**April/May 2016 Issue**

**Correlations to the Next Generation Science Standards**

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| **Article** | **NGSS** |
| **A Close-Up Look at the Quality of Indoor Air**  |

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| **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-ETS1-3.**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
* PS2.A Forces and Motion
* PS2.B Types of Interactions
* ETS1.C Optimizing the Design Solution

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

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

**Nature of Science:** * Science addresses questions about the natural and material world.
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| **Chemistry Helps Athlete Keep Moving** |

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| **HS-PS2-6.**Communicate scientific and technical information about why the molecular-level structure is important in the function 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**:* PS2.A Forces and Motion
* PS2.B Types of Interactions
* ETS1.C Optimizing the Design Solution

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

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

**Nature of Science**: * Science is a human endeavor.
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| **Frozen Fish Stick Blues** |

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| **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**:* LS2.A: Interdependent Relationships in Ecosystems

**Crosscutting Concepts:** * Cause and Effect
* Scale, Proportion, and Quantity
* Systems and System Models
* Stability and Change

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

**Nature of Science:** * Scientific knowledge is based on empirical evidence.
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| **Antioxidants Go the Extra Mile**  |

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| **HS-LS1-2.**Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.**Disciplinary Core Ideas**:* LS1.A Structure and Function

**Crosscutting Concepts:** * Systems and System Models
* Cause and effect: Mechanism and explanation

**Science and Engineering Practices:** * Obtaining, evaluating, and communicating information

**Nature of Science**: * Science addresses questions about the natural and material world.
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| **Cellulosic Ethanol: A Fuel of the Future?** |

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| **HS-LS2-5**Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.**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**:* LS2.B: Cycles of Matter and Energy Transfer in Ecosystems
* ETS1.A: Defining and Delimiting Engineering Problems

**Crosscutting Concepts:** * Systems and System Models
* Energy and Matter
* Structure and Function

**Science and Engineering Practices**: * Constructing explanations and designing solutions.

**Nature of Science**: * Science addresses questions about the natural and material world.
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