**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** | |  | | --- | | **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. |
| **A Moldy Situation: Chemistry to the Rescue** | |  | | --- | | **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. | |
| **Geothermal Power: Hot Stuff** | |  | | --- | | **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. |
| **Bacteria-Buster! Triclosan Kills Bacteria, but Is It Safe?** | |  | | --- | | **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. | |
| **Double, Double, Oil and Trouble** | |  | | --- | | **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. | |