**April/May 2017 Issue**

**Correlations to the Next Generation Science Standards**

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| **Article** | **NGSS** |
| **Growing Green on the Red Planet** |

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| **HS-LS2-4.** Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.**HS-ETS1-3.**Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts. |

**Disciplinary Core Ideas:*** LS2.C: Ecosystem Dynamics, Functioning, and Resilience
* PS1.B: Chemical Reactions
* ETS1.C: Optimizing the Design Solution

**Crosscutting Concepts:** * Systems and system models
* Scale, proportion, and quantity
* Energy and matter

**Science and Engineering Practices:** * Developing and using models
* Using mathematics and computational thinking
* Constructing explanations and designing solutions

**Nature of Science:** * Scientific knowledge assumes an order and consistency in natural systems
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| **Recycling Plastic Bags** |

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| **HS-ESS3-2.**Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.**HS-ETS1-3.**Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.**Disciplinary Core Ideas**:* PS1.A: Structure and properties of matter
* ESS3.C: Human impacts on earth systems
* ETS1.B: Developing possible solutions

**Crosscutting Concepts:** * Systems and system models
* Structure and function
* Cause and effect

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

**Nature of Science**: * Science addresses questions about the natural and material world.
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| **Espresso, Café Latte, Cappuccino… A Complex Brew** |

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| **HS-PS1-5.**Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs. |

**Disciplinary Core Ideas**:* PS1.A Structure and properties of matter
* PS1.B: Chemical reactions
* ETS1.C: Optimizing the design solution

**Crosscutting Concepts:** * Cause and Effect
* Structure and Function
* Stability and Change

**Science and Engineering Practices:** * Planning and carrying out investigations
* Constructing explanations and designing solutions

**Nature of Science:** * Science addresses questions about the natural and material world
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| **Don’t Let Cortisol Stress You Out!** |

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| **HS-LS1-3**Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.**Disciplinary Core Ideas**:* LS1.A: Structure and function
* PS1.A: Structure and properties of matter

**Crosscutting Concepts:** * Structure and function
* Cause and effect: Mechanism and explanation
* Stability and change

**Science and Engineering Practices:** * Constructing explanations and designing solutions
* Planning and carrying out investigations

**Nature of Science**: * Science addresses questions about the natural and material world.
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| **Genetically Modified Foods: Are They Safe to Eat?** |

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| **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.**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.**Disciplinary Core Ideas:*** LS1.A: Structure and function
* PS1.A: Structure and properties of matter
* ETS1.B: Optimizing the design solution

**Crosscutting Concepts:** * Systems and system models
* Stability and change
* Structure and function

**Science and Engineering Practices:** * Asking questions (for science) and defining problems (for engineering)
* Obtaining, evaluating, and communicating information

**Nature of Science:** * Scientific knowledge assumes an order and consistency in natural systems.
* Scientific knowledge is based on empirical evidence
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