

Units of Study Air & Weather	Standards, Benchmarks, GLCEs or HSCEs	Big Ideas / Key Concepts	Assessments		Learning Strategies <i>Skills</i>	Content Activities <i>Knowledge</i>	Vocab.	Instructional Resources
			FOR LEARNING <i>(Formative)</i>	OF LEARNING <i>(Summative)</i>				
By the end of this unit students will ...					<ul style="list-style-type: none"> <li>• Develop an interest in air and weather.</li> <li>• Experience air as a material that takes up space.</li> <li>• Observe the force of air pressure pushing on objects and materials.</li> <li>• Observe and compare how moving air interacts with objects.</li> <li>• Observe and compare how moving air interacts with objects.</li> <li>• Observe and describe changes that occur in weather over time.</li> <li>• Become familiar with instruments used by meteorologists to monitor air and weather conditions.</li> <li>• Compare monthly and seasonal weather conditions using bar graphs.</li> <li>• Observe the location of the Sun and the Moon in the sky over a day and the change in the appearance of the Moon over a month.</li> <li>• Organize and communicate observations through drawing and writing.</li> <li>• Acquire vocabulary associated with properties of air and weather conditions.</li> </ul>			

<p><b>Investigation</b></p> <p><b>1</b></p> <p><b>Exploring Air</b></p>	<p><b>S.IP.01.11</b> Make purposeful observation of the natural world using the appropriate senses.  <b>S.IP.01.12</b> Generate questions based  <b>S.IP.01.12</b> Generate questions based on observations.  <b>S.IP.01.13</b> Plan and conduct simple investigations.  <b>S.IP.01.14</b> Manipulate simple tools (for example: hand lens, pencils, rulers, thermometers, rain gauges, balances, non-standard objects for measurement) that aid observation and data collection.  <b>S.IA.01.12</b> Share ideas about science through purposeful conversation.  <b>S.IA.01.13</b> Communicate and present findings of observations.  <b>S.RS.01.12</b> Recognize that science investigations are done more than one time.</p>	<p>Air is matter.</p> <p>Air takes up space.</p> <p>Air interacts with objects.</p> <p>Air is all around objects.</p> <p>Air resistance affects how things move.</p> <p>Air can be compressed.</p> <p>The pressure from compressed air can move things.</p> <p>Air is a gas.</p>	<p>Air and Weather Journal</p> <p>Assessment Checklist nos. 2-3</p> <p>Anecdotal Notes No. 1</p>		<ul style="list-style-type: none"> <li>• Explore properties of a common gas, air.</li> <li>• Construct parachutes and observe how they move through air.</li> <li>• Discover that air occupies space and can be compressed.</li> <li>• Observe that compressed air pushes with a usable pressure.</li> <li>• Explain how air can propel a balloon-rocket system.</li> </ul>	<ul style="list-style-type: none"> <li>• Air can move things around.</li> <li>• You can feel air.</li> <li>• Air takes up space.</li> <li>• Air is matter</li> <li>• Air can be trapped in a vial underwater.</li> <li>• Air bubbles come out of the vial if it's tipped sideways.</li> <li>• Air takes up space, so water can't get in and get the towel wet.</li> <li>• A parachute falls slowly because the air pushes against it.</li> <li>• Air resistance slows the parachute down.</li> <li>• You can't push the plunger in all the way when air is trapped inside.</li> <li>• Plunging one syringe compresses the air, creating pressure and pushing the other one out.</li> <li>• Air takes up space in a bottle and won't let water in if the air can't get out.</li> <li>• Air pressure can push on water and make it move.</li> <li>• Air inside a balloon is compressed by the rubber skin of the balloon.</li> <li>• Pressure from the compressed air moves the balloon rocket.</li> </ul>	<p>Air</p> <p>Matter</p> <p>Gas</p> <p>Invisible</p> <p>Vial</p> <p>Bubble</p> <p>Water</p> <p>Paper towel</p> <p>Submerge</p> <p>Parachute</p> <p>Air resistance</p> <p>Syringe</p> <p>Plunger</p> <p>Barrel</p> <p>Tubing</p> <p>Compress</p> <p>Pressure</p> <p>System</p> <p>Fountain</p> <p>Inflate</p> <p>Rocket</p> <p>Propel</p> <p>Distance</p> <p>Move</p> <p>Travel</p>	<p><b>Science Stories:</b></p> <p><i>What Is All around Us?</i></p>
