

Sixth Grade NGSS to 2016 IAS Correlation Guide

Physical Science	
Next Generation Science Standards	2016 Indiana Academic Standards
	6.PS.1 Distinguish between the terms position, distance, and displacement, as well as, the terms speed and velocity.
	6.PS.2 Describe the motion of an object graphically showing the relationship between time and position.
<p>MS-PS3-1 Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.</p> <p>MS-PS3-2 Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.</p>	6.PS.3 Describe how potential and kinetic energy can be transferred from one form to another.
<p>MS-PS4-1 Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.</p> <p>MS-PS4-2 Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.</p>	6.PS.4 Investigate the properties of light, sound, and other energy waves and how they are reflected, absorbed, and transmitted through materials and space.

Earth and Space Science	
Next Generation Science Standards	2016 Indiana Academic Standards
MS-ESS1-2 Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.	6.ESS.1 Describe the role of gravity and inertia in maintaining the regular and predictable motion of celestial bodies.
5-ESS1-2 Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	6.ESS.2 Design models to describe how Earth's rotation, revolution, tilt, and interaction with the sun and moon cause seasons, tides, changes in daylight hours, eclipses, and phases of the moon.

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<p>MS-ESS1-3 Analyze and interpret data to determine scale properties of objects in the solar system.</p>	<p>6.ESS.3 Compare and contrast the Earth, its moon, and other planets in the solar system, including comets and asteroids. (Comparisons should be made in regard to size, surface features, atmospheric characteristics, and the ability to support life.)</p>
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Life Science	
Next Generation Science Standards	2016 Indiana Academic Standards
	<p>6.LS.1 Investigate and describe how homeostasis is maintained as living things seek out their basic needs of food, water, shelter, space, and air.</p>
<p>MS-LS1-6 Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.</p>	<p>6.LS.2 Describe the role of photosynthesis in the flow of energy in food chains, energy pyramids, and food webs. Create diagrams to show how the energy in animals' food used for bodily processes was once energy from the sun.</p>
<p>MS-LS2-2 Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.</p>	<p>6.LS.3 Describe specific relationships (predator/prey, consumer/producer, parasite/host) and symbiotic relationships between organisms. Construct an explanation that predicts why patterns of interactions develop between organisms in an ecosystem.</p>
<p>MS-LS2-1 Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.</p>	<p>6.LS.4 Investigate and use data to explain how changes in biotic and abiotic components in a given habitat can be beneficial or detrimental to native plants and animals.</p>
	<p>6.LS.5 Research invasive species and discuss their impact on ecosystems.</p>

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Engineering	
Next Generation Science Standards	2016 Indiana Academic Standards
<p>6-8.E.1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.</p>	<p>6-8.E.1 Identify the criteria and constraints of a design to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.</p>
<p>6-8.E.2 Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.</p>	<p>6-8.E.2 Evaluate competing design solutions using a systematic process to identify how well they meet the criteria and constraints of the problem.</p>
<p>6-8.E.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.</p>	<p>6-8.E.3 Analyze data from investigations 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.</p>
<p>6-8.E.4 Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.</p>	<p>6-8.E.4 Develop a prototype to generate data for repeated investigations and modify a proposed object, tool, or process such that an optimal design can be achieved.</p>