Exploring God’s World with First Grade Science

Course Outline

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Weeks Three–Four: Common Plants
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Weeks Nine–Ten: Beginning Classification of Living Things
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Weeks Twenty-One–Twenty-Two: Weather
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SchoolhouseTeachers.com note: Parents should closely monitor children’s use of YouTube and Wikipedia if you navigate away from the videos and articles cited in these lessons. We also recommend viewing the videos on a full screen setting in order to minimize your students’ exposure to potentially offensive ads and inappropriate comments beside or beneath the video.

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Weeks One–Two: Observation of Familiar Things

Did you know that you are already a scientist? You see what is going on around you and make educated guesses about what is going on. You see something, are curious about it, and begin asking questions about it. Scientists do much the same thing. Scientists observe the world by doing six basic things. They observe the world, they measure what they observe, they classify the information they gathered, they infer (conclude from the information) and predict (say something will happen in the future), and they communicate what they have learned.


We use our senses to observe the world. This is how scientists qualitatively observe the world to answer the question what is it like? Some qualitative observations would include descriptions of what an object looks like, what color it is, or whether it is smooth or rough. They use thinking tools, including looking more closely, drawing pictures, writing descriptions, and talking to other scientists. Scientists can observe more closely by using tools like a magnifying glass or a telescope.

Another way scientists observe the world is through quantitative observation. This is when scientists use physical tools to measure what they are observing. It answers the question how much? Some tools you can use to quantitatively observe the world include a ruler to measure size, a scale to measure weight, measuring cups to measure volume, and a stopwatch to measure time.

When making observations, it is important to be careful, accurate, and detailed. This is part of gathering information, or what scientists call data. Scientists use the data they have gathered to investigate a question they would like to answer. This is where your detailed descriptions and
drawings play an important role. This also helps you communicate what you have learned to other people later on.

Simply gathering information is not enough. You need to be able to make sense of that information. Some ways to help make sense about what you observed is to compare what you are observing to other things to see how alike or different they are. This will help you classify the information you are gathering by sorting it into groups of similar things to see how these things might fit together. Scientists like to classify information to help them make better sense of the world around them.

After you have made careful observations, you are ready to make an **inference**. An inference is making an educated guess about what may be going on based on what you have observed. Once you are able to make an educated guess or inference about what is going on based on what you observe, see if you can guess what may happen in the future in a similar situation. This is called a **prediction**. SPOILER ALERT! Inferences and predictions are different from a **hypothesis**, which is making an educated guess about why something happens. You will learn more about this later.

We live in an awesomely designed world. You can find answers to questions and solutions to problems when you look carefully at the world around you.
Parents’ Page: Lesson Activities, Worksheets, and Answer Page

1. Fill in the blanks for the Science Thinking Processes worksheet. Answers: observe, measure, communicate, classify, inference, prediction. Then sharpen your powers of observation. In the “Spot the Difference” worksheet, the globe is different, tiger replaced by lion, dinosaurs have traded places, blocks that duck is on are different, Lego® colors reversed and have been moved over to the side a bit. Or go to: http://www.activityvillage.co.uk/find-the-difference.

2. Zoom in for a closer look. Read Zoom and Re-Zoom by Hungarian American author Istvan Banyai. Can’t get out to the library? You can also view Zoom and Re-zoom on YouTube®.

   Zoom https://www.youtube.com/watch?v=JMhUujrN4iU or https://www.youtube.com/watch?v=lhYblhdhQ1M.

   Re-Zoom https://www.youtube.com/watch?v=Ro41QYcC3Go.

   Then use the worksheet to first sketch an object and then zoom in with a magnifying glass or use a cell phone camera and zoom in to look more closely and draw what you see.


4. Practice written descriptions with science poetry. Poetry is a great way to practice using descriptive language for careful observations. There is also a long history of scientists writing poetry about their observations. View the YouTube video of a performance of Joyful Noise: Poems for Two Voices by Paul Fleischman, winner of the 1989 Newbery Award.

   https://www.youtube.com/watch?v=pGDo8ebZKwU

   If you have time, look at other science poetry books from the library. See the lesson extensions page for some suggestions. Then try writing your own science poem. Start simple with either an acrostic or a diamante style poem. There is a worksheet provided to assist with writing a diamante type poem.
5. Classify it! Gather a tray full of items. Make comparisons and contrast/sort everyday things into different groups such as color, construction materials, or purpose.

Activities: Lesson Extensions

1. Carefully observing the world is how Velcro® was invented! A man named George de Mestral went out for a hike, and some burrs were stuck on his pants. The idea occurred to him that if he looked more closely at how the burrs stuck so well to his pants, he could use this information to invent a fastener that might be an alternative to using a zipper or buttons. Read about how Velcro® was invented here: http://inventors.about.com/library/weekly/aa091297.htm

2. Using our observations in nature to solve problems is called biomimicry. Find out more about biomimicry here: https://answersingenesis.org/kids/science/biomimicry/.

3. Did you know that squirrels could be right-handed or left-handed? Use your power of observation to see which squirrels in your neighborhood are left-handed or right-handed.

4. Create your own photo scavenger hunt to sharpen your powers of observation.

5. Start your own field notebook for making sketches and written descriptions of what you observe.

6. Make your own Zoom-like photo essay.

7. Sharpen your observation skills by listening to different kinds of music, comparing fast and slow rhythm, high and low pitch, etc.

8. Read more science poetry! Here are some suggestions for titles at the library (use your discretion; not every book has been reviewed, and there may be a mention of millions of years):

   *When Riddle Come Rumbling: Poems to Ponder*, by Rebecca Kai Dotlich
   https://amzn.to/3cbbI48
   *Comets, Stars, the Moon, and Mars*, by Douglas Florian: https://amzn.to/3d6pnuv
   *Mathematicles!*, by Betsy Franco: https://amzn.to/3egUu6w
   *Earthshake: Poems from the Ground Up*, by Lisa Peter Westberg: https://amzn.to/3d6zteG

9. Practice your measuring skills with a ruler, scale, measuring cups, thermometer, etc.

10. Extension for older kids or family project: make a cell phone camera microscope.

B. http://makezine.com/projects/smartphone-microscope/

C. http://www.popularmechanics.com/technology/how-to/a8132/turn-your-tablet-into-a-microscope-13406873/
Science Thinking Processes

Scientists explore the world using six basic skills. Use the words in the word bank below to fill in the blanks.

1. They __________ the world by looking and sometimes looking more closely with tools in order to answer the question *what is it like?*

2. They __________ what they observe with tools to answer the question *how much?*

3. They ___________ drawings and write detailed descriptions to record data and to ___________ their findings with other people.

4. Scientists like to __________ information to help them look at how things are alike or different and how things fit together. This helps them make better sense of the world around them.

5. An __________ is making an educated guess about what may be going on based on what you have observed.

6. Once you are able to make an educated guess or inference about what is going on based on what you observe, see if you can guess what may happen in the future in a similar situation. This is called a __________.

Word Bank

- classify
- communicate
- inference
- measure
- observe
- prediction
Spot the Difference
Observe and then zoom in for a closer look.
Science Poetry
Diamante Style Poem

_________________________
Noun

_________________________
Adjective, Adjective

_________________________
Verb, Verb, Verb

_________________________
Noun, Noun, Noun, Noun

_________________________
Verb, Verb, Verb

_________________________
Adjective, Adjective

_________________________
Noun
Look at the following pictures. What do you see? Write that in the observation space. Based on what you see, what do you think is going on? Write that in the inference space.

<table>
<thead>
<tr>
<th>Observation: What do you see?</th>
<th>Inference: What do you think is going on?</th>
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<tbody>
<tr>
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<td><img src="image4.png" alt="Painting 4" /></td>
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**Weeks Three-Four: Common Plants**

Most common houseplants we know and grow are popular for two basic reasons. One, they’re attractive, and two, they’re easy to grow. Did you know that there are about 800 different kinds of houseplants? Not only do they make a house look pretty, but they help make the environment around them clean. Indoor plants are able to purify the air from toxins in our homes that come from things like our carpets or walls that we can’t see just by looking at them.

Fortunately, common houseplants come in a huge range of sizes, shapes, and textures. Here are just a few of them: Boston Fern, Peace Lily, Weeping Fig, Heartleaf Philodendron, Dragon Tree, Jade Plant, Cactus, Ponytail Palm, Mother-in-Law’s Tongue or Snake Plant, Devil’s Ivy, ZZ Plant, Spider Plant or Airplane Plant, and Wandering Jew.

A big thing to know about plants is that they need light for photosynthesis. Most plants prefer moderate to bright light. If you don’t have space near a window, you can buy indoor grow lights that work wonderfully.

So you probably want to know what photosynthesis (fōdō-sin-thuh-sis) is. Photosynthesis is the process by which plants take carbon dioxide and water, along with the energy from the light of the sun, to make their own food. Did you know that plants make their own food? All we have to do is put them in the sun and give them water every so often.

What do you do when you’re thirsty? You go get a drink, right? Well, plants drink water through their roots. They also absorb carbon dioxide from the air. When they have enough sunlight, the plants then turn the water and carbon dioxide into oxygen and glucose, which is sugar. They use the glucose as a source of energy to grow, just like we need food to grow, and they give us the oxygen we need to breathe!

Isn’t it amazing how God thought to do that for us? What would we do if God hadn’t done that? Genesis 1:11-13, (KJV) says,

> “And God said, Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself, upon the earth: and it was so. And the earth brought forth grass, and herb yielding seed after his kind, and the tree yielding fruit, whose seed was in itself, after his kind: and God saw that it was good. And the evening and the morning were the third day.”

What an awesome way to provide us with not only air we need to breathe, but the food we need to eat as well!
Activities:


2. Grow a plant from a seed with this activity on www.scholastic.com: From Seed to Plant Extension Activity.
Let’s talk some more about photosynthesis. It sounds like a big word, doesn’t it? You can divide it into two parts: *photo* is the Greek word for “light,” and *synthesis* is the Greek word for “putting together.” So, photosynthesis is using light to put things together. You may have noticed that people and animals need to eat food. Well, plants don’t. They can make their own food if they have three things. Can you guess what those three things are? They are carbon dioxide + water + light = sugar + oxygen. A perfect combination!

Plants breathe, kind of like we do. Did you realize that? We breathe through our mouths and noses. Plants have little mouths that we can’t see, unless we use a microscope. We breathe in oxygen. Plants breathe in carbon dioxide. They have to drink water like we do, or they will die.

You might be wondering what role the leaves play. They are made up of many different kinds of cells, including chloroplasts. Chloroplasts are what make the leaves green. Photosynthesis happens inside the chloroplasts.

Knowing that plants use carbon dioxide gas, which is all around us, to make the oxygen we need to breathe, we can see the importance of having more plants and trees in order to produce more oxygen.

Do you know how a plant grows? Many plants begin as a seed. From these seeds, roots grow. As the roots grow into a stem, just like a straw we would drink out of, leaves begin to grow from each stem. Plants often grow flowers; sometimes these flowers fall off and fruits or vegetables grow in their place.

Now, do you know what the parts of a flower are? The part of the stem nearest the flower is called the peduncle. Moving up, the parts of the flower are attached to the receptacle. The next section is the sepal, the leaf-like outer parts of the flower. The beautifully colored and pleasant-smelling parts are the petals. You probably already knew that, though. Now, in the center of the flower is the pistil. At the bottom of the pistil is the ovary. Out of the ovary springs forth the ovule, which travels up the style to the stigma. Flowers also have a stamen which includes the anther and the filament. Pollen, the yellow stuff that coats our cars and outdoor furniture in springtime, is produced in the anther. The filament works as a stalk to support the anther.
Activities:


2. Print the diagram and label the parts of a flower:
Weeks Five-Six: Common Animals

We are going to learn about common animals. You might see some of these animals all the time; you might even live with them! We will discuss their common names, scientific names, habitats, food, and characteristics to help you identify them.

The common name is the general name we use when we talk about them. The scientific name is a system that scientists use to organize life forms (living things) based on their biological relationships. Scientific names are written in Latin. The habitat is the natural home or environment the animal lives in. Knowing this helps us find them. Food is what they eat, and characteristics are identifying marks such as how many legs they have or fur color that help us to know what animal we are looking at.

Before you begin the lessons, here are some supplies you might want to gather:

- pencils (sharpened or a sharpener as well)
- erasers
- coloring materials of your choice: markers, crayons, or colored pencils
- paper to draw on
- paper to write on
- scissors or have a parent-helper cut out things for you
- a binder or folder for the fact sheets you will create

When we go outside, we might not notice all the animals around us because we are busy doing other things. However, if you watch, listen, and pay attention, you might be surprised by how many animals are around. Animals are like people in that they have their favorite foods and favorite places to sleep, and they have likes and dislikes just like you. When you go outside, you won’t find a dog in a tree or a bird underground, would you? No! That would be silly. You might need to be very quiet to see some animals, and other animals like people so much they don’t mind the noise. Can you think of any animals you need to be quiet to see? How about an animal that likes noise?

