NAME: _____

Grades K–1

Earth Week

Day 1: Biology Researcher

Dr. Emily is a scientist who studies animals and people.

Dr. Emily sees ways to keep animals and people healthy. Then she works to find the things people and animals need to live and grow.

What do people and animals need to live?

Amplify.

NAME: _____

Grades 2–5

Earth Week

Day 1: Biology Researcher

Dr. Emily is a scientist who studies animals and people. Dr. Emily first started out as a veterinarian, where many of her animal patients had common human diseases. Then, Dr. Emily went back to school and specialized in **pathology**, the study of the causes, nature, and results of disease.

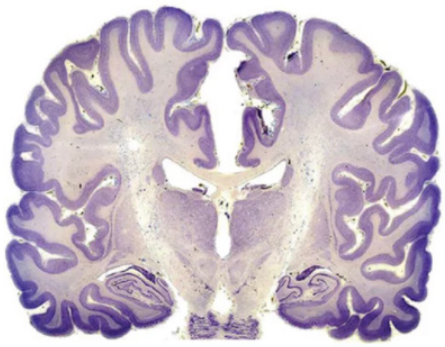
Dr. Emily looks at diseases between **species**, like how diabetes is different in cats, dogs, and humans. Then she works to find an explanation for those differences.

In her lab, Dr. Emily figured out what causes strange brain development in cats. This can help Dr. Emily see how to keep people healthy.

Directions

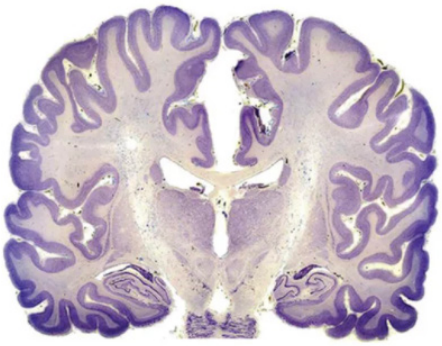
- With a partner, observe the examples of human and cat brains.
- Then, list the similarities and differences you observe between the traits of cats and human brains on the next page.

Humans



Cats

Humans



Cats

Similarities

Differences

Amplify.

NAME: _____

Grades 6–8

Earth Week

Day 1: Biology Researcher

Organisms in the same **species** have different **traits**, but what happens when *different* species share traits? Dr. Emily is a veterinary pathologist researching humans and animals to try and find cures for rare diseases.

Dr. Emily first started out as a veterinarian, where many of her patients have common human diseases. Dr. Emily noticed that animals didn't respond to medicine the same ways as humans, and she wanted to understand why. Then, Dr. Emily went back to school and specialized in **pathology**, the scientific study of the causes, nature, and results of bodily disease.

Most commonly, Dr. Emily makes observations about diseases between species, like how diabetes is different in cats, dogs, and humans. Then she works to find an explanation for those differences.

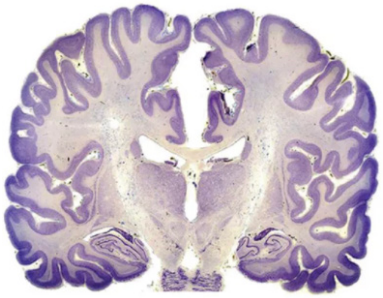
In her lab, Dr. Emily worked to discover a **genetic variant** (mutation) that causes abnormal brain development in cats. This is important as there are many diseases in people that are caused by abnormal brain development and this new variant may help us better understand how our brain develops and ages.

Dr. Emily looks at all animals on the planet and asks what makes us different and what makes us the same from the perspective of how our body responds to the challenges of pathology. Dr. Emily teaches us to always pay attention to the animals and plants around us. We all share more than our planet, we share life experiences in health and disease. We all are at risk for developing diseases and our environment and our genetics affect how we respond to those diseases. We are more similar than we may think, and we should care for the living beings around us.

