



First Grade: FOSS Earth Science - Air and Weather

Investigation Title and Synopsis	Concepts	Assessments and TE Page Numbers
<p>1. Exploring Air Students explore properties of a common gas mixture, air. Using vials, syringes, and tubes, students experience air as matter, discovering that it takes up space and can be compressed and that compressed air builds up pressure that can push objects around. They construct and compare parachutes and balloon rockets. Students read about air and where it's found.</p>	<ul style="list-style-type: none"> • Air is matter • Air takes up space • Air interacts with objects • Air resistance affects how things move • Air is all around objects • Air can be compressed • The pressure from compressed air can move things • Air is a gas 	<ul style="list-style-type: none"> • Part 1: Pre-assessment Notebook Sheet 1: <i>What I Know About Air</i> (page 183) • Part 2: Notebook Sheet 2: <i>Bubbles</i> (page 184) • Notebook Sheet 3: <i>Keep the Towel Dry</i> (page 185) • Part 3: Notebook Sheet 4: <i>Parachutes</i> (page 186) • Part 4: Notebook Sheet 5: <i>Pushing On Air</i> (page 187) • Notebook Sheet 6: <i>Pop-Off</i> (page 188) • Part 5: Anecdotal Notes (page 243) • Part 6: Teacher Observation: (page 244-247) Explains how air moves a balloon rocket • Notebook Sheet 7: <i>What I Have Learned About Air</i> (page 189)
<p>2. Observing Weather Students record weather for 4–8 weeks on a class calendar and in weather journals. They measure temperature with a thermometer and rainfall with a rain gauge. They learn to identify three basic cloud types by matching their observations to a cloud chart. Students read about different kinds of weather.</p>	<ul style="list-style-type: none"> • Weather describes conditions in the outside air and changes over time • The sun warms the land, air, and water • Temperature, precipitation, and cloud types are components of the weather that can be described • Meteorologists are scientists who study weather • There are different kinds of clouds • Rain is water that comes from clouds 	<ul style="list-style-type: none"> • Part 1: Notebook Sheet 9: <i>Weather Conditions</i> (page 191) • Part 2: Teacher Observation: Conduct short interviews with the class meteorologists each day to assess students' skills when monitoring the weather/Assessment Checklist (pages 244-247) • Part 3: Anecdotal Notes (page 243) • Part 4: Notebook Sheet 14: <i>Weather and Rain</i> (page 196)

Investigation Title and Synopsis	Concepts	Assessments and TE Page Numbers
<p>3. Wind Explorations Students look for evidence of moving air. They observe and describe wind speed using pinwheels, an anemometer, and a wind scale. They observe bubbles and construct wind vanes to find the wind's direction. Flying kites, they feel the strength of the wind and its direction. Students read how meteorologists gather information on the weather.</p>	<ul style="list-style-type: none"> • Wind is moving air • Wind speed and wind direction are components of weather that can be measured with anemometers and wind vanes • Wind scales are tools used to describe the speed of the wind 	<ul style="list-style-type: none"> • Part 1: Anecdotal Notes (page 243) • Part 2: Notebook Sheet 16: <i>Weather and an Anemometer</i> (page 198) • Part 3: Teacher Observation: Compares pinwheel to anemometers; both indicate wind speed/Assessment Checklist (pages 244-247) • Part 4: Notebook Sheet 17: <i>Weather and a Wind Vane</i> (page 199) • Part 5: Teacher Observation: Explains how anemometers and wind vanes help fly a kite/ Assessment Checklist (pages 244-247)
<p>4. Looking for Change Students organize monthly weather data, using graphs to describe weather trends. They continue to measure and record weather throughout the year, to compare the seasons. Students read about the seasonal weather patterns.</p>	<ul style="list-style-type: none"> • Weather conditions change over time • Weather observations can be organized compared, and predicted • The Sun heats the Earth during the day • Each season has a typical weather pattern that can be observed, compared, and predicted 	<ul style="list-style-type: none"> • Part 1: Notebook Sheet 19: <i>Weather Graph</i> (page 201) • Part 2: Notebook Sheet 20: <i>Seasons</i> (page 202) • End of Module Assessment (pages 248-251)