3rd Grade Independent Projects

Hello Students, Families and Caregivers,

This resource packet includes multiple projects that students can work on at home independently or with family members or other adults. Each project can be completed over multiple days, and the projects can be completed in any order. These projects are standards-aligned and designed to meet the Remote Learning instructional minutes guidelines by grade band.

Use the table of contents on this page to navigate through the project packet.

3rd Grade Literacy Project: Animals Helping Each Other	1
3rd Grade Math Project: Planning for Our Vegetable Garden	7
3rd Grade Science Project: Traits & Variation	20
Grade 3-5 Social Science Project: Everyday Heroes	29



3rd Grade Literacy Project: Animals Helping Each Other		
Estimated Time	Total Time 70-80 minutes	
Grade Level Standard(s)	 RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. RI.3.2 Determine the main idea of a text; recount the key details and explain how they support the main idea. W.3.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly. Cross-Curricular: 3-LS2-1 Construct an argument that some animals form groups that help members survive 	
Caregiver Support Option	Help your student with unknown words.	
Materials Needed	Paper, pencil	
Question to Explore	How do animals help each other? What do the examples of animals helping each other reveal to humans?	
Student Directions	Follow the directions for each activity.	

Activity 1: Being a Helper - Directions: As we go through this project, we are going to look at what it means to be a helper. To get us started, let's consider how you're a helper.

A. Write about the time you helped someone. Be sure to include the person you helped, how you helped him/her, why you helped, and how it made you feel.

Activity 2: A Strange Pair - Now we're going to do some reading. As you read these articles, think about the main idea. A main idea is more than a topic. To state the main idea, it's important to know what the text is about (the topic) and then to be able to say so what about it. The "so what" can be the angle, idea, or perspective that the author brings to the topic. (From *Reading Strategies* by Jennifer Serravallo)



Student Name: _____

School Name:

_____ Teacher Name:_

Directions: Have you ever seen a squirrel and a rabbit playing? What about a bird and a frog? Probably not! Animals from different species usually don't interact. Read this article about a mother lion who takes care of a leopard cub as one of her own. As you read the following passage, ask yourself the following questions:

- What is the topic of the passage?
- What is each section mostly about?
- Now that I've identified the topic, what is the main idea of the passage?

In a "bizarre" biological twist, a mother lion adopts a leopard cub in India By Brigit Katz, Smithsonian.com, adapted by Newsela staff Published:03/11/2020

The mother lion, her lion cubs and her adopted spotted leopard baby all get along just fine. Photo by: Dheeraj Mittal/Deputy Conservator of Forests in India

Gir National Park is in Gujarat, India. In December 2018, scientists spotted something very unusual there. A lioness had adopted a baby leopard as one of her own cubs. The little leopard was around 2 months old. The



lioness fed him her milk. He was also playing with her two lion cubs. They were around the same age as him. This puzzled the scientists greatly. It was just plain weird, they said. In the wild, it does not make much sense to care for the babies of another animal. It takes time and energy. A mother has to feed babies milk. She has to gather food for them. She has to make sure they stay safe.

Wild animals do sometimes raise other animals' babies. Yet this happens mostly within an animal's own group. For example, cheetah moms sometimes adopt cheetah cubs. They do this if the cub's birth mother has died. This helps the cheetahs survive as a group.

Different Types Of Animals

In this case, lions and leopards are different types of animals. They even compete against each other for the same food. They often do not get along. Lions are known to kill leopards and their cubs. Leopards often attack baby lions. It does not make much sense for a lion to care for a baby leopard.

Yet, this mother lion, her lion cubs and her leopard baby all got along just fine. The scientists did not think it would last long.

The leopard cub stayed with his lion family for another 29 days. Then the baby leopard died. He was not attacked. He was born with a health problem. This caused him to die young.

It is not clear why the leopard cub was adopted. One day after he was seen with the lioness, a female leopard was sighted nearby. She may have been the cub's birth mother. Maybe she gave up her baby, who was then adopted by the lioness. But why?

The lioness was very young. She was only 5 or 6 years old. She was new to being a mother. Maybe she did not know she did not have to care for leopard babies. She was already making milk for her cubs. Maybe she did not realize one of her cubs was a leopard.



In Africa, male lions live together with lionesses. In India, they do not. Female lionesses are left by themselves after giving birth. Maybe this allowed the leopard cub to stay with the lion family. A male lion may have acted differently toward the leopard. The leopard may not have been able to stay with the lions.

Unanswered Questions

We will never know for certain because the cub died so young. Many questions remain unanswered. Stotra Chakrabarti is a scientist. He studied the lions "It would have been fantastic to see, when the leopard cub grew up, how things would be," Chakrabarti said. "But it didn't happen."

Now answer the following questions:

• Write the main idea of this article. Include at least 2 details from the text to support the main idea.

Main Idea:			
Detail:	Detail:	Detail:	

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Scientists are not sure why the mother lion adopted the baby leopard as her own. The article gave some scientist's ideas as to the answer.

• Why do you think the mother lion adopted the baby leopard? Explain your thinking with evidence from the article on a seperate piece of paper.



School Name:_____

_ Teacher Name:_

Activity 3: Another Strange Pair - Directions: Read this article about a coyote and his badger friend. As you read the following passage, ask yourself the following questions:

- What is the topic of the passage?
- What is each section mostly about?
- Now that I've identified the topic, what is the main idea of the passage?

Is this coyote friends with a badger? Video shows the two traveling together

By USA Today, adapted by Newsela staff on 02.13.20

An unlikely friendship between a coyote (left) and a badger (right) was captured in a wildlife video as they traveled together around the San Francisco Bay Area in California. Image: Peninsula Open Space Trust (POST)/Pathways for Wildlife

A surprising pair of animals was just spotted in the Bay Area. The Bay Area is in California. One of the animals is a coyote and the other is a badger. The two were caught on video. They were traveling through a tunnel together. The tunnel went under a freeway. Experts say they may have been hunting together.



