**December 2014/January 2015 Next Generation Science Standards Correlations**

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| **Article** | **NGSS** |
| **How Toxic is Toxic?** | |  | | --- | | **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. |   **Crosscutting Concepts:**   * Scale, proportion, and quantity   **Science and Engineering Practices:**   * Developing and using models * Using mathematics and computational thinking * Obtaining, evaluating, and communicating information   **Nature of Science:**   * Scientific knowledge assumes an order and consistency in natural systems. |
| **So Tired in the Morning . . . The Science of Sleep** | |  | | --- | | **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.  **Crosscutting Concepts:**   * Cause and effect: Mechanism and explanation * Structure and Function   **Science and Engineering Practices**:   * Constructing explanations and designing solutions   **Nature of Science**:   * Science models, laws, mechanisms and theories explain natural phenomena. * Science addresses questions about the natural and material world. | |
| **A Measure of confusion** | |  | | --- | | **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. |   **Crosscutting Concepts:**   * Cause and Effect   **Science and Engineering Practices:**   * Analyzing and interpreting data * Obtaining, evaluating, and communicating information   **Nature of Science:**   * Science is a human endeavor. |
| **Red, Brown, Black, Orange Hair Today, Bleached Tomorrow** | |  | | --- | | **HS-PS3-2.**  Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motion of particles (objects) and energy associated with the relative positions of particles (objects).  **Crosscutting Concepts:**   * Cause and Effect * Structure and Function   **Science and Engineering Practices:**   * Constructing evidence and designing solutions   **Nature of Science**:   * Science addresses questions about the natural and material world. | |
| **Pheromones: The Chemical Language of Animals** | |  | | --- | | **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. | | **Crosscutting Concepts:**   * Structure & Function * Systems and System Models   **Science and Engineering Practices**:   * Asking questions and defining problems * Obtaining, evaluating, and communicating information   **Nature of Science**:   * Science models, laws, mechanisms, and theories explain natural phenomena. * Scientific knowledge assumes an order and consistency in natural systems. | |