FOSS Next Generation Alignment to Georgia K-5 Science Standards of Excellence

Physical Science - Grades K-5

			Materials and Motion	Sound and Light	Solids and Liquids	Forces in Action	Motion and Matter	Energy	Mixtures and Solutions
		SKP1							
K	A	Ask questions to compare and sort objects made of different materials. (Common materials include clay, cloth, plastic, wood, paper, and metal).	✓						
	B	Use senses and science tools to classify common objects, such as buttons or swatches of cloth, according to their physical attributes (color, size, shape, weight, and texture).	✓						
	C	Plan and carry out an investigation to predict and observe whether objects, based on their physical attributes, will sink or float.	✓						
		SKP2							
	A	Plan and carry out an investigation to determine the relationship between an object's physical attributes and its resulting motion (straight, circular, back and forth, fast and slow, and motionless) when a force is applied.	✓						
	B	Construct and argument as to the best way to move an object based on its physical attributes.	✓						
		S1P1							
1	A	Use observations to construct an explanation of how light is required to make objects visible.		✓					
	B	Ask questions to identify and compare sources of light.		✓					
	C	Plan and carry out an investigation of shadows by placing objects at various points from a source of light.		✓					
	D	Construct an explanation supported by evidence that vibrating materials can make sound and that sound can make materials vibrate.		✓					
	E	Design a signal that can serve as an emergency alert using light and/or sound to communicate over a distance.		✓					
		S1P2							
	A	Construct an explanation of how magnets are used in everyday life.				✓			
	B	Plan and carry out an investigation to demonstrate how magnets attract and repel each other and the effect of magnets on common objects.				✓			

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Physical Science - Grades K-5

		S2P1	Materials and Motion	Sound and Light	Solids and Liquids	Forces in Action	Motion and Matter	Energy	Mixtures and Solutions
2	A	Ask questions to describe and classify different objects according to their physical properties.			✓				
	B	Construct an explanation for how structures made from small pieces (linking cubes, building blocks) can be disassembled and then rearranged to make new and different structures.			✓				
	C	Provide evidence from observations to construct an explanation that some changes in matter caused by heating or cooling can be reversed and some changes are irreversible.			✓				
		S2P2							
	A	Plan and carry out an investigation to demonstrate how pushing and pulling on an object affects the motion of the object.				✓			
	B	Design a device to change the speed or direction of an object.				✓			
	C	Record and analyze data to decide if a design solution works as intended to change the speed or direction of an object with a force (a push or pull).				✓			

		S3P1	Materials and Motion	Sound and Light	Solids and Liquids	Water and Climate	Motion and Matter	Energy	Mixtures and Solutions
3	A	Ask questions to identify sources of heat energy.						✓	
	B	Plan and carry out an investigation to gather data using thermometers to produce tables and charts that illustrate the effect of sunlight on various objects.				✓			
	C	Use tools and everyday materials to design and construct a device/structure that will increase/decrease the warming effects of sunlight on various materials.				✓			

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Physical Science - Grades K-5

		S4P1	Materials and Motion	Sound and Light	Solids and Liquids	Water and Climate	Motion and Matter	Energy	Mixtures and Solutions
4	A	Plan and carry out investigations to observe and record how light interacts with various materials to classify them as opaque, transparent, or translucent.						✓	
	B	Plan and carry out investigations to describe the path light travels from a light source to a mirror and how it is reflected by the mirror using different angles.						✓	
	C	Plan and carry out an investigation utilizing everyday materials to explore examples of when light is refracted.						✓	
		S4P2							
	A	Plan and carry out an investigation utilizing everyday objects to produce sound and predict the effects of changing the strength or speed of vibrations.						✓	
	B	Design and construct a device to communicate across a distance using light and/or sound.						✓	
		S4P3							
	A	Plan and carry out an investigation on the effects of balanced and unbalanced forces on an object and communicate the results.					✓		
	B	Construct an argument to support the claim that gravitational force affects the motion of an object.					✓		
	C	Ask questions to identify and explain the uses of simple machines and how forces are changed when simple machines are used to complete tasks.					Science FLEX: Machines at work and play		

		S5P1	Materials and Motion	Sound and Light	Solids and Liquids	Motion and Matter	Energy	Mixtures and Solutions	Living Systems
5	A	Plan and carry out investigations of physical changes by manipulating, separating, and mixing dry and liquid materials.						✓	
	B	Construct an argument based on observations to support a claim that the physical changes in the state of water are due to temperature changes, which cause small particles that cannot be seen to move differently.							✓
	C	Plan and carry out an investigation to determine if a chemical change occurred based on observable evidence.						✓	
		S5P2							
	A	Obtain and combine information from multiple sources to explain the difference between naturally occurring electricity (static) and human-harnessed electricity.					✓		
	B	Design a complete, simple electric circuit, and explain all necessary components.					✓		
	C	Plan and carry out investigations on common materials to determine if they are insulators of conductors of electricity.					✓		
		S5P3							
	A	Construct an argument based on experimental evidence to communicate the differences in function and purpose of an electromagnet and a magnet.					✓		
	B	Plan and carry out an investigation to observe the interaction between a magnetic field and a magnetic object.					✓		

