Indiana Science/Computer Science Content Connectors

Grade 6

Waves and Their Applications in Technologies for Information Transfer	1	Use mathematical representations to describe how the amplitude of a wave is related to the energy in a wave. MS-PS4-1A
	2	Use a model to identify how waves are reflected, absorbed, or transmitted through various materials (e.g., water, air, glass). (E) MS-PS4-2A
	3	Summarize information or evidence that supports the claim that digital transmission of signals is more reliable than analog transmission of signals. MS-PS4-3A
From Molecules to Organisms: Structures and Processes	1	Create a model to show the movement of matter and flow of energy as plants use the energy from light to make sugars. [Clarification Statement: Emphasis is on tracing movement of matter and flow of energy.] (E) MS-LS1-6A
Ecosystems: Interactions, Energy, and Dynamics	1	Use data to identify a cause-and-effect relationship between resource availability and the growth of individual organisms and population size. MS-LS2-1A
	2	Predict patterns of interactions (e.g., competitive, predatory, symbiotic) among organisms within an ecosystem and across ecosystems. [Clarification Statement: Emphasis is on predicting consistent patterns of interactions in different ecosystems in terms of the relationships among and between organisms and abiotic components of ecosystems. Examples of types of interactions could include competitive, predatory, and mutually beneficial (symbiosis).] MS-LS2-2A
	3	Use a model to describe the cycling of matter and flow of energy among producers, consumers, and decomposers in an ecosystem. (E) MS-LS2-3A
	4	Use data to find patterns in how changes to physical or biological parts of an ecosystem affect populations of organisms. (E) MS-LS2-4A
	5	Compare two or more design solutions for maintaining a healthy, stable, functioning ecosystem with a variety of species (biodiversity). [Clarification Statement: Examples of solutions could include water purification, nutrient recycling, and prevention of soil erosion]. MS-LS2-5A
Earth's Place in the Universe	1	Use patterns observed from an Earth-sun-moon model to describe interactions causing events such as moon phases, eclipses, or seasons. (E) MS-ESS1-1A
	2	Use a model to describe the role of gravity in the motions within the Milky Way galaxy and the solar system. MS-ESS1-2A

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	3 **Determine similarities and differences among scale properties of objects in the solar system (e.g., the sizes of an object's layers such as crust and atmosphere, surface features, and orbital radius) using data (e.g., information, drawings, photographs, or models).** MS-ESS1-3A
Engineering Design	1 **Define criteria and constraints (e.g., scientific principles, potential impacts on people, the natural environment) of a problem to ensure a successful solution.** MS-ETS1-1A
	2 **Select the best solution to a problem using evidence of alignment to criteria and constraints.** MS-ETS1-2A
	3 **Combine the best characteristics from multiple solutions into a new solution to better meet the criteria for success.** MS-ETS1-3A
	4 **Use a model to generate data on how a design proposal can be modified for improvements through iterative testing.** MS-ETS1-4A