

At Home with Nature

Nature doesn't just happen in a park; it can happen right at home!



A resource for **ELEMENTARY STUDENTS** and their families
so they may feel right **AT HOME WITH NATURE**.

WONDERS IN A GARDEN

Videos, experiments and activities
celebrating **SOIL, SEEDS, PLANTS**
and **POLLINATORS**.

Beneath our Feet

Enjoy this video and discover the wonders that
lie just beneath our feet.

<https://youtu.be/SzSvLiA3leM>

It All Begins with a Seed

Enjoy this video and learn about plants and how
they grow.

<https://youtu.be/KegWL3MFNf0>

Pollination Power

Watch this video and discover how flowers form
seeds, often with the help of pollinators.

<https://youtu.be/6bBkYgjHh0I>



Hands-On Science

Be a soil scientist and analyze the soil in your
own backyard. Be a botanist and watch the
plant life-cycle up close.

Directions are below.

Math Connection

Bees are busy pollinators who create hives
filled with one of nature's geometric wonders—
the hexagon. Enjoy this activity and discover
geometry in nature.

Directions are below.

Creative Expression

Create a mosaic using seeds.

Directions are below.

Let's Explore Outdoors

Take the learning outdoors with memorable
family activities.

Details are below.



Hands-On Science



Soil Shake

Materials Needed:

Empty glass or plastic jar with the label removed
Soil from your yard or garden
Water
Salt

Directions:

- Fill the jar about half full with soil.
- Add about 2 tablespoons of salt.
- Fill the jar with water and place the lid securely on top.
- Shake the jar vigorously for a few minutes.
- Place the jar on a flat surface and allow the soil to settle for several hours or overnight. Sand will settle first and this layer will be on the bottom of the jar. Silt will settle next and clay will settle on top of the silt. Floating on top of the water will be the organic matter.



Meet an Earthworm

Look for an earthworm either by digging in loose garden soil or by seeking one crawling on the surface after a rainstorm. Place your worm on a paper plate covered with a moist paper towel. Observe the worm carefully. Which end is the front end? Can you see or feel bristles called setae on the worm? Use a piece of paper to make a low cover over half of the paper plate. Now place the paper plate in a sunny spot. Place the worm so that it is between both the covered and uncovered halves. What does the worm do?

Hands-On Science



Watch It Grow!

Materials Needed:

Bean seeds (2 or 3)
Resealable sandwich-size plastic bag
Paper towel cut into a 4" square
Tape

Directions:

- **Moisten the paper towel with water and place the beans on top. Fold the towel in order to cover the beans on both sides.**
- **Place the folded paper towel into the plastic bag and seal.**
- **Tape the bag to the inside of a sunny window.**
- **Watch as the bean seeds germinate.**
- **When the seedlings are about 2" tall, open the bag and plant the seedlings in a sunny place outdoors OR in a pot filled with rich soil.**
- **Be sure to water the plants regularly.**
- **Measure the growth of your plants every few days.**
- **Enjoy watching as the plants mature, create flowers and then produce more seeds!**



Math Connection



Bees are amazing insects and powerful pollinators. They make 60,000 flights to flowers in order to gather nectar for making just one teaspoon of honey. Their hives, too, with their perfectly designed cells are a true marvel.



A Geometrically Perfect Home

The hexagon is one of nature's geometric wonders. We see six-sided hexagons on the scales of snakes, on the shells of turtles and within beehives!

Use craft sticks (or toothpicks) to create a six-sided hexagon. Add additional craft sticks to expand your hexagon into a series of them. That's called a tessellation—a pattern of interlocking shapes.

Cut twelve 3" paper circles. Also, cut twelve 3.3" paper hexagons (measured from opposite points). Using two sheets of paper (8 1/2" X 11") arrange as many circles on one sheet and as many hexagons on another sheet as you can without overlapping pieces. Which shape allows the greatest number of pieces and leaves the least amount of open space? Which shape would use the least amount of bees' wax for the most cells?

Wouldn't you agree that bees are efficient architects?

Creative Expression



We could not live without seeds! Ancient peoples used seeds for money, jewelry, dyes and spices and, of course, for planting and eating. People value and protect seeds. Today, seeds are stored in special places called seed banks in order to protect them.

Make a Seed Mosaic

Materials Needed:

Seeds—dried beans, lentils, popcorn kernels, rice, seeds from fruits, seeds collected outdoors

Glue

Cardboard

Scissors

Directions:

- Cut a piece of cardboard into your desired shape.
- Cover the cardboard shape with glue.
- Use seeds to cover the surface.
- Display your creation once it is dry.



Let's Explore Outdoors



Pollinator At Work

Look closely around your yard or neighborhood for flowers. Imagine you are a bee. Which flowers are the most attractive to you? Which colors, shapes and scents do you find attractive? Do the

flowers have “landing pads” to welcome insects? Do you notice insects? Do you notice markings on the plants that draw insects to the center of their flowers? Watch for pollinators near the flowers. Have the pollinators selected the same flowers as you have?



Create a Worm Farm

Using an large empty glass jar (a mayonnaise jar works well), place about an inch of rich garden soil in the jar's bottom. Top the soil with an inch of sand. Continue adding layers of garden soil and sand until the jar is 3/4 full. Moisten the layers. Place a few worms on top and cover them with dry leaves. Cover the jar, allowing for ventilation. Place a paper bag over the jar to keep it dark. Check the jar after a few days. Notice the tunnels made by the worms. After observing the worms, return them to your garden.

Let's Explore Outdoors



One Square Foot

Use 4 sticks and yarn to mark off a square foot of area in your yard. Keep a daily journal for one week of all that you observe happening there. Gather a bit of soil from the area and feel its texture. Do you feel rough sand, soft silt or sticky clay in the soil? Is the sun warming your space? What plants are growing in your space? What animal visitors do you observe?



Seed Sleuth

Pull an old sock over one of your shoes and then go for a walk in a wooded area or a grassy field. Now remove the sock and look at it carefully. Do you see any seeds clinging to the sock? Observe the seeds closely. How did each seed's shape or texture allow it to cling to the sock?