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<p><b>Investigation</b></p> <p><b>2</b></p> <p><b>Observing Weather</b></p>	<p><b>S.IP.01.15</b> Make accurate measurements with appropriate (non-standard) units for the measurement tool.</p> <p><b>S.IP.01.16</b> Construct simple charts from data and observations.</p> <p><b>S.IA.01.14</b> Develop strategies for information gathering (ask an expert, use a book, make observations, conduct simple investigations, and watch a video).</p> <p><b>E.ES.01.12</b> Demonstrate the importance of sunlight and warmth in plant growth.</p> <p><b>E.ES.01.21</b> Compare daily changes in the weather related to temperature (cold, hot, warm, cool); cloud cover (cloudy, partly cloudy, foggy) precipitation (rain, snow, hail, freezing rain); wind (breezy, windy, calm).</p> <p><b>E.ES.01.31</b> Identify the tools that might be used to measure temperature, precipitation, cloud cover and wind.</p> <p><b>E.ES.01.32</b> Observe and collect data of weather conditions over a period of time.</p>	<p>Weather is the condition of the atmosphere (air) at a given time; many factors contribute to weather, such as how hot or cold, wet or dry, calm or stormy, clear or cloudy it is.</p> <p>Temperature describes how hot or cold the air is.</p> <p>Clouds are made of water drops and form in the sky.</p> <p>There are different kinds of clouds.</p> <p>Wind moves clouds.</p> <p>Wind moves clouds in the sky.</p> <p>Rain is water that comes from clouds.</p>	<p>Air and Weather Journal</p> <p>Assessment Checklist</p>		<ul style="list-style-type: none"> <li>• Observe daily weather and record observations.</li> <li>• Use a calendar to monitor daily weather and record. sunrise/sunset times once a week</li> <li>• Monitor and record daily outdoor temperature.</li> <li>• Use different weather instruments, including a thermometer and rain gauge.</li> <li>• Identify several types of clouds.</li> <li>• Develop awareness of natural sources of water.</li> </ul>	<ul style="list-style-type: none"> <li>• Meteorologists are scientists who study the weather.</li> <li>• Scientific journals are used to record observations accurately.</li> <li>• Use a thermometer to measure temperature.</li> <li>• We use the temperature to decide what to wear and what to do outside.</li> <li>• Cirrus clouds look like feathers or cobwebs.</li> <li>• Cumulus clouds are big and fluffy.</li> <li>• Stratus clouds stay low and cover the sky.</li> <li>• Wind makes clouds move.</li> <li>• Clouds are all made of drops of water in the air.</li> <li>• You can tell it is going to rain when the clouds are dark and thick.</li> <li>• You use a rain gauge to measure how much rain has fallen.</li> </ul>	<p>Weather</p> <p>Meteorologist</p> <p>Monitor</p> <p>Symbol</p> <p>Sunny</p> <p>Partly cloudy</p> <p>Overcast</p> <p>Rainy</p> <p>Snowy</p> <p>Temperature</p> <p>Thermometer</p> <p>°C or °F</p> <p>Weather instrument</p> <p>Tool</p> <p>Freezing</p> <p>Cold</p> <p>Cool</p> <p>Warm</p> <p>Hot</p> <p>Clouds</p> <p>Cirrus</p> <p>Cumulus</p> <p>Stratus</p> <p>Rain gauge</p>	<p><b>Science Stories:</b></p> <p><i>What's the Weather Today?</i></p>
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<p><b>Investigation</b></p> <p><b>3</b></p> <p><b>Wind Explorations</b></p>	<p><b>S.RS.01.11</b> Demonstrate scientific concepts through various illustrations, performances, models, exhibits and activities.  <b>E.ES.01.31</b> Identify the tools that might be used to measure temperature, precipitation, cloud cover and wind.</p>	<p>Wind is moving air.</p> <p>Meteorologists use a wind scale to describe the strength of the wind.</p> <p>Meteorologists use anemometers to measure the speed of wind.</p> <p>Meteorologists use wind vanes to observe the direction of the wind.</p>	<p>Anecdotal Notes</p> <p>Student Journal</p> <p>Teacher Observation</p>		<ul style="list-style-type: none"> <li>• Observe evidence of wind speed using bubbles, pinwheels, and anemometers.