

SCIENCE COMPETENCY CURRICULUM GUIDE

Exit Competency D: Students will demonstrate competency in understanding basic principles and theories of earth science whether from geology, astronomy, meteorology, oceanography, including: 2. Distribution of ecosystems on the earth's surface, including the local environment

Objectives:	Assessment:	Possible Resources:	Possible Strategies:
<p><u>By the end of 3rd grade, students will:</u></p> <p>1. Understand the three physical characteristics of the Earth as:</p> <ul style="list-style-type: none"> -a sphere -made up of water -made up of land <p>by identifying all on a three-dimensional model.</p> <p>Time:</p> <p><u>2nd</u> 1 hour. Review throughout the year</p> <p><u>3rd</u> One class period (45 minutes).</p>		<p>1. Provided Instructional Resources:</p> <ul style="list-style-type: none"> Air kit, DCSD, 1st grade Astronomy kit, DCSD, 3rd grade Globe/maps Investigating Liquids kit, DCSD 2nd grade Weather unit, DCSD, 3rd grade <p>Supplementary Resources:</p> <ul style="list-style-type: none"> <u>Beginning Geography</u>, Evan Moor Corp. Geo-globe Graphs - Steck-Vaughn <u>Mega-Fun Map Skills</u>, Tamblyn, C., Scholastic Books, 1998 Paper mache Pictures from books and magazines on natural and manmade objects <u>Success with Maps</u>, Scholastic Skills Teacher worksheets <ul style="list-style-type: none"> Resource available at D. O. Curriculum Office <u>What are the Other Kids Doing?</u> Marriott, D., Creative Teaching Press, 1997 World Rap <ul style="list-style-type: none"> Resource available at D.O. Curriculum Office 	<p>1. Instructional strategies could include:</p>

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<p>2. Understand basic weather concepts, including:</p> <ul style="list-style-type: none"> -precipitation - water falls to the earth as rain, snow and other forms -temperature - the sun provides light and heat for weather -wind - air move <p>by creating a verbal, written, visual or physical representation showing all three.</p> <p>Time:</p> <p><u>1st</u> 3-4 weeks</p> <p><u>2nd</u> Once a week</p> <p><u>3rd</u> Approx. 7- 8 weeks. Four 40 minute periods each week.</p>		<p>2. Provided Instructional Resources:</p> <ul style="list-style-type: none"> Air kit, DCSD, 1st grade Investigating Liquids, DCSD, 2nd grade Library materials Weather, DCSD, 3rd grade <p>Supplementary Resources:</p> <ul style="list-style-type: none"> AIMS activities/science books <u>Cloudy with a Chance of Meatballs</u>, by J. Barrett Departmental teachers <u>Eyewitness</u> weather videos <u>Hurricane</u>, by D. Wiesner <u>It Looked Like Spilt Milk</u>, by C. Shaw <u>Magic School Bus Inside A Hurricane</u> <u>Magic School Bus Kicks Up a Storm</u> Meteorologist as guest speaker <u>Nevada Appeal</u> <u>Now I know What Makes the Weather</u>, Palazzo, J., Troll, 1982 Science books <u>Science Fair Projects</u> by Daryl Vriesenta; Instructional Fair, Inc., (water) Songs and songbooks that contain objectives <u>The Music Book</u> <p>Thematic Units:</p> <ul style="list-style-type: none"> . Weather unit, grades 2-3, Instructional Fair #IF8827 . Weather by D. Williams, 1991, Teacher Created 	<p>2. Instructional strategies could include:</p> <ul style="list-style-type: none"> Plan a wardrobe appropriate for weather Predict if dog's H₂O will freeze