Directions

- With a partner, observe the examples of human and cat brains.
- Then, list the similarities and differences you observe between the traits of cats and human brains below.

Humans



Cats

Similarities

Differences

What does Dr. Emily teach us about the planet?

Amplify.

NAME: _____

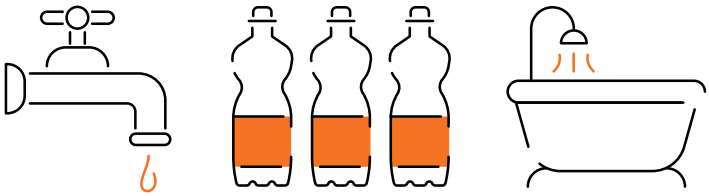
Grades K–1

Earth Week

Day 2: Civil Engineer

People need clean water to live. Mr. Craft builds tools that turn dirty water into clean water so we can have it to drink, shower, and use in our everyday lives.

We can support our **planet** and help people like Mr. Craft by making sure we never waste our water.



How can you help Mr. Craft and the planet save water? Draw or write your thinking.

Amplify.

NAME: _____

Grades 2–5

Earth Week

Day 2: Civil Engineer

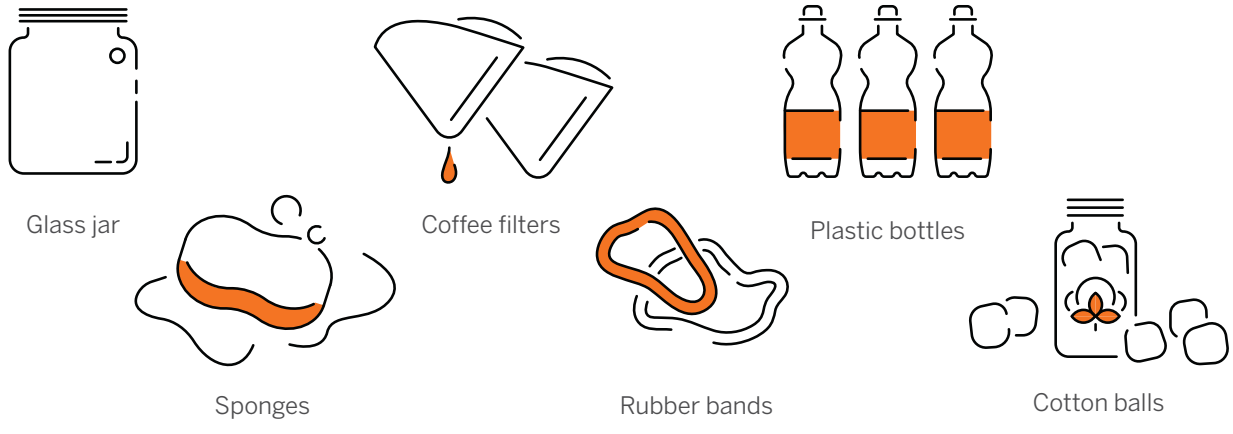
We all use clean water every day. We need help from scientists to make sure our water is safe. One person helping us get clean water is Mr. Craft, a **civil engineer**.

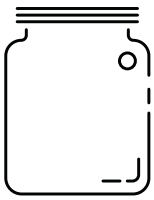
A civil engineer is someone who designs roads, buildings, airports, tunnels, dams, bridges, and water systems. Mr. Craft works on projects for one of the largest wastewater treatment plants in the world. He says, "Being an engineer is a very cool and exciting career. Each day is different and the work that I do allows me to use my imagination and be creative to solve problems that help people."

One main way we all get clean water is through the process of **filtration**, when particles are removed from a material. Mr. Craft designs, tests, and builds ways to filter water for everyone in his community.

Engineers work very hard to make sure that people have clean water to use. Make sure not to waste your water!