</li> <li>• Describe wind strength using a modified Beaufort scale.</li> <li>• Observe evidence of wind direction using bubbles and wind vanes.</li> <li>• Use different weather instruments, including an anemometer and a wind vane.</li> <li>• Observe the effect of wind direction and speed on kites.</li> </ul>	<ul style="list-style-type: none"> <li>• Bubbles are filled with air.</li> <li>• Bubbles move with the air. They can show how fast or slow air is moving. They can show the direction air is moving.</li> <li>• Meteorologists use an anemometer to measure how fast the wind is blowing.</li> <li>• A pinwheel is like an anemometer because it can show you how fast the air is moving.</li> <li>• The faster the pinwheel moves, the faster you know the wind is blowing.</li> <li>• Wind vanes tell us the direction the wind is coming from.</li> <li>• You can use things like bubbles, clouds, and flags to tell the direction of the wind.</li> <li>• Air pushes against a kite to make it fly.</li> <li>• A wind vane can help you know which direction to fly the kite.</li> <li>• An anemometer can help you decide if there is enough wind for a kite to fly.</li> </ul>	<p>Bubble</p> <p>Wind</p> <p>Anemometer</p> <p>Calm</p> <p>Gentle breeze</p> <p>Moderate breeze</p> <p>Strong breeze</p> <p>Pinwheel</p> <p>Wind vane</p> <p>Direction</p> <p>North</p> <p>South</p> <p>East</p> <p>West</p> <p>Kite</p> <p>Tail</p> <p>Flying line</p>	<p><b>Science Stories:</b></p> <p><i>Understanding the Weather</i></p>
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<p><b>Investigation</b></p> <p><b>4</b></p> <p><b>Looking For change</b></p>	<p><b>S.IP.01.16</b> Construct simple charts from data and observations.</p> <p><b>E.ES.01.21</b> Compare daily changes in the weather related to temperature (cold, hot, warm, cool); cloud cover (cloudy, partly cloudy, foggy) precipitation (rain, snow, hail, freezing rain); wind (breezy, windy, calm).</p> <p><b>E.ES.01.22</b> Describe and compare weather related to the four seasons in terms of temperature, cloud cover, precipitation, and wind.</p> <p><b>E.ES.01.23</b> Describe severe weather events.</p> <p><b>E.ES.01.32</b> Observe and collect data of weather conditions over a period of time.</p>	<p>Weather conditions change over time.</p> <p>Weather observations can be organized and compared.</p> <p>The Sun heats the Earth during the day.</p> <p>Each season has a typical weather pattern that can be observed, compared, and predicted.</p> <p>The bright appearance of the Moon changes shape in a pattern that can be observed, compared, and predicted.</p> <p>The Sun and Moon appear to move slowly across the sky.</p>	<p>Student Journal</p> <p>Student Sheet No. 25</p>	<p>Performance Assessment No. 4</p> <p>Performance Assessment No. 5</p> <p>Written Assessment No. 6</p> <p>Written Assessment No. 7</p> <p>REQUIRED DISTRICT COMMON ASSESSMENT STILL TO BE DEVELOPED.</p>	<ul style="list-style-type: none"> <li>Graph weather observations taken over a period of a month.</li> <li>Look for patterns in changes in weather condition, precipitation, and temperature throughout the seasons.</li> <li>Monitor and record nightly weather.</li> <li>Monitor and record the changing appearance of the Moon over a month.</li> </ul>	<ul style="list-style-type: none"> <li>Graphs can help organize information and make it easy to compare different kinds of weather.</li> <li>Next month might have more snowy days.</li> <li>The most rain fell in the spring. Winter was the coldest season. In the fall, we had the most sunny days.</li> <li>The Moon changes in a pattern. It starts as a crescent, grows into a quarter, grows to a full Moon, and then gets smaller until it becomes a new Moon and we can't see it.</li> <li>It takes about a month to complete the pattern.</li> </ul>	<p>Graph</p> <p>Column</p> <p>Row</p> <p>Total</p> <p>Precipitation</p> <p>Season</p> <p>Sun</p> <p>Moon</p> <p>Star</p> <p>Change</p>	<p><b>Science Stories:</b></p> <p><i>Seasons</i></p>
