



# **Nature's Art Village**

## **Educational Field Trip Programs**

### **Guide To:**

## **Content Standards and Expected Performances**

## **Core Science for Grades 1 through 2**

### **Mighty Minerals**

Children become junior geologists and learn about the three main types of rocks, their similarities and differences, their common uses, and their relationship with minerals. Minerals are investigated to discover their secret “super powers” and how those mighty traits allow them to be useful in different ways. A fun matching game reinforces learned information while a take-home activity brings that information back to the classroom!

**THE STANDARDS FOR SCIENTIFIC INQUIRY, LITERACY AND NUMERACY ARE INTEGRAL PARTS OF THE CONTENT STANDARDS FOR EACH GRADE LEVEL IN THIS CLUSTER.**

**Grades PreK-2 Core Scientific Inquiry, Literacy and Numeracy**

*How is scientific knowledge created and communicated?*

Content Standards	Expected Performances
<p><b>SCIENTIFIC INQUIRY</b></p> <ul style="list-style-type: none"> <li>Scientific inquiry is a thoughtful and coordinated attempt to search out, describe, explain and predict natural phenomena.</li> </ul> <p><b>SCIENTIFIC LITERACY</b></p> <ul style="list-style-type: none"> <li>Scientific literacy includes speaking, listening, presenting, interpreting, reading and writing about science.</li> </ul> <p><b>SCIENTIFIC NUMERACY</b></p> <ul style="list-style-type: none"> <li>Mathematics provides useful tools for the description, analysis and presentation of scientific data and ideas.</li> </ul>	<p><b>A INQ.1</b> Make observations and ask questions about objects, organisms and the environment.</p> <p><b>A INQ.2</b> Use senses and simple measuring tools to collect data.</p> <p><b>A INQ.3</b> Make predictions based on observed patterns.</p> <p><b>A INQ.4</b> Read, write, listen and speak about observations of the natural world.</p> <p><b>A INQ.5</b> Seek information in books, magazines and pictures.</p> <p><b>A INQ.6</b> Present information in words and drawings.</p> <p><b>A INQ.7</b> Use standard tools to measure and describe physical properties such as weight, length and temperature.</p> <p><b>A INQ.8</b> Use nonstandard measures to estimate and compare the sizes of objects.</p> <p><b>A INQ.9</b> Count, order and sort objects by their properties.</p> <p><b>A INQ.10</b> Represent information in bar graphs.</p>

**Grade 1**  
**Core Themes, Content Standards and Expected Performances**

Content Standards	Expected Performances
<p><i>Forces and Motion – What makes objects move the way they do?</i></p> <p><b>1.1 - The sun appears to move across the sky in the same way every day, but its path changes gradually over the seasons.</b></p> <ul style="list-style-type: none"> <li>◆ An object’s position can be described by locating it relative to another object or the background.</li> <li>◆ An object’s motion can be described by tracing and measuring its position over time.</li> </ul>	<p><b>A 10.</b> Describe how the motion of objects can be changed by pushing and pulling.</p> <p><b>A 11.</b> Describe the apparent movement of the sun across the sky and the changes in the length and direction of shadows during the day.</p>
<p><i>Structure and Function – How are organisms structured to ensure efficiency and survival?</i></p> <p><b>1.2 - Living things have different structures and behaviors that allow them to meet their basic needs.</b></p> <ul style="list-style-type: none"> <li>◆ Animals need air, water and food to survive.</li> <li>◆ Plants need air, water and sunlight to survive.</li> </ul>	<p><b>A 12. Describe the different ways that animals, including humans, obtain water and food.</b></p> <p><b>A 13.</b> Describe the different structures plants have for obtaining water and sunlight.</p> <p><b>A 14. Describe the structures that animals, including humans, use to move around.</b></p>
<p><i>Structure and Function – How are organisms structured to ensure efficiency and survival?</i></p> <p><b>1.3 - Organisms change in form and behavior as part of their life cycles.</b></p> <ul style="list-style-type: none"> <li>◆ Some organisms undergo metamorphosis during their life cycles; other organisms grow and change, but their basic form stays essentially the same.</li> </ul>	<p><b>A 15.</b> Describe the changes in organisms, such as frogs and butterflies, as they undergo metamorphosis.</p> <p><b>A 16.</b> Describe the life cycles of organisms that grow but do not metamorphose.</p>
<p><i>Science and Technology in Society – How do science and technology affect the quality of our lives?</i></p> <p><b>1.4 - The properties of materials and organisms can be described more accurately through the use of standard measuring units.</b></p> <ul style="list-style-type: none"> <li>◆ Various tools can be used to measure, describe and compare different objects and organisms.</li> </ul>	<p><b>A 17.</b> Estimate, measure and compare the sizes and weights of different objects and organisms using standard and nonstandard measuring tools.</p>

**Grade 2**  
**Core Themes, Content Standards and Expected Performances**

Content Standards	Expected Performances
<p><i>Properties of Matter – How does the structure of matter affect the properties and uses of materials?</i></p> <p><b>2.1 - Materials can be classified as solid, liquid or gas based on their observable properties.</b></p> <ul style="list-style-type: none"> <li>◆ Solids tend to maintain their own shapes, while liquids tend to assume the shapes of their containers, and gases fill their containers fully.</li> </ul>	<p><b>A 18.</b> Describe differences in the physical properties of solids and liquids.</p>
<p><i>Structure and Function – How are organisms structured to ensure efficiency and survival?</i></p> <p><b>2.2 - Plants change their forms as part of their life cycles.</b></p> <ul style="list-style-type: none"> <li>◆ The life cycles of flowering plants include seed germination, growth, flowering, pollination and seed dispersal.</li> </ul>	<p><b>A 19.</b> Describe the life cycles of flowering plants as they grow from seeds, proceed through maturation and produce new seeds.</p> <p><b>A 20.</b> Explore and describe the effects of light and water on seed germination and plant growth.</p>
<p><i>The Changing Earth – How do materials cycle through the Earth's systems?</i></p> <p><b>2.3 - Earth materials have varied physical properties which make them useful in different ways.</b></p> <ul style="list-style-type: none"> <li>◆ Soils can be described by their color, texture and capacity to retain water.</li> <li>◆ Soils support the growth of many kinds of plants, including those in our food supply.</li> </ul>	<p><b>A 21.</b> Sort different soils by properties, such as particle size, color and composition.</p> <p><b>A 22.</b> Relate the properties of different soils to their capacity to retain water and support the growth of certain plants.</p>
<p><i>Science and Technology in Society – How do science and technology affect the quality of our lives?</i></p> <p><b>2.4 - Human beings, like all other living things, have special nutritional needs for survival.</b></p> <ul style="list-style-type: none"> <li>◆ The essential components of balanced nutrition can be obtained from plant and animal sources.</li> <li>◆ People eat different foods in order to satisfy nutritional needs for carbohydrates, proteins and fats.</li> </ul>	<p><b>A 23.</b> Identify the sources of common foods and classify them by their basic food groups.</p> <p><b>A 24.</b> Describe how people in different cultures use different food sources to meet their nutritional needs.</p>