For today, think about how many animals are in your neighborhood and what you might already know about them. Can you make a list? You can even print out the next page and draw them if you like! Don’t forget to put it somewhere safe, like your binder or folder. At the end of each lesson is a fact sheet you can fill out and add to the binder or folder. At the end of the lessons, you will have created your very own mini-book on the common animals we talk about!

Are you excited? I know I am! In lesson one we are going to learn about a furry friend that is super cute!
My Common Animals

In the space above, draw common animals you have seen.
Common Animals

Dog

Today we are going to talk about dogs. Dogs are one of the most popular animals in the world. The common name is **domestic dog**. That means we are not talking about a wild dog, such as a wolf. The scientific name is **Canis lupus familiaris**.

The habitat of a dog can be varied. Most dogs live with their owners in houses, apartments, or sometimes on farms. Dogs are carnivores, which means they eat meat. Although they can eat what we eat, you need to be careful as some food humans eat can make dogs very sick, such as chocolate. We like it, but it has a chemical that is harmful to dogs. Always check with an adult before feeding a dog.

Dogs come in all kinds of shapes, sizes and colors. There are hundreds of different breeds of dogs in the world. Maybe you even have one in your home or know someone who does?

This is Max, he is a Miniature Schnauzer. That means he is the smallest of his breed. Max has hair that does not shed. This is a **character trait** of this type of terrier. He has four short legs that allow him to jump very high and run very fast. Do you see his eyes? They have long hair over top of them; this is to keep dirt out of his eyes when he is running in tunnels underground.

Max, like most dogs, needs exercise. He loves to run and chase a ball. He needs to be walked everyday and given food twice a day and a lot of water. Max also loves to sleep, and he snores loudly. Do you snore?

Each dog has its own personality, just like you. Some are very energetic, and some are calmer. Most dogs are loyal and love the people who look after them so much that a common phrase you might read is: Dog is man’s best friend.

**Did you know?** You should never pat a dog unless the owner says it is all right. Some dogs are nervous or scared of strangers, and this causes them to bite people they don’t know. That is the only way they know to communicate with you. So never reach out and pat a dog you don’t know.

**Quick dog facts:**

- Dogs have two sets of teeth: 28 baby teeth that fall out around four to six months which are replaced by 42 adult teeth.
• Dogs have soft pads on the bottoms of their feet. This allows them to run quietly and quickly.
• Dogs live, on average, ten to thirteen years, when healthy.
• Dogs sleep, on average, ten hours a day.

Activities:

1. Using what you have observed from watching dogs and the information above, fill out the worksheet on the following page and add it to yesterday’s sheet.

2. Read some dog jokes and riddles: http://www.enchantedlearning.com/jokes/animals/dog.shtml


5. Here are some books about dogs: http://barkpost.com/15-childrens-books-dog-lovers-should-read-and-reread/
## Common Animals

### Dog

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My drawing of a dog:
Let's talk about cats! The common house cat is almost as popular as the dog. In fact, you may hear people ask, “Are you a dog person or a cat person?” They are asking which animal you prefer to have as a pet. Do you have a cat? Perhaps you know someone who does. Many people own cats today.

The common name is **domestic cat**. That means we are not talking about big cats of the world like a tiger or lion. The scientific name is *Felis catus*.

The **habitat** of a cat can be varied. Most cats live with their owners in houses, apartments, or sometimes on farms. Some cats are house cats, and some are outdoor cats. House cats only live inside a house. They eat, sleep, play, and use the bathroom inside. Indoor cats or house cats are trained to pee and poop in a kitty litter box. This is a special box just for cats, and it needs to be cleaned often. You never want to play in this box.

Outdoor cats sleep, eat, play, and use the bathroom outside the house. They usually have somewhere warm, dry, and safe to sleep like a barn or a house for nighttime.

Cats are carnivores, which means they eat meat. That is why cats love to hunt!

This is my cat Beans. Have you ever played with a kitten with some string? They love to chase and capture the string. They learn this from a young age so they can hunt their food if they are in the wild. They catch mice, birds, and other small animals for food.

Most cats love fish. Tuna that comes in a can makes a nice treat. However, they need special food just for them that you buy at a pet store. It is called cat food. It comes wet or dry.

Most people think cats can drink cow’s milk, but actually most cats are lactose intolerant, which means it makes them not feel good when they drink milk. So make sure you ask the owner before you feed a cat.

Most cats love to play. Mine really like a laser pointer, which has a beam of light I can shine on the floor. They chase it and try to catch it. Also, a string with a large button tied on tight becomes a lot of fun. Play is important for kittens and adult cats, as it gives them exercise and makes them think hard. Thinking hard is important for cats, just like it is for you!
Cats come in many different colors. Some have short hair, and some have very long hair. Some are solid in color, some have stripes, some even have patches or spotted-looking fur. One cat has no fur at all! This cat is called a Sphynx cat. It is pictured below.

(picture from Pixabay.com)

**Did you know?** Cats have their own personality just like you do. Some are loving and kind and enjoy being around children. Some do not. So please be careful, and again, always ask before you pet a cat!

**Quick cat facts:**

- Cats sleep, on average, sixteen to eighteen hours a day.
- A male cat is called “Tom,” and a female is called “Queen.”
- Cats live, on average, fifteen years old, when healthy.
- Cats can jump seven times higher than their height.

**Activities:**

1. Using what you have observed from watching cats and the information above, fill out the worksheet and add it to yesterday’s sheet.


**Sources:**

# Common Animals

## Cat

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My drawing of a cat:
Common Animals

Chipmunk

Let’s learn about chipmunks! The common name is chipmunk. The scientific name is *Tamias striatus*.

Chipmunks are easily confused with a squirrel. However, you can tell the difference by looking at the back—a chipmunk has a stripe down its back. This would be an identifying characteristic of the chipmunk.

Can you spot his stripes? We had a hard time getting this photo on our last camping trip because chipmunks are super fast! So I am sorry if it is a little blurry. However, you can find many pictures online, if you ask an adult to help you.

![Chipmunk](image)

Other identifying characteristics are the dark facial markings and brown fur. They have a white underbelly and a brown tail. They also have pouches in their cheeks for stuffing food in to save for later. They do this by hiding it in the ground or trees. Sometimes they forget where they put it and end up planting seeds.

The habitat of a chipmunk is a forest, where there are many hiding spots such as fallen trees or rocks. Chipmunks live in burrows underground. They dig these tunnels and fill them with seeds, grass, and leaves to make beds.

A chipmunk also uses its burrow to keep its food. It eats seeds, nuts, and mushrooms. Do you like the same food?

Let’s dig a little deeper into what they eat. A chipmunk’s diet is impacted by where he lives and how easy it is to get his food. If it lives near a blueberry field or a strawberry field, it will eat these; however, if it lives in the south, it will eat more peanuts and pecans. In the north, it will eat more acorns, oak nuts, sunflower seeds, and vegetables from a garden such as corn and squash. ([http://animals.mom.me/feed-chipmunk-9835.html](http://animals.mom.me/feed-chipmunk-9835.html))
Chipmunks hibernate in the winter. This means they spend most of the winter asleep in their burrows, waking from time to time to have a snack. Chipmunks usually live for one year, but can live up to three years. During this time, female chipmunks will have babies, called a litter, two times a year. Each time, she will give birth to 4-5 new baby chipmunks.

**Did you know?** Chipmunks may have to dig through a meter of snow to leave their burrows in spring. ([http://www.canadiangeographic.ca/kids/animal-facts/eastern_chipmunk.asp](http://www.canadiangeographic.ca/kids/animal-facts/eastern_chipmunk.asp))

**Fun facts about chipmunks:**

- They are heavier than a US penny, on average.
- They are longer than a spoon.
- There are twenty-five different species; twenty-four of them live in North America.
- One chipmunk can gather up to 165 acorns in one day.

With the help of an adult, visit this site so you can watch videos of the chipmunk and see one in action! [http://kids.nationalgeographic.com/animals/chipmunk/#chipmunk-cheeks.jpg](http://kids.nationalgeographic.com/animals/chipmunk/#chipmunk-cheeks.jpg)

**Activities:**

1. On the next page is a fact sheet you can fill out and add to your binder or folder for your common animals. However, if the weather is nice and it is possible, go for a walk in an area where you think you will see chipmunks. Be really quiet as some startle easily. Can you spot one?

   Listen carefully to the noises it makes, what it is eating, and how it moves. Can you make those noises? Do you see it stuffing its cheek pockets with food? Can you move like a chipmunk? Great job observing!

2. Build a chipmunk feeder: [http://animals.mom.me/make-chipmunk-feeder-10912.html](http://animals.mom.me/make-chipmunk-feeder-10912.html).

3. Plan a library day and look for these book titles:

   * Chipmunk: A Picture Book for Kids To Learn Fun Facts About Chipmunks*, by Jan Marie Mueller: [https://amzn.to/3em5Ztv](https://amzn.to/3em5Ztv)

   * Chipmunk Family* (Wildlife Conservation Society Books): [https://amzn.to/2LYffYP](https://amzn.to/2LYffYP)

   * Chippy Chipmunk Parties in the Garden*, Kathy M. Miller: [https://amzn.to/2XtAvee](https://amzn.to/2XtAvee)

   * Chipmunks (Animals Underground)*, by Emily Sebastian: [https://amzn.to/2XsdDMe](https://amzn.to/2XsdDMe)
**Common Animals**

**Chipmunk!**

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My drawing of a chipmunk:
Common Animals
Bear

Today we are going to talk about bears! The common name is different depending on the bear in your area. After all, there are eight different species of bears that can be found in both the Northern Hemisphere and the Southern Hemisphere. They are mostly found in Americas, Europe, and Asia.

Bearwithus.org/ gives us the list of eight bears, which are:

1. North American Black Bear (*Ursus Americanus*)
2. Brown Bear (*Ursus Arctos*)
3. Polar Bear (*Ursus Maritimus*)
4. Asiatic Black Bear (*Ursus thibetanus*)
5. Andean Bear also called a Spectacled Bear (*Tremarctos ornatus*)
6. Panda Bear (*Ailuropoda melanoleuca*)
7. Sloth Bear (*Melursus (Ursus) ursinus*)
8. Sun Bear (*Ursus malayanus*)

The scientific names are in brackets. You can find out more about each bear by asking an adult to visit [http://www.bearbiology.com/](http://www.bearbiology.com/). They have a photo and fact sheet about each bear.

We are going to talk about the general facts all these bears all have in common.

Most bears are nocturnal; this means they sleep during the daylight hours and wake up at night to hunt, eat, and play. Bears like to live alone; they do not travel in groups. They come together only to mate, and then the female bear will raise her babies on her own. She will have one or two baby bears called cubs. She will teach the cubs to hunt, fish, and survive. They will stay with her until they can do this on their own. According to National Geographic, the black bear will have her cubs with her for two years before they are ready to live on their own.

Generally, bears are considered carnivores. Do you remember what that means? That’s right. They eat meat. However, bears also adapt to their individual habitats. For example, the panda bear eats mostly bamboo and can be considered an herbivore (this means it eats vegetables and fruits). Bears are a bit like our chipmunk in that they help plant seeds. How do bears do this?
Well, they eat many seeds and berries too. As the food goes through their digestive system, their bodies keep the nutrients they can use for energy, and the seeds become “scat.” Scat is a fancy name for poop. From the scat, new plants will sprout.

Bears are generally good at climbing trees and swimming and are able to run up to 35 mph for short periods of time. They make good sprinters but terrible long distance racers (http://a-z-animals.com/animals/bear/).

**Did you know?** Pigs and bears are not related; however, the males are both called “boar,” and the females are both called “sow.”

**General bear quick facts:**

- They live from 15–35 years.
- They have fur in colors of brown, black, or white. Some are mixed such as the panda bear.
- They can weigh between 60 and 900 pounds.
- They have large teeth and big paws to help them survive.
- They usually live in dens or rock caves.
- Most love to eat fish as their favorite foods, and honey of course.

**Activities:**

1. Look at the list below. Do you know any of those bears? Maybe there is a new one you have never heard of. Ask an adult to show you what they look like or maybe take you to the library to find a new bear book.

   - Winnie the Pooh
   - Paddington Bear
   - Smokey the Bear
   - Corduroy
   - The Three Bears (from Goldilocks)
   - Berenstain Bears
   - Baloo, from the Jungle Book

2. Don’t forget to fill out your chart for your binder or folder, it is on the next page.

3. Kidzone has a lot of activities for you. Ask an adult if you can check it out: http://www.kidzone.ws/lw/bears/activities.htm.