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Unit of Study New Plants	Standards, Benchmarks, GLCEs or HSCEs	Big Ideas / Key Concepts	Assessments		Learning Strategies <i>Skills</i>	Content Activities <i>Knowledge</i>	Vocab.	Instructional Resources
			FOR LEARNING <i>(Formative)</i>	OF LEARNING <i>(Summative)</i>				
<b>By the end of this unit, students will...</b>					<ul style="list-style-type: none"> <li>Develop a curiosity and interest in plants as living things.</li> <li>Experience some of the diversity of forms in the plant kingdom.</li> <li>Provide for the needs of growing plants.</li> <li>Observe and describe the changes that occur as plants grow and develop.</li> <li>Become familiar with the structures and functions of flowering plants (root, stem, leaf, bud, flower, seed).</li> <li>Discover various ways that new plants can develop from mature plants.</li> <li>Compare change over time in different kinds of plants.</li> <li>Organize and communicate observations through drawing and writing.</li> <li>Acquire the vocabulary associated with the structures of plants.</li> </ul>	•		
<b>Investigation</b>  <b>1</b>  <b>Brassica Seeds</b>	<p><b>L.OL.E.1</b> Life Requirements- Organisms have basic needs. Animals and plants need air, water, and food. Plants also require light. Plants and animals use food as a source of energy and as a source of building material for growth and repair.</p> <p><b>L.HE.01.11</b> Identify characteristics (for example: body coverings, beak shape, number of legs, body parts) that are passed on from parents to young.</p>	<p>Plants are alive.</p> <p>Plants need water, air, nutrients, and light to grow.</p> <p>As plants grow, they develop roots, stems, leaves, buds, flowers, and seeds in a sequence called a life cycle.</p>	<p>Anecdotal Notes – sheet no.1</p> <p>Assessment checklist - no.2</p> <p>Assessment checklist - no.3</p> <p>Student journal</p>		<ul style="list-style-type: none"> <li>Plant rapid-cycling brassica seeds in soil and observe changes over time.</li> <li>Record observations using the techniques of drawing, labeling, and captioning.</li> <li>Observe the sequence of changes in the life cycle of brassica</li> </ul>	<ul style="list-style-type: none"> <li>Plants usually have stems and leaves, and have some flowers.</li> <li>Plants grow and so are alive.</li> <li>The brassica plants need light, air, water, and nutrients from the soil to grow.</li> <li>Brassica plants start from seed.</li> </ul>	<p>alive</p> <p>brassica</p> <p>bud</p> <p>calendar</p> <p>change</p> <p>dead</p> <p>fertilizer</p> <p>flower</p> <p>germination</p>	<p>Science Stories:</p> <p><i>What Do Plants Need?</i></p>

	<p><b>E.ES.01.12</b> Demonstrate the importance of sunlight and warmth in plant growth.</p> <p><b>E.SE.01.12</b> Describe how Earth materials contribute to the growth of plant and animal life.</p>	<p>Bees and other insects help some plants by moving pollen from flower to flower.</p> <p>Scientists use journals to record their observations.</p>				<ul style="list-style-type: none"> <li>We observed these structures: sprouts (roots below ground), stem, leaves, flowers, seedpods, seeds.</li> <li>Insects move pollen from flower to flower.</li> </ul>	<p>grow</p> <p>journal</p> <p>leaf</p> <p>light</p> <p>nutrient</p> <p>plant</p> <p>pollen</p> <p>root</p> <p>seed</p> <p>seedling</p> <p>seedpod</p> <p>soil</p> <p>sprout</p> <p>stem</p> <p>water</p>	