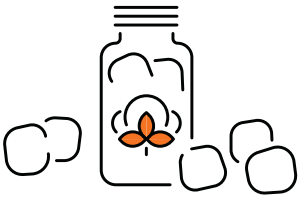
You can actually build your own filtration system! Check out materials you can use to design your own water filtration system:



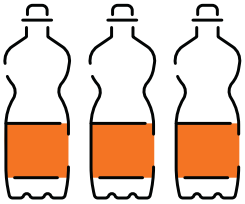


Glass jar

Coffee filters



Cotton balls



Plastic bottles

Sponges

Rubber bands

Design your own water filtration system with these tools.

Amplify.

NAME: _____

Grades 6–8

Earth Week

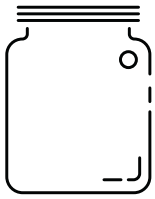
Day 2: Civil Engineer

Water is a necessity for all of us living on this planet. Sometimes, we need help from engineers to make sure our water is clean and safe.

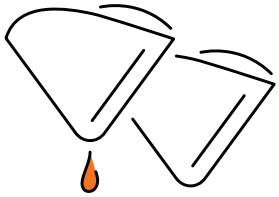
Mr. Craft is a **civil engineer** or someone who designs and manages the construction of roads, buildings, airports, tunnels, dams, bridges, and water systems. Mr. Craft works on projects for one of the largest wastewater treatment plants in the world.

One main way we all get clean water is through the process of **filtration** when particles are removed from a material. Mr. Craft designs, tests, and builds ways to filter water for everyone in his community.

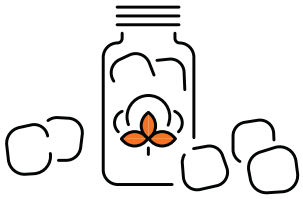
You can actually build your own filtration system! Check out materials you can use to design your own water filtration system:



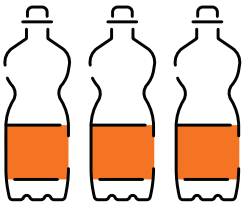
Glass jar



Coffee filters



Cotton balls



Plastic bottles

Sponges

Rubber bands

Directions

Water is a very important resource. When using water for anything, always remember that there is a process and that engineers work very hard to make sure that people have clean water to use. Make sure not to waste your water!

1. Design a way to filter dirty water into clean drinking water. How would you test your design?

2. What are some ways you think you can limit the amount of water you waste in your classroom? How would you convince your classmates to help?

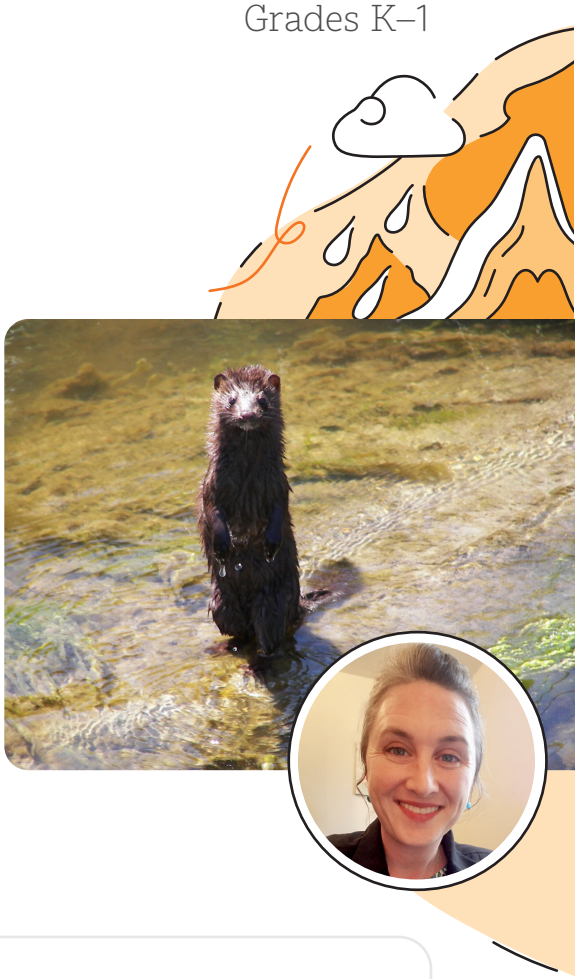
Amplify.