The video was taken by the Peninsula Open Space Trust. The group is called POST for short. It works to protect land in Northern California for wildlife. In the video, the coyote runs ahead. Then it looks behind it. It gives a play bow and wags its tail. A play bow is when a coyote or dog stretches its front legs out and leans on its elbows. Dogs do this sometimes when they play.

After bowing, the coyote in the video hops around. He is clearly waiting for the badger to follow. The badger is not far behind. When the badger catches up, the two walk off into the tunnel.

Different Skills - POST said coyotes and badgers make a great team. Both have different skills. When they work together, it is easier for them to hunt. They like to hunt squirrels and prairie dogs.

Pairs of coyotes and badgers have been seen before. This is the first time they have been seen going through a tunnel. POST said badgers are hard to catch on camera. The animals spend much of their time underground.

The new video is cute. It also provides important information on how to protect wildlife. It shows that some animals are using tunnels under highways to travel. Scientists like to know where wild animals travel in cities.

Wild animals travel to find food or migrate. Humans are living and building on more land. This means there is less land for wildlife to live. This is called habitat loss. Habitat loss makes it hard for lots of wild animals to survive.

Hard For Animals To Travel Safely - Cities and roads make it hard for animals to travel safely. They are often hit by cars. That is why scientists want to find "areas of safe passage" for wildlife.

Roads are very dangerous to coyotes, Kitty Block says. Block is the president of the Humane Society. The group works to protect animals. In the United States, around one million animals are killed by cars every day.

Hunting is the biggest danger coyotes face. Coyotes are often hunted because people think they



attack humans. Block said coyotes are actually afraid of people. She said hunting them is unfair. A coyote would only come toward you if it had been fed by a person.

"Anyone who lives with a dog recognizes that play bow," Block said. She was talking about the play bow the coyote did in the video. She said she hopes it will remind people that coyotes are similar to dogs. Block hopes the video will inspire people to be kind to coyotes.

Now answer the following questions:

• Write the main idea of this article. Include at least 2 details from the text to support the main idea.

Main Idea:			
Detail:	Detail:	Detail:	

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Scientists are not sure why the coyote and badger are "friends". Why do you think these two animals are friends?

• Explain your thinking with evidence from the article, on a seperate piece of paper.



Activity 4: Writing about How Animals Help Each Other

Directions: Reread both articles focusing on how these animals pairs helped each other. Use the organizer below to help your thinking.

How do animals help each other?	Evidence
Way 1:	1.
	2.
Way 2:	1.
	2.

• Then, on a separate sheet of paper, write about how animals can help each other. Use evidence from each article and your organizer to support your thinking.

Activity 5: Reflection

A. Did these articles change the way you think about animals and how they behave? Explain your thinking on a seperate piece of paper.

Cross Content Connection:

• **Science:** Start observing the animals in your neighborhood - squirrels, birds, rabbits, even insects. Do you see any animals in the same species helping each other? What about animals from 2 different species helping each other? Write down your observations.



3rd Grade Math Project: Planning for Our Vegetable Garden		
Estimated Time	Total Time 70-80 minutes	
Grade Level Standard(s)	 3.OA.A: Represent and solve problems involving multiplication and division. 3.OA.B: Understand properties of multiplication and the relationship between multiplication and division. 3.OA.C: Multiply and divide within 100. 3.OA.D: Solve problems involving the four operations, and identify and explain patterns in arithmetic. 	
Caregiver Support Option	 Support is optional, but recommended for the following: Reviewing activity and directions with the student. Gathering items and playing multiplication and division games. Engaging in discussions with the student around questions embedded in this project (siblings and other members of the household can be engaged in the dialogue as well). 	
Materials Needed	Pencil, ruler, a deck of cards, and coins or counters. Not all materials are needed for every activity.	
Question to Explore	How are the operations of multiplication and division related? How can we use multiplication and division to help solve problems?	
Student Directions	Follow the given directions for each activity in the project.	

Activity 1: Donating Food

A. Food Donations

Parker Community Academy is collecting canned goods to donate to a local food charity. Each classroom chose different types of canned goods to collect.

Use the information in the table below to find out how many cans of food each class collected for the donation.

Complete the two columns on the right side of the table. First draw a picture to represent the total number of cans. Then write an equation that represents how you would figure out the total number of cans for each classroom.



Student Name:

Donations from Parker Community Academy				
Room Number (Type of Food)	Number of Boxes	Number of Cans in Each Box	Draw a Picture that Represents the Total Number of Cans	Write an Equation that Represents the Total Number of Cans
Room 214 (Corn)	10	4		
Room 222 (Sweet Peas)	6	6		
Room 216 (Green Beans)	9	7		
Room 218 (Carrots)	7	3		

B. Vocabulary Activity

First, select a math word from the word bank on the next page. Then, complete the table under the word bank by writing each math word in the table. Next, draw a picture that helps show the meaning of the math word. Finally, use the word in a sentence. See the example for the word "Array".

Here is a challenge: See how many times can you use each of the math words in the Word Bank below when you answer questions in Activity 2 and Activity 3?

Your Word Bank			
Factor	Product	Row	Column
Multiply	Quotient	Divide	Dividend
Divisor	Inverse Operation	Commutative Property of Multiplication	



	Using Your Math Words	
Word	Your Drawing	Sentence
(Example) Array		The carton of eggs shows a 3 x 6 <u>array</u> .