<p><b>Investigation</b></p> <p><b>2</b></p> <p><b>Grass and Grain Seeds</b></p>	<p><b>S.IP.01.12</b> Generate questions based on observations.</p> <p><b>S.IP.01.13</b> Plan and conduct simple investigations.</p> <p><b>S.IP.01.14</b> Manipulate simple tools (for example: hand lens, pencils, rulers, thermometers, rain gauges, balances, non-standard objects for measurement) that aid observation and data collection.</p> <p><b>S.IP.01.15</b> Make accurate measurements with appropriate (non-standard) units for the measurement tool.</p>	<p>Seeds are alive.</p> <p>Seeds need water and light o develop into new plants.</p> <p>Not all plants grow alike.</p> <p>Some plants will die if cut near the ground, while others will continue to live.</p> <p>Wheat and other cereals that we eat come from seeds called grains.</p>	<p>Anecdotal Notes</p> <p>Student Sheet <i>Growing and Mowing a Lawn</i></p> <p>Teacher Observation</p> <p>Assessment checklist</p>		<ul style="list-style-type: none"> <li>Find out what happens when rye grass and alfalfa plants are grown, then mowed close to the soil surface, and then allowed to grow again.</li> <li>Sprout wheat seeds in soda straws and monitor growth.</li> <li>Record observations using the techniques of drawing and labeling.</li> </ul>	<ul style="list-style-type: none"> <li>Plants need light, water, air, and nutrients from the soil.</li> <li>Brassica seeds are tiny, alfalfa seeds are round, and grass seeds are pointed and long.</li> <li>Alfalfa plants have stems with leaves on top.</li> <li>After mowing, only the grass plants grow back.</li> <li>Leaves grow up. Leaves capture light for the plant.</li> </ul>	<p>alfalfa</p> <p>bud</p> <p>change</p> <p>different</p> <p>fertilizer</p> <p>germination</p> <p>grain</p> <p>grass</p> <p>grow</p> <p>lawn</p> <p>leaf</p> <p>mold</p>	<p>Science Stories:</p> <p><i>How Seeds Travel</i></p> <p><i>Flowers and Seeds</i></p> <p><i>The Story of Wheat</i></p>

	<p><b>S.IA.01.13</b> Communicate and present findings of observations.</p> <p><b>S.RS.01.11</b> Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.</p> <p><b>S.RS.01.12</b> Recognize that science investigations are done more than one time.</p>	<p>Plants have different structures that function in growth and survival.</p>				<ul style="list-style-type: none"> <li>• Roots grow down. Water travels from roots to stem and leaves.</li> <li>• Seeds are alive because they can grow.</li> </ul>	<p>mow plant root rye grass same seed soil sprout stem structure wheat</p>	
<p><b>Investigation</b></p> <p><b>3</b></p> <p><b>Stems</b></p>	<p><b>S.IP.01.15</b> Make accurate measurements with appropriate (non-standard) units for the measurement tool.</p> <p><b>S.IP.01.11</b> Make purposeful observation of the natural world using the appropriate senses.</p> <p><b>S.IA.01.12</b> Share ideas about science through purposeful conversation.</p> <p><b>E.ES.01.12</b> Demonstrate the importance of sunlight and warmth in plant growth.</p>	<p>New plants can grow from the stems of old plants.</p> <p>Leaves, twigs, and roots develop on stems at the nodes.</p> <p>Plants make food from light, water, air, and nutrients from soil.</p> <p>Potatoes are underground stems.</p>	<p>Student Sheet <i>Stem Cuttings</i></p> <p>Anecdotal Notes</p> <p>Teacher Observation</p> <p>Assessment checklist</p>		<ul style="list-style-type: none"> <li>• Cut plant stems, place them in water or soil, and observe changes over time.</li> <li>• Discover the parts of a stem that can be induced to produce new plants.</li> <li>• Discover the conditions that induce root growth on stems.</li> <li>• Plant rooted shoots to produce new plants from old.</li> <li>• Record observations using the techniques of drawing and labeling.</li> </ul>	<ul style="list-style-type: none"> <li>• Not all cuttings grew roots. Cuttings with nodes underwater and leaves grow roots.</li> <li>• Roots form at the nodes on the stems under the water.</li> <li>• New leaves are growing on the nodes above the water.</li> <li>• We know we made new plants from old stems because there are new leaves and roots growing.</li> <li>• You need a piece of stem with a node on it to make a new plant.</li> <li>• Potatoes are underground stems of the</li> </ul>	<p>alive bud cutting fertilizer grow leaf node plant potato eye root soil sprout stem</p>	

						<p>potato plant.</p> <ul style="list-style-type: none"> <li>New plant stems and roots grow from the nodes of potatoes.</li> </ul>		