NAME: _____

Grades K–1

Earth Week

Day 3: Ecologist



Margaret works to help protect animal **habitats.**

Habitat: a place where an animal or plant lives and grows

Margaret studied **minks** in one river to help learn more about their habitat.

Minks eat fish and birds. Think about what a mink's habitat might look like.

Draw the habitat of a mink:

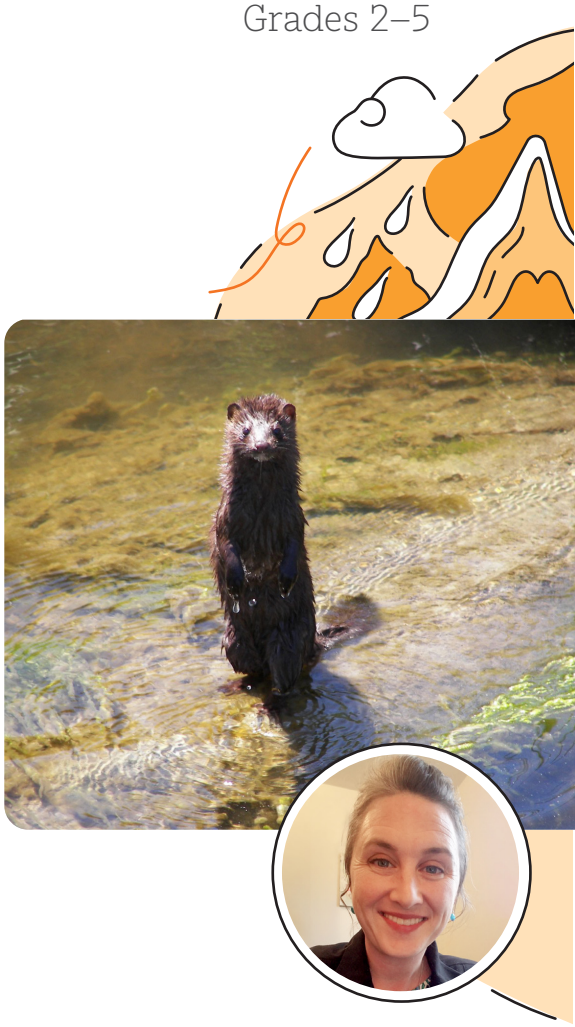
Amplify.

NAME: _____

Grades 2–5

Earth Week

Day 3: Ecologist



Margaret is a scientist who studies what **organisms** need to survive.

- **Organism:** a living thing, such as a plant or animal
- **Survive:** stay alive

Margaret learned about an animal called a **mink**. She figured out what minks need to help them survive. She helps protect the mink **environment**.

Organism: Mink

Needs	Has
• Food (mice, rabbits, fish, snakes, frogs) • Water • Avoid predators	• Webbed feet • Fur • Claws

Draw the environment a mink needs to survive:

Amplify.

NAME: _____

Grades 6–8

Earth Week

Day 3: Ecologist

Margaret is an **ecologist**, someone who studies the relationships between living things and their surroundings. Margaret looks at spills of harmful chemicals or oil and figures out whether those spills are going to harm animals or their habitats. When animal habitats are hurt by a spill, Margaret helps other scientists restore the animals' homes. This helps with **conservation** or protection from waste, loss, or destruction.

A few years ago, a truck turned over near a river that was home to thousands of freshwater mussels. Margaret led a program to restore the freshwater mussels' habitat. Scientists raised the mussels in a hatchery and released the animals into a river to help the population recover.