Student Name:	School Name:	Teacher Name:



C. Multiplication War Game

Materials: Deck of cards.	Example
Object of the Game : The goal is to collect the most cards.	
How to Play:	
 All of the Face cards have a value of 10. Aces have a value of 1. 	* *ž 🍐 🍂
3. Shuffle the cards and place all of the cards face down.	7 x 9 = 63
 Each player turns over one card at the same time. 	or $9 \times 7 = 63$
5. The player that says the correct product of those cards first wins those cards.	The player that says 63 first wins the two cards.
6. Continue until one player has all of the cards.	

Activity 2: Growing a Community Garden

A. Lawndale Community Academy is planting a community garden. The fruits and vegetables that are grown in the garden will be shared with the local community to increase the availability of healthy foods in their neighborhood.

The principal at Lawndale Community Academy asked the third-grade students to vote on the fruits and vegetables that should be planted in their community garden. After the students voted, the results are shown in the pictograph on the next page.

	Lawndale Community Academy Student Voting
Fruits and Vegetables	Number of Fruits and Vegetables Planted (Each full picture of Fruit or Vegetables equals four votes)
Corn	
Tomatoes	



Eggplants	
Carrots	
Beets	

School Name:

1. Which fruit or vegetable had the fewest votes?

2. Which fruit or vegetable had twenty-eight votes? _____

Write a multiplication or division equation to show how you figured out your answer.

3. How many more students voted for corn than voted for carrots _____

Explain how you figured this out below using words or pictures.

4. Maria said that if a total of 26 students voted for eggplants, there would be 6 pictures of eggplants in the pictograph.

Is Maria's statement correct?

Explain why Maria is either correct or incorrect. Use words or pictures to explain your answer.



B. Planting Beets

Using the digits 1 to 9 at most one time each, fill in the blanks in the statement below to make the statement true.

Create as many true statements that you can while using the digits 1 to 9 only once.

Ms. Thomas planted _____ beets in her garden. Her garden was arranged in ____ rows. Each row had beets.

Challenge: For each solution created, write a multiplication or division equation?

C. Division Go Fish Game

Materials: Deck of cards

Object of the Game: The goal is to win the most cards.

How to Play:

- 1. Face cards have a value of 10.
- 2. Aces have a value of 1.
- 3. Shuffle the cards and pass out 7 cards to each player.
- 4. Place the rest of the cards face down (the ocean).
- 5. Instead of looking for matching pairs, players compete to find pairs of cards that divide evenly into each other.
- 6. A player makes a "book" when they have a division pair. For instance, in the hand shown, the player could lay down the 8 and the 2, because they divide to make 4.
- 7. If a player runs out of cards during the game, they may select one from the ocean when it is their turn.
- 8. If there are no more cards in the ocean, they are out of the game and the number of books they have is final.
- 9. Use the multiplication table on the next page to check your answers.





X	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Activity 3: Designing a School Garden

A. The principal at King Academy of Social Justice School is hosting a contest to design a school garden. The garden will be shared with the local community to ensure healthy fruits and vegetables are available for the community. The principal will use the winning design for the actual garden.

Rules for the design: Your garden must be a rectangle. All of the seeds must be planted in even rows and columns so that the roots will be given room to grow. When designing your garden you need to be sure to use ALL of the space, so that the school can plant as many plants as possible. The garden is protected by a fence. In the garden, the principal wants to plant 36 eggplants, 24 tomatoes, 60 corn, 48 carrots, and 72 beets. Design your garden in the space below.



King Academy of Social Justice School Garden Design Contest



B. Baking Eggplants

You may use the digits 0 to 9 only once in any of the blank spaces. (The answer of 84 does not eliminate the 8 or the 4.)

Fill in the blank spaces to make the following statement true using the digits 0 to 9 only once.

Kiana was making baked eggplant. She had 84 eggplants in her garden. Kiana's garden had _ ___ rows of eggplants with ____ eggplants in each row.

What are the different combinations of the digits 0-9 can you use to make the statement true? Create as many combinations that you can.

Challenge: For each combination of digits, write a multiplication and division equation.

Finally, In the space below, draw one possible picture of Kiana's garden with 84 eggplants.



C. Tic Tac Toe Division

Materials: Tic Tac Toe Division Board (see below), coins, counters, or game pieces in 2 different colors

Object of the Game: The first player to make 3 in a row vertically, horizontally or diagonally, is the winner.

How to Play:

- 1. Take turns answering a division fact on the board.
- 2. If you are correct, cover the square with a coin or counter of your color.
- 3. Use the multiplication table above to check your answers.





Tic Tac Toe Division Board

9÷1	<mark>18</mark> ÷3	<mark>16÷</mark> 2
32÷4	25÷5	21÷3
12÷2	20÷5	28÷4

42÷7	24÷6	32÷8
18÷9	48÷6	60÷10
36÷9	56÷7	40÷8

27÷3	7÷1	15÷5
21÷7	27÷9	4÷4
35÷5	42÷6	18÷2

36÷4	72÷8	90÷10
63÷9	30÷6	12÷4
35÷7	14÷2	15÷3

<mark>81÷</mark> 9	36÷6	2÷1
40÷4	50÷10	54÷6
100÷10	16÷8	63÷7

80÷8	40÷5	72÷9
24÷3	36÷6	80÷10
48÷8	24÷4	24÷2



Activity 4: Reflection

1. Kamaria spends 29 minutes working on her drawing for the design a garden contest. She then completes her math homework. Each problem takes 4 minutes to complete. There are 7 math problems. How many minutes does Kamaria spend on her homework and contest drawing in all;

Explain with words or pictures how you figured it out.

2. A gardener who was working at the community garden arranged the boxes of corn as shown in the picture below. If each of the boxes contains eight pieces of corn, how many pieces of corn are there altogether?



3. Write an equation that shows how you figured it out. With pictures or words, explain how you know your answer is reasonable.