<p><b>Investigation</b></p> <p><b>4</b></p> <p><b>Bulbs and Roots</b></p>	<p><b>S.IA.01.14</b> Develop strategies for information gathering (ask an expert, use a book, make observations, conduct simple investigations, and watch a video).</p> <p><b>E.SE.01.12</b> Describe how Earth materials contribute to the growth of plant and animal life.</p>	<p>Bulbs are alive.</p> <p>Bulbs need water to start growing.</p> <p>Some parts of roots will grow into new plants; other parts will not.</p>	<p>Student Sheet <i>Growing Bulbs</i></p> <p>Teacher observation</p> <p>Assessment checklist</p>	<p>End-of Module assessments no. 4-6</p>	<ul style="list-style-type: none"> <li>Initiate the growth of a new plant from a bulb.</li> <li>Initiate growth of a new plant from a root or part of a root.</li> <li>Record observations using the techniques of drawing and labeling.</li> </ul>	<ul style="list-style-type: none"> <li>We gave our bulbs water to start them growing.</li> <li>The first part to grow is the roots from the bottom. Then the leaves grow out from the middle.</li> <li>New plants can grow from roots if part of the stem is included.</li> <li>You can tell the plant part is growing if there are new leaves or roots growing.</li> <li>The new leaves get light and make food so the plant can grow.</li> </ul>	<p>bud</p> <p>bulb</p> <p>carrot</p> <p>garlic</p> <p>onion</p> <p>radish</p> <p>root</p> <p>sprout</p> <p>vermiculite</p>	<p>Science Stories:</p> <p><i>Plants and Animals around the World</i></p> <p><i>Animal teeth</i></p>
<p><b>Other GLECS</b></p>								

# 1ST GRADE SCIENCE CURRICULUM MAP FOR FOSS KIT SOLIDS AND LIQUIDS

Unit of Study Solids and Liquids	Standards, Benchmarks, GLCEs or HSCEs	Big Ideas / Key Concepts	Assessments		Learning Strategies <i>Skills</i>	Content Activities <i>Knowledge</i>	Vocab.	Instructional Resources
			FOR LEARNING <i>(Formative)</i>	OF LEARNING <i>(Summative)</i>				
<b>By the end of this unit students will ...</b>					<ul style="list-style-type: none"> <li>• Develop curiosity and interest in the objects that make up their world.</li> <li>• Investigate materials constructively during free exploration and in a guided discovery mode.</li> <li>• Recognize differences between solids and liquids.</li> <li>• Explore a number of liquids.</li> <li>• Observe and describe the properties of solids and liquids.</li> <li>• Sort materials according to properties.</li> <li>• Combine and separate solids of different particle sizes.</li> <li>• Observe and describe what happens when solids are mixed with water.</li> <li>• Observe and describe what happens when other liquids are mixed with water.</li> <li>• Use information gathered to conduct an investigation on an unknown material.</li> <li>• Acquire the vocabulary associated with the properties of solids and liquids.</li> <li>• Use written and oral language to describe observations.</li> </ul>			

<p><b>Investigation</b></p> <p><b>1</b></p> <p><b>Solids</b></p>	<p><b>S.IP.01.16</b> Construct simple charts from data and observations.</p> <p><b>P.PM.01.11</b> Demonstrate the ability to sort objects according to observable</p> <p>INV 2</p> <p><b>S.IP.01.11</b> Make purposeful observation of the natural world using the appropriate senses.</p> <p><b>S.IP.01.16</b> Construct simple charts from data and observations.</p> <p><b>S.IA.01.12</b> Share ideas about science through purposeful conversation.</p> <p><b>S.RS.01.11</b> Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.</p> <p><b>P.PM.01.11</b> Demonstrate the ability to sort objects according to observable</p> <p><b>P.PM.01.22</b> Demonstrate that water as a liquid takes on the shape of various containers.</p>	<p>Solids are one state of matter.</p> <p>Solid materials have properties that separate them from other states of matter.</p> <p>We use our senses to observe the properties of solids.</p> <p>Solids can be sorted by their properties.</p> <p>Solids have distinct uses based on their properties.</p> <p>Engineers are scientists who use their knowledge of materials to design useful objects and structures.</p>	<p>Assessment Checklists No. 2 &amp; 3</p> <p>Anecdotal notes</p>		<ul style="list-style-type: none"> <li>• Explore a number of different materials.