Margaret once helped study the mink population near two rivers after noticing that chemicals had been spilled into the rivers. They noticed that the population of mink was lower near the Hudson River than the Mohawk River. Since there were negative effects from the spilled oil, scientists had to help the mink population near the Hudson River.

There are so many ways to work in conservation. You can help in Margaret's work to protect animals and habitats by learning more about native plants near you. You can also plant a garden. The more habitats that we give animals to eat, grow, and live in, the better off they will be!

Directions

- With a partner, read and annotate the information above.
- Discuss and respond to the questions on the following page.

1. How could we increase the population of mink near the Hudson River?

2. What can you do in your community to support plants and animals?

Amplify.

NAME: _____

Grades K–1

Earth Week

Day 4: Animal Scientist

Kat is an **animal scientist** working with chickens.

She helps raise chickens safely for her local community.

Kat studies the plants to help them grow. Then, she works to make sure that the chickens have everything they need to be healthy and strong.

Draw what you think the plants and chickens at Kat's farm need to grow.

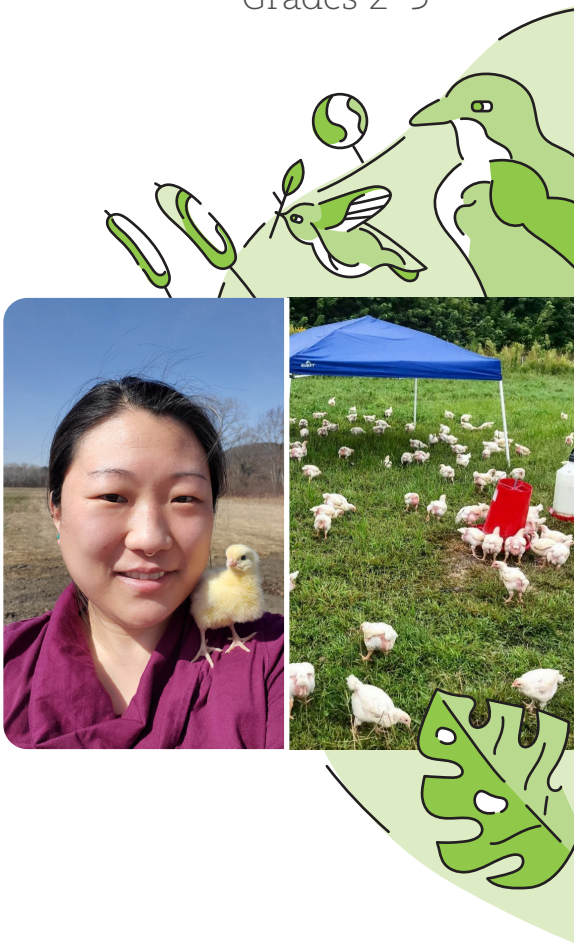
Amplify.

NAME: _____

Grades 2–5

Earth Week

Day 4: Animal Scientist



Kat is a scientist who studies animals and people. Kat first started out as a researcher, where she observed animals. Kat then decided to start her own local farm. Local farming helps her community have fresh food.

Kat observes the plants and animals on her farm to help them **survive**.

Instead of traveling a long distance to become food, Kat's chickens live a healthy life and are processed on the farm. This helps the planet by reducing our **carbon footprint**.

Kat makes sure to support her community through her work. She always makes sure to buy her groceries from local markets.

Directions

With a partner, discuss the questions below. Then write or draw your answers on the next page.

- *How can Kat help the plants and animals grow on her farm? What do the plants and animals need to survive?*
- *What things can you buy locally to help the planet?*

Amplify.

