

Seattle Public Schools Science Standards

**Rocks and Minerals**

(Science and Technology for Children)

Grade 3

EARTH  
SCIENCE

<b>EARL #1 The student understands and uses scientific concepts and principles.</b>		
<b>Component</b>	<b>Benchmarks</b>	<b>Lesson #s</b>
1.1 – Use properties to identify, describe, and categorize substances, materials, and objects.	<p><b><i>Nature and properties of earth materials</i></b></p> <ul style="list-style-type: none"> <li>observe and describe properties of rocks and minerals (e.g., color, texture, shape, luster, transparency, and hardness)</li> <li>use these properties to sort and classify rocks and minerals</li> <li>compare the properties of rocks</li> </ul>	All lessons
1.2 – Recognize the components, structure, and organization of systems and the interconnections within and among them.	<p><b><i>Components and patterns of the earth system</i></b></p> <ul style="list-style-type: none"> <li>recognize that the earth’s solid crust is made of various types of rocks and minerals</li> </ul>	1 – 3
1.3 – Understand how interactions within and among systems cause changes in matter and energy.	<p><b><i>History and evolution of the earth</i></b></p> <ul style="list-style-type: none"> <li>recognize that fossils are evidence of plants, animals, and environments that existed long ago</li> </ul>	1 – 3

PHYSICAL  
SCIENCE

<b>EARL #1 The student understands and uses scientific concepts and principles.</b>		
1.1 – Use properties to identify, describe, and categorize substances, materials, and objects.	<p><b><i>Properties of substances</i></b></p> <ul style="list-style-type: none"> <li>identify, describe, and sort objects and materials, using physical properties (e.g., shape, color, texture, hardness, weight, and whether something is magnetic)</li> </ul>	5 – 12

SCIENCE  
SKILLS/  
PROCESSES

<b>EARL #2 The student understands the skills and processes of science and technology.</b>		
2.1 – Develop the abilities necessary to do scientific inquiry.	<p><b><i>Questioning</i></b></p> <ul style="list-style-type: none"> <li>ask questions about objects, organisms, and events in the environment</li> </ul>	5 – 15
	<p><b><i>Designing and conducting investigations</i></b></p> <ul style="list-style-type: none"> <li>plan and conduct simple investigations, using appropriate tools, measures, and safety rules</li> </ul>	15
	<p><b><i>Evidence and explanation</i></b></p> <ul style="list-style-type: none"> <li>use data to construct reasonable explanations</li> </ul>	5 – 15
	<p><b><i>Communication</i></b></p> <ul style="list-style-type: none"> <li>record and report observations, explanations, and</li> </ul>	1 – 3, 5 – 15

SCIENTIFIC  
THINKING

	conclusions using oral, written, and mathematical expression	
2.2 – Apply science knowledge and skills to solve problems or meet challenges.	<p><b>Identifying problems</b></p> <ul style="list-style-type: none"> <li>identify problems in which science and technology can and have been used to find solutions (e.g., identifying unknown rocks)</li> </ul>	14
	<p><b>Designing and testing solutions</b></p> <ul style="list-style-type: none"> <li>propose, design, and test a solution to a problem (e.g., testing mystery minerals)</li> </ul>	15
	<p><b>Evaluating potential solutions</b></p> <ul style="list-style-type: none"> <li>evaluate how well a design or a product solves a problem</li> </ul>	15
<b>EARL #3 The student understands the nature and contexts of science and technology.</b>		
3.1 – Understand the nature of scientific inquiry.	<p><b>Intellectual honesty</b></p> <ul style="list-style-type: none"> <li>understand that all scientific observations should be reported accurately even when they contradict expectations</li> </ul>	6 – 15
	<p><b>Limitations of science and technology</b></p> <ul style="list-style-type: none"> <li>distinguish between questions that can be answered with science and technology and those that cannot</li> </ul>	6 – 15
	<p><b>Dealing with inconsistencies</b></p> <ul style="list-style-type: none"> <li>explain why similar investigations may not produce similar results</li> </ul>	6 – 15
	<p><b>Evaluating methods of investigation</b></p> <ul style="list-style-type: none"> <li>recognize that results of scientific investigations can come from expected and unexpected sources (through sharing results of investigations)</li> </ul>	6 – 15
	<p><b>Evolution of scientific ideas</b></p> <ul style="list-style-type: none"> <li>know that ideas in science change as new scientific thinking, theories, and evidence arise</li> </ul>	6 – 15
3.2 – Know that science and technology are human endeavors, interrelated to each other, to society and to the workplace.	<p><b>All peoples contribute to science and technology</b></p> <ul style="list-style-type: none"> <li>begin to understand how science and technology have been practiced by all peoples throughout history</li> </ul>	14 – 16
	<p><b>Relationship of science and technology</b></p> <ul style="list-style-type: none"> <li>recognize that people have invented tools for everyday life and for scientific investigations</li> </ul>	14 – 16
	<p><b>Careers and occupations using science, mathematics, and technology</b></p> <ul style="list-style-type: none"> <li>identify the knowledge and skills of science, math, and technology used in common occupations</li> </ul>	14 – 16