Office of Standards and Learning
South Carolina Department of Education

Distance Learning Resources for Elementary Science K-5

The Office of Standards and Learning has compiled the resources in this document for elementary level (K-5) Science learners in light of school closures due to the community impact of COVID-19.

The *South Carolina College- and Career-Ready Standards for Science* informed the selection and organization of these resources.

Note for the Teacher:
The resources listed below are learning experiences to get your students exploring science in the world around them, including skills it takes to think like scientists and or engineers. Teachers, choose among the resources listed below based on knowledge of your students and the work that has already been experienced in your classroom. Each of the following learning experiences can be given to students as they are stated below. Some have multiple options to choose from. However, feel free to modify as needed for your students. There are also virtual components of research for those that have access and you may choose how you would like for them to document their learning. The experiences can be copied and pasted into a document to be copied and sent to students, or they can be copied and pasted into your district's learning management system.

Kindergarten: Connection to Standards/SEP's	For Students
Exploring Organisms and Environment K.S.1A.1 Ask and answer questions about the natural world using explorations, observations, or structured investigations. K.L.2A.4 Analyze and interpret data to describe how humans use their senses to learn about the world around them.	Gather items that you would like to explore through your five senses. Use a blindfold or close your eyes. Describe how each of your things taste, smell, look, sound, feel.
Weather Patterns K.E.3A.4 Define problems caused by the effects of weather on human activities and design solutions or devices to solve the problem.	Brainstorm problems that weather can cause. Choose the problem that you feel like you can come up with a solution to. Come up with a way to show how you will fix your problem.
Properties of Objects and Materials K.P.4A.1 Analyze and interpret data to compare the qualitative properties of objects (such as size, shape, color, texture, weight, flexibility, attraction to magnets, or ability to sink or float) and classify objects based on similar properties.	Brainstorm things that you think will sink or float. Ask questions about what you think may sink or float. Gather items in your home. With help from an adult. Use either a bathtub or bowl of water to test items in your water. Make a prediction on if you think it will sink or float. What did you notice about the items that sink? What do you notice about items that float? With what you have learned in mind, design an object that you think might float and explain why. Test it and redesign if needed.

First Grade: Connection to Standards/SEP's	For Students
Light and Shadow 1.P.2A.1 Obtain and communicate information to describe how light is required to make objects visible 1.P.2A.3 Conduct structured investigations to answer questions about how shadows change when the position of the light source changes.	Using a flashlight, or a lamp, shine it against a blank wall and put different objects in front of it to make shadows. Questions to further inquiry (have discussions and think through the following): How many things do you think you need to make a shadow? What are the objects you need to make a shadow? Do shadows move? If so, how do they move? Can you make a shadow disappear? Can you make a shadow bigger or smaller? If so, how? Using what you know about light and shadow, write a journal response to the following: You and your friend are in a room with no windows. The lights go out. What are some things you could use to be able to see each other? Draw or write.
Natural Resources 1.E.4A.1 Analyze and interpret data from observations and measurements to compare the properties of Earth materials (including rocks, soils, sand, and water).	Go out and collect what they think are earth materials. Come back inside, discuss what you found, sort, and label items. Questions to promote thinking: Why did you sort them this way? What do you notice about the objects? What does it make you wonder?
Plants and their Environments 1.L.5A.1 Obtain and communicate information to construct explanations for how different plant structures (including roots, stems, leaves, flowers, fruits, and seeds) help plants survive, grow, and produce more plants.	Think through the following questions: What do you know about plants? What do they need to grow? What do you think plants need to survive? How do you know? Decide on a plant that you would like to be. Come up with a way to show what type of plant you would like to be, where you would want to live, and what you would need to survive.

Second Grade: Connection to Standards/SEP's	For Students
Weather 2.E.2A.1 Analyze and interpret data from observations and measurements to describe local weather conditions (including temperature, wind, and forms of precipitation). 2.E.2A.2 Analyze local weather data to predict daily and seasonal patterns over time.	• Based on prior knowledge of weather, you will need to collect data on temperature, wind, and forms of precipitation from their immediate area. Data can be found by watching the local news, newspaper, a weather app, or through observation. Determine how to gather, record, and communicate the weather data. ○ After weather for the week has been gathered, recorded, and find a way to show how you will predict weather patterns for the following week. • Explore website: http://www.weatherwizkids.com/ ○ Choose a type of severe weather and create a safety poster that describes the dangers of the severe weather and what safety measures need to be taken. Weather Wiz Kids. (n.d.). Retrieved from http://www.weatherwizkids.com/
Solids and Liquids 2.P.3A.1 Analyze and interpret data from observations and measurements to describe the properties used to classify matter as a solid or a liquid.	Choose multiple objects around your home that you think may be identified as solids and liquids. Sort and discuss. What properties does each group of items have? Reflection questions: How did you identify if your object was a solid or a liquid? What similar properties do solids and liquids have in common?
Pushes and Pulls 2.P.4A.1 Analyze and interpret data from observations and measurements to compare the effects of different strengths and directions of pushing and pulling on the motion of an object. 2.P.4A.4 Conduct structured investigations to answer questions about the relationship between friction and the motion of objects.	Set up an area of the room with things that move (balls, tops, electronic toys, hot wheels, pinwheels etc. -use your imagination ○ Discuss: What causes objects to move? What would happen if… ○ Explore: moving different objects on different surfaces (Discussion questions: what caused your objects to move?) ○ Explore: how different push, pull and gravity cause motion ○ Create a "graffiti poster" about what you learned