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<p>3. Demonstrate that water can be liquid or solid, that it can be made to go back and forth from one form to another, and that the amount of water stays the same by creating a verbal, written, visual or physical representation of the sequence of events and possible causes of change.</p> <p>Time: 3 days 1 week</p> <hr style="width: 10%; margin-top: 20px;"/>		<p>Materials</p> <ul style="list-style-type: none"> • Weather and Climate, Carson Pelloso, #CD 7278 <p><u>Tornado</u>, by B. Byars Water Cycle Kit from UNR Water Precious Water, AIMS Activities, A Collection of Elementary Water Activities, grades 2-6, 1988 AIMS Education Foundation Weather books <u>Weather Rap</u>, by Emerson <u>Weather Words</u>, by G. Gibbon Weekly Readers/posters <u>What Will the Weather Be?</u> DeWitt, L., Harper Collins, NY, 1991</p> <p>3. Provided Instructional Resources: Liquids kit, DCSD, 2nd grade, lesson #9 Investigating Hard Water kit, DCSD, Weather kit, DCSD, 3rd grade</p> <p>Supplementary Resources: H₂O water cycle poster Project wet activities Science lesson in classroom Water Precious Water, AIMS activities</p>	<p>3. Instructional strategies could include: Draw H₂O cycle at home/school</p>

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<p>By the end of 6th grade, students will:</p> <p>1. Know that an ecosystem is an interdependency of living and nonliving things by describing a complete ecosystem, consisting of at least the elements of:</p> <ul style="list-style-type: none"> -sun -soil -water -air -plants -animals <p>through a verbal, written, visual or physical representation. (See also Competency B4.)</p> <p>Time:</p> <p><u>3-4</u> 1 month per ecosystem</p> <p><u>4th</u> 1 hour per lesson in Isopod kit (12 lessons)</p> <p>2. Understand that water moves through three stages in the water cycle:</p> <ul style="list-style-type: none"> -evaporates from the surface of the earth, rises, and cools -condenses as rain or snow -falls to the surface as precipitation <p>by drawing or explaining the stages of a water cycle, using the terminology: evaporation, condensation and precipitation.</p> <p>Time: 2 hours/ quick review</p>		<p>1. Provided Instructional Resources: Isopods, DCSD science kit, 4th grade</p> <p>Supplementary Resources: Interact Company: Paul's Pond, Debbie's Desert Naturescope (Rainforest, Trees, trees, trees, ocean (JVES) <u>Ranger Rick</u> magazine Student worksheets</p> <p>2. Provided Instructional Resources Voyage of the Mimi I, DCSD, 6th grade</p> <p>Supplementary Resources: Handout - Stages of H₂O Cycle Information on Nevada Water Calendars <u>The Magic Bus</u>, Water Cycle Video - Bill Nye the Science Guy Weather brochures from DRI in Reno</p>	<p>1. Instructional strategies could include: Students could design a jigsaw representation of an ecosystem, showing the dependence of each piece on the others.</p> <p>2. Instructional strategies could include: Students could be given an ecosystem or an element of the ecosystem.</p>

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<p>3. Understand that there are a variety of climate zones on the earth, including, but not limited to:</p> <ul style="list-style-type: none"> -desert -mountain -tropical -polar -forest <p>by drawing, modeling or writing a description of at least four climate zones and comparing/contrasting two.</p> <p>Time: One week project 2-4 hours</p>		<p>3. Provided Instructional Resources:</p> <ul style="list-style-type: none"> Atlas Geography textbook and kit History books Voyage of the Mimi I, DCSD, 6th grade <p>Supplementary Resources:</p> <ul style="list-style-type: none"> Climate/geographical feature chart Coloring materials Large white paper Teacher-made materials Who's Home in the Biome, in AIMS <u>Critters</u> 	<p>3. Instructional strategies could include:</p> <p>Students could give an explanation of personal preference as a way of comparing/contrasting.</p>
<p>4. Know that geology and climate are physical characteristics that determine the environment of an ecosystem by explaining their impact on a given environment. (See Social Studies Competency A1 for geography: land forms; oceans, lakes, rivers)</p> <p>Time:</p>		<p>4. Provided Instructional Resources:</p> <p>Supplementary Resources:</p> <ul style="list-style-type: none"> Books sea to mountain themes Geography book 	<p>4. Instructional strategies could include:</p> <p>ex: Why is the Great Basin a desert?</p>