</li> <li>• Describe properties of solid materials.</li> <li>• Recognize solids as different from other states of matter.</li> <li>• Sort solids by their properties.</li> <li>• Describe how the properties of solid materials can have specific uses in construction.</li> </ul>	<ul style="list-style-type: none"> <li>• A property describes something about an object.</li> <li>• We use our senses to observe properties of solids.</li> <li>• Solids are things that are hard, soft, transparent, rough, smooth, and not squishy, and you can't drink them.</li> </ul>	<p>solid observe property flexible rigid rough smooth transparent opaque cylinder engineer tower</p>	<p><b>Science Stories:</b> Everything Matters</p>
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<p><b>Investigation</b></p> <p><b>2</b></p> <p><b>Liquids</b></p>	<p><b>S.IP.01.16</b> Construct simple charts from data and observations.  <b>P.PM.01.11</b> Demonstrate the ability to sort objects according to observable</p> <p>INV 2  <b>S.IP.01.11</b> Make purposeful observation of the natural world using the appropriate senses.  <b>S.IP.01.16</b> Construct simple charts from data and observations.  <b>S.IA.01.12</b> Share ideas about science through purposeful conversation.  <b>S.RS.01.11</b> Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.  <b>P.PM.01.11</b> Demonstrate the ability to sort objects according to observable  <b>P.PM.01.22</b> Demonstrate that water as a liquid takes on the shape of various containers.</p>	<p>Liquids have many properties.</p> <p>Liquids pour and flow.</p> <p>Liquids take the shape of their container.</p> <p>The surface of liquid is level with respect to the ground.</p> <p>Solids and liquids have distinct properties that separate them as two states of matter.</p>	<p>Teacher observation</p> <p>Or</p> <p>Student Sheet No. 17</p>		<ul style="list-style-type: none"> <li>Observe the properties of a variety of liquid materials.</li> <li>Record information about properties of liquids.</li> <li>Play games to practice vocabulary associated with liquids.</li> <li>Investigate and record the level nature of liquid as it flows from one stable position to another.</li> <li>Investigate the appearance and behavior of liquids in containers.</li> <li>Develop definitions of solids and liquids based on their observations and comparisons.</li> </ul>	<ul style="list-style-type: none"> <li>Some liquids move fast, some more slowly, some make the bottle roll easily, some make bubbles, some make tornados when you shake them.</li> <li>Solids stay together and liquids splash.</li> <li>Liquids take the shape of whatever container they are in.</li> <li>The surface of a liquid always stays level.</li> </ul>	<p>Bubbly                  Has color                  Colorless                  Flow                  Foams                  Level                  Liquid                  Pour                  Property                  Shake                  Surface                  Tornado                  Translucent                  Transparent                  Viscous</p>	<p><b>Science Stories:</b>                  Solids and Liquids</p>
	<p><b>S.IP.01.11</b> Make purposeful observation of the natural world using the appropriate senses.  <b>S.IP.01.16</b> Construct simple charts from data and observations.  <b>S.IA.01.12</b> Share ideas about science through purposeful conversation.  <b>S.RS.01.11</b> Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.  <b>P.PM.01.11</b> Demonstrate the ability to sort objects according to observable  <b>P.PM.01.22</b> Demonstrate that water as a liquid takes on the shape of various containers.</p>				<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>		

