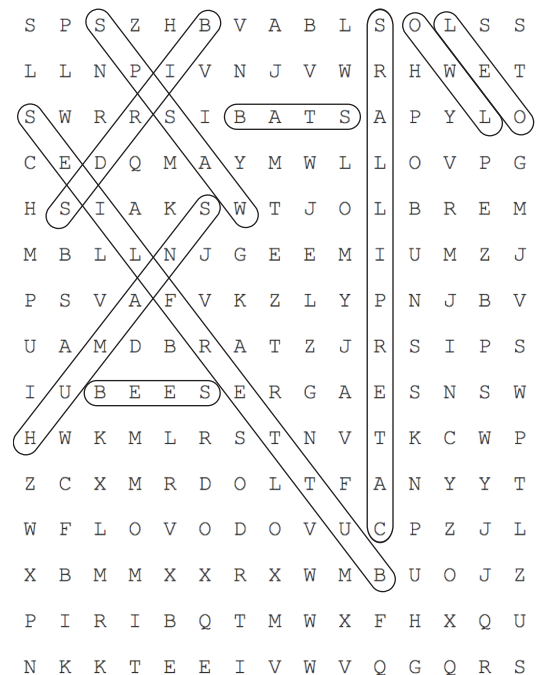
Examples of words that start with the same sound: *Business, bend, break, blast, brain, bang, boom, bus, blaze, brave, brown, burgundy, bowl.*

The Feeling is Mutual

Episode 27

What is pollen? *A fine powdery substance that allows plants to produce seeds and fruit.*

Why is pollen important? *Without pollen, flowers would not be pollinated and would not be able to grow.*



Tree Magic

Episode 28

Unscramble the words:

