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JC Schools 4th Grade Yearly Science Standards

	Overarching Standards
	4.ETS1.A.1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost **4.ETS1.B.1** Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem **4.ETS1.C.1** Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved
Units	**Priority Standards**
Unit 1 Motion and Forces **(Third Grade Inspire Text)** **43 Total Days**	**4.PS2.A.1** **MAKE** observations and or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion **4.PS2.A.2** **PLAN and CONDUCT** an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object **4.PS2.B.1** **PLAN and CONDUCT** a fair test to compare and contrast the forces (measured by a spring scale in Newtons)required to overcome friction when an object moves over different surfaces (rough/smooth) **4.PS2.B.2** **PREDICT** how changes in whether the amount of force applied to an object or the mass of the object affects the motion (speed and direction) of the object

	4.PS3.C.1 **USE** models to **EXPLAIN** that simple machines change the amount of effort force and/or direction of force**.**
Unit 2 Energy and Motion **24 Total Days**	**4.PS3.A.1** **USE** evidence to **CONSTRUCT** an explanation relating the speed of an object to the energy of that object
Unit 3 Transfer of Energy **30 Total Days**	**4.PS3.B.2** **APPLY** scientific ideas to **DESIGN**, **TEST,** and **REFINE** a device that converts energy from one form to another**.** **4.PS3.B.1** **PROVIDE** evidence to **CONSTRUCT** an explanation of an energy transformation (temperature change, light, sound, motion, and magnetic fields)
Unit 4 Patterns of Earth's Changing Features **22 Total Days**	**4.ESS1.C.1** **IDENTIFY** evidence from patterns in rock formations and fossils in rock layers to **SUPPORT** an explanation for changes in a landscape over time *[Clarification Statement: Examples of evidence from patterns could include rock layers with marine shell fossils above rock layers with plant fossils and no shells, indicating a change from land to water over time; and, a canyon with different rock layers in the walls and a river in the bottom, indicating that over time a river cut through the rock]* **4.ESS2.B** **ANALYZE and INTERPRET** data from maps to describe patterns of Earth's features. {Clarification Statement: Maps can include topographic maps of Earth's land and ocean floor, as well as maps of the locations of mountains, continental boundaries, volcanoes, and earthquake **4.ESS3.A.1** **GENERATE** and **COMPARE** multiple solutions to reduce the impacts of natural Earth processes(e.g. weathering and erosion) on humans **4.ESS2.A.1**

	PLAN and **CONDUCT** scientific investigations or simulations to **PROVIDE** evidence how natural processes (e.g. weathering and erosion) shape Earth's surfaces
Unit 5 Wave Patterns and Information Transfer **18 Total Days**	**4.PS4.A.1** **DEVELOP** a model of waves to **DESCRIBE** patterns in terms of amplitude or wavelength and that waves can cause objects to move.
Unit 6 Structure and Function of Living Things **25 Total Days**	**4.LS1.A.1** **CONSTRUCT** an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and plant reproduction *[Clarification Statement: Examples of structures could include thorns, stems, roots, colored petals, heart, stomach, lung, brain, and skin* **4.LS1.D.1** **USE** a model to **DESCRIBE** that animals receive different stimuli through their senses, process the information in their brain, and respond to the information in different ways *[Clarification Statement: Emphasis is on systems of information transfer]*