**October/November 2018 Next Generation Science Standards Correlations**

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| **Article** | **NGSS** |
| **Mars vs. Titan: A Showdown of Human Habitability** |

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| **HS-ETS1-3**Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.**HS-LS1-6**Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules. |

**Disciplinary Core Ideas:*** ETS1.A: Defining and Delimiting Engineering Problems
* LS1.A: Structure and Function

**Crosscutting Concepts:** * Systems and System Models
* Energy and Matter
* Structure and Function

**Science and Engineering Practices:** * Asking questions (for science) and defining problems (for engineering)
* Analyzing and interpreting data

**Nature of Science:** * Scientific knowledge assumes an order and consistency in natural systems
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| **The Shocking Chemistry of Electric Eels** | **HS-PS1-3.**Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.**Disciplinary Core Ideas**:* PS1.B: Chemical Reactions
* ETS1.C: Optimizing the design solution

**Crosscutting Concepts:** * Structure and Function
* Energy and Matter
* Scale, Proportion, and Quantity

**Science and Engineering Practices:** * Developing and using models
* Constructing explanations (for science) and designing solutions (for engineering)

**Nature of Science:** * Science models, laws, mechanisms, and theories explain natural phenomena
* Scientific knowledge assumes an order and consistency in natural systems
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| **Feeding the World: A Story of Guano, War, and Invention** | **HS-PS1-6.** Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.**HS-ETS1-1.**Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.**Disciplinary Core Ideas**:* PS1.A: Structure and Properties of Matter
* ETS1.C: Optimmizing the Design Solution

**Crosscutting Concepts:** * Scale, Proportion, and Quantity
* Systems and System Models

**Science and Engineering Practices:** * Planning and carrying out investigations
* Constructing explanations (for science) and designing solutions (for engineering)

**Nature of Science:** * Science addresses questions about the natural and material world.
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| **How Glass Changed the World** |

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| **HS-PS2-6**. Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials. |

**Disciplinary Core Ideas:*** PS1.A: Structure and Properties of Matter
* ETS1.C: Optimizing the Design Solution

**Crosscutting Concepts:** * Patterns
* Structure and Function

**Science and Engineering Practices:** * Constructing explanations and designing solutions

**Nature of Science:** * Scientific knowledge assumes an order and consistency in natural systems.
* Science is a human endeavor.
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