4. This blog post has some great ideas for you and your little ones: http://www.gradeonederful.com/2016/02/more-bear-ideas-for-grade-1.html?4e3aa0
# Common Animals
## Bear

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My drawing of a bear:
Common Animals
Rabbits

The rabbit’s common name is . . . you guessed it, rabbit; however, they are also known as bunny rabbits. We will be talking about wild rabbits, not the ones you can keep as pets. The scientific name is: *Oryctolagus cuniculus*.

Rabbits can be found pretty much anywhere in the world, from the Americas, Europe, and Japan to the desert areas of the Middle East. Wild rabbits can be found in such places as woods, meadows, tundra, desert, and wetlands. They can live anywhere there are enough green things to keep them alive. Yes! These guys are herbivores.

So what do they generally love to eat? In the summer, they prefer to eat herbs, peas, grass, dandelions, clovers, lettuce, and pretty much anything green. They do like carrots, but they love the green tops. So don’t cut them off, if you are feeding wild rabbits.

In the winter months, they will eat bark off trees, roots they can find, and buds as they come out closer to spring.

Rabbits are extremely social, interactive, and loving with each other. They love to be in groups. These groups are called colonies.

We often observe our wild rabbits playing with each other in our yard. They are very fast, jump high, and run in a zigzag pattern. This quickness allows them to run away if they are being chased by a predator.

Their homes are underground in burrows called warrens. Warrens will have many tunnels, as well as many rooms, such as a storage room for food, a bedroom for sleeping, and more than one escape exit. The exception to this is the cottontail rabbit; it lives in a nest above ground. (http://www.kidsplayandcreate.com/fun-bunnyrabbit-facts-for-kids/)

*Did you know?* Rabbits have big ears that are not only for hearing, but allow them to stay cool in the summer heat.
Quick facts about rabbits:

- Rabbits will often eat their own poop to get the nutrients missed the first time.
- Rabbits have twenty-eight teeth that never stop growing; thus they need to gnaw on sticks and carrots.
- Male rabbits are called “buck,” female are called “doe,” and baby rabbits are called “kitten or kit.”
- Rabbits can have twenty–forty babies in a year!

Activities:

1. Rabbits are herbivores, so let’s make a rabbit salad.

   You will need:
   - lettuce
   - celery
   - carrots
   - peas
   - herbs
   - salad dressing of your choice

   With the help of an adult, wash and chop the lettuce and celery and put in a bowl. Wash and peel the carrots. After slicing them to whatever size you prefer, add them to your bowl. Next put in the peas and herbs you have.

   Rabbits don’t eat salad dressing, so be sure to try it before you add the dressing. Do you like it? If not, you may like it with salad dressing. Sometimes people will joke and say salads are “rabbit food.” Now you know why.

2. One thing rabbits are known for is how quick they are and how they hop around. If it is nice outside, can you go outside and hop and zigzag around like a bunny rabbit? See if you can do it for five minutes straight? Ten minutes? Are you tired? Maybe you didn’t eat enough salad for energy!

3. On the next page, you will find your fact sheet to fill in for rabbits. Don’t forget to add it to your binder or folder.

4. Check your bookshelf for books on rabbits, such as Peter Cottontail, Bugs Bunny, or I Am a Bunny.
# Common Animals

## Rabbit

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My drawing of a rabbit:
Common Animals
Ducks

One of our favorite things to do is to go feed the ducks in the summer. Hopefully, you are able to do that as well. Let’s learn more about our featured quacky animals.

The common name is duck; the scientific name is *Anas platyrhynchos*. They are also called “waterfowl” because they are often found in water like streams, rivers, lakes, and ponds. Ducks can be found almost anywhere in the world that has water except Antarctica. It is too cold for ducks there.

Ducks are birds and have feathers and a beak. This means they also lay eggs. Let’s learn more about that. Ducks’ **feathers** come in many colors—black, yellow, white, green, gray, and brown, just to name a few. Ducks have webbed feet. This allows them to swim well in the water. The webbing acts just like a canoe paddle. The paddling action moves them along really fast!

Ducks build nests to lay their eggs in. They build them out of the materials close by, like grass, sticks, leaves, and other materials.

Ducks lay 5-12 eggs in the nest and then lay on them to keep them warm. They will hatch approximately 28 days later. After the eggs hatch, the baby ducks are called ducklings. The mother duck will protect her brood of ducklings and teach them how to swim and fly. They will learn to fly in 5-8 weeks.

Ducks are omnivores which means they eat plants and meat in the form of insects, frogs, plants, and even shellfish. They also like corn, birdseed, crackers, and bread.

Some ducks migrate or travel long distances to mate. They make this trip each year, usually where it is warmer and the water is not frozen. Here they will mate, lay eggs, rest, and raise their
young. Then they will return to the cooler climates. It can be a very long distance that they will fly!

Did you know?

Ducks do not have teeth. They use their beaks to catch, pick up, and break up their food. ([http://a-z-animals.com/animals/duck/](http://a-z-animals.com/animals/duck/))

Quick facts:

- Ducks can live 2-12 years.
- Some ducks do not quack. The wood duck lets out a squeal instead of quacking. ([http://www.kiddyhouse.com/Farm/ducks.html](http://www.kiddyhouse.com/Farm/ducks.html))
- Ducks have waterproof feathers; they oil them from a gland behind their tail.
- Ducks are excellent swimmers because of their special webbed feet. That is why you will hear someone say about a good swimmer: They took to the water like a duck!

Activities:

1. If you live near a duck pond, take bread, birdseed, cracked corn, or crackers and feed the ducks! Be careful to throw it far away from you as some are quite greedy and might crowd you.

   Can you listen to the noises they are making? Watch the way they are walking; see them waddle on the ground. On grass or dry land, they are funny looking, but in the water, they are graceful. Did you see them swimming?

   Can you copy them? Waddle around like a duck and quack!

2. If you don’t have a duck pond, ask an adult to show you this video. ([https://www.youtube.com/watch?v=psm0oQXosFI](https://www.youtube.com/watch?v=psm0oQXosFI))

   *SchoolhouseTeachers.com note: Parents should closely monitor children’s use of YouTube and Wikipedia if you navigate away from the videos and articles cited in these lessons. We also recommend viewing the videos on a full screen setting in order to minimize your students’ exposure to potentially offensive ads and inappropriate comments beside or beneath the video.*

3. Fill out your fact sheet on ducks and add it to your binder.

4. Books to read: *I Wish that I Had Duck Feet* -Dr. Seuss, *One Duck* by Hazel Hutchins, or any duck book on your shelf.
# Common Animals Duck

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My drawing of a duck:
Common Animals Porcupine

Today we are going to learn about one sharp fellow... a porcupine.

Porcupines are the prickliest of rodents, and their Latin name means “Quill Pig.” The scientific name is *Erethizon dorsatum*.

You will notice that although the porcupine might have soft brown hair, hiding in the hair are hollow quills. When frightened, they will stand straight up as a warning to back away. Contrary to belief, they do not shoot out the quills; however, they will stand on their back feet, tuck their head, chatter, and swing their tail as a warning to predators to stay away. When they swing their tails, loose quills may fly off and into nearby creatures, animals, or people. Quills are hollow and not designed to come out quickly. Instead, when quills are lodged into the skin, the heat from the body makes the barbs swell so they become truly stuck and hard to get out. Baby porcupines are born with soft quills that will harden within an hour of birth. Porcupines grow new quills to replace the ones they’ve lost.

As cute and fascinating they are, porcupines are best viewed at a distance.

Other characteristics of porcupines are that they have small heads, small ears, short legs, and thick tails. They are peaceful creatures and prefer to run away instead of fight. But as we see, they are perfectly capable of protecting themselves. ([http://www.canadiangeographic.ca/kids/animal-facts/porcupine.asp](http://www.canadiangeographic.ca/kids/animal-facts/porcupine.asp))

Porcupines are herbivores. They eat bark, stems, leaves, herbs, and acorns, and they love salt.
They change their diet depending on the season. You can find them munching on green grass, leaves and apples. Enjoy the photos available here: https://cwf-fcf.org/en/resources/encyclopedias/fauna/mammals/porcupine.html.

Porcupines are great climbers, preferring to live in trees, but can be found in deserts, grasslands, and forests. When they live in trees, porcupines make nests. When not in trees, they prefer the protection of a den made in a hollow tree or rocks, under houses and barns, or caves if they can be found.

A female will have one baby and nurse it for four months. By the fifth month, the baby is expected to be living on its own independently from its mom.

**Did you know?**

Baby porcupines are called “porcupettes.”

**Quick Facts:**
- Porcupines have, on average, 30,000 quills.
- They regrow the quills they lose, but it takes between one and four months.
- Porcupines like salt and will chew on the handles of hand tools because they are full of salt from sweat.
- Porcupines carry their babies 210 days before giving birth.
- Female porcupines will defend their territory from other females, but males can cross over several territories.
  (https://kidskonnect.com/animals/porcupine/)

**Activities:**

1. Have an adult look at this link for you: http://www.dltk-kids.com/animals/mporcupine.htm. If you have the materials, make a porcupine!

2. Books to read:
   *How Do You Hug a Porcupine?* by Laurie Isop, Gwen Millward Little Critter books by Mercer Mayer

3. Fill out the fact sheet on the next page.


5. Audio recording and facts: http://animals.nationalgeographic.com/animals/mammals/porcupine/
### Common Animals Porcupines

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Common Animals Beaver

Today we are going to learn about the second largest rodent in the world, the American Beaver.

I bet if I asked you what you know about beavers, you would say, “They chew wood and have big front teeth.” You would be right! That is what beavers are most known for.

The scientific name of beavers is *Castor canadensis*. There are two main species of the beaver—the American Beaver and the Eurasian Beaver. We are going to focus on the American Beaver.

Beavers can be found in lakes, ponds, and rivers. They love swimming and are very good at it. Their flat, scaled tail helps them swim. This tail acts like a rudder, like the rudder on a boat. It helps them swim and turn quickly.

Another characteristic of a beaver that helps them swim is that they can make their fur waterproof! They do this by using the oil found in a gland (called a castor gland) and spread it on their fur, making it waterproof.
Other features that allow them to swim are their webbed feet, an extra set of clear eyelids that protect their eyes underwater, and valves that shut in their ears and nose while swimming. (http://www.canadiangeographic.ca/kids/animal-facts/beaver.asp)

Before beavers build their homes, they need to make sure the water is deep enough to protect them from predators. To do this, they work hard to chew the trees so they fall over. Then they drag them to the water. Next, using water, rocks, and mud, they build dams. These dams will block up the streams in the pond and make the water stay in an area so it gets deeper and deeper.

Beavers build their homes underwater. They are called lodges. These lodges will look like cones in the middle of the water and are made of branches, sticks, and mud. They enter the lodge from tunnels that are underwater, but once they enter, the sleeping areas are dry. Sometimes they have two rooms or dens—one for drying off as they come out of the water and another for sleeping. A whole beaver family can live in one lodge, as they can hold up to 4 adults and 6-8 young ones. The young beavers are called kits. Beavers do not have babies until they are 3 years old, and they can live for 24 years.

Beavers are vegetarians. They eat leaves, twigs, bark, and other plant material. They also eat beans, grasses, corn, ferns, and shrubs.

**Did you know?**

Although beavers are slow on dry land, they are excellent swimmers and can stay underwater for up to 15 minutes! (http://www.sciencekids.co.nz/sciencefacts/animals/beaver.html)

**Quick Facts:**
- Beavers are nocturnal, which means they sleep all day and play, eat, and build during the night.
- Beavers have a great sense of smell, hearing, and touch.
- Beavers’ front teeth never stop growing; they must gnaw on wood to keep them short.
- Beavers have been Canada’s national symbol for over 300 years.

**Activities:**

1. Fill out the chart on the next page with the facts you learned and draw a picture of your beaver.


   *Little Beaver and The Echo* by Amy MacDonald
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Common Animals Conclusion

Did you learn anything new? Share it in the box below: I learned:

Throughout the lesson, we had new words to learn. Do you understand them? If not, make sure you ask an adult to explain them to you. Make a list below:

I learned new words:

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Learning about animals is very important. One reason why is because it helps us realize how animals and humans can live in harmony. Did you notice how the animals we learned about help us? For example, chipmunks bury acorns and other seeds. This helps to grow new trees and plants. Some of these provide food for us, such as an apple tree.

Can you think of another thing that animals do to help us? I learned animals help us by:
Another thing we learn is that animals have a way to communicate with us. Even though we may not know exactly what they are saying, we can understand them. For example, when a porcupine stands on his back feet and hisses, we know to back up. We are scaring them.

