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Physical Science				
2016 Indiana Academic Standards	**Clarifying Statements**	**Vocabulary**	**Crosscutting Concept**	**Disciplinary Core Idea**
3.PS.1 Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.	**(1)** Examples could include that an unbalanced force on one side of a ball can make it start moving and that balanced forces pushing on a box from both sides will not produce any motion at all.		Cause and Effect	PS2.A: Forces and Motion PS2.B: Types of Interactions
3.PS.2 Identify types of simple machines and their uses. Investigate and build simple machines to understand how they are used.		**pulley** – uses grooved wheels and a rope to raise, lower, or move a load **lever** – a stiff bar that rests on a support called a fulcrum which lifts or moves loads **wedge** – an object with at least one slanting side ending in a sharp edge **wheel and axle** – a wheel with a rod, called an axle, through its center lifts or moves loads **inclined plane** – a slanting surface connecting a lower lever to a higher level **screw** – an inclined plane wrapped around a pole which holds things together or lifts materials	Systems and System Models	PS2.A: Forces and Motion

3.PS.3 Generate sound energy using a variety of materials and techniques, and recognize that it passes through solids, liquids, and gases (i.e. air).			Energy and Matter	PS3.A: Definitions of Energy PS4.A: Wave Properties
3.PS.4 Investigate and recognize properties of sound that include pitch, loudness (amplitude), and vibration as determined by the physical properties of the object making the sound.			Energy and Matter	PS3.A: Definitions of Energy PS4.A: Wave Properties

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Earth and Space Science				
2016 Indiana Academic Standards	**Clarifying Statements**	**Vocabulary**	**Crosscutting Concepts**	**Disciplinary Core Idea**
3.ESS.1 Obtain and combine information to determine seasonal weather patterns across the different regions of the United States.	**(1)** Examples of data could include average temperature, precipitation, and wind direction.		Patterns	ESS2.D: Weather and Climate
3.ESS.2 Develop solutions that could be implemented to reduce the impact of weather related hazards.	**(1)** Examples of solutions to weather related hazards could include barriers to prevent flooding, wind-resistant roofs, and lightning rods.	**tornado** – violently rotating column of air that spins while in contact with both the Earth and clouds **thunderstorm** – a storm with thunder and lightning and typically also heavy rain or hail **hurricane** – a storm with a violent wind, particular a tropical cyclone in the Caribbean **flood** – an overflowing of a large amount of water beyond its normal confines, especially over what is normally dry land **landslide** – the sliding down of a mass of earth or rock from a mountain or cliff	Cause and Effect	ESS2.D: Weather and Climate ESS3.B: Natural Hazards
3.ESS.3 Observe the detailed characteristics of rocks and minerals. Identify and classify rocks as being composed of different combinations of minerals.		**igneous** – having solidified from lava or magma **sedimentary** – formed from sediment deposited by water or air **metamorphic** – undergone transformation by heat, pressure, or other natural agencies	Structure and Function	ESS2.A: Earth's Materials and Systems

3.ESS.4 Determine how fossils are formed, discovered, layered over time, and used to provide evidence of the organisms and the environments in which they lived long ago.	**(1)** Examples of data could include type, size, and distributions of fossil organisms. **(2)** Examples of fossils and environments could include marine fossils found on dry land, tropical plant fossils found in Artic areas, and fossils of extinct organisms.	**fossil** – the remains or impression of a prehistoric organism preserved in petrified form or as a mold or cast in rock	Cause and Effect Structure and Function	ESS1.C: The History of Planet Earth LS4.A: Evidence of Common Ancestry and Diversity

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Life Science				
2016 Indiana Academic Standards	**Clarifying Statements**	**Vocabulary**	**Crosscutting Concepts**	**Disciplinary Core Ideas**
3.LS.1 Analyze evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.	**(1)** Patterns are the similarities and differences in traits shared between offspring and their parents, or among siblings. **(2)** Emphasis is on organisms other than humans.	**inherited** – derive (a quality, characteristic, or predisposition) genetically from one's parents or ancestors **traits** – a distinguishing quality or characteristic	Patterns	LS3.A: Inheritance of Traits LS3.B: Variation of Traits
3.LS.2 Plan and conduct an investigation to determine the basic needs of plants to grow, develop, and reproduce.			Structure and Function	
3.LS.3 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.			Structure and Function Stability and Change	LS1.A: Structure and Function LS1.B: Growth and Development of Organisms

3.LS.4 Construct an argument that some animals form groups that help members survive.			Cause and Effect	LS2.D: Social Interactions and Group Behavior

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Engineering				
2016 Indiana Academic Standards	**Clarifying Statements**	**Vocabulary**	**Crosscutting Concepts**	**Disciplinary Core Ideas**
3-5.E.1 Identify a simple problem with the design of an object that reflects a need or a want. Include criteria for success and constraints on materials, time, or cost.			Scale, Proportion, and Quantity Systems and System Models	ETS1.A: Defining and Delimiting an Engineering Problem
3-5.E.2 Construct and compare multiple plausible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.				ETS1.B: Developing Possible Solutions ETS1.C: Optimizing the Design Solution
3-5.E.3 Construct and perform fair investigations in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.		**prototype** – the original or model on which something is based or formed	Systems and System Models	