Challenge: For the solution created, write a division problem.



3rd Grade Science Project: Traits & Variation				
Estimated Time	70-80 minutes total			
Grade Level Standard(s)	-LS3-1. Analyze and interpret data to provide evidence that plants and nimals have traits inherited from parents and that variation of these traits xists in a group of similar organisms.			
Caregiver Support Option	 Review activity directions with your student. Help your student with Activity 1: Part C. Engage in discussions with your student around the questions embedded in this project (siblings and other members of the household can be engaged in the dialogue as well). 			
Materials Needed	PaperPencil			
Question to Explore	Why do Jacari's dogs, Cubby and Sox, share similar traits and different traits?			
Student Directions	Each activity has directions for you to follow. Answer the project questions on a separate piece of paper. You may also write on the packet (for example: you may annotate the readings and write in the tables).			

Activity 1: Me and My Family (20 minutes)

A. Read the definition of a trait and The Story of Cubby and Sox below. **<u>Trait</u>**: something that can be observed about an organism, such as color or size.

The Story of Cubby and Sox

Early one morning, Jacari was staring at his two adopted pet dogs, Cubby and Sox. He started to think about why some of their traits are different and some are the same as each other. He also wasn't sure if they were related. Cubby has four legs, a snout, two short ears, one long tail, and his fur is white with brown spots. Sox also has four legs, a snout, two ears, and one tail. However, his fur is white with black spots. He has longer ears and a shorter tail.

- B. On a piece of paper, answer the following questions below:
 - □ Why do you think Cubby and Sox have some of the same traits as one another?
 - □ Why do you think Cubby and Sox have some traits that are different from one another?



C. Which traits do you have in common with people in your household? Find <u>one or more</u> people in your house to complete this traits survey. A <u>blood relative</u> is someone who is related to you.

			Person 1	Person 2	Person 3
Irait	Description	Me	Blood relative? Circle: Yes or No	Blood relative? Circle: Yes or No	Blood relative? Circle: Yes or No
Earlobes	Attached Unattached	Attached	Attached	Attached	Attached
		□Unattached	□Unattached	□Unattached	□Unattached
Hairline	Widow's peak	□Widow's peak	□Widow's peak	□Widow's peak	□Widow's peak
		□No widow's peak	□No widow's peak	■No widow's peak	■No widow's peak
Hand- clasp		Right thumb	Right thumb on top	Right thumb on top	Right thumb on top
preference	Right Thumb Over The Left Thumb	Left thumb on top	Left thumb on top	Left thumb on top	Left thumb on top
Tongue roll	Can roll Can't ro	II Can roll tongue	□Can roll tongue	□Can roll tongue	□Can roll tongue
		Can't roll tongue	Can't roll tongue	Can't roll tongue	Can't roll tongue
Dimples	Dimples	Dimples			Dimples
	B	□No dimples	□No dimples	□No dimples	■No dimples
Hitch-hikers thumb	Hitchhiker's Thumb YesNa	Hitchhiker's thumb	Hitchhiker's thumb	Hitchhiker's thumb	Hitchhiker's thumb
		□No hitchhiker's thumb	■No hitchhiker's thumb	■No hitchhiker's thumb	■No hitchhiker's thumb



- D. On a piece of paper, answer the following questions:
 - □ Which person had the most similar traits as you? Why do you think that?
 - □ Which person had traits least like yours? Why do you think that?

Activity 2: Who Are the Puppy's Parents? (15 minutes)

[Adapted from: The Wonder of Science https://thewonderofscience.com/ (Puppy Parents)]

A. Read the information below about the puppy:



PUPPY -Brown fur most of the body -Black snout/face -Some black on ears -White feet

The puppy, shown above, is a mixed breed. This means that his mom and dad are each a different breed (type) of dog. Some popular dog breeds include labs, golden retrievers, poodles, and German shepherds.

- B. In the tables below:
 - a. Observe the images of the puppy and its possible parents, and read the text.
 - b. Write down the differences and similarities you see in their traits.
 - Pay attention to the shape and size of their features.





Possible Parent: Chihuahua	
PUPPY (same puppy as in part A)	CHIHUAHUA -Brown fur with white fur around the neck and feet.
Similarities in Traits	Differences in Traits

Possible Parent: Beagle	
PUPPY (same puppy as in part A)	BEAGLE -White fur on neck, belly, legs, and nose -Brown fur on back, ears, and around the eyes.
Similarities in Traits	Differences in Traits

Possible Parent: Jack Russell JACK RUSSELL PUPPY -Brown fur around the (same puppy as in part A) eyes, on the ears, and most of the back. -White fur around the snout, legs, and some parts of the body. Similarities in Traits Differences in Traits



School Name:_____

C. On a piece of paper, write your answer to the following questions:

- □ Which two types of dogs do you think are the puppy's parents?
- □ Why do you think that? What is your evidence?

Activity 3: Blue Whales and Buttercups (25 minutes)

A. Read the text below and then answer the questions.

Blue Whales and Buttercups by Megan Goss, Jonathan Curley, and Ashley Chase © 2018 by The Regents of the University of California/Amplify Science

How Organisms Are Different

There are so many different kinds of animals, plants, and other **organisms** on Earth. There are polar bears, redwood trees, and nine-armed sea stars. Scientists put organisms into groups called **species**.

Earth has more species than you might expect. Even types of organisms that might seem like one species are often divided into different species. For example, there are actually many different species of whales. There are blue whales, humpback whales, gray whales, and more. Millions of different species of organisms live on Earth.



Organisms can have very different traits. A trait is anything you can observe about an organism, including the way it looks or acts. Some animals have fur, and others have feathers. Some plants have flowers, and others do not. Some animals protect themselves by running fast, and others

protect themselves by biting. We call these differences variation. Let's look at some examples of variation.