1. How can Kat help the plants and animals grow on her farm? What do the plants and animals need to survive?

2. What things can you buy locally to help the planet?

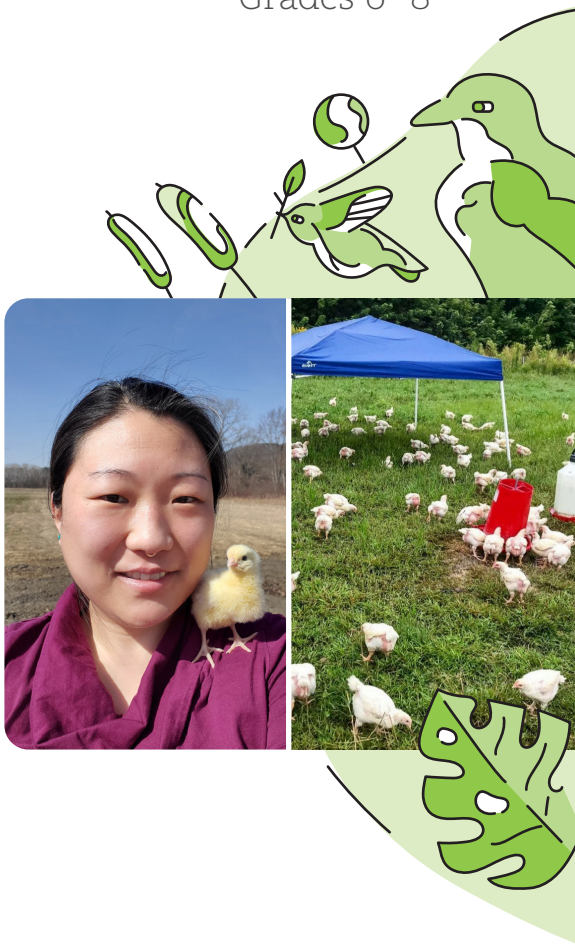
Amplify.

NAME: _____

Grades 6–8

Earth Week

Day 4: Animal Scientist



Food and resources come from so many places but are they good for the planet? Local farmers like Kat work to help reduce our **carbon footprint**.

Kat first started out as an animal researcher, where she studied what animals need to survive. Kat started raising her own chickens and noticed the food that her chickens needed to live and grow. Kat's local farm makes sure to use methods that help to maintain the chickens' health and build healthy soil.

Needs for Survival

Animal	What they need
Chicken	• Food (Seeds) • Water • Safety

Instead of traveling a long distance for processing to become food, Kat's chickens are processed at the farm. Similarly, other local farms bring chickens to Kat instead of traveling much longer distances to reduce their **carbon footprint**.

Your **carbon footprint** is the amount of carbon dioxide released into the air because of your own energy needs.

Kat's farm collaborates with The Food Bank of Western Massachusetts, which distributes their processed chicken to communities that may otherwise not have access to high-quality, local chicken and other foods.

You can learn more about where your food comes from and how it is raised and produced. Make sure to support your local farmers' markets, local farms, and local small businesses!

Directions

With a partner, discuss the following prompts:

- *Think about what you had for breakfast. Do you know where those foods came from?*
- *How do you think you could reduce your own **carbon footprint**?*

Record your responses to the prompts below:

1. Think about what you had for breakfast. Do you know where those foods came from?

2. How do you think you could reduce your own **carbon footprint**?

3. What does Kat teach us about the planet?

Amplify.

NAME: _____ Grades K–1

Earth Week

Day 5: Earth Day

Imagine that you are a scientist who studies plants, animals, and people. There is so much you can do to help the planet.

Draw something that shows how you can help protect the Earth around you.

Amplify.

NAME: _____ Grades 2–5

Earth Week

Day 5: Earth Day

You've learned from four scientists this week on ways they protect **organisms** (living things). There is so much you can do to help support the planet.

How can you help protect the planet? Draw or write your answer below.

Amplify.

NAME: _____ Grades 6–8

Earth Week

Day 5: Earth Day

It's Earth Day! You've learned from four scientists that invest in the planet every day.

There are so many ways you can help protect the planet. Explain ways you can support the plants, animals, and people in your community below.

Amplify.