OVATE

PALMATE

LANCEOLATE

CORDATE

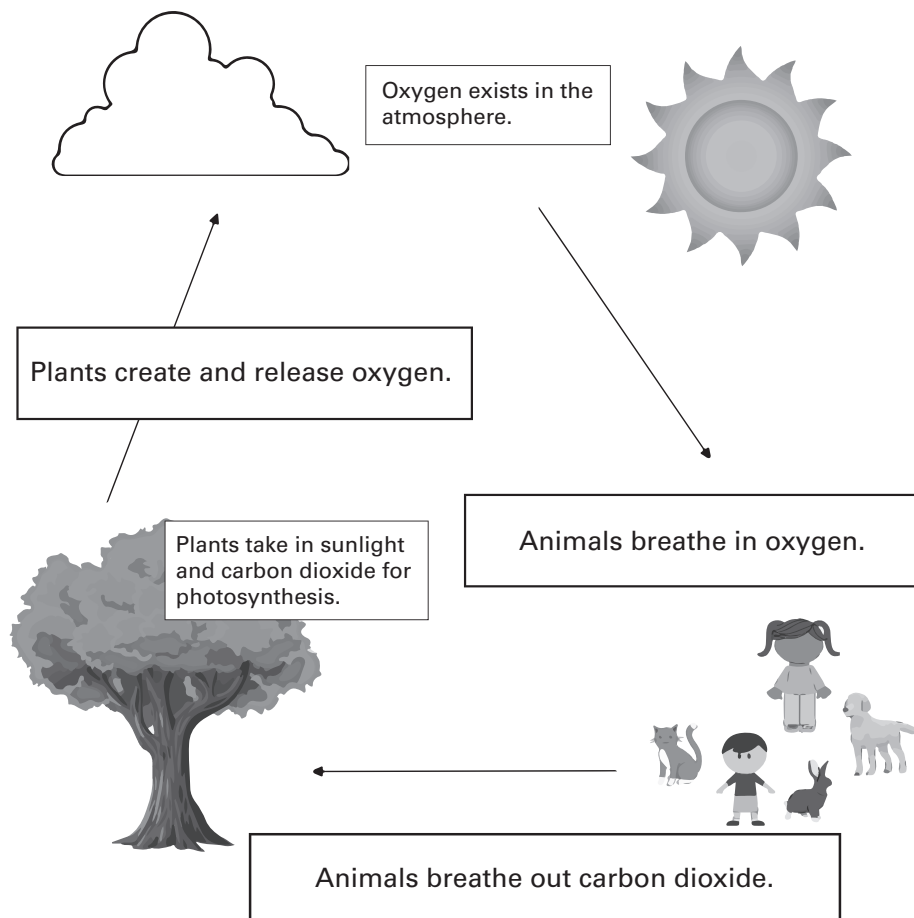
Leaf It to Me

Episode 29

Fill in the blanks: *oxygen, carbon, dioxide, in, produce, balanced*

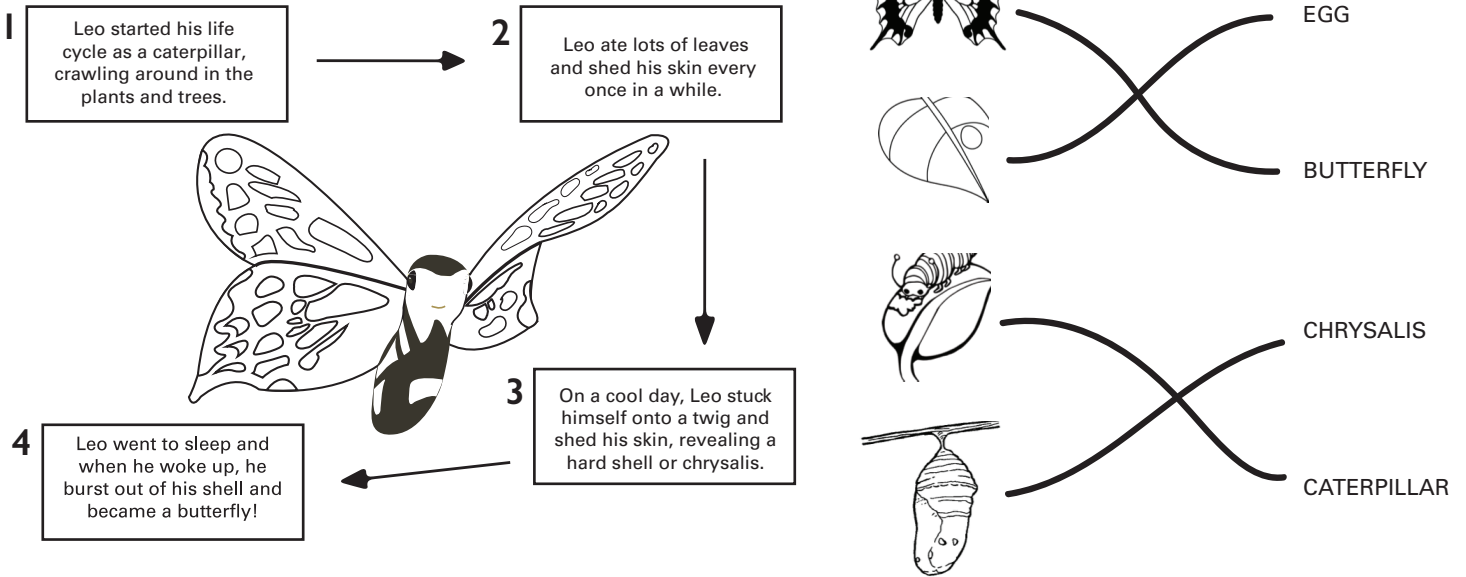
Why don't we run out of oxygen on Earth? *Since we have forests and groups of trees, the carbon dioxide we breathe out is constantly being recycled and turned into oxygen that we can use to breathe!*

Explain how trees help keep our air clean and healthy: *Trees suck up carbon dioxide and turn it into oxygen in the process of photosynthesis. This process cleans our air and makes sure we have oxygen to breathe every day.*



A Matter of Taste

Episode 30



What is a metamorphosis? *It's a transformation from an immature form to an adult form in more than one stage of life.*

Water Powers

Episode 31

Five things frogs are good at: *Jumping, swimming, croaking, catching flies, and finding the best lily pads (several right answers)*

Fill in the blanks: *Moving, energy, hydroelectricity, ice*

Examples of how water is strong and how we use it: *Rivers move and can change the landscape, we drink water, cook with water, clean with water, swim in water, water can change to ice and break rocks, water can fall as rain, water is used as a habitat for some animals (several right answers)*

Be Our Guess

Episode 32



Match the letter to the correct phrase: *B, D, A, C, E*

Write how a pollinator helped get food to our plates (several right answers):

Cheeseburger- *burger comes from cows, cows eat alfalfa, and alfalfa needs to be pollinated*

Pizza- *pepperoni and cheese come from pigs and cows, who need grass/hay/alfalfa to eat, which needs to be pollinated*

