# Fifth Grade NGSS to 2016 IAS Correlation Guide

| Physical Science | |
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| **Next Generation Science Standards** | **2016 Indiana Academic Standards** |
| | **5.PS.1** Describe and measure the volume and mass of a sample of a given material. |
| **5-PS1-2** Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. | **5.PS.2** Demonstrate that regardless of how parts of an object are assembled the mass of the whole object is identical to the sum of the mass of the parts; however, the volume can differ from the sum of the volumes.  (Law of Conservation of Mass) |
| | **5.PS.3** Determine if matter has been added or lost by comparing mass when melting, freezing, or dissolving a sample of a substance.  (Law of Conservation of Mass) |
| | **5.PS.4** Describe the difference between weight being dependent on gravity and mass comprised of the amount of matter in a given substance or material. |

| Earth and Space Science | |
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| **Next Generation Science Standards** | **2016 Indiana Academic Standards** |
| **5-ESS1-1** Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from the Earth. | **5.ESS.1** Analyze the scale of our solar system and its components: our solar system includes the sun, moon, seven other planets and their moons, and many other objects like asteroids and comets. |
| **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. | **5.ESS.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. |
| **5-ESS3-1** Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment. | **5.ESS.3** Investigate ways individual communities within the United States protect the Earth's resources and environment. |

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| **5-ESS2-1** Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. | **5.ESS.4** Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. |

| Life Science | |
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| **Next Generation Science Standards** | **2016 Indiana Academic Standards** |
| **5-LS2-1** Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. | **5.LS.1** Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. |
| | **5.LS.2** Observe and classify common Indiana organisms as producers, consumers, decomposers, or predator and prey based on their relationships and interactions with other organisms in their ecosystem. |
| **4-LS1-2** Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways. | **5.LS.3** Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways. |

| Engineering | |
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| **Next Generation Science Standards** | **2016 Indiana Academic Standards** |
| **3-5.E.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. | **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. |
| **3-5.E.2** 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. | **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. |
| **3-5.E.3** 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. | **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. |