Organisms Grow to Different Sizes

You can find lots of variation in the sizes of different organisms. Compared to people, elephants are huge. Still, it would take about 20 big elephants to match the weight of just one blue whale. The biggest trees weigh more than 40 blue whales! You can find huge size variation even between organisms in similar species. For example, the largest species of bat is about 10 times bigger than the smallest species of bat.





Difference in size is not the only kind of variation among organisms on Earth....

Organisms Get Around in Different Ways

All animals move, but different animals often move very differently. Animals may walk, run, fly, swim, or slide. Plants don't move around the way animals do, but their seeds get from place to place in different ways. We can see lots of variation in the many ways that different organisms get around.





This sea anemone stavs in one place for most of its life. Still, it waves its body around to catch food.



This snake slides across the sand by moving its body from side to side.









Burrs are seeds covered with tiny hooks. They get caught in animal fur. Animals carry the seeds to new places.



An octopus moves by shooting a jet of water out of its body. The jet of water moves the octopus quickly.



This is the seed of a palm tree. These seeds can float from island to island.

Organisms are different in other ways, too. . . .

Organisms Protect Themselves in Different Ways

Organisms are often in danger of being eaten. Many animals eat plants, and some hunt and eat other animals. Organisms protect themselves from danger in lots of different ways. These differences are examples of variation.



School Name:

Teacher Name:



The trait of color helps this flatfish hide. The color of the fish matches the color of the sand.



Coral snakes can kill bigger animals with one bite. The bright stripes on a coral snake warn animals away.



Boxwood leaves smell bad to deer. Deer won't eat them.



This harmless milk snake looks a lot like a dangerous coral snake. Animals stay away from it, too. Looking like a coral snake protects the milk snake.

Even organisms that are very similar to one another show important variations....



These pigeons are all the same species, but they show lots of variation in markings.



Some of these bigeye fish have more red color, and some have more silver. However.

they are all the same

These small and large leaf-cutter

ants are all the same species.

species.

They show variation in size.

Even in One Species, Organisms Are Different

In this book so far, we have been looking at variations between organisms in different species. When you compare different species, you can find lots of variation. However, even within the same species, organisms can have different traits. For example, horses are all part of the same species, but they have different colors, sizes, and other traits. Variation is there, even in one species.

It's easy to observe how living things are different. Living things are the same in important ways, too. Noticing how living

things are similar can be harder. Still, it is very useful. . . .

How Organisms Are Similar

Different species are related to one another. Scientists who study a species often ask: Which other species is this species closely related to? To show how closely related different species are, scientists use many kinds of evidence. They get some of their evidence by observing the traits of species. They compare those traits. When two species have similar traits, it may be evidence that they are related. Still, different species may have similar traits without being closely related. For example, a red bird and a red flower both have the trait of being red. This







fox

There is a lot of evidence that these animals are all closely related to one another. Can you observe any traits they have in common?



does not mean that they are closely related! Scientists look at lots of evidence before they say which species are closely related.

Scientists put related organisms into groups. One group is plants. Plants make their own food using sunlight. Another group is animals. Animals eat plants, other animals, or both plants and animals. These very big groups are made up of smaller groups. One smaller group is all the animals that have four limbs. (Limbs are legs, arms, and wings.)

Some Organisms Have Four Limbs

Animals with four limbs are one group of related organisms. Even though a lion might not look like a frog, these animals have an important trait in common: a body with four limbs. A human and a rat are also similar in this way. The fact that all these animals have four limbs is one piece of evidence scientists use to show that they are all related.

A bird's wing is a kind of limb, too. Birds have four limbs: two legs and two wings. The wing of a bird has the same basic bones as your arm. These limb bones are evidence that birds belong in the same group as lions, frogs, rats, humans, and other animals with four limbs.

Some Organisms Have Feathers

A smaller, more closely related group is made up of birds. All birds have feathers to cover them. This trait is similar among all birds. That similarity is an important piece of evidence that all birds are related. Birds do not all look alike, though. Each species of bird has feathers that make it look different from other birds. Colorful feathers help some birds attract mates. Brown and green feathers help other birds hide in trees.

Let's look at an even smaller and more closely related group with even more traits in common...

Some Organisms Are Blue Jays

The category of birds can be divided up into many different species, such as blue jays. A species is a group of organisms that are very closely related. The organisms in a species have



Frogmouth birds have feathers that are almost like whiskers. These feathers help the birds feel for tiny animals to eat.



Owls have wing feathers that let them fly without making any noise. The mice they catch can't hear them coming.



Ducks have feathers that keep them dry. This trait helps them stay warm in cold water.

important traits in common. For example, blue jays all have blue wings with black markings. They have strong feet for perching on branches. Their similar traits are evidence that blue jays are all closely related.

There are millions of different species living on Earth. Still, all organisms on Earth are similar in at



least one way....

All Organisms Are Related

There is one way that all organisms are the same. They are all made of tiny parts called cells. Some organisms have only one cell. Other organisms are made of many cells. Whether they are big or small, plant or animal, all living things are made of tiny cells. Cells are the basic parts that make up organisms.



This whole living thing is one tiny cell! It is much too small to see without a microscope.





This is a buttercup plant shown under a microscope. You can see the tiny cells that make up the plant.

Rabbits are also made up of tiny cells. These are cells from a rabbit shown under a microscope.



You are made up of cells, too. These are human fat cells shown under a microscope.

Being made of cells is a trait that all organisms have in common. This is evidence that all organisms are related to one another. Even though organisms can be so different, we are all related!

- B. On a piece of paper, answer the following questions about the text, <u>Blue Whales and</u> <u>Buttercups</u>.
 - ❑ What is a trait?
 - □ What is variation?
 - Give an example of variation within the SAME species of animal.
 - □ How are ALL organisms the same?

