



5555 Zoo Boulevard
Wichita, KS 67212
316.660.WILD

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S.T.E.A.M. with Rocks

Choose a square • Complete the activity • Check it off

Use this chart however works best for your family. If you need to have daily tasks, follow the calendar. If you want to do a Wednesday activity on Monday, that is perfect too. Activities are perfect for preschool through high school and will help get all students out of the house. Have them take photos of their creations and share the photos with others. The photos can also be a good evaluation tool for parents who are not working from home.

Monday	Tuesday	Wednesday	Thursday	Friday
Use a pail of water and an old vegetable brush or toothbrush. Collect, clean, and scrub some rocks in your yard. Observe how they are the same/different.	Tape empty toilet paper or paper towel tubes together to make a chute to drop small rocks through. Try out different designs.	Choose a rock. Write a list of words to describe your rock. When you think you are done, challenge yourself to think of 5 more.	Use rocks to make a design on the ground. Add grasses, leaves, twigs, or other items to add color and variety to your design.	Place one 3 – 4 inch rock in the shade. Place another in the sun. Wait 15 minutes. Touch each rock. Do they feel the same or different. How? Why?
Use chalk to color on some rocks. Wash off with water. Repeat. Chalk paint recipe ½ C. cornstarch 1 C. water Food coloring	Fill a bucket or non-breakable bowl with water. Drop in one small rock. Observe what happens. Repeat several times. Write down your observations or tell an adult.	Find a good size rock. Turn it over. What do you observe? Gently put the rock back when finished. Repeat with another rock.	Find 5 or more rocks of different sizes. Put them in order from smallest to largest. Challenge yourself by adding more rocks.	What can you build with rocks and playdough? No playdough? Make a thick mud mixture to use instead and see what you can make.
Collect several rocks. Sort into groups by size, shape, color, texture, etc.	Can you find several small flat rocks? Make a rock tower or pyramid. What else can you make by stacking the rocks?	Go outside after dark. Use a flashlight to find a large rock. What is under the rock? Is it different than what you observed during the daytime? Replace the rock.	Decorate some clean rocks with permanent markers or paint. Make pictures, write letters, make shapes, etc.	Hide your decorated rocks in your yard. See if a sibling or parent can find them. If needed, give clues. Now it's their turn to hide the rocks and you find them!
Find a rock that will write on the sidewalk. Make a fun drawing or write a message. You could also write spelling words or make up a secret code.	Use your chalk rock to draw a hopscotch board or make a maze on the sidewalk. Play a game of hopscotch or follow your maze a couple of times.	Put some small rocks inside an empty plastic bottle. Replace the lid. You have a musical instrument! Shake it while singing your favorite song.	Use small rocks to design a picture on cardboard or the back of a cereal box. Glue the rocks for a more permanent design.	Have an adult take you to a nearby pond or lake. Spend some time skipping rocks on top of the water.
Make a path by placing rocks about 6 inches apart. Remove your shoes. Close your eyes. Can you follow your path by only using your sense of touch?	Spell out your name or the name of your favorite sports team using rocks.	Use an empty 2 liter bottle. Stand beside the bottle and try to drop small rocks into the bottle. How many made it? How many did not? Try again.	Fill a bowl or bottle with small rocks. Is it full? Are you sure? Slowly pour in water. What happens? Did the bowl hold any water? Why or why not?	Put small rocks inside different recyclables like a box, aluminum can, etc. Shake. How many different sounds can you make?



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Kansas College and Career Readiness Science Standards

Grade	KCCRSS	Description
Kindergarten	K-PS2-1	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.
	K-PS3-2	Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.
First	1-PS4-1	Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.
	1-PS4-3	Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.
Second	2-PS1-1	Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
	2-PS1-3	Make observation to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.
	2-ESS2-1	Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.
Third	3-PS2-1	Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.
Fourth	*4-ESS3-1	Obtain and combine information to describe that energy and fuels and derived from natural resources and their uses affect the environment.
Fifth	5-PS1-3	Make observations and measurements to identify materials based on their properties
Third-Fifth	3-5-ETS1-1	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, and cost.
Middle School	*MS-PS2-2	Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object
	*MS-ETS1-3	Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.

* Additional activity/discussion required.