

Planning Guide for *Air and Water in the Environment*

Teaching Plans	Specific Curriculum Outcomes	Components	Materials	Literacy Place Connections
Air in the Environment Students will explore evidence that air exists all around them and use scientific terminology when communicating their understanding.	Skills [GCO 2] • 1.0 • 2.0 STSE/K [GCO 1/3] • 3.0	• Science Card 1 • Anchor Video: <i>Air and Water in the Environment</i> • IWB Activity 1	• electric fan (optional) • streamers or light scarf (optional) • balloons • books • hand-held pump • shatterproof cups • low-sided container of water (e.g., a baking dish) • empty water bottles • scrap paper • plastic or paper bags • straws • whoopy cushion (optional) • students' Science Journals	
States of Water Students will identify the three states of water and compare the characteristics of water and ice.	Skills [GCO 2] • 1.0 • 2.0 STSE/K [GCO 1/3] • 4.0	• Science Card 2 • IWB Activity 2 • BLM <i>Same or Different?</i> • IWB Activity 3	• students' Science Journals • washing tubs, plastic sheeting, newspapers, or towels • ice cubes or Freezies (optional) • warm, room temperature, and cool water in shatterproof glasses, tubs, or bottles of various volumes • sponges • various kinds of paper • empty containers of various sizes • thermometers • digital camera (optional)	<i>An Early Worm Got Out of Bed</i> ("Fog," page 7, Shared Reading–Active Learning Kit)

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Water and Temperature Students will predict how and why water changes from one state to another, make and record observations and measurements while investigating how and why water changes state from liquid to solid or vice versa, and discover the role of temperature in changes of state.	Skills [GCO2] • 6.0 • 7.0 STSE/K [1/3] • 5.0	• Science Card 3 • <i>What Is the Inquiry Process?</i> poster • BLM <i>When Did It Melt?</i> • IWB Activity 4	• kettle or humidifier • two mugs • thermometers • metal spoons or hand mirrors • frozen shapes or Freezies (optional) • incandescent lightbulb or hair dryer • containers of different shapes and sizes • tray or container for transport • timer (optional) • ice cubes • cups with warm, room temperature, and cool water • trays • index cards • markers • plastic googly eyes • bowls, cardboard, bubble wrap, and other materials to insulate ice-cube people • students' Science Journals • washtubs or other large waterproof containers • water or snow (optional)	<i>Journey of a Water Drop</i> (Guided Reading, Level N)
Moisture Around Us Students will ask and explore questions about the amount and location of moisture in the environment and in living things.	Skills [GCO 2] • 9.0 • 10.0 STSE/K [GCO 1/3] • 8.0	• Science Card 4 • BLM <i>Which is the Juiciest?</i> • <i>Come On, Rain!</i> (Read Aloud) • <i>What Is the Inquiry Process?</i> poster • BLM <i>My Plan</i>	• slices of fruits and vegetables of varying moisture levels • paper towels • clear plastic bag • leafy house plant • digital camera (optional) • spray bottle of water • dehumidifier • students' Science Folders • students' Science Journals	

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Planning Guide for *Air and Water in the Environment* (continued)

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Changes in Moisture Students will explore changes in location, amount, and form of moisture, and communicate with others as they are exploring.	Skills [GCO 2] • 12.0 STSE/K [GCO 1/3] • 11.0	- Science Card 5 - IWB Activity 5 - BLM <i>Concept Diagram</i>	- paper towel - pencils or markers - wet towels or bowls of water - two identical containers (ideally metal cans) - water and ice - students' Science Folders - students' Science Journals - plastic wrap - ice cubes or snow - warm water - metal tray or pie plate - large glass jar with a wide mouth - digital camera (optional) - coloured paper - paint brushes (optional)	
Changing Moisture Levels Students will, through guided inquiry investigations, discover how and why moisture changes, and communicate what they did and what they found out.	Skills [GCO 2] • 14.0 STSE/K [GCO 1/3] • 13.0	- Science Card 6 <i>What Is the Inquiry Process?</i> poster - BLM <i>My Inquiry</i>	- identical pieces of cloth - sealable plastic bags - slices of fruits and vegetables - digital camera (optional) - Flex Arm camera (optional) - food dehydrator (optional) - containers of various shapes and sizes (e.g., cups, saucers) - variety of materials (e.g., foil, construction paper, mirrors, plastic wrap, wax paper, felt, cotton) - heat sources (e.g., hairdryers, electric fans, or heat lamps) - students' Science Folders - small plastic cup and container it will fit in (e.g., bowl) - plastic wrap - marker - small stone - lamp (optional)	

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Changes in Air Conditions Students will observe and measure changes in air conditions, select tools appropriate for their needs, and explore how weather affects objects and materials.	Skills [GCO 2] • 16.0 STSE/K [GCO 1/3] • 15.0	- Science Card 7 - BLM <i>Venn Diagram</i> - IWB Activity 6 - BLM <i>Pinwheel</i>	- variety of weather instruments - thermometers - paper or index cards - markers - crayons - coloured pencils or markers - scissors - straws - paper fasteners - single-hole paper punch - digital camera (optional)	<i>The North Wind and the Sun</i> (Guided Reading, Level H)
Protection from Different Weather Conditions Students will explore and choose materials that can protect objects and materials in specific weather conditions.	Skills [GCO 2] • 19.0 STSE/K [GCO 1/3] • 17.0 • 18.0	- Science Card 8 <i>The Little Knight Who Battled the Rain</i> (Read Aloud) - Science Card 9	- coloured construction paper (sheets) - students' Science Folders - common and galvanized nails - rust protection coatings - craft sticks - paint and/or wood stain - leather swatches - plain fabric and waxed fabric - protective spray, such as Armor All - small squares of dark- and light-coloured construction paper - digital camera (optional)	
Air, Water, and People Students will explore how water is used and obtained in their homes and local community, and construct and label pictographs to communicate some of their findings.	Skills [GCO 2] • 21.0 STSE/K [GCO 1/3] • 20.0	- Science Card 10 - IWB Activity 7 - BLM <i>Our Water Use</i> - IWB Activity 8	- students' Science Folders - students' Science Journals	
Pollution Students will explore the causes and effects of air and water pollution, and suggest personal actions they can take to reduce pollution.	STSE/K [GCO 1/3] • 22.0	- Science Card 11 - IWB Activity 9 - Science Card 12	- bottle of dirty water - bottle of clean water - students' Science Journals	