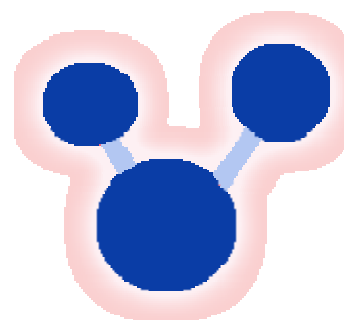




curriculum links

Grade 2:

- ◆ Health and Physical Education:
Fundamental Movement Skills
- ◆ Understanding Earth and Space Systems:
Air & Water in the Environment



overview

In this activity water molecules are brought up to student size! This game involves having students physically mimic the molecular movement of water in each of its physical states (solid, liquid, gas).

grade 2 expectations

Health and Physical Education

Fundamental Movement Skills

Overall Expectations

- ◆ Locomotion/Traveling Skills
- ◆ Manipulation Skills
- ◆ Stability Skills

Science and Technology

Understanding Earth and Space Systems: Air and Water in the Environment

Overall Expectations

- ◆ assess ways in which the actions of humans have an impact on the quality of air and water, and ways in which the quality of air and water has an impact on living things;
- ◆ investigate the characteristics of air and water and the visible/invisible effects of and changes to air and/or water in the environment;
- ◆ demonstrate an understanding of the ways in which air and water are used by living things to help them meet their basic needs.

Specific Expectations

Relating Science and Technology to Society and the Environment

- ◆ assess the impact of human activities on air and water in the environment, taking different points of view into consideration, and plan a course of action to help keep the air and water in the local community clean;
- ◆ assess personal and family uses of water as responsible/efficient or wasteful, and create a plan to reduce the amount of water used, where possible.

Developing Investigation and Communication Skills

- ◆ investigate, through experimentation, the characteristics of water and its uses;
- ◆ investigate water in the natural environment;
- ◆ use appropriate science and technology vocabulary, including *solid, liquid, vapour,*



Molecules in Motion



evaporation, condensation, and precipitation, in oral communication.

Understanding Basic Concepts

- ◆ identify water as a clear, colourless, odourless, tasteless liquid that exists in three states and that is necessary for the life of most animals and plants;
- ◆ describe ways in which living things, including humans, depend on air and water;
- ◆ identify sources of water in the natural and built environment;
- ◆ identify the three states of water in the environment, give examples of each, and show how they fit into the water cycle when the temperature of the surrounding environment changes;
- ◆ state reasons why clean water is an increasingly scarce resource in many parts of the world.

key terms

Water Molecule - the smallest unit of water; consisting of two hydrogen atoms joined with one central oxygen atom.

Solid - of definite shape and volume; ice is water in the solid state. When water is in this solid state the molecules are bonded to each other in a solid crystalline structure.

Liquid - is wet and fluid; rain is water in the liquid state. This is the form of water with which we are most familiar. As a liquid, the forces between molecules weaken and individual molecules can begin to move around each other.

Gas - water in gas state has neither shape or volume and is able to expand to fill whatever space it occupies; water vapour is water in the gaseous state. In this state, water molecules move very rapidly and are not bound together.

Evaporation - when the sun heats up water in rivers or lakes or the ocean and turns it into vapor or steam.

water cycle - Also known as the hydrological cycle, it is the continuous movement and transition of water on, above, or below the surface of the Earth. The cycle is made up of four main parts: precipitation, evaporation, condensation and infiltration.