What other ways do animals communicate with us? I learned animals communicate by:

Another benefit of learning about animals and how they live is we learn how to help them. For example, we know they need certain areas to live in; thus, we don’t want to be throwing trash in ditches and dirtying their homes. We need to throw our trash in garbage cans.

Can you think of another way to help the animals? I learned I can help animals by:

We learned about each animal’s common name, scientific name, habitat, food, and characteristics to help you identify it.

You can learn these same things about any animal. Perhaps there is one I missed that you wanted to learn more about. Feel free to print the blank fact sheet and continue to add to it. There is space for you to fill in the animal of your choice. You can find this on the next page.

In the meantime, make sure you bring all your fact sheets together to make your very own Common Animal Book!

For more books about animals, visit your local library and ask for book recommendations about your next animal. Librarians love to help, and who knows what you will discover next!
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Weeks Seven-Eight: How Do Plants and Animals Relate?

Have you ever thought about the ways plants and animals relate to each other? Did you know that plants depend on animals to continue survival? Did you know that animals depend on plants also? Let’s learn about some ways they relate to each other!

Animals have basic needs in order to survive. Food, a place to live (sometimes called shelter), and air to breathe are three things that all of us need in order to stay alive. Think about how plants can help with those basic needs.

First, animals need food to eat. Animals get energy from their food. Animals often eat plants. Even if animals do not eat plants, something they do eat has eaten plants! Plants are an important part of the food chain. The food chain is a cycle in nature that provides food for all creatures.

Next, animals need shelter. Shelter is a place to live. Look outside. Do you see any plants? Of course! Those plants are shelter to a living creature. Grass? It provides a shelter for insects and small rodents. Trees? These provide shelter for birds, squirrels, owls, and insects. Bushes? These provide shelter for rabbits, birds, squirrels, and other small animals. Now think about the forest. There are many woodland animals that use the parts of the forest for survival. What about a rainforest? Tropical animals and creatures depend on the plants in the rainforest for shelter. Even the desert plants such as cactus provide shelter for some animals.
Finally, animals need air to breathe, just like you do! Plants create oxygen through photosynthesis. Living creatures need oxygen in order to breathe. Interestingly enough though, plants need the carbon dioxide the animals produce to continue the photosynthesis process. Plants use carbon dioxide from animals and light from the sun. In this case, plants and animals use each other equally.
We have learned how animals need plants, but plants also need animals. Think about where plants are located. Are they only in one place? No! Different types of plants are everywhere. Oak trees are beside maple trees, and twenty miles away, oak trees are beside a grassy meadow. How did the types of plants get so spread out?

All plants start from the same thing. Think about these clues to try to figure it out: colorful, dark, light, heavy, prickly, smooth, big, small. If you guessed seeds, you were correct. All plants come from **seeds**. How do the seeds get to so many different areas? You guessed it, animals! Have you ever walked through a wooded area and had plant material stuck to your socks or pant legs? If you have, you have been a seed transporter. Animals take seeds from place to place by the fur on their bodies. Some seeds have prickly pieces, are really small, or have some adaptation to make them animal friendly. Birds are also very helpful in transporting seeds. Birds eat seeds as an important part of their diet. As part of the digestion process, the seeds are spread to areas sometimes miles away from the original plant. Small animals such as squirrels, chipmunks, and rabbits spread seeds through the digestion process also.
Activities:

1. Introductory activity: create a Venn diagram with plants and animals. Draw two circles that overlap. On the left, write plants. On the right, write animals. List characteristics of each that are different from the other on the outside. Write characteristics that are the same in the center overlapping section.

2. Watch this video that explains the food chain: https://www.youtube.com/watch?v=MuKs9o1s8h8


4. Visit this blog for some additional food chain teaching ideas including songs, printables, and mini-books. http://firstgradewow.blogspot.com/2013/02/riding-food-chain.html

5. The google doc from the website is https://docs.google.com/file/d/0B0bn51-8JcKsaG5aM2p4MUgwWms/edit?pref=2&pli=1

6. Have fun with this experiment to learn how plants produce oxygen: http://www.kids-fun-science.com/plant-experiments.html

7. Enjoy this graphic of different types of seeds: https://cdn.britannica.com/s:1500x700,q:85/15/92015-004-AC782CA2/Seeds-dispersal-mechanisms.jpg
Weeks Nine-Ten: Beginning Classification of Living Things

You know the difference between a living thing and a non-living thing, don’t you? Show an example of something that is living. How about non-living? I’m sure you know that your brother and your pet goldfish are alive but that the living room couch and your bicycle are not. Scientists have divided the living things God created into groups, to show their similarities and differences. This man-made system is not perfect and is ever-changing, but it can be useful to help us study the world in which we live.

These classifications can give familiar things some really long names. That pet goldfish might be named Bubbles, but his very official, scientific name is Animalia Chordata Actinopterygii Cypriniformes Cyprinidae Carassius Auratus. Now you can add the name Bubbles. Whew!

Let’s look at each of our classification levels, starting with the first one, Kingdom. There are five kingdoms. They are:

- Animalia — the animal kingdom
- Plantae — the plant kingdom
- Fungi – the fungus kingdom
- Protista – the protist kingdom
- Monera – the bacteria kingdom

Can you think of a living thing that would fit in the animal kingdom group? That’s an easy one! Did you know that humans are also listed in this group by scientists? However, we are certainly not animals! God created us different from animals. We were specially made, in His image! Genesis 1:26 tells us that we are to rule over animals.
*Activity: Try to find the scientific classification of your own pet. Decorate a poster with their fancy name.

Can you think of a member of the plant kingdom? That’s another easy one! Petunias, pansies, violets, oak trees, apple trees, and so on. There are so many varieties of beautiful and useful plants.

Now, let’s look at the Fungi Kingdom. This one might be a bit trickier. Do you know what fungi is? Think of mold growing on a slice of bread. Think of mushrooms.

The protist kingdom is made up of tiny organisms that often only have a single cell. Where there are many of them, you might see algae or water molds that we call pond scum. Plankton in the ocean are another example. They are so small we need a microscope to see them.
*Activity: Get help going to this website and watch a few videos of these tiny creatures: http://www.microscopyu.com/moviegallery/pondscum/.

The Monera Kingdom includes tiny, one-celled lifeforms like the bacteria streptococcus (see the drawing of a chain of these bacteria) that causes strep throat. Yikes! Isn’t it amazing that tiny living things are inside of us?

Some of them may cause sickness, but some of them do good things in our bodies, like help us to digest food. I’m glad that I can eat a Thanksgiving feast with the help of these Monera.

We have explored the five kingdoms, so let’s consider the other six levels of classification. The second level, phylum, begins to describe living things according to basic physical similarities. For instance, Arthropoda is the phylum of animals with exoskeletons and jointed limbs, such as spiders and crabs. Mollusca are soft creatures like slugs. Can you think of another member of the phylum Mollusca? How about clams? Even though they have a hard shell, their bodies are soft and without a skeleton.
Next comes class. An example of a class could be Aves (that’s all the birds), or Mammalia, the mammals. Do you know one way to tell an animal is a mammal? Mammals have hair, give birth to live young instead of laying eggs, and the mothers give milk to their babies. Which of these pictures is of a mammal?

We are only looking at a few of the living things God has made as we begin to explore classification. We can study our whole lives and always discover something we did not know about the world around us. Will you grow up to discover a new species of plant or animal?

Order shows groups of families with similar characteristics. One example is Primates. You know, monkeys and apes. Or how about Chiroptera? Those are bats.

Family comes next. A group of living things that are very similar are listed in families. The walnut tree and hickory tree are both in the walnut family. All cats are in the same family.
We have two more levels to explore, and these are genus and species. These two combine to make the scientific names that separate one type of living thing from another. This is helpful when we want to distinguish something that has a lot of common names. It gets confusing when someone refers to a mountain lion, but other people call it a cougar, some say panther, and still others say puma or even catamount. Can these all be the same creature? Yes, they are all referring to the genus and species known as *Puma concolor*. Whatever this kitty is called, I’m staying out of his way!
Now that you’ve learned a little more about the way we classify living things, it’s time for some more activities. See if you can match these Latin scientific names with the common names of plants and animals you know.

- *Bombus hypnorum*  
  - Asian elephant
- *Musca domestica*  
  - Daffodil
- *Narcissus poeticus*  
  - Housecat
- *Felis catus*  
  - Housefly
- *Canis familiaris*  
  - Bumblebee (European)
- *Elephas maximus*  
  - Dog

If you have trouble, look up the answers, using help from Mom or Dad.

*Activity: Here is a fun way to memorize the different categories we use to classify God’s living things. Memorize this little sentence to remember the seven categories of living things. King(dom) Phylum called his Class to Order so the Family Gen(i)us could learn more about Species.*

Just like Adam in the Bible, we have been given a special job to care for the earth and give names to things God has made. Ask your parents how they decided on the name they gave you!
Weeks Eleven-Twelve: Farm Animals

Have you ever visited a farm? Even if you haven’t had a chance to go and visit a farm, you probably know several of the animals that live on a farm. Have you ever heard the song, “Old MacDonald?” (Pause to sing the song. Write down on a white board the animals that are mentioned and then count them at the end. Review the sounds each animal makes.)

Let’s find out a little bit more about the animals that live on a farm. (Read the book, Big Red Barn, by Margaret Wise Brown and then continue with the discussion below.) Point out if there are any animals mentioned in the story that weren’t mentioned before.

Farms are places where many different animals live. Some animals, such as cows and horses, may graze in the green pasture during the day and sleep in the barn at night. There are other animals that may sleep in the barn at night, too, such as pigs, calves, and barn cats.

Chickens are also usually found on a farm. Chickens may live in a chicken coop or a cage, or they may be free-range chickens. Hens are the female chickens that lay eggs. Some of the eggs hatch into little chicks, and some of the eggs are gathered and delivered to the grocery store.
Roosters (male chickens) usually live on a farm, too. Roosters like to wake up early in the morning and holler out, “Cock•a•doodle•doo!” Sometimes the rooster will wake up the farmer and his family before the sun even comes up!

Cows that live on a dairy farm produce a lot of milk each day. Cows are milked between two to five times each day. A milk truck comes to collect the milk and package it into milk cartons so it will be ready to deliver to the grocery store.

Pigs are another animal commonly found on a farm. Pigs are usually pink and usually have a big appetite. Pigs like to roll in the mud during the summertime to cool off. Baby pigs are called piglets.

Ducks are another animal you might find on a farm. Ducks like to be near water, so if the farm has a pond or stream nearby, the ducks will be quite happy. Baby ducks are called ducklings, and you may see some of them following their mother around on the farm.

Cats are usually found on a farm, too. Some cats are barn cats and spend most of their time running around the farm, in and out of the barn. Cats are handy to have around the farm as they keep the mice and rats away. Some cats can have many kittens that may continue to live on the farm or may be given away as pets. (Ask the children if any of them have kittens or cats at home, what color they are, and what their names are.)

Time to play a matching game! Let’s see how many matches you can find. (Have the Farm Animal Cards laminated beforehand.)
Down On The Farm Animal Match Concentration:

Last week we learned a little about the different kinds of animals that live on a farm. This week, we’re going to learn a little more about the different kinds of foods these animals eat and what their lives are like on a farm.

When you think of a farm, what is the first animal that comes to your mind? Let’s make a list on the board of all the different kinds of animals we normally see on a farm. Which animals are your favorite? (Make a list of each animal on the board and make tally marks after each animal after asking each child which one is their favorite.) Announce the most popular animal after all the tally marks are made on the board.

Now that we’ve discussed the various types of animals that may live on a farm, let’s find out what they eat. Let’s start with cows. Cows like to eat grass in the summertime and hay in the winter. Why do you think cows don’t eat grass in the wintertime?

Now let’s talk about pigs. What do you think pigs like to eat? (Wait for responses.) Pigs eat grain, specially prepared pig food, and sometimes they get leftover scraps of food that we eat. Some people call it slop, but pigs don’t seem to mind.

Horses are another animal commonly seen on a farm. Horses also like to eat hay, like cows do, but horses eat hay all year round. They also eat grains. Sometimes horses are given special treats such as apples and carrots, which they really like. How many of you like apples and carrots?

Sheep and lambs are other animals you might see on a farm. Can you guess what they like to eat? Lambs and sheep eat grains, grass, and hay. Are you seeing a pattern here? What kind of food do most of these animals like to eat every day?
Now that we’ve talked about what the animals on a farm like to eat, let’s talk about what you like to eat. What are your favorite things to eat? (List answers on the board). Now let’s talk about where or not these kinds of foods come from a farm.

