4th Grade Freedom 7

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| **Stage 1- Desired Results** | | **Stage 2- Assessment Evidence** |
| **Brief Overview**  *Established Goal*- Energy facilitates change. | | **Performance Task**  **Transfer**  Task: Students will design a school, home or building of their choice. The design of the building needs to include renewable sources of energy and ways to conserve energy using the: reduce, reuse, and recycle model. The design should emphasize conservation and reducing the carbon footprint. The following types of renewable energy sources must be included: ***wind, solar, geothermal and hydropower***. |
| *Primary:*  SC.4.P.10.2 Investigate and describe that energy has the ability to cause motion or create change. *Cognitive Complexity/Depth of Knowledge Rating:* Moderate  SC.4.P.10.3 Investigate and explain that sound is produced by vibrating objects and that pitch depends on how fast or slow the object vibrates. *Cognitive Complexity/Depth of Knowledge Rating:* High  SC.4.P.10.4 Describe how moving water and air are sources of energy and can be used to move things. *Cognitive Complexity/Depth of Knowledge Rating:* Moderate  *Secondary:*  SC.4.P.10.1Observe and describe some basic forms of energy, including light, heat, sound, electrical, and the energy of motion. *Cognitive Complexity/Depth of Knowledge Rating:* Moderate  SC.4.P.11.1 Recognize that heat flows from a hot object to a cold object and that heat flow may cause materials to change temperature. *Cognitive Complexity/Depth of Knowledge Rating:* Low  SC.4.P.11.2 Identify common materials that conduct heat well or poorly. *Cognitive Complexity/Depth of Knowledge Rating:* Low | |
| **Transfer-** | | **Stage 3 Learning Plan** |
| *Student will demonstrate*:  How energy is transformed  The types, uses, sources, collection of energy, storage, and delivery of energy to consumers  . | | 1. **Students** will **apply thinking and reading** skills as they identify different forms of energy with levelled readers and add information to Energy flip books. 2. Students will **apply thinking skills** as they participate in an online Energy Scavenger Hunt in pairs with differentiated levelled questions are assigned to students. They will **evaluate** and **synthesize** various questions about the different energy types and how they are generated and connected and **present findings** as they write answers down. 3. Students will **acquire knowledge** and **comprehend** as they **read** concept related stories in the Journeys reading series- Lesson 29 Save Timber Woods!/Poetry, The World According to Humphrey, and The City of Ember. 4. Students will apply **thinking** skills as they **communicate** information related to different forms of energy through the April book report whereby students selected a book within their A.R. reading range related to energy, and choose a project from a menu. 5. Students will participate in power-on day activities to explore the different forms of energy in a hands-on manner.   Students will **synthesize** energy related science concepts in the science textbook and Science Levelled Readers – Chapters 11 – 14 |
| **Make Meaning-** | |
| *Understandings*   * Characteristics of energy * What is energy conservation and how it works * How energy is transformed and transferred (Change) | *Essential Questions*   * What are the different forms of energy? * What might happen if we do not conserve energy? * How do we know we are conserving energy? * How does energy change from one form to another? |
| **Acquisition of Knowledge** | |
| * *Students will know* * The different forms of energy. * Heat can cause change in temperature. * Types of materials are a factor in heat conduction | * *Students will be able to do:* * Identify examples of the different forms of energy. * Describe how heat causes change in temperature and give examples. * Identify materials that are good and poor conductors of heat. |