



# **UP, UP AND AWAY!**

## TRAINER'S GUIDE

# Up, Up and Away!

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*Objective: Children will explore what kinds of particulate air pollution can be collected and observed from various locations.*

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# APEX Science Curriculum Overview

## Standards and Objectives: Up, Up and Away!

	National Science Education Standards	Objectives
<b>Breath of Fresh Air</b>	<p><i>Abilities necessary to do scientific inquiry</i></p> <ul style="list-style-type: none"> <li>• Use tools to collect data.</li> <li>• Use data to formulate explanations.</li> </ul> <p><i>Properties of objects and materials</i></p> <ul style="list-style-type: none"> <li>• Air has observable and measurable properties.</li> </ul> <p><i>Types of resources</i></p> <ul style="list-style-type: none"> <li>• Clean air is a limited resource necessary to meet the needs of populations.</li> </ul> <p><i>Understanding about science and technology</i></p> <ul style="list-style-type: none"> <li>• Clean air is a limited resource.</li> <li>• Pollution can influence the health, survival, or activities of organisms.</li> </ul>	Children will explore what kinds of particulate air pollution can be collected and observed from various locations.
<b>Air Pressure</b>	<p><i>Abilities necessary to do scientific inquiry</i></p> <ul style="list-style-type: none"> <li>• Use observations to collect data.</li> <li>• Use data to formulate explanations.</li> </ul> <p><i>Properties of objects and materials</i></p> <ul style="list-style-type: none"> <li>• Air has observable and measurable properties.</li> </ul>	Children will explore air pressure by demonstrating how the weight of air molecules affects common objects.
<b>Amazing Skydivers</b>	<p><i>Abilities necessary to do scientific inquiry</i></p> <ul style="list-style-type: none"> <li>• Use measuring tools to collect data.</li> <li>• Use data to formulate explanations.</li> </ul> <p><i>Properties of objects and materials</i></p> <ul style="list-style-type: none"> <li>• Clean air is a limited resource necessary to meet the needs of human populations.</li> </ul> <p><i>Position and motion of objects</i></p> <ul style="list-style-type: none"> <li>• Describe and manipulate objects.</li> <li>• Describe and measuring the location of objects.</li> </ul> <p><i>Abilities of technological design</i></p> <ul style="list-style-type: none"> <li>• Engage in technological problem solving through first hand experience using given materials.</li> </ul>	Children will build and test a parachute to explore air resistance and the force produced by the weight of an object.
<b>Soaring Rockets</b>	<p><i>Abilities necessary to do scientific inquiry</i></p> <ul style="list-style-type: none"> <li>• Build and improve unique designs by investigating successful and unsuccessful models.</li> </ul> <p><i>Position and motion of objects</i></p> <ul style="list-style-type: none"> <li>• Describe and manipulate objects.</li> <li>• Describe and measuring the location of objects.</li> </ul> <p><i>Abilities of technological design</i></p> <ul style="list-style-type: none"> <li>• Engage in technological problem solving through first hand experience using given materials.</li> </ul> <p><i>Understanding about science and technology</i></p> <ul style="list-style-type: none"> <li>• Design a solution to a problem understanding the relationship of science and technology.</li> </ul>	Children will explore the properties of air while improving the design of a simple rocket.