Cows give us milk, which can be made into butter and cheese. Cows also provide us with meat, such as hamburgers and steak. Pigs provide us with bacon, ham, and pork sausage. Chickens can provide us with meat to make fried chicken, chicken nuggets, or chicken noodle soup. Farms can also provide us with vegetables such as corn, peas, beans, carrots, lettuces, potatoes, tomatoes, and melons.

First, we’re going to do a word scramble. See if you can figure out the word that matches the picture. http://prek•8.com/1stgrade/lessonPlans_farmanimalsWordGame1.html

Then, see if you can find several farm words in this word search. http://prek•8.com/1stgrade/lessonPlans_farmanimalsWordGame2.html

Weeks Thirteen-Fourteen: Care of Pets

What is a pet? Do you have a pet? If not, what kind of pet would you like to have one day? Having and talking about our pets can be fun. To begin this lesson, go over the questions found at https://web.archive.org/web/20170611064912/http://pbskids.org/itsmylife/family/pets/article4.html, which are a guide in choosing a pet.

Having a pet is a really neat experience . . . and a lot of responsibility! Just as you depend on your mom, dad, and/or other family members to take care of you, a pet relies completely on you to take care of it. Pets need the basics, just as you do—food, water, shelter, somewhere to potty, and exercise.

You will need to know the right type of food for your pet, how much and how often they need to eat, and what foods they cannot have. Some pets eat once a day; some eat twice a day. If you have a baby pet, such as a puppy, the food they need will be different from what a grown dog needs, and they will eat more frequently. Since your pet cannot go and get a drink of water during the day as you do, it is important to make sure its water bowl or bottle is always full with fresh water. Even fish need to have the water in their tank cleaned at least once a week. Now play this game: https://pbskids.org/martha/games/marthassteaks/index_m.html.

Some pets may live in your house, such as a dog or cat. Others need a home of their own, such as a cage, fish tank, or crate. Pets which live in cages, such as guinea pigs, need their cages cleaned weekly. Let’s look at some pets that need different types of housing: http://www.petsintheclassroom.org/kids/pet-care-sheets/. Pets that stay or live outdoors, such as chickens, goats, ducks, or sometimes dogs, need shelter that will keep them warm and dry and provide some relief from the summer sun.

All pets need an area to use the bathroom. Cats may use a litter box, guinea pigs will pick a certain area in their cage, and dogs need an area outside. Wherever your pet goes to the bathroom, you need to keep it clean. For a dog, you need to pick up after it and throw the waste in a trash can. A litter box and cages need to be cleaned. This is also another reason to clean your fish tank.
Whether your pet lives in the house, in a cage, or in an outdoor pen, he or she also needs exercise. Pets stay healthier and are happier when they get the exercise they need. Spending time playing with your dog or cat or walking your dog not only gives them exercise, but you as well! And you will both be happy with the time you spend together. Now let’s try playing with a dog! [https://lol.disney.com/games/disneychannel-my-new-puppy](https://lol.disney.com/games/disneychannel-my-new-puppy)

As you can see, having a pet is a responsibility and takes work. There is also great reward in having a pet. Sometimes families cannot have pets. That is fine also; maybe you can find a neighbor or someone else to help with their pet.

Enjoy some activities:

2. Enjoy some of these worksheets: [https://www.teacherplanet.com/content/pets](https://www.teacherplanet.com/content/pets)

Before you continue on with this lesson, let’s review what we already know by doing this review.

In addition to food, water, shelter, a bathroom area, and exercise, your pet also needs to be groomed, kept healthy, and definitely provided with love.

Grooming your pet means to keep him or her looking good. It is also important for your pet’s health. Pets with hair or fur, such as dogs, cats, and guinea pigs, should be combed or brushed daily. This helps keep them from shedding, and cats will have less hairballs. At this time, you can also feel for ticks, mites, leaves, and dirt clumps which might be in their hair. Some animals can be bathed once a month, and some, such as cats, should be bathed every few months. You do not want to give them too many baths as it can dry out their skin, just as your skin feels dry after bathing or swimming. Watch a dog being groomed and then wash a dog yourself!
Keeping your pet brushed and cleaned is part of keeping it healthy. Just like you go to the doctor for check-ups, your pet should also. A pet doctor is called a veterinarian. He can answer questions you might have and keep your pet up-to-date on vaccinations.

Some pets need to be trained. Some pets can be trained to do tricks, such as jumping through hoops, rolling over, and even catching Frisbees! People who take their pets to special shows (such as dog, rabbit, or cat) need to train them to pose in different positions. Dogs are one type of pet that needs to be trained. You need to be your dog’s boss. You can do this in a gentle, but firm voice. There is no need to yell! To know which rules your dog needs, you should sit down with your family and make a list. This way, everyone can help remind your dog of those rules. Sometimes people take their dogs to an obedience class. Do you know what obedience means?

Loving your pet is often easy when it first comes home. Giving it lots of hugs, snuggles, gentle touches and attention is very important. While you can’t hug, touch, or play with all pets, such as a fish, you can talk to them and watch them.

Additional resources:
https://educators.brainpop.com/bp-jr-topic/caring-for-pets/
Weeks Fifteen-Sixteen: Compare and Contrast Different Plants

The purpose of this unit is to have your first graders take a closer look at the plants around them. There is a wide variety different activities that can be done with this type of unit. I have mapped out a simple lesson plan here to cover the topic of comparing and contrasting different plants.

To introduce this topic, take a walk with your first grader. Model and encourage observational skills as you look at the different plants God has created. Depending on the season, you would want to “hint” at certain things.

For example:

- In the fall, if the leaves are changing colors, make sure to point out that some trees’ leaves are changing colors and others are not.
- In the winter, encourage your first grader to find trees, plants, or shrubs that DO have leaves and some that DO NOT have leaves.
- In the spring, try to find new plants that are sprouting or plants that have new leaves or branches that are sprouting.
- In the summer, try to find plants that have flowers or berries (or even fruits).

Along the walk, collect leaves. Be sure to include a variety of shapes, colors, and sizes. (Mom, you might want to collect a few on your own to be sure you have some of each variety.) Be sure to note all the different types of plants: trees, shrubs, flowers, grasses, weeds, etc. If a walk is not possible, use pictures from the Internet or a photo album to look at different trees, shrubs, and other plants. Have your little one explore the differences between plants with hard stems (i.e., trees) and soft stems (i.e., small flowering plants).
Sorting Activity: Sort your leaves into different categories once you return from your walk. You can just sort them into piles or glue them to a poster board/bulletin board paper. Use basic categories (or make up your own): needles (i.e., pine or cedar), palmate (looks like the shape of your hand with “fingers”), and simple (the most basic leaf). For first graders, three categories are sufficient. If you are unsure of which leaves go in each category, you can always look for images online or see the attached note page at the end of this lesson.

*You can extend this activity into math by tallying each of the categories and coloring a simple bar graph to represent the data of your collection.

Journal Activity: Have your student draw a picture of one or more of the trees or plants that he/she has seen on the walk. Your student should then write about the trees or plants that he/she has seen. You may want to guide with a specific topic: Write about the prettiest tree you saw today or Why do you think God made trees? Steer the writing project any way you want. Sample journal paper is attached to this lesson plan.

Reading Activity: Read a book about trees. Ask basic discussion questions and relate them to your walk. Here are some examples of books about leaves/trees. There are many more out there; utilize your local library to find them!

* Why Do Leaves Change Color by Betsy Maestro  * We’re Going on a Leaf Hunt by Steve Metzger  * Why God Made Trees by Lila Cohen

Extension Activity: Visit a farm or a garden where you can see many different types of plants. If a visit to a farm is not convenient or if this is not “garden season,” go to the grocery store and check out the produce section. Use a smart phone or a tablet and have student(s) take pictures of several different vegetables. When you get home, discuss and compare/contrast the different types of plants that produce these vegetables. This can be done by using an electronic resource to look at pictures or an encyclopedia or book on gardening plants to compare the different ways vegetables are grown. For example, corn grows above the ground, on “ears,” while carrots grow underground as “roots.”

- **Extension activity for older students:** Have older students actually make a leaf collection. Have each student set a goal of collecting, mounting, and identifying at least 10 (or 25) leaves. Here is a great site that has wonderful resources for identifying trees: [http://forestry.about.com/cs/treeid/a/100_trees_id.htm](http://forestry.about.com/cs/treeid/a/100_trees_id.htm)
Closing: Review what you have learned about all the different types of plants God has put on earth. You can close this unit of study with a “Blessing Book”—letting your student(s) draw or print pictures of different kinds of plants that are blessings to him/her. These plants may be plants that grow food, a tree that has a favorite swing or treehouse, or even just a pretty flowering tree. Another option might be preparing a salad together and, over lunch, discussing the different kinds of plants that grow each item in the salad. You can contrast items that do not come from plants, as well, at this time.

**Types of Leaves**

**Simple leaf:** A simple leaf is exactly what it says; it is a single leaf attached to the stem.

![Simple Leaf Image]

**Palmate leaf (a type of compound leaf):** A palmate leaf looks like your hand with fingers. It has several leaves attached to a stem in a palm-like pattern.

![Palmate Leaf Image]
Needles: Needles are what my little ones always referred to as the Christmas tree leaves. These would be leaves like pine needles, cedar needles, etc.
Weeks Seventeen-Eighteen: Indoor Plants vs. Outdoor Plants Week One

Spelling Words

1. Plant
2. Grow
3. Leaf
4. Seed
5. Bloom

Indoor vs. Outdoor Plants

Did you know that indoor plants and outdoor plants are different from one another? They both look a lot alike, with parts such as roots, a stem, and leaves, but they are different in other ways!

How are Indoor Plants and Outdoor Plants Different?

Outdoor plants usually grow bigger than indoor plants because they have more room to grow. Indoor plants live in a plant pot, and their roots cannot grow beyond the pot, but outdoor plants’ roots can grow and grow, which makes the plant grow bigger too!

Indoor plants need more care than outdoor plants. Plants that live indoors need sunshine, water, and good soil just like plants living outdoors, but they rely on us to make sure it’s given to them. Indoor plants need daily watering, a spot in the right amount of sunshine, and soil that has nutrients for them to grow in.

Outdoor plants have to grow strong because they grow where there is wind, rain, sun, and sometimes snow! The sunlight helps the plants grow seeds and bloom. Did you know that indoor plants may not bloom if they don’t have the right amount of sunlight?

Activities:

Learn more about plants and their needs with these worksheets: [http://www.woojr.com/plant-life/](http://www.woojr.com/plant-life/)
Indoor Plants vs. Outdoor Plants Week Two

How are indoor plants and outdoor plants the same?

Both plants that live indoors and plants that live outdoors help the earth. When we breathe in, we inhale oxygen, and when we breathe out, we exhale a gas called carbon dioxide. Plants do the opposite. They inhale carbon dioxide and exhale oxygen, cleaning the air for us! Indoor plants are good at helping the air we breathe be cleaner.

Outdoor plants help too. Like indoor plants, they help clean the air we breathe. They also use their roots to suck up water that is underground, and it evaporates through their leaves. This brings moisture into the air and also cleans up our ground water!

Growing a Plant Science Activity:

Some plants can start growing inside and be planted outside once they’re strong enough to grow on their own. One of these plants is a bean. A bean can sprout in a jar that contains moist cotton balls, with your help.

Here are instructions to try this at home: http://theimaginationtree.com/2012/04/growing-beans-on-cotton-balls.html

When the bean sprout is big enough, you can plant it outdoor to grow even bigger, and sprout new beans!

What did we learn about the differences between indoor and outdoor plants?

Plants that live indoors and plants that live outdoors look alike, but now we know they can also be very different. Indoor plants do not grow as large as outdoor plants because they have less space for their roots to expand. Outdoor plants grow bigger because they have space for their roots to grow. Indoor plants need us to care for them, and outdoor plants take care of themselves. Both indoor and outdoor plants help to clean the air we breathe, and some plants can be both indoor and outdoor plants.
Weeks Nineteen-Twenty: The Sun as a Source of Energy

The purpose of this unit is to have your first graders take a closer look at the sun and how the sun provides energy for everything on earth.

Hint: This would be a great lesson to cover after the lesson on the seasons. Begin with a review of when we see the most flowers and when the garden grows. What is different about the way it feels outside during those times? (Hopefully, the conversation will come around to the fact that there is more warmth from the sun. That can lead to the discussion that it feels warmer outside during those times and that the plants need that heat energy to grow.)

For example:

- Explore the differences in the types of clothes we wear in different seasons. You can actually extend this by comparing clothing that is worn in different parts of the country or different parts of the world. (What would we wear if we were going on a cruise to an island? What would we wear if we were going on a trip to Alaska?) Relate these differences to the heat (temperature).
- Differentiate among the different activities that usually take place in certain seasons, or, again, in different parts of the country/world. (Why would we not want to swim at the North Pole? How many people do you see ice skating at the beach?)
- Sit outside on a sunny day. Have your child sit in the sun for a while then move to the shade. What did they notice that was different? Or, if it is wintertime when you do this lesson, what happens when we walk outside on a cold day when there is no sunshine? (Hopefully, this will lead to the discussion about shivering. The more sunshine we have, the more heat energy we get. When we do not have that heat energy, our body has to make it by shivering.)

