**Exploring a Performance Expectation**

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| Performance Expectation***\*Use corresponding colored highlighters to indicate the three dimensions found in each of these standards.*** | Chemistry**HS-PS1-2. Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.** [Clarification Statement: Examples of chemical reactions could include the reaction of sodium and chlorine, of carbon and oxygen, or of carbon and hydrogen.] [Assessment Boundary: Assessment is limited to chemical reactions involving main group elements and combustion reactions.] Physics**HS-PS2-1. Analyze data to support the claim that Newton’s second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.** [Clarification Statement: Examples of data could include tables or graphs of position or velocity as a function of time for objects subject to a net unbalanced force, such as a falling object, an object rolling down a ramp, or a moving object being pulled by a constant force.] [Assessment Boundary: Assessment is limited to one-dimensional motion and to macroscopic objects moving at non-relativistic speeds.] Biology**HS-LS1-1. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.** [Assessment Boundary: Assessment does not include identification of specific cell or tissue types, whole body systems, specific protein structures and functions, or the biochemistry of protein synthesis.] Earth/Space Science**HS-ESS1-5. Evaluate evidence of the past and current movements of continental and oceanic crust and the theory of plate tectonics to explain the ages of crustal rocks.** [Clarification Statement: Emphasis is on the ability of plate tectonics to explain the ages of crustal rocks. Examples include evidence of the ages oceanic crust increasing with distance from mid-ocean ridges (a result of plate spreading) and the ages of North American continental crust increasing with distance away from a central ancient core (a result of past plate interactions).]  |
| DCI(s) for this PE |  |
| S&E Practice(s) for this PE |  |
| Crosscutting Concept(s) for this PE |  |
| Connection to other DCI(s) in this Grade Band? |  |
| Articulation of DCI(s) across Grade Band(s)? |  |
| CCSS Literacy Connections? |  |
| CCSS Math Connections? |  |
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| **Identify a Performance Expectation that has a connection to each of the following:**(These might not be the same PE as previously used.) |
| Connection to Nature of Science as an “S&E Practice” |  |
| Connection to Nature of Science as a “Crosscutting Concept” |  |
| Connection to Engineering, Technology, and Application of Science? |  |
| Connection to Influence of Science, Engineering, & Technology on the Natural World? |  |