Activity 4: Reflection (10-20 minutes)

- On a piece of paper, write a letter to Jacari (from Activity 1) explaining why his dogs, Cubby and Sox, have similar and different traits from one another.
 - □ In your letter, make sure to explain similarities and variations among traits.
 - Use examples from the text, <u>Blue Whales & Buttercups</u>



Grade 3-5 Social Science Project: Everyday Heroes		
Estimated Time	Total Time 70-80 minutes (average of 15-20 mins per activity)	
Grade Level Standard(s)	 SS.IS.3.3-5: Determine sources representing multiple points of view that will assist in answering essential questions. SS.IS.4.3-5: Gather relevant information and distinguish among fact and opinion to determine credibility of multiple sources. SS.IS.5.3-5: Develop claims using evidence from multiple sources to answer essential questions SS.IS.6.3-5: Construct and critique arguments and explanations using reasoning, examples, and details from multiple sources. 	
Caregiver Support Option	 Notes on the structure: Activities are designed to be done in order - each one builds on the other so you should not skip activities Activities are an average of 15-20 mins each. More than one can be done in a day. Before giving the activities to students, caregivers might: spend time reading and discussing the "student directions" together. Encourage them to ask any clarifying questions. When reading the texts, students should circle or underline any unfamiliar words so you both can define them together In this particular lesson, it's important to note that: Students are learning about tall-tale characters used in history. Students are then creating trading cards for heroes from their own family, community, or larger world Consider making your own trading cards for people you consider heroes from your life and sharing with your student 	
Materials Needed	Writing tool, paper, "Everyday Heroes" handout (optional)	
Question to Explore	How can we celebrate our everyday heroes?	
Student Directions	There are heroes all around us. In this week's inquiry, students think of a person in their family, community, or larger world who is making a difference right now. They identify a heroic trait or talent, then use words, pictures, and a heavy dose of exaggeration to cast this person as a tall-tale character. Throughout the week, they'll use their learning to create a "Tall-Tale Trading Card" that describes their hero in larger-than-life terms.	



Day 1 (Activity 1): Exploring Tall Tales (15-20 min)		
This week we're thinking about the question: "How can we celebrate our everyday heroes?"	Your challenge this week: Create a "Tall-Tale Trading Card" that describes the special traits and talents of your personal hero.	
 Today you will: Explore special traits of tall-tale characters Recognize and create exaggerations Pick a personal hero 	You will need: • Paper or notebook • Writing tool • "Everyday Heroes" handout (optional)	

Let's Get Started!

A. THINK

Look at this postcard.



Ask yourself:

- What's going on here?
- What seems real?
- What seems fake?

Tall-tale postcards like the one in the picture were made by putting together different photos to make unbelievable scenes, like a corn cob so big that it took a horse-drawn cart to move it! Like the postcards, stories called tall tales were popular in the United States in the 1800s and early 1900s. These tales were exaggerated, meaning that people and events were made to seem much larger or greater than they really were.



New words:

Tall-Tale: a story about a larger-than-life character, sometimes based on a real person, who has exaggerated adventures

Exaggerated: described as larger or greater than is true

B. EXPLORE

This picture shows a statue of a tall-tale character.

- What's something you notice about it?
- How would you describe the person in it?



The statue is of a tall-tale character named Paul Bunyan, a mighty lumberjack. People began to tell many stories about the lumberjacks of North America in the late 1800s, when the Western United States was first being settled.

At this time, lumberjacks did the work of cutting down trees so that towns and farms could be created.

Read these larger-than-life descriptions from Paul Bunyan, American Hercules (1937).

- "So great was his lung capacity that he called his men by blowing through a hollow tree. When he spoke limbs sometimes fell."
- "For a big man, Paul was very quick on his feet. He could go to one end of his house, blow out the light and get into his bunk before it got dark."
- "Lumberjacks say that he is the man who cleared all the trees out of North Dakota. He also scooped out the hole for Lake Superior."



What do these exaggerations tell us about him?

What do they tell us about what people might have valued during this time period?

OPTIONAL Watch this short video (Paul Bunyan, American Hercules (1937) https://youtu.be/C-zKKoHvXn0) which shares some tall tales about Paul Bunyan. See if it confirms or changes your thinking.

If you are unable to watch the video: This tall tale makes Paul Bunyan seem superhuman in strength, skill, and size. All of these traits were important for lumberjacks living and making homes in wild, forested areas.

New word:

Trait: a quality that makes one person different from another

C. DO

Your challenge this week: Create a "Tall-Tale Trading Card" that describes the special talents and traits of a real-life hero. Today, you're going to choose your real-life hero!





Student Name:

People often collect or trade these cards with other people.

The trading card you create will describe a real-life hero. This might be a person in your own family, your community, or anywhere in the world.

Think about:

- Who are the heroes in your life?
- What makes them special? What trait or talent do you admire about them?
 - Are they strong like Paul Bunyan?
 - Do they have a skill or talent?
 - Is there something else special about them, like kindness or courage?

You're going to:

 Make a list of the heroes in your life (or use the "Everyday Heroes" handout if you like) Write:

- Make a list of three people that you think are heroes in your life. •
- Include an important trait or talent for each person. •

Talk:

- Choose one of the heroes from your list. •
- Practice talking about your hero in an exaggerated way. •
- Need help? Look at the example below. Notice how each sentence about Paul Bunyan is a bigger exaggeration! Can you do the same with your hero?
 - 1st try: Paul Bunyan is so strong he can cut down a forest by himself.
 - 2nd try: Paul Bunyan is so strong he can clear a forest with one swing of his axe.
 - 3rd try: Paul Bunyan is so strong he can clear a whole forest with one swing of his axe, or sometimes with just a sneeze!

