## Correlations to Next Generation Science Standards

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| **Pimple Patches and What They Offer** | Functional groups  
Molecular structure  
Polymers | **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.  
**HS-ETS1-2.** Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.  
**Disciplinary Core Ideas:**  
• PS.1.A: Structure and Properties of Matter  
• ETS1.C: Optimizing the Design Solution  
**Crosscutting Concepts:**  
• Scale, proportion, and quantity  
• Systems and system models  
• Energy and matter  
**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. |
| **Gas Laws and Scuba Diving** | Gases  
Gas laws  
Pressure  
Temperature  
Volume  
Solubility | **HS-ETS1-2.** Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.  
**Disciplinary Core Ideas:**  
• PS.1.A: Structure and Properties of Matter  
• ETS1.C: Optimizing the Design Solution  
**Crosscutting Concepts:**  
• Patterns  
• Scale, proportion, and quantity  
• Systems and system models  
**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. |
| **Flatus:** Chemistry in the Wind | Physical properties | HS-PS1-2. Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.  
**Disciplinary Core Ideas:**  
- PS.1.B: Chemical Reactions  
**Crosscutting Concepts:**  
- Patterns  
- Cause and effect  
- Systems and system models  
**Science and Engineering Practices:**  
- Obtaining, evaluating, and communicating information  
**Nature of Science:**  
- Scientific knowledge assumes an order and consistency in natural systems. |
| --- | --- | --- |
| **Radium Girls:** Dialing Up Trouble | History and Safety | HS-PS1-8. Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and radioactive decay.  
**Disciplinary Core Ideas:**  
- ETS1.C: Optimizing the Design Solution  
**Crosscutting Concepts:**  
- Cause and effect  
- Structure and function  
**Science and Engineering Practices:**  
- Constructing explanations (for science) and designing solutions (for engineering)  
**Nature of Science:**  
- Science is a human endeavor. |