Apple- *apple blossoms need to be pollinated in the spring so the tree can produce apples*

Juice- *juice comes from fruit which is grown on trees that need to be pollinated in order to produce fruit*

Ice cream- *ice cream comes from milk, which comes from cows, who need grass/hay/alfalfa to eat, which needs to be pollinated*

Tree Time

Episode 33

Fill in the blanks: *sapling, slow, fast, seed, ground, shoots, roots, leaves*

Unscramble the letters to label the different parts of a tree: *leaves, branches, trunk, roots*

Wish Upon A Stone

Episode 34

Why couldn't Owl wish for all the trees and flowers in the watershed to be the same?

If they were all the same there would not be enough biodiversity in the watershed.

Unscramble to reveal her wish:

FOR THE TREES AND OTHER PLANTS TO BE THEMSELVES!

Ruling the Roost

Episode 35

Fill in the blanks: *metamorphosis, roosting site, endangered species, grasslands*

Draining wetland habitats to make room for more farmland

Chopping down large amounts of forested land for human use

Melting ice caps in Antarctica

Mowing ditches and fields

Reduce our carbon footprint by using less air travel, driving efficiently and using clean energy

Farm around the wetlands instead of draining them

Use less wood products and switch to more sustainable materials like hemp, bamboo, and cork

Let the grass in our ditches and fields grow by mowing less

Examples of animals for each habitat (several right answers):

Farm- cow, pig, chicken, sheep, cat, dog, llama, rooster, horse

Woodland- squirrel, rabbit, bear, snake, insects, chipmunk, fox, owl

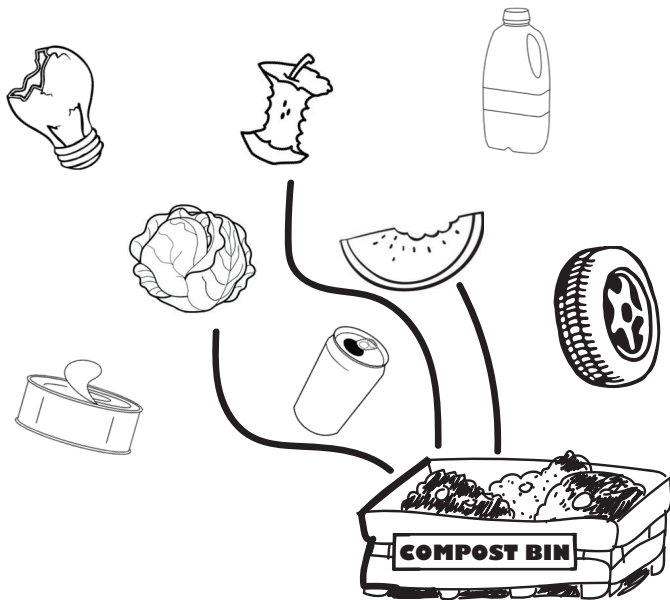
Prairie- birds, mouse, insects, snake

Wetland- frog, insects, snake, turtle, birds, beaver, otter, fish

Domestic- cat, dog, reptiles, mouse, hamster, guinea pig, birds

Slow Food

Episode 36



What is the difference between a garbage bin and a compost bin?

A garbage bin can basically hold any kind of trash from plastics, glass, leftover food or food containers. A compost bin can only hold objects that can decompose, like food waste (vegetable skins, fruit rinds, peels, and cores.) Compost bins also have decomposers in them that help break down the waste and turn it into compost.

How does compost create good soil?

The broken-down food waste and paper turns into nutrients after the decomposers break it down. Those nutrients then enrich the soil like a fertilizer.

T or F: F, F, F, T, T

A Different Kind of Plant

Episode 37

Venn Diagram Answers

Plants in the ground:

- Provide oxygen to the atmosphere
- Have roots
- Provides habitat

Wastewater treatment plants:

- Built by humans
- Has large bar screens
- Uses good bacteria

Both:

- A place where dirty water goes
- Improves water quality
- Filters water
- Stores water
- Helps us have safe water

Four steps of the water treatment process: First water flows through large bar screens which pick up big things like branches, leaves and trash. Next, the water flows into a tank where heavy and oily things are separated out and, in this tank, good bacteria work to eat up nutrients. After the final stages of filtration and disinfections you end up with safe water!

Get Informed. Get Involved.
www.waterrocks.org