**December2015/January 2016 Issue**

**Correlations to the Next Generation Science Standards**

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| **Article** | **NGSS** |
| **Safety Data Sheets; Information that Could Save Your Life**  |

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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.**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 of matter
* PS1.B Chemical reactions

**Crosscutting Concepts:** * Patterns
* Cause and effect: Mechanism and explanation
* Scale, proportion, and quantity

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

**Nature of Science:** * Scientific knowledge assumes an order and consistency in natural systems.
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| **A Moldy Situation: Chemistry to the Rescue** |

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| **HS-LS2-6.**Evaluate claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.**Disciplinary Core Ideas**:* LS2.C Ecosystem dynamics, functioning, and resilience

**Crosscutting Concepts:** * Cause and effect
* Stability and Change

**Science and Engineering Practices**: * Engaging in argument from evidence
* Constructing evidence (for science) and designing solutions (for engineering)

**Nature of Science**: * Scientific knowledge is based on empirical evidence.
* Science addresses questions about the natural and material world.
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| **Geothermal Power: Hot Stuff** |

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| **HS-ESS-2**Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios. |

**Disciplinary Core Ideas**:* ESS3.A Natural resources
* ESS3.C Human impacts on Earth systems

**Crosscutting Concepts:** * Systems and System Models
* Energy and matter: Flows, cycles, and conservation

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

**Nature of Science:** * Science models, laws, mechanisms, and theories explain natural phenomena.
* Science addresses questions about the natural and material world.
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| **Bacteria-Buster! Triclosan Kills Bacteria, but Is It Safe?**  |

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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.**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 of matter

**Crosscutting Concepts:** * Cause and effect: Mechanism and explanation
* Structure and Function

**Science and Engineering Practices:** * Analyzing and interpreting data
* Obtaining, evaluating, and communicating information

**Nature of Science**: * Scientific knowledge is based on empirical evidence.
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| **Double, Double, Oil and Trouble** |

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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 of matter

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

**Science and Engineering Practices**: * Constructing explanations and designing solutions
* Obtaining, evaluating, and communicating information

**Nature of Science**: * Scientific knowledge is based on empirical evidence.
* Science addresses questions about the natural and material world.
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