



Introduction to Wind Energy - Curriculum Connections

Suggested Grades: K-6

Curriculum Connections: Matter (K, 1, 2, 3, 5, 6), Energy (K, 1, 2, 5, 6), Earth Systems (K, 2, 3, 4, 5, 6), Computer Science (K-1), Scientific Methods (1, 6)

Specific Learning Outcomes:

Kindergarten

- *Matter* - Children examine properties of objects.
- *Energy* - Children explore movement of objects, humans, and other animals.
- *Earth Systems* - Children examine and describe surrounding environments (changes related to temperature, sunlight).
- *Computer Science* - Children interpret instructions in various environments.

Grade 1

- *Matter* - Students analyze properties of objects and investigate how they can be changed (measurements, e.g., length of pool noodle and sail).
- *Energy* - Students investigate direction, pathway, and speed of moving objects and animals.
- *Computer Science* - Students follow instructions and relate them to outcomes.
- *Scientific Methods* - Students engage in and describe investigation (predict an answer to a question, make observations).

Grade 2

- *Matter* - Students investigate properties of materials and relate them to a purpose (combine materials to create an object for a purpose).
- *Energy* - Students investigate the behaviours of light and sound (the Sun as a source of light).
- *Earth Systems* - Students investigate Earth, its landforms, its bodies of water, and its relationship to the Sun (components of earth include air, water).

Grade 3

- *Matter* - Students investigate and analyze how materials have the potential to be changed (states of matter).
- *Earth Systems* - Students analyze changes in Earth's surface and explain how its layers hold stories of the past (Earth is warming up from natural and human causes, human activities change Earth's surface - connect to wind turbines, renewable energy).



Grade 4

- *Earth Systems* - Students investigate the systems of Earth and reflect on how their interconnections sustain life (Earth's surface is warmed by the Sun).

Grade 5

- *Matter* - Students investigate the particle model of matter in relation to the physical properties of solids, liquids, and gases (density).
- *Energy* - Students investigate and compare how forces affect living things and objects in water and air (renewable, e.g., wind, and nonrenewable resources).
- *Earth Systems* - Students analyze climate and connect it to weather conditions and agricultural practices (connect to climate change - wind turbines, renewable energy).

Grade 6

- *Matter* - Students investigate the particle model of matter in relation to the physical properties of solids, liquids and gases (heat is when particles get excited, hot objects expand / cool objects contract).
- *Energy* - Students investigate energy resources and explain factors that influence their use (elasticity - allows balloon to expand; processed vs. unprocessed energy sources - connect to wind turbines, renewable energy).
- *Earth Systems* - Students investigate climate, changes in climate, and the impact of climate change on Earth (impact of climate change - connect to wind turbines, renewable energy).
- *Scientific Methods* - Students investigate and describe the role of explanation in science (hypotheses are proposed scientific explanations developed prior to conducting an investigation).