Day 1 **Everyday Heroes Handout**

STEP 1: List the names of a person you admire in your family, local community, or the larger world. Write an important trait for each person.

Person	Trait or Talent

STEP 2: Now choose 1 of the 3 people and tell their story out loud using this sentence frame. No need to write yet – this is a thinking exercise!



(Name) is so (describe trait or talent), they (exaggeration)!

- Now try that sentence frame, exaggerating the trait or talent to make it more unbelievable!
- Now try that sentence frame one more time, getting even wilder and harder to believe!

STEP 3: Write your final sentence here:

_____ is so _____

(name)

(describe trait or talent)

they _____

(exaggeration)

Day 2 (Activity 2): Imagining Your Hero (15-20 min)		
This week we're thinking about the question: "How can we celebrate our everyday heroes?"	Your challenge this week: Create a "Tall-Tale Trading Card" that describes the special traits and talents of your personal hero.	
 Today you will: Investigate what makes a story into a tall tale Explore the story of John Henry Create a "Trading Card Plan" 	You will need: Paper or notebook Writing tool "Trading Card Plan" handout (optional)	

Let's Get Started!

A. THINK

Some tall tales are about real people who did amazing things. Just not as amazing as the tall tales make them seem!

Read below to learn about real people who become tall-tale characters!



B. EXPLORE

"Calamity Jane" Real name: Martha Jane Canary Lived 1852-1903 Fact: Martha Jane Canary worked as a Pony Express rider, carrying mail by horseback over 50 miles of rough terrain and across rivers. She was known for being tough and fearless, as well as good at horse racing. Exaggeration: Calamity Jane was so good at roping cattle that she could knock a fly off a cow's ear with a 16-foot whiplash. "Johnny Appleseed" Name: John Chapman Lived 1774 – 1845 Fact: John Chapman was a religious man and a businessman who planted nurseries of apple trees on the western frontier. He was known for his wilderness skills and his love of sleeping outdoors. Exaggeration: Johnny Appleseed walked across the wilderness of the United States, wearing no shoes, a burlap sack, and a tin pot hat, scattering apple seeds in the wind. "Davy Crockett" Name: David Crockett Lived 1786 – 1836 Fact: David Crockett was a politician and soldier who died at the famous Battle of the Alamo in Texas. He was known as a very skilled frontiersman and hunter. Exaggeration: Davy Crockett killed a bear when he was three years old.



Student Name: ____

Let's dig deeper into a tall tale based on a real person named John Henry. He helped to build the railroads in the mid-1800s.

To build the railroads, people needed to dig tunnels and create paths through mountains.

Look at this picture of people standing in front of a railroad tunnel they helped to dig.

- If they didn't have big machines to help them, how do you think they could dig these tunnels?
- What kind of special traits or talents would help someone do this work?

This picture shows a statue of John Henry.

- How would you describe how John is represented in the statue?
- Why do you think someone like John would be a hero to railroad workers?



John Henry worked on the railroads as a steel driver. To dig tunnels, steel drivers like John would swing their hammers as hard as they could to pound a drill into rock. Then, those holes would be filled with dynamite and the rock would be blasted away.

The companies that built the railroads needed steel drivers to work hard and fast. These companies were racing each other to build railroad systems across the United States. Thousands of people worked on building the railroads. It was very hard and dangerous work, and workers did not get paid very much for doing it.

In 1870, railroad workers began to dig the Great Bend Tunnel in the area now known as West Virginia. While digging the tunnel, John Henry competed against the steam drill and won!

If you were making a "Tall Tale Trading Card" for John Henry, what would it look like? How would you fill in these blanks?



Student Name: __

School Name:

Teacher Name:__

- Name:
- Trait or Talent:
- Tool:
- Setting:
- Known For:

OPTIONAL: Watch this short video that tells the story of John Henry's race against a machine called a steam drill. (<u>https://vimeo.com/114170305</u>) As you watch, ask yourself: Why do you think John Henry became a symbol for African-American railroad workers?

If you are unable to watch the video: This tall tale makes John Henry seem superhuman in strength, skill, and size. All of these traits were important for steel drivers living and competing against the increasing use of machines to build railroad systems. Isn't it amazing that people still tell John Henry's story today?

C. DO

Your challenge this week: Create a "Tall-Tale Trading Card" that describes the special talents and traits of a real-life hero. Today, you will choose one of your everyday heroes and make a "Trading Card Plan."

Think back to the list you made of three people you think are heroes. Do you remember choosing one of those heroes and making up exaggerations about them?

The plan you create today will show that hero's important trait or talent in an exaggerated way.

Goals: Your"Trading Card Plan" should show:

- a real person who is a hero in your eye
- a special trait or talent that has been exaggerated
- words and pictures showing the person's actions in an exaggerated way

Now it's time to create your "Trading Card Plan." Make sure to include:

- Hero Name:
- Trait or Talent:
- Tool:
- Setting:
- Known For: (Hint: This is your exaggeration!)
- Sketch:

Write it out on a piece of paper or use the "Trading Card Plan" handout.

Remember to save your "Trading Card Plan" so you can use it when you make your "Tall-Tale Trading Card."



DAY 2

Trading Card Plan Handout

Name: Paul Bunyan	Name:
Tool: Axe	Trait or Talent:
Setting: Forest Known for: (Hint: This is your exaggeration!)	Tool:
Paul Bunyan is so strong he can clear a whole forest with one swing of his axe, or sometimes with just a sneeze!	Known for: (Hint: This is your exaggeration!)
Sketch:	Sketch:



Day 3 (Activity 3): Evaluating the Work (15-20 min)	
This week we're thinking about the question: "How can we celebrate our everyday heroes?"	Your challenge this week: Create a "Tall-Tale Trading Card" that describes the special traits and talents of your personal hero.
 Today you will: Reflect on your progress Make a plan to improve your work 	 You will need: Your work from previous activities Paper or notebook Writing tool

Let's Get Started!