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Earth Space Sciences - Grades K-5

			Trees and Weather	Air and Weather	Pebbles, Sand, and Silt	Water and Climate	Soils, Rocks, and Landforms	Earth and Sun
		SKE1						
K	A	Ask questions to classify objects according to those seen in the day sky, the night sky, and both.	✓					
	B	Develop a model to communicate the changes that occur in the sky during the day, as day turns into night, and as night turns into day using pictures and words.		✓				
		SKE2						
	A	Ask questions to identify and describe earth materials…soil, rocks, water, and air.			✓			
	B	Construct an argument supported by evidence for how rocks can be grouped by physical attributes.			✓			
	C	Use tools to observe and record physical attributes of soil such as texture and color.			✓			
		S1E1						
1	A	Represent data in tables and/or graphs to identify and describe different types of weather and the characteristics of each type.	✓	✓				
	B	Ask questions to identify forms of precipitation such as rain, snow, sleet, and hailstones as either solid or liquid.	✓	✓				
	C	Plan and carry out investigations on current weather conditions by observing, measuring with simple weather instruments, and recording weather data in a periodic journal, on a calendar, and graphically.		✓				
	D	Analyze data to identify seasonal patterns of change.		✓				
		S2E1						
2	A	Ask questions to describe the physical attributes of stars.						Not addressed
	B	Construct an argument to support the claim that although the sun appears to be the brightest and largest star, it is actually medium in size and brightness.						Not addressed
		S2E2						
	A	Plan and carry out an investigation to determine the effect of the position of the sun in relation to a fixed object on Earth at various times of the day.		✓				
	B	Design and build a structure that demonstrates how shadows change throughout the day.						
	C	Represent data in tables and/or graphs of the length of the day and night to recognize the change in seasons.		✓				
	D	Use data from person observations to describe, illustrate, and predict how the appearance of the moon changes over time in a pattern.		✓				
		S2E3						
	A	Ask questions to obtain information about major changes to the environment in your community.						Not addressed
	B	Construct an explanation of the causes and effects of a change to the environment in your community.						Not addressed

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Earth Space Sciences - Grades K-5

			Trees and Weather	Air and Weather	Pebbles, Sand, and Silt	Water and Climate	Soils, Rocks, and Landforms	Earth and Sun
		S3E1						
3	A	Ask Questions and analyze data to classify rocks by their physical attributes using simple tests.			✓			
	B	Plan and carry out investigations to describe properties of soils and soil types.					✓	
	C	Make observations of the local environment to construct an explanation of how water and/or wind have made changes to soil and/or rocks over time.					✓	
		S3E2						
	A	Construct an argument from observations of fossils to communicate how they serve as evidence of past organisms and the environments in which they lived.					✓	
	B	Develop a model to describe the sequence and conditions required for an organism to become fossilized.					✓	
		S4E1						
4	A	Ask questions to compare and contrast technological advances that have changed the amount and type of information on distant objects in the sky.						✓
	B	Construct an argument on why some stars appear to be larger or brighter than others.						Not addressed
	C	Construct an explanation of the differences between stars and planets.						✓
	D	Evaluate strengths and limitations of models of our solar system in describing relative size, order, appearance and composition of planets and the sun.						✓
		S4E2						
	A	Develop a model to support an explanation of why the length of day and night change throughout the year.						✓
	B	Develop a model based on observations to describe the repeating pattern of the phases of the moon.						✓
	C	Construct an explanation of how the Earth's orbit, with its consistent tilt, affects seasonal changes.						✓
		S4E3						
	A	Plan and carry out investigations to observe the flow of energy in water as it changes states from solid to liquid to gas and changes from gas to liquid to solid.				✓		✓
	B	Develop models to illustrate multiple pathways water may take during the water cycle.				✓		✓
		S4E4						
	A	Construct an explanation of how weather instruments are used in gathering weather data and making forecasts.				✓		
	B	Interpret data from weather maps, including fronts, temperature, pressure, and precipitation to make an informed prediction about tomorrow's weather.				✓		
	C	Ask questions and use observations of cloud types and data of weather conditions to predict weather events.						Not addressed
	D	Construct an explanation based on research to communicate the difference between weather and climate.				✓		✓