<p><b>Investigation</b></p> <p><b>3</b></p> <p><b>Bits and Pieces</b></p>	<p><b>S.IP.01.14</b> Manipulate simple tools (for example: hand lens, pencils, rulers, thermometers, rain gauges, balances, non-standard objects for measurement) that aid observation and data collection.</p> <p><b>S.IP.01.15</b> Make accurate measurements with appropriate (non-standard) units for the measurement tool.</p> <p><b>P.PM.01.11</b> Demonstrate the ability to sort objects according to observable</p> <p><b>P.PM.01.31</b> Identify materials that are attracted by magnets.</p>	<p>Solid materials come in all sizes and shapes.</p> <p>Particles of solid materials can pour like liquids, but maintain their shape.</p> <p>Solid particles can be separated with a screen.</p>	<p>Anecdotal notes</p> <p>Teacher Observation</p> <p>Student Sheet No. 24 &amp; 25</p>		<ul style="list-style-type: none"> <li>• Experience solid materials as pieces, grains, and particles.</li> <li>• Observe the behavior of small solids in various settings.</li> <li>• Combine and separate solid materials of different particle sizes.</li> <li>• Compare the behavior of solids and liquids in similar settings.</li> </ul>	<ul style="list-style-type: none"> <li>• Small solids can pour and fill containers like liquids.</li> <li>• Small solids pile up, stay in pieces, and are noisier than liquids.</li> <li>• Flour, sugar, baby powder, and snack mix are small solids.</li> <li>• Hands and screens can be used to separate mixture of solids.</li> <li>• When you spin the bottles, solids make a curve and stay that way. Liquids always become flat.</li> <li>• Viscous liquids do not roll, and all the solids roll.</li> <li>• Solids are noisier than liquids when you shake them.</li> <li>• Some liquids drip from the top when the bottle is turned over, and solids do not.</li> <li>• Solid particles that are smaller than the holes will go through the screen.</li> <li>• Liquids flow; they take the shape of their container; the surface is flat and level with the floor.</li> <li>• Solids have shape that doesn't change.</li> </ul>	<p>Corn meal Lima bean Mung bean Pinto bean Rice Particle Grain Powder Pile Pour Scoop Powder Mixture Screen Separate Sift Static Curve</p>	<p><b>Science Stories:</b> Solids and Liquids and Back Again</p>
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<p><b>Investigation</b></p> <p><b>4</b></p> <p><b>Solids and Liquids with Water</b></p>	<p><b>S.IP.01.12</b> Generate questions based on observations.</p> <p><b>S.IP.01.13</b> Plan and conduct simple investigations.</p> <p><b>S.IP.01.16</b> Construct simple charts from data and observations.</p> <p><b>S.IA.01.13</b> Communicate and present findings of observations.</p> <p><b>S.RS.01.12</b> Recognize that science investigations are done more than one time.</p> <p><b>P.PM.01.11</b> Demonstrate the ability to sort objects according to observable</p>	<p>Solids change, remain unchanged, or dissolve when mixed with water.</p> <p>Water can be separated from a mixture through evaporation</p> <p>Some liquids mix with water; others form a layer above or below water</p> <p>Some materials have properties of both solids and liquids</p> <p>Scientists test materials in many ways in order to compare them to what is known.</p>	<p>Anecdotal notes</p> <p>Student sheet <i>Liquid with Water</i></p> <p>Teacher Observation</p>		<ul style="list-style-type: none"> <li>Observe what happens when solids and water are mixed.</li> <li>Observe what happens when liquids and water are mixed.</li> <li>Organize observations of mixtures.</li> </ul> <p>Conduct an investigation to determine if toothpaste is solid or liquid.</p>	<ul style="list-style-type: none"> <li>When solids and liquids mix, the solids can get bigger, darker, dissolve, or soft, or nothing can happen.</li> <li>Hands, screens, and evaporation can separate a mixture.</li> <li>Liquid mixtures can swirl, mix completely, or make layers.</li> <li>Oil and water always make layers. Some viscous liquids with water make layers for a while.</li> </ul> <p>Other liquid mixtures are bath oil and water, chocolate syrup and milk, and salad dressing.</p>	<p>bigger change crystal dark disappear dissolve evaporate float layer mixture oil sink swollen</p>	
<p><b>Other GLECS</b></p>					<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>		