Art Activity:

Who says the sun has to be yellow? There are so many fabulously artistic ways to illustrate the sun! This Pinterest® board (https://www.pinterest.com/debramainiero5/sun-and-moon/) has a lot of wonderful ideas to get you started! If you have colored tiles or if you want to cut up construction paper, you can make a mosaic!
Journal Activity:

What is your favorite activity to do outside on a sunny day? Why do you like to do that? There is a copy of journal paper at the end of the lesson.

Hands-on Activity:

There is a hands-on activity at the end of the lesson. Be sure your student reads the passage included first. It is a good introduction for the activity.

Reading Activity:

The books listed below are great ways to get the discussion going about what the sun does and how it helps us.

*My Light* by Molly Bang  
*Sunshine Makes the Seasons* by Franklyn Branley  
*What Makes Day and Night* by Franklyn Branley

The Sun Gives Us Energy!

Look at the sun! Can you believe the sun is actually a star? The sun is the center of our solar system. All of our planets revolve around it. The sun is the reason we have seasons! Our sun is what gives us light during the day; it even gives the moon light during the night! The most important thing we get from the sun is energy.

Energy can come in many different forms, but we will focus on light energy and heat energy. We can SEE the sun’s light energy. All you have to do is to go outside, right?

Can you see better at night or during the day?
During the day, we can see with the light of the _________. At night, we have to use ___ to see. What about the sun’s heat energy? We can definitely feel it on a warm day. If you sit directly in the sun, how do you feel? What happens if you move to the shade? Did you know that your clothing can actually absorb the sun’s heat energy? Which type of clothing do you think would absorb more heat—dark colors or light colors?

Perform the activity at the end of this lesson to test your theory! Did you guess right?

As you study more about plants, you will learn that they can use the sun’s light energy to help them make food through a process called photosynthesis.

Did you study the lesson already about making the plant people? The plant people used the sun’s energy to grow their hair!

Since plants need the sun to grow and make food, that means that we ALL need the sun’s energy to live. The sun is not only the center of our solar system, but it really is the source of energy for life!
**Vocabulary Words:**

1. **Energy:** the ability to do work

   *Now, when we say “work,” we do not necessarily mean going to work as in a paycheck! “Work” can mean many things: making food, moving body parts, breathing, or even just growing!*

2. **Revolve:** go around something in an orbit

   *All of our planets revolve around the sun. If you think about a merry-go-round, the horses revolve around the center pole.*

3. **Temperature:** how much heat an object has

   *You can measure temperature by using a thermometer. In the attached activities, you can learn how to read a thermometer.*

**More Resources:**

[**NASA**](http://example.com) has some great information, videos, games, and activities to help you learn more about the sun!

[**This site**](http://example.com) has a great demonstration of the concepts of revolution and rotation.

[**Just for fun**](http://example.com), visit this site for an interactive experience that will help you find out more about the sun!
Enjoy this hands-on project that will demonstrate how different colors absorb and reflect the sun’s light/energy.

**Materials:**

- One rectangle of black paper
- One rectangle of white paper
- Tape
- Two thermometers (not pictured)

**Instructions:**

1. Take one of the rectangles and fold it over, taping one side to form a tunnel shape.
2. Do the same for the other rectangle.

3. On both tunnels, using the tape, close one side off, creating a pouch.
4. Now, insert a thermometer into each pouch before taping the other end closed.

5. Go outside and place both pouches containing the thermometers in a bright, sunny spot and wait at least five minutes.

6. After at least five minutes have passed, break out the thermometers and compare the temperatures.

7. Answer the following questions:
   - Are the temperatures different?
   - Which one is hotter?
   - Which one is cooler?
   - Do you think the black or white pouch absorbed more sun?
   - Which pouch absorbed less sun?
   - How can you use this information to help you decide what color to wear on a cold day?
   - How about what to wear on a hot day?
When you look outside to see what it’s like, what are you doing? You are checking the weather. The weather changes daily, and usually with the seasons. Depending on where you live, it will be sunny in the summer, windy in the fall, snowy in the winter, and rainy in the spring. The clouds will change too. There are thin, streaky ones or puffy, fat ones, and all sorts of others in between. One other important thing to check outside is the temperature because you wear different clothes depending on how hot or cold it is and what the weather will be that day. So let’s talk about the different types of weather you might see outside.

**Sunny:** This is the easiest one. It’s when the sky is all blue and bright and the warms whatever its rays touch. No clouds get in the way either. In the summer, these days can be very hot. What would you wear to go outside and play on these days?

Maybe shorts, a t-shirt, flip-flops, and sunscreen.

After many sunny days, the water starts to evaporate into the sky. The clouds start to grow and get bigger and bigger. Eventually, the clouds can’t hold any more water droplets; they turn gray, and the droplets start to fall back to the ground. That’s how we get rainy days. What should you wear on a rainy day?

You’ll want a raincoat and boots, and you might want an umbrella.

**Snowy:** When the temperature is cold, those rain droplets turn to snowflakes on the way down. If the ground is cold enough, the flakes will stick to the grass and streets. As it continues to snow, the flakes on the ground will accumulate. You can measure how many inches are in your yard with a ruler or yardstick. What might you wear when you are outside while it’s snowing?

A sweater, pants, hat, gloves, scarf, boots, and a coat.

**Windy:** Days when the air is moving around a lot are windy. Wind can blow through the trees and make leaves rustle. If it is cold out, the wind will make you want to zip up your jacket and head indoors. Yet in the summer, the wind cools you down.
When it is windy outside, you can tell which way the wind is blowing by using a weather vane. It must be set up so that the N points north. As the wind blows the fat end of the arrow on top, it will be blown and spin around into the direction of the oncoming wind. So, if the pointy end is pointing to N, the wind is coming from the north to the south.

Cloudy: Cloudy days are when the clouds are like a thick blanket, and they block out the sun. There are also days that are partly sunny or partly cloudy, and the clouds are scattered throughout the sky. Clouds are made up of tiny pieces of dust coated in a water droplet. The water will freeze to make ice crystals that are so tiny that can float way up in the sky. When these ice crystals come together in the sky, they form a cloud that you can see. As long as the cloud stays warmer than the air around it, it will float.

There are three main cloud groups you can easily spot in the sky. They are stratus, cirrus, and cumulus clouds. Stratus clouds are like thin blankets spread out flat. Cirrus clouds are light and wispy streaks of clouds way up in the sky. Cumulus clouds look like big, fluffy cotton balls.

Many other cloud types exist too. You can see from the diagram that they exist at different altitudes in the sky. The cumulonimbus cloud is probably one you have seen before. It’s the type of cloud you see before a thunderstorm. It is very tall and fluffy, much taller than a regular cumulus cloud. Altocumulus and cirrocumulus clouds look kind of like popcorn in the sky. They are really neat when seen. The difference between these two is their altitude. Alto means that the cloud is 6,000-20,000 feet in the air, and cirrus clouds are above 18,000 feet. However, it can be difficult to tell how high a cloud is up in the sky when you are on the ground. This also means that stratus clouds that are higher in the sky are called altostratus. Fluffier blankets of clouds similar to stratus are stratocumulus clouds. See if you can spot any of them the next time you go outside.
Water Cycle

All these different types of weather lead us to the water cycle. This is the way water on the earth is recycled over and over again. The sun causes water to evaporate or turn into water vapor. This water vapor goes up into the sky where it condenses. That’s when the water vapor gets cold and turns back into a liquid. Then it combines with dirt and dust to create clouds. When there is so much water vapor in the air that the clouds can’t hold it anymore, it is called precipitation. Precipitation is typically in the form of rain or snow. The rain and snow fall to the ground and filter back into our lakes, streams, and oceans. Then it starts all over again.

Activities:

1. Record and graph the weather every day over the next week to month, whatever timeframe is best for your family: [http://www.education.com/worksheet/article/weather-graph/](http://www.education.com/worksheet/article/weather-graph/)

2. While recording the weather each day, it can be fun to sing a song to go along with it. This one is sung to “Oh My Darling Clementine.”
What’s the weather, what’s the weather, what’s the weather like today? Tell us (name), what’s the weather, what’s the weather like today? Is it sunny, is it cloudy, is it rainy outside today?

Is it snowy, is it windy, what’s the weather like today?


4. Writing Idea: Read *Cloudy with a Chance of Meatballs* (or watch the movie.) Use the writing prompt, “I wish it would rain ___” and write a paragraph telling about it. If you have older students, have them write a short story or a few paragraphs telling how life would be if it rained whatever they wished for (candy, ice cream cones, puppies, etc.)

5. Clouds Identification Worksheet (print on cardstock, laminate, or glue to cardboard to give it a stronger back. Glue a wide wooden craft stick to the bottom as a handle): http://www.education.com/worksheet/article/cloud-chart/. Go cloud gazing and identify all the types of clouds you see.

6. Cloud Diagram: You’ll need blue construction paper, cotton balls, glue, and the cloud identification worksheet. Make a picture of the three main cloud types using the cottonballs and the worksheet as a guide. Label each one: stratus, cirrus, or cumulus.
Weeks Twenty-Three-Twenty-Four: Seasons

Depending on the area where you live, you may or may not experience all four seasons to the fullest! Please use pictures, videos, and even movies to help demonstrate the changes that occur in nature.

Introduction: To introduce this topic, take a walk with your first grader. Model and encourage observation skills as you look at the different plants God has created. Depending on the season, you would want to “hint” at certain things. If you have completed the unit on the different types of plants, then this nature walk would go right along with that. You can look at similar things in the environment.

For example:

- In the fall, if the leaves are changing colors, make sure to point out that some trees’ leaves are changing colors and others are not. Look for animals and see if you can tell anything about their behavior.
- In the winter, encourage your first grader to find trees, plants, or shrubs that DO have leaves and some that DO NOT have leaves. What about the animals? Do you see any animals at this time? If you live in a really cold climate, is there a lake or stream that has frozen? Is there snow on the ground?
- In the spring, try to find new plants that are sprouting or plants that have new leaves or branches that are sprouting. What animals do you see during this time of year that you did not see in the wintertime? Why? Let your little one make a guess; we will focus on this difference in one of our reading activities later.
- In the summer, try to find plants that have flowers or berries (or even fruits). What does that lake or stream that was frozen in the wintertime look like now? What about the grass? Compare that to what it looked like a few months ago.

Art Activity:

Make a print that demonstrates the four seasons. Here is a great link that has a great activity: [Four Seasons Project](#).

Spelling Practice:

Use the attached worksheet to practice your spelling with seasons. Can you find the words that are hidden in the puzzle?
Journal Activity:

What is your favorite season? Write about your favorite season and why you like that time of year. Read your essay to a friend or to a parent. Journal paper is included with this lesson.

Hands-on Activity:

What is a seed? Get a seed (a butterbean or other bean usually works well) and place it on a wet paper towel in a clear plastic bag. Make sure it stays moist. Have your student watch it for 5-7 days as it sprouts. As you place the seed into the baggie, have a discussion with your student about how God has placed everything that is needed for a new plant inside that seed. In the wintertime, that seed sleeps and gets stronger. In the spring when God sends the rain and the warmth, that seed begins to open up and will grow into a plant.

Reading Activity:

Leaf Jumpers by Carole Gerber  
Red Leaf, Yellow Leaf by Lois Ehlert  
Time to Sleep by Denise Fleming  
When Winter Comes by Nancy Van Laan  
How Mama Brought the Spring by Fran Manushkin  
A Harvest of Color by Melanie Eclare  
A Tree for All Seasons by Maryse Guittet

Extension Activity for Older Students:

Make a “Plant Person”

Materials: an empty soda can, some potting soil, rye grass seeds, a pair of knee-highs, some water, construction paper, and other embellishments to decorate your person

Directions:

1. Take the knee-high and put a tablespoon or two of rye grass seeds in the bottom and then a good scoop of potting soil. You need enough soil to make the “head” of your person. It should be enough to keep the head from falling in the can.
2. Tie a knot in the knee-high so the soil will not come out. The “leg” part of the knee-high will act as a wick. Put it down into the can; fill the can about halfway with water.

3. Decorate the face and body of your person.

4. In a few days, your grass will sprout and your person will have “hair.” Kids will enjoy cutting, styling, and even putting hair accessories on their creation! For an idea of what the “finished product” will look like, Dawne has some great pictures on her blog that can be found here.