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Earth Space Sciences - Grades K-5

	S5E1		Trees and Weather	Air and Weather	Pebbles, Sand, and Silt	Water and Climate	Soils, Rocks, and Landforms	Earth and Sun
5	A	Construct an argument supported by scientific evidence to identify surface features as being caused by constructive and/or destructive processes.					✓	
	B	Develop simple interactive models to collect data that illustrate how changes in surface features are/were caused by constructive and/or destructive processes.					✓	
	C	Ask questions to obtain information on how technology is used to limit and/or predict the impact of constructive and destructive processes.					✓	

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Life Science - Grades K-5

		SKL1	Animals 2x2	Plants and Animals	Insects and Plants	Structures of Life	Environments	Living Systems
K	A	Construct an explanation based on observations to recognize the differences between organisms and nonliving objects.	✓	✓				
	B	Develop a model to represent how a set of organisms and nonliving objects are sorted into groups based on their attributes.	✓					
		SKL2						
	A	Construct an argument supported by evidence for how animals can be grouped according to their features.	✓					
	B	Construct an argument supported by evidence for how plants can be grouped according to their features.	✓					
	C	Ask questions and make observations to identify the similarities and differences of offspring to their parents and to other members of the same species.	✓	✓	✓			

		S1L1	Animals 2x2	Plants and Animals	Insects and Plants	Structures of Life	Environments	Living Systems
1	A	Develop models to identify the parts of a plant.		✓				
	B	Ask questions to compare and contrast the basic needs of plants and animals.		✓				
	C	Design a solution to ensure that a plant or animal has all of its needs met.	✓	✓	✓			

		S2L1	Animals 2x2	Plants and Animals	Insects and Plants	Structures of Life	Environments	Living Systems
2	A	Ask questions to determine the sequence of the life cycle of common animals in your area.			✓			
	B	Plan and carry out an investigation of the life cycle of a plant by growing a plant from a seed and by recording changes over a period of time.			✓			
	C	Construct an explanation of an animal's role in dispersing seeds or in the pollination of plants.			✓			
	D	Develop models to illustrate the unique and diverse life cycles of organisms other than humans.			✓			

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Life Science - Grades K-5

		S3L1	Animals 2x2	Plants and Animals	Insects and Plants	Structures of Life	Environments	Living Systems
3	A	Ask questions to differentiate between plants, animals, and habitats found within Georgia's geographic regions.					✓	
	B	Construct an explanation of how external features and adaptations of animals allow them to survive in their habitat.				✓		
	C	Use evidence to construct an explanation of why some organisms can thrive in one habitat and not in another.				✓	✓	
		S3L2						
	A	Ask questions to collect information and create records of sources and effects of pollution on the plants and animals.					✓	
	B	Explore, research, and communicate solutions, such as conservation of resources and recycling of materials, to protect plants and animals.					✓	

		S4L1	Animals 2x2	Plants and Animals	Insects and Plants	Structures of Life	Environments	Living Systems
4	A	Develop a model to describe the roles of producers, consumers, and decomposers in a community.					✓	✓
	B	Develop simple models to illustrate the flow of energy through a food web/food chain beginning with sunlight and including producers, consumers, and decomposers.					✓	✓
	C	Design a scenario to demonstrate the effect of a change on an ecosystem.					✓	
	D	Use printed and digital data to develop a model illustrating and describing changes to the flow of energy in an ecosystem when plants or animals become scarce, extinct, or over-abundant.					✓	✓

FOSS Next Generation Alignment to Georgia K-5 Science Standards of Excellence

Life Science - Grades K-5

			Animals 2x2	Plants and Animals	Insects and Plants	Structures of Life	Living Systems	Diversity of Life (Middle School)
		S5L1						
5	A	Develop a model that illustrates how animals are sorted into groups and how vertebrates are sorted into groups using data from multiple sources.						Not addressed
	B	Develop a model that illustrates how plants are sorted into groups using data from multiple sources.						Not addressed
		S5L2						
	A	Ask questions to compare and contrast instincts and learned behaviors.					✓	
	B	Ask questions to compare and contrast inherited and acquired physical traits.				✓	✓	
		S5L3						
	A	Gather evidence by utilizing technology tools to support a claim that plants and animals are comprised of cells too small to be seen without magnification.						✓
	B	Develop a model to identify and label parts of a plant cell and of an animal cell.						✓
	C	Construct an explanation that differentiates between the structure of plant an animal cells.						✓
		S5L4						
	A	Construct an argument using scientific evidence to support a claim that some microorganisms are beneficial.						✓
	B	Construct an argument using scientific evidence to support a claim that some microorganisms are harmful.						✓