A. THINK

You've already created your "Trading Card Plan" describing your hero in words and pictures! When someone sees your plan, they should learn about:

- A real person who is a hero to you
- Your hero's special trait or talent (exaggerated by you!)
- Details that reflect time and place

B. EXPLORE

Name: DrActon and Govenor Device Trait or Talent: frotecting Ohio Smort Tool: Salence Setting: Ohio 2020 Known For: (Hint: This is your exaggeration/unbelievable feat.) Protecting Ohio Sketch it: State	 Look at this student's "Tall-Tale Trading Card." Does this work seem to show a real person? Does this work seem to show a special trait or talent that has been exaggerated? Do words and pictures show the person's actions in an exaggerated way? Are there details that reflect time and place?
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C. DO

Your challenge this week: Create a "Tall-Tale Trading Card" that describes the special traits and talents of your personal hero.

Today, you will explore your "Trading Card Plan" to check if you are meeting your goal.

- 1. Pencils down! This is a thinking exercise!
- 2. Look at your work and ask:
 - What part shows who my hero is?
 - What parts show my hero's trait or talent?
 - What parts show that I've exaggerated my hero's trait or talent
- 3. Wait, still don't touch your work! First, make a **work plan**! Complete one of these sentences:
 - I will add...
 - I will try...
 - I will adjust...

Be sure to save your "Trading Card Plan" so you can use it to create your "Tall-Tale Trading Card."



Day 4 (Activity 4): Finalizing the Work (15-20 min)		
This week we're thinking about the question: "How can we celebrate our everyday heroes?"	Your challenge this week: Create a "Tall-Tale Trading Card" that describes the special traits and talents of your personal hero.	
Today you will: • Finish creating your "Tall-Tale Trading Card"	 You will need: Your work from previous activities Writing tool A sheet of paper or large index card. "Tall Tale Trading Card Template" handout, (optional) Coloring materials (optional) 	

Let's Get Started!

A. THINK

It's time to take steps to finalize your work based on your work plan. Remember your work plan? That's when you said:

- I will add...
- I will try...
- I will adjust...

Decide or discuss: What will you do next to finalize your work?

B. EXPLORE

Check out a "Tall-Tale Trading Card" created by another student.

- What changes did this student make to their work?
- How do these changes help you understand more about their tall-tale character?

Card Plan Name: DrActon and Govenor Rewire Trait or Talent: Protecting Ohio Smort Tool: Science Setting: Ohio 2020	
Protecting Ohio	First Draft
Sketch it: Sketch it:	



Student Name: _	School Name:	Teacher Name:
	NAME: Dr. Acton and GOVERMOT DEWINE Stathome. Flatter the curve.	Final Draft
	TRAIT OF TALENT: Smart Leader TOOL: <u>Science</u> SETTING: <u>Oh</u> ; 0 2020 KNOWN FOR: <u>Protecting</u> Ohio	

C. DO

Today, you will work to finish your "Tall-Tale Trading Card."

- Get out a new sheet of paper or large index card. You could also use the "Tall Tale Trading Card Template" handout.
- Get out your "Trading Card Plan" and any other materials from previous activities.
- Think about your work plan.
- Get to work making your final draft!



Day 4 Trading Card Template



Day 5 (Activity 5): Reflecting and Sharing (15-20 min)		
This week we're thinking about the question: "How can we celebrate our everyday heroes?"	Your challenge this week: Create a "Tall-Tale Trading Card" that describes the special traits and talents of your personal hero.	
 Today you will: Think about how your "Tall-Tale Trading Card" turns a real-life person into a larger-than-life character Find a way to share your final work 	You will need: • Your finished "Tall Tale Trading Card" • "Sharing" handout (optional)	

Let's Get Started!

A. THINK

Ordinary people became heroes of tall tales in the past. Just imagine: your hero might inspire a tall tale in the future!

B. EXPLORE

Look at your finished "Tall-Tale Trading Card."

Think about or discuss:

- How would you explain the choices you made in designing your trading card to someone else?
- Why is it important to celebrate our everyday heroes?
- What do you hope people will understand about your hero by looking at your trading card?

C. DO

Now that you've completed your "Tall-Tale Trading Card," it's time to share your work with others! Here are some ideas for connecting with others:

- Share with a family member and...
 - Help them to create their own.
 - Ask them if they have comments, questions, or a connection to your work (or use the "Sharing" handout to get a written response).
- Ask an adult to help you share your work online with the hashtag #inquiredtogether.
- Send your "Tall-Tale Trading Card" to the person you represented.
- Hang your "Tall-Tale Trading Card" in the window.
- Keep your "Tall-Tale Trading Card" somewhere safe as a historical record that you and others can look back on later.



DAY 5

Sharing Handout

Please take a look at my work and fill this out.

Thank you!

I have a... (circle one)





Cross Content Connection:

By examining tall tales and characters used in history, from Paul Bunyan to Johnny Appleseed, and by developing your own character, you are using many social science skills, but also so much more! There are so many connections to language arts, math and science that you can continue to explore. Here a few ways to extend your learning and make connections to other subjects.

Math: Create word problems for younger students to use that INCLUDE your heroes in everyday life! Help the younger students practice their math facts by designing a few questions that include the use of your heroes and others.

Science: Research the area of the world that your hero lives in (or lived in). Describe the climate and physical features of that area. How might those things impact your hero? What plants and animals live in that area? Create trading cards for plants and animals in that area, highlighting their unique traits.

