The Hot And Cold Of It: Thermal Energy - Curriculum Connections

Suggested Grades: 1-5
Curriculum Connections: Matter (Gr 3, 5), Energy (K, Gr 1, Gr 5), Scientific Methods (Gr 1-5), Computer Science (K-1)

Specific Learning Outcomes:

Kindergarten

- *Energy* - Children explore movement of objects, humans, and other animals (how objects move - link to why water moves).
- *Earth Systems* - Children examine and describe surrounding environments (changes in environment related to temperature - lake example).
- *Computer Science* - Children interpret instructions in various environments.

Grade 1

- *Energy* - Students investigate direction, pathway, and speed of moving objects and animals (how objects move - link to why water moves, how movement can be influenced).
- *Scientific Methods* - Students engage in and describe investigation (carry out an investigation, data collection).
- *Computer Science* - Students follow instructions and relate them to outcomes.

Grade 2

- *Scientific Methods* - Students examine investigation and explain how it is influenced by purpose. (methods and processes used in investigation, data collection)

Grade 3

- *Matter* - Students investigate and analyze how materials have the potential to be changed.
- *Scientific Methods* - Students relate investigation to building knowledge (data can be used to analyze).

Grade 4

- *Scientific Methods* - Students investigate evidence and reflect on its role in science (how evidence can advance knowledge in science, data types).

Grade 5

- *Matter* - Students investigate the particle model of matter in relation to the physical properties of solids, liquids and gases.
- *Energy* - Students investigate and compare how forces affect living things and objects in water and air.
- *Scientific Methods* - Students investigate how evidence is gathered and explain the importance of ethics in science (observe phenomenon, variables).