**October/November 2016 Issue  
Correlations to the Next Generation Science Standards**

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| **Article** | **NGSS** |
| **Guilty or Innocent? Fingerprints Tell the Story** | |  | | --- | | **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.A Structure of matter * PS2.B Types of Interactions   **Crosscutting Concepts:**   * Patterns * Cause and effect: Mechanism and explanation * Structure and Function   **Science and Engineering Practices:**   * Analyzing and interpreting data * Engaging in argument from evidence   **Nature of Science:**   * Scientific investigations use a variety of methods. |
| **Vertical Farming: Does It Stack Up?** | |  | | --- | | **HS-PS4-4** Evaluate the validity and reliability of claims in published materials of the effects that different frequencies of electromagnetic radiation have when absorbed by matter.  **HS-LS1-5.** Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy.  **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**:   * PS3.D Energy in Chemical Processes * ETS1.C Optimizing the Design Solution   **Crosscutting Concepts:**   * Scale, proportion, and quantity * Systems and system models * Energy and Matter: flows, cycles, and conservation   **Science and Engineering Practices**:   * Constructing evidence (for science) and designing solutions (for engineering)   **Nature of Science**:   * Science investigations use a variety of methods | |
| **How SUE Became a Rock Star** | |  | | --- | | **HS-LS2-3.**  Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions. |   **Disciplinary Core Ideas**:   * PS1.A Structure of matter * LS2.A Interdependent Relationships in Ecosystems   **Crosscutting Concepts:**   * Cause and Effect * Scale, Proportion, and Quantity * Structure and Function * Stability and Change   **Science and Engineering Practices:**   * Constructing explanations (for science) and designing solutions (for engineering) * Obtaining, evaluating, and communicating information   **Nature of Science:**   * Scientific knowledge is based on empirical evidence. * Science addresses about the natural and material world |
| **Expiration Dates: What Do They Mean?** | |  | | --- | | **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.B Chemical Reactions * LS1.A Structure and Function   **Crosscutting Concepts:**   * Cause and effect: Mechanism and explanation * Stability and change   **Science and Engineering Practices:**   * Obtaining, evaluating, and communicating information   **Nature of Science**:   * Science addresses questions about the natural and material world. | |
| **E-Cycling: Why Recycling Electronics Matters** | |  |  | | --- | --- | | |  | | --- | | **HS-PS1-1.**  Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.  **HS-PS2-6.**  Communicate scientific and technical information about why the molecular-level structure is important in the function of designed materials.  **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 of matter * PS2.A Forces and Motion * PS2.B Types of Interactions * ETS1.C Optimizing the Design Solution   **Crosscutting Concepts:**   * Cause and effect: Mechanism and explanation * Scale, proportion, and quantity * Structure and function   **Science and Engineering Practices:**   * Asking questions (for science) and defining problems (for engineering) * Obtaining, evaluating, and communicating information   **Nature of Science:**   * Science addresses questions about the natural and material world. | | |  | |