Third Grade: Connection to Standards/SEP's	For Students
Electricity in Magnetism 3.P.3A.1 Obtain and communicate information to develop models showing how electrical energy can be transformed into other forms of energy (including motion, sound, heat, or light).	Use magazines, websites, books, etc. to find examples of these different types of energy Discussion Questions: Why are these pictures examples of _____ energy? Can these pictures be examples of any other forms of energy? Reflect/Response: Choose any activity you completed today or saw someone complete today. What form of energy do you think it took to complete that activity? Why do you think that form of energy was used? How was it used?
Earths Materials and Processes 3.E.4A.3 Obtain and communicate information to exemplify how humans obtain, use, and protect renewable and nonrenewable Earth resources. 3.E.4B.3 Obtain and communicate information to explain how natural events (such as fires, landslides, earthquakes, volcanic eruptions, or floods) and human activities (such as farming, mining, or building) impact the environment. 3.E.4B.4 Define problems caused by a natural event or human activity and design devices or solutions to reduce the impact on the environment.	• Community Plan: Create a plan to share with your community to help them understand and want to use less natural resources. • Choose a natural event (fires, landslides, earthquakes, volcanic eruptions, or floods) and explain with evidence how this event impacts the environment.
Environments and Habitats 3.L.5A.1 Analyze and interpret data about the characteristics of environments (including salt and fresh water, deserts, grasslands, forests, rain forests, and polar lands) to describe how the environment supports a variety of organisms	Your local zoo is going to build a new habitat for one of their animals. Choose an animal, ask and answer (research) questions about the problems or needs related to maintaining that type of habitat for whichever animal is chosen. Think through a plan of how you would design your habitat. Generate and communicate ideas for possible habitat designs with a family member or friend (on the phone) to determine if the proposed habitat design will be effective. Refine their designs as necessary. Design/build a model of your habitat.

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Fourth Grade: Connection to Standards/SEP's	For Students
Weather and Climate 4.E.2B.1 Analyze and interpret data from observations, measurements, and weather maps to describe patterns in local weather conditions (including temperature, precipitation, wind speed/direction, relative humidity, and cloud types) and predict changes in weather over time. 4.E.2B.2 Obtain and communicate information about severe weather phenomena (including thunderstorms, hurricanes, and tornadoes) to explain steps humans can take to reduce the impact of severe weather phenomena.	• Based on prior knowledge of weather, collect data including temperature, precipitation, wind speed/direction, relative humidity, and cloud types from your immediate area. Data can be found by watching the local news, newspaper, a weather app, or through observation. Determine how to gather, record, and communicate the weather data. o After weather for the week has been gathered, recorded, and communicated, predict weather patterns for the following week, and make note of your predictions vs. reality. (total of 2 weeks) • Severe Weather: Discussion Questions to think through: Have you ever planned an activity and had it ruined by bad weather? What was it? What is considered "bad weather"? What type of weather have you seen or heard of in South Carolina that can be destructive? What are things that can be destroyed by severe weather? What severe weather do other states usually encounter that we don't see much at all? (tornadoes, ice storms, hurricanes, etc.) o Choose a type of severe weather and create a public service announcement that describes the dangers of the severe weather and what safety measures need to be taken.
Forms of Energy - Light and Sound 4.P.4A.4 Develop and use models to describe how light travels and interacts when it strikes an object (including reflection, refraction, and absorption) using evidence from observations. 4.P.4A.5 Plan and conduct scientific investigations to explain how light behaves when it strikes transparent, translucent, and opaque materials. 4.P.4B.3 Define problems related to the communication of information over a distance and design devices or solutions that use sound to solve the problem.	• Light: Gather items around your home and outside; use any source of light to create your observations. Use the question: What Happens When Light Strikes the Surface of Different Objects? to guide your exploration. Predict what will happen when each source of light strikes the surface of different objects. Then try it, and write down your notices and scientific explanations (why did what happened, happen?) • Sound: Design a device that will create the clearest transmission of sound over a given distance (whether it be a model drawing, or an actual device with materials present in the home).

	○ Prepare a persuasive presentation or writing to convince the audience that their device is the best created based on their knowledge and understanding of sound.

Fifth Grade: Connection to Standards/SEP's	For Students
Changes in Landforms and Oceans 5.E.3B.1 Analyze and interpret data to describe and predict how natural processes (such as weathering, erosion, deposition, earthquakes, tsunamis, hurricanes, or storms) affect Earth's surface. 5.E.3B.4 Define problems caused by natural processes or human activities and test possible solutions to reduce the impact on landforms and the ocean shore zone.	• Choose a natural process that may be occurring somewhere in the world that is changing landforms and/or oceans (such as weathering, erosion, deposition, earthquakes, tsunamis, hurricanes, or storms). Research how the natural process and human activities are contributing to the problem. Choose a way to communicate to the public how the natural process is contributing to the problem, and what we as humans can do to reduce the problems.
Forces and Motion 5.P.5A.2 Develop and use models to explain how the amount or type of force (contact and noncontact) affects the motion of an object. 5.P.5A.3 Plan and conduct controlled scientific investigations to test the effects of balanced and unbalanced forces on the rate and direction of motion of objects.	• You to move a box in your room, but it is too heavy to carry or push. What can you do or use to move the box without carrying it? How do you know your method will work? Design a solution to your problem. Communicate your solution in any format (ie. Written explanation, model with explanation, etc.)

References

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