Closing: Begin to talk with your first grader about how the seasons rotate around the year. This is a cycle; it happens every year. Talk about how in each season God is preparing nature for the next season. They are all a necessary part of life. Our world is perfectly designed by our Creator to encourage and support life!

For moms: the blog referenced is buzzingaboutsecondgrade.blogspot.com/. This teacher has a lot of wonderful resources on her blog and some great ideas for activities!

**What do the seasons look like?**

**Winter:** In the wintertime, it is almost like everything is resting or sleeping. Many of the animals are hibernating; this is when the animals rest. The plants are dormant; this is when the plants are resting too. They are not gone—just hidden!
**Spring:** In the springtime, things begin to emerge (or come out) of their sleepy time! The seeds that had been sleeping begin to grow as plants. The animals that were hibernating wake up and are ready to eat!

![Spring Image]

**Summer:** In the summertime, all the plants are growing, the animals (including you!) are outside playing and enjoying the sunshine. As the plants grow, they make seeds and other parts that become food for all the animals (including you!).

![Summer Image]

©Designs by Deana, used with permission
**Autumn:** In the fall (another word for autumn), all the animals and plants begin to get ready for wintertime. The trees lose their leaves, and the animals begin to gather food to store for the winter.
Title: ______________________

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

By ____________________________
Find these words in the puzzle:

SPRING HOT FALL SUMMER RAIN SNOW LEAF WINTER
Weeks Twenty-Five-Twenty-Six: Temperature

Today we are going to learn about temperature. What do you think of when you hear the word temperature? You might have answered, “How it feels outside” or “Feeling hot from being sick.” Temperature means how hot or cold something is. You can use your sense of touch to feel temperature, too. Have you ever accidentally touched a stove burner that was just turned off or a pan just out of the oven? If so, then you know those things are very HOT! What about ice out of the freezer or a fresh blanket of snow? It’s very cold, right? How about bath water? That’s just the right temperature for playing and getting scrubbed clean. Another way to sense temperature is to go outside on a sunny day, find a patch of cement in the sun, and feel it. Then find a patch of cement in the shade and feel it. You will notice that the temperature of each is very different.

So, how do we measure the temperature of our bodies, the air outside, or anything else? You use a thermometer. It measures how hot or cold something is and gives us a specific number in degrees. A thermometer can be used to tell us the temperature of many things, like the oven when you bake something, your refrigerator so food doesn’t spoil, and the temperature of your steak when it’s grilled.

A thermometer looks like a long glass tube with a bulb at the bottom. It contains a liquid that is either red-colored alcohol or a gray-colored mercury. If you have one in your house, take a look at it now and figure out if yours is filled with alcohol or mercury based on the color of the liquid in the tube. As the temperature rises, the heat causes the liquid in the tube to expand and rise. As the temperature drops, the liquid contracts and falls.

On most thermometers, there are two sets of numbers. Typically, the set on the left is labeled Celsius. It tells you that water turns to ice at 0 degrees and boils at 100 degrees. To give you an idea of the scale, a comfortable room temperature is around 23 degrees Celsius.

The set of numbers on the right would then be for Fahrenheit. That set of numbers tells us that water turns to ice at 32 degrees and boils at 212 degrees. Room temperature is around 73 degrees using this scale.

We can look at a thermometer using either of these scales and know if the weather calls for us to wear shorts or pants based on the temperature outside and what we find to be a comfortable range for each of those items of clothing.
Here are two poems by Shelly Scheafer to remember the outside temperatures:

<table>
<thead>
<tr>
<th>Fahrenheit Temperatures</th>
<th>Celsius Temperatures</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 degrees is pretty hot,</td>
<td>30 degrees is pretty hot,</td>
</tr>
<tr>
<td>70 degrees is pleasing.</td>
<td>20 degrees is pleasing.</td>
</tr>
<tr>
<td>50 degrees is getting cold,</td>
<td>10 degrees is getting cold,</td>
</tr>
<tr>
<td>And 32 degrees is freezing!</td>
<td>And 0 degrees is freezing!</td>
</tr>
</tbody>
</table>

Activities for Week 1:

1. Listen to the thermometer song: [https://www.youtube.com/watch?v=Vk6rP_4wpvk](https://www.youtube.com/watch?v=Vk6rP_4wpvk)

2. Match the correct item of clothes to the correct thermometer: [http://www.education.com/worksheet/article/temperature-hot-or-cold/](http://www.education.com/worksheet/article/temperature-hot-or-cold/)


5. Record the temperature every day for the next two weeks; practice your thermometer skills every day by showing the temperature on the thermometer you made. At the end of the two weeks, graph your temperatures. A graph is included.

6. Other ideas: Read *Cold Snap* by Eileen Spinelli

SchoolhouseTeachers.com note: Parents should closely monitor children’s use of YouTube and Wikipedia if you navigate away from the videos and articles cited in these lessons. We also recommend viewing the videos on a full screen setting in order to minimize your students’ exposure to potentially offensive ads and inappropriate comments beside or beneath the video.
Activities for Week 2:

1. Read “Goldilocks and the Three Bears.”

   This story is all about science and temperature. How could each bowl of porridge be a different temperature? Would that even be possible? After reading the story, test how the temperatures of each bowl could all be different. Would Baby Bear’s porridge really have been just right?


2. Make sure to graph the temperatures you’ve been recording every day.
Fiat Lux! This is Latin for “Let there be light!” But what is light? Light is a form of energy. Light comes from natural and man-made sources, and it contains all the colors of the rainbow. It behaves in particular and predictable ways.

Natural sources of light include the sun and the stars. The moon does not produce its own light; it reflects light from the sun (more on reflection in just a bit). Some living things can produce their own light through a process called bioluminescence. Some examples would be fireflies and foxtail mushrooms. Most of the life forms that glow live in the ocean. There are also man-made sources of light such as candles, electric lights, flashlights, and glow sticks.

How does light behave? Light travels through the air in straight lines, or rays, at very fast speeds. It takes an average of eight minutes for light from the sun to reach the earth! When light travels to something transparent, like a window or plastic wrap, it passes through. When light travels to an object that you cannot see through, its path is blocked, and the light bounces off or is reflected. When light bounces off a shiny surface like a mirror or very still water, you can see yourself or the objects around you on its surface. Something you cannot see through is called opaque. Two things happen with opaque objects. Light bounces off the object, allowing us to see it. In addition, when an opaque object blocks the path of light, it can cast a shadow. Translucent objects let light pass through but are not completely clear. Some examples of translucent things would be frosted glass, vellum paper, and some types of cloth.

Light contains all of the colors. Isaac Newton was the first to discover this when light traveled through a triangular-shaped piece of glass called a prism. The prism bent the light rays and separated them into the different colors of the rainbow. When light slows down and bends as it does when passing through the prism, it is called refraction.
If you have ever seen a rainbow, then you have seen refraction in action. You can also see this as light is reflected off the surface of a CD or DVD. Here the light is not just reflected by the surface of the CD or DVD, but also bent and separated into different colors because these surfaces refract light.

When light travels through water, it slows down and bends. We now know that bending rays of light is called refraction. Instead of seeing a rainbow of colors, objects sometimes appear differently than they actually are. Have you ever used watercolors to paint something and noticed the paintbrush looked like it was bent in the water glass? Or have you ever waded in shallow water and reached down to pick up an interesting rock and realized that the bottom of the creek or pond was not as close as it looked? This is another example of refraction.

Now that we have talked about light, we will continue with some activities that will help us learn and discover more about light.
Parents’ Page: Lesson Activities, Worksheets, and Answer Page

1. Fill in the blank worksheet. Answers: energy, natural, man-made, fast, straight, transparent, translucent, opaque, reflection, refraction.

2. Complete the “Reflection or Refraction” worksheet. Answers: first row left to right: reflection, refraction; second row: refraction, reflection.

3. Go to the library and check out *Day Light, Night Light*, by Franklin M. Branley or watch the book being read at https://www.youtube.com/watch?v=aYWAq2GfI8Y


5. Learn more about bioluminescence. Here are two suggested sites: http://beachchairscientist.com/2013/02/05/10-brief-facts-on-bioluminescence/ https://web.archive.org/web/20180808222641/http://www.bbc.co.uk/nature/adaptations/Bioluminescence

6. Write your own poem about light. Pick an acrostic, cinquain or diamante.

*SchoolhouseTeachers.com note: Parents should closely monitor children’s use of YouTube and Wikipedia if you navigate away from the videos and articles cited in these lessons. We also recommend viewing the videos on a full screen setting in order to minimize your students’ exposure to potentially offensive ads and inappropriate comments beside or beneath the video.*
**Fiat Lux**

Let there be light!

Light is a form of____________________. It comes from_________________________ and_________________________.

Light travels very___________________in_________________________ paths.

Objects you can see through clearly are_________________________. Objects you can see through, but not clearly through are_________________________. Objects you cannot see through are_________________________.

When light bounces off an object, it is called_________________________. When light slows down and is bent, it is called_________________________.

**Word Bank**

energy  man-made  fast  translucent  reflection
natural  straight  transparent  opaque  refraction
Reflection or Refraction?
Science Poetry
Diamante Style Poem

Noun

Adjective, Adjective

Verb, Verb, Verb

Noun, Noun, Noun, Noun

Verb, Verb, Verb

Adjective, Adjective

Noun
Science Poetry
Cinquain Style Poem

________________________ 2 syllables

______________________________ 4 syllables

____________________________________ 6 syllables

____________________________________ 8 syllables

________________________ 2 syllables
Now that we have learned some things about light, we are ready to learn about color. If it were not for light, we would not see color, or much of anything for that matter since it is difficult to see anything in the dark. Remember that light contains all the colors. We call this the **visible spectrum of light**. (Figure 1) As light bounces off objects, the objects absorb some of the colors of light, and other colors are reflected back to us. The light waves that are reflected back are the colors we see. So a red car is reflecting back red light for us to see.

![Figure 1](image)

Do you notice anything familiar about the colors in the visible spectrum? They are the same colors that are in rainbows. An easy way to remember the colors in order is to remember the name ROY G BIV which stands for red, orange, yellow, green, blue, indigo, and violet. In physical science, we have the visible spectrum with seven basic colors, but in the science for creating color, there are three primary colors or **pigments**. They are red, yellow, and blue. These basic colors cannot be created by mixing other colors together.
We are able to make many colors from these three colors. When we mix any two primary colors, we get secondary colors. Examples would be blue + yellow = green, red + blue = purple or red + yellow + orange.

When we mix a primary color with a secondary color, we get tertiary colors. This is how we get colors like brown or aqua or any of the other wonderful colors you see in a box of crayons. These are called additive colors because we add different colors together to get the color we want.

The science of creating color from a printer not only involves a different set of colors, but a different way to create the color we want. Color printer cartridges use cyan, magenta, and yellow ink to create colors. The range of printed colors are created by subtracting color.

There is a debate about whether or not white and black are actually colors. Going back to the rainbow of colors that make up the visible spectrum, you will see that white and black are not included. We have learned that white light contains all the colors. Black is the absence of light and color. So how do we get black and white pigments? Here again is the difference between physical science and the science that makes colors for us to use in our everyday life. White objects reflect all the colors, and since white light contains all the colors, we see white. Black
objects absorb all the colors and do not reflect any light back, so we see the absence of light and color. But, when making black paint, we mix in all the colors.

Color adds much to our lives and can affect our moods. Have you ever heard someone say that they feel blue when they are sad or that they are green with envy? Color can also affect how we taste food. We expect red food to taste sweet, yellow food to be sour, green food to taste tart, and blue food to be not that great.

So, now that you have learned some things about color, we can go and explore the science of color with some activities.

Parents’ Page: Lesson Activities, Worksheets, and Answer Page

1. Fill in the blanks with visible spectrum, light, color, reflected, pigment, primary, red, yellow, blue, secondary, tertiary, many, mood, sweet, sour, tart, or bad.


4. Try mixing colors to make your own hues. Have three different cups of water colored with red, blue, and yellow food coloring. Then mix different quantities of the colored water in other containers. White plastic ice cube trays work well.

5. Here are activities that illustrate how white light is made up of all colors, [http://www.optics4kids.org/home/content/classroom-activities/easy/spinning-your-%28color%29-wheels/](http://www.optics4kids.org/home/content/classroom-activities/easy/spinning-your-%28color%29-wheels/), and black pigment is made up from all colors, [http://www.optics4kids.org/home/content/classroom-activities/easy/black-is-black-%E2%80%94-or-is-it/](http://www.optics4kids.org/home/content/classroom-activities/easy/black-is-black-%E2%80%94-or-is-it/). You could also demonstrate making black paint from all the colors by mixing different colors of paint on a paper plate.

6. Write a diamante poem about white and black. Try making it an antonym diamante where you start with one word and wind up with the other. For directions on how to write an antonym diamante, go to [http://www.poetry4kids.com/blog/lessons/how-to-write-a-diamante-](http://www.poetry4kids.com/blog/lessons/how-to-write-a-diamante-).
poem/ and scroll down for the antonym variation.

7. See also http://www.stevespanglerscience.com/lab/experiments/color-mixing-wheel-sick-science/ where the configurations of primary colors create secondary colors.

8. Watch this video about how color affects taste: https://www.youtube.com/watch?v=1oX7hJLDtpU

9. Get My Many Colored Days by Dr. Seuss from the library or watch a video of it as a read aloud, https://www.youtube.com/watch?v=NINNm7bdIHw, for color and mood.

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The Science of Color

In physical science, white light contains all color which is also referred to as the _____________________________. Black is the absence of ________________ and ________________. As light bounces off an object, the object absorbs some of the colors of light, and other colors are _______________ back to us. The light waves that are reflected back are the colors we see. So a red car is reflecting back red light for us to see.

In the science of making _________________ or color, there are three ________________ ________________ colors. They are ____________, ________________, and _________________. Mixing any two of these colors makes ________________ ________________ colors. ________________ colors are made when you mix a primary color with a secondary color. To make black, we must mix ________________ colors.

Color can affect our ________________. Color can also affect how we expect food to taste. We expect red food to taste ____________, yellow food to taste ____________, green food to taste ____________, and blue food to taste ____________.

Word Bank

<table>
<thead>
<tr>
<th>primary color</th>
<th>colors</th>
<th>tertiary</th>
<th>visible spectrum</th>
<th>sweet</th>
</tr>
</thead>
<tbody>
<tr>
<td>secondary</td>
<td>sour</td>
<td>tart</td>
<td>reflected</td>
<td>many</td>
</tr>
<tr>
<td>mood</td>
<td>light</td>
<td>red</td>
<td>yellow</td>
<td>blue</td>
</tr>
</tbody>
</table>
Science Poetry
Diamante Style Poem

_____________________________________
Noun

_____________________________________
Adjective, Adjective

_____________________________________
Verb, Verb, Verb

_____________________________________
Noun, Noun, Noun, Noun

_____________________________________
Verb, Verb, Verb

_____________________________________
Adjective, Adjective

_____________________________________
Noun
Weeks Thirty-One and Thirty-Two: The Five Senses

Your five senses help you interact with the world around you. Do you know what those senses are? If you answered hearing, seeing, smelling, tasting, and touch, then you are right. Can you name the different body parts we use for each of our five senses? For hearing, we use our ears, and for seeing, we use our eyes. Smelling involves our nose, while tasting is with our tongue. The sense of touch uses our skin. Why do you think we need our senses? It’s so we can enjoy the world around us, and they help to keep us safe. Let’s explore each sense and find out more about it.

**Hearing:** Lie down and be very quiet for about a minute. What do you hear? Our ears help us to know what we are hearing. Maybe we have heard similar sounds before, so our brains know that the ticking is from the school clock or the rumbling noise outside is from the garbage truck. Our hearing gives us a lot of information about what is around us.

The ear is made up of many parts. The external part of the ear, the part you can see, is called the pinna. Sound is caught by the pinna and travels into the ear canal to the eardrum. Next, sound travels to the middle ear which is made up of the hammer, anvil, and stirrup. From there, the sound travels into the internal or inner ear which is made of the cochlea. It then travels to the brain. The brain then unscrambles the sound so it makes sense and you know what you are hearing. The Eustachian tube connects the air-filled space of the middle ear to the throat. It allows the middle ear to drain if you have an ear infection or are sick and to equalize the pressure in your ears when you travel and the elevation changes (like going down or up a mountain).

**Sight:** Our eyes are quite amazing. From the moment you wake up in the morning until you go to sleep at night, your eyes are acting like little cameras, allowing you to take in your world. Whatever you see, your brain remembers what it looks like so you can identify it later. Your eyes are one of your most used senses. You are using it right now to read this lesson!

Sight works when light goes in through the pupil to be unscrambled by your brain. The pupil is the black dot in the middle of your eye that gets bigger or smaller to let in more or less light. The muscle that controls the size of the pupil is the iris. What color is your iris? The white part of the eye is the sclera. Since your eyes are so important, you have parts surrounding your eye to protect it from damage and keep it healthy. Eyebrows and eyelashes are important hairs that keep dust, dirt, sweat, and other things out of your eyes. The eyelid is also important to protect the eye from damage by sweeping dirt out of your eyes with tears.

Unfortunately, not everyone has perfect eyesight. You or others you know might have to wear glasses. Some people can see things far away but not up close; that is called far-sighted. Others can see things up close but not far away; they are near-sighted. Thankfully, those things can be corrected with contacts or glasses by your eye doctor. Some people are born without sight. Close your eyes and imagine how you would walk through your house without your sight. You would have to rely heavily on your other senses. That’s how people without sight adapt to not being able to see. They use their other senses much more than the average person.

**Touch:** Your skin is what gives you the sense of touch. It is the largest organ in your body too. It’s made up of many layers, as well as nerve endings that detect when you’ve touched something. The nerves send messages to your brain which then tell you about the object. Your brain tells you if something is hot, cold, slimy, soft, furry, rough, smooth, or even bumpy. The nerves also tell you when something is painful, like if you step on a building brick or bump into a table leg. This is probably the most important thing about your sense of touch because it helps to keep you safe. It tells your brain that you have hurt a part of your body.

People who are blind use their sense of touch to read. Those books are printed in braille. Braille is a set of bumps in specific patterns. Each pattern stands for a letter. It is not another language, though; it’s just another way to read a language like English.

View the Braille alphabet: https://bit.ly/3clAuyA.

- Print and flip the page over. Color in the dots with a pencil. That will create a raised surface on the printed side. Feel the letters. Solve the riddles if time allows.

Worksheet for touch: http://www.education.com/worksheet/article/5-senses-touch-matching/

**Taste:** The sense of taste helps us to identify four different flavors when we eat things. When you eat chocolate, is the taste bitter, sour, salty, or sweet? You probably answered sweet. That’s because you have tiny taste buds in your mouth on the tip of your tongue that tell your brain that the sugar in the chocolate is sweet. If you eat a lemon, your taste buds will pucker because they are detecting that it is sour. Potato chips will taste salty, and leafy green vegetables like kale can taste bitter. Next time you have a snack, try to identify the taste of each of the foods.

Smell: The scent of flowers like jasmine or honeysuckle blooming in the backyard, the way warm chocolate chip cookies smell when they come out of the oven, or the spray of a skunk are all detected by one part of your body. Your nose! How does your nose know what those smells are? Well, there are little scent receptors in the nose, specifically in the olfactory bulb, that send messages to your brain about what it’s smelling. Certain smells may bring back memories too. That’s because the area of the brain that processes the smell is the same area where memories are stored. So, those cookies baking might remind you of Grandma’s house, and the flowers might remind you of your mother’s perfume.

Your sense of smell is very closely tied to the sense of taste. You might have already realized this if you’ve had a cold because, when you have a stuffy nose, it is really hard to taste your food. Try holding your nose and eating a cookie or a piece of fruit. It probably won’t taste much like what it’s supposed to, does it? While the tongue may only have four areas of taste, when the sense of smell is added, you are able to taste thousands of flavors. That’s because 80% of what we taste is actually smell. Flavor is essentially taste and smell combined.

Activities for Week 1 (included within the reading):

Extension Activity: Detective Sense!
Page 2 lists stations for each of the senses.

Activities Week 2:

1. Read the poem “My Five Senses”: https://iselschultz.wordpress.com/my-five-senses/
3. Go on a nature sensory walk. You can follow page 3: _ _

   Possible walk ideas besides your backyard include the park, a city street, or through the mall. These three example could include taste if you find street food vendors or visit the food court.
After that, have your child draw a picture of something they saw or did along the way. Older students could write or journal about their walk and how they used their five senses.
Weeks Thirty-Three and Thirty-Four: Beginning Experiments

Scientific method is a way we observe and make conclusions about the things around us. It is a step-by-step method that helps us find answers to our questions through interesting experiments. These are the steps:

1. Ask a question. If needed, read about it so you can make a guess to answer your question.
2. Come up with a possible answer. (Hypothesis)
3. Do an experiment to test your answer. (Procedure)
4. Write down what you learn. (Results)
5. Was your hypothesis correct? Tell about it. (Conclusion)

Let’s go through each step, one by one. The first thing to do is ask a question. It can be easy to look around in nature to come up with a question. There are so many things to explore in our world and wonder about! For example, perhaps you are curious about how a whale can live in icy cold water without freezing but we cannot swim in the same water for very long. Ponder the possible reasons. You may need to read or watch a documentary about whales to understand more about them. Think about how you are different from a whale and come up with a hypothesis, or a good guess, on what you think the answer is. It doesn’t have to be the right answer, just what you think based on what you have read and know. In this example, we will say that whales have blubber to keep them warm but we do not, and that’s why they can swim in icy cold water just fine but we cannot.

Next, you perform an experiment to test if what you believe is true. The easiest way to come up with an experiment is to go to the Internet and search for one to try. One search option for our example is “whale blubber experiments.” Select an experiment that goes along with your question. Then you will want to gather the supplies for the experiment you select so you have everything you need before you begin. A good experiment for this is to put on a glove or a plastic zipper bag on one hand. Put that hand into a bucket of icy cold water, and time how long you can keep it in the water. Then put a layer of vegetable shortening on the outside of the glove or bag and cover it with another glove or bag. Put your hand back into the water, and time how long you can keep it in the water this time. Write down the times for both tests as your results. What did you find out? Is your hypothesis correct? Explain to a parent or write down your conclusions on the scientific method worksheet. Was your answer right or wrong, and why? That’s all there is to the scientific method!
So, now you have the tools necessary to perform an experiment about your question and make some conclusions based on your results. Of course, you might be reading something and have a question that leads you to an experiment. There is a worksheet included in this lesson you can use whenever you want to do an experiment. Print off a few copies so you have them ready. Now, let’s get started!

**Activities:**

**Week 1: Blubber!**

Now you get to try out this experiment. Go ahead and make your own hypothesis, and test it with the experiment listed below. Read or watch a film about whales to learn more about them. See if the library has any books on whales to learn even more. You can find background information online here: [http://www.whalefacts.org/whale-facts-for-kids/](http://www.whalefacts.org/whale-facts-for-kids/)

To do the whale blubber experiment at home with background information: [http://www.orcanetwork.org/resources/Blubber.pdf](http://www.orcanetwork.org/resources/Blubber.pdf)

Here is a video of the blubber experiment, if you need a visual. He makes it really easy. [www.youtube.com/watch?v=wwjZBpfW4Sw](https://www.youtube.com/watch?v=wwjZBpfW4Sw)

*SchoolhouseTeachers.com note: Parents should closely monitor children’s use of YouTube and Wikipedia if you navigate away from the videos and articles cited in these lessons. We also recommend viewing the videos on a full screen setting in order to minimize your students’ exposure to potentially offensive ads and inappropriate comments beside or beneath the video.*

**Week 2: Traveling Cars**

One thing that is fun to do while playing with matchbox cars is see how far you can make them go. What if you could figure out a way to make your car travel even farther than usual? That would be really fun! This week you will use your new science skills to figure out how far you can make a matchbox car travel when using a ramp. You will need to make a ramp out of whatever you can find (probably books and a long board, cardboard, or cereal boxes, maybe), your fastest matchbox car, and a measuring tape.

Once you set up the ramp, think about how far your car will go. Make a guess and roll your car down the ramp. Was it close to how far you thought it would go? What could you do to make your car go farther? What if you make the ramp lower or higher? Form a question, try to figure out the answer, and test it. (Possible questions could include: Will a car go farther if a ramp is
raised higher? Will a car go farther if a ramp is lowered? Does the height of a ramp change how far a car will travel?)

Write down your hypothesis. Now it’s time to do your experiment!

**Procedure:**

Create your ramp using books, cereal boxes, car tracks, long boards, or whatever you have around the house. Roll your car down the ramp and measure how far it goes. Record it in your results section. Decide if you are raising or lowering the ramp. Roll the car down the ramp after the change and measure it again. Record your results. Did the car go faster or slower this time? You may repeat this again for the opposite change, meaning if you lowered the ramp first, raise it higher than the original for the next test run. Record your results and tell what you learned.

Parents, if you need a simple procedure to follow try this:

An extension to this experiment is to repeat it but add a weight to the car the second time down the ramp. The weight could be a magnet or maybe use a quarter but tape it down. What do you think will happen now? Will the car go farther because it’s moving faster or not go as far because it’s slowed down? Come up with your hypothesis and test it. Compare the results. Run the weighted car on the higher and lower ramp settings. Compare the results.
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References:

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