

Seattle Public Schools Science Standards

Land and Water

(Science & Technology for Children)

Grade 5

**EARTH
SCIENCE**

EARL #1 The student understands and uses scientific concepts and principles.		
Component	Benchmarks	Lesson #s
1.1 – Use properties to identify, describe, and categorize substances, materials, and objects.	<p><i>Nature and properties of earth materials</i></p> <ul style="list-style-type: none"> observe and examine physical properties of earth materials such as rocks, soil, and water (as liquid, solid and vapor) and the gases of the atmosphere 	2, 5, 6; Also <i>Discovery Deck</i>
1.2 – Recognize the components, structure, and organization of systems and the interconnections within and among them.	<p><i>Components and patterns of the earth system</i></p> <ul style="list-style-type: none"> recognize that the earth is a spherical planet with a mainly solid interior and a surface composed of landforms, bodies of water, and an atmosphere 	2 – 4, 7 – 9
1.3 – Understand how interactions within and among systems cause changes in matter and energy.	<p><i>Processes and interactions in the earth system</i></p> <ul style="list-style-type: none"> identify processes that slowly change the surface of the earth (e.g., erosion and weathering), and those that rapidly change the surface of the earth (e.g., landslides, volcanic eruptions, and earthquakes) 	3, 4, 6 – 16, Also <i>Discovery Deck</i>

**PHYSICAL
SCIENCE**

EARL #1 The student understands and uses scientific concepts and principles.		
1.2 – Recognize the components, structure, and organization of systems and the interconnections within and among them.	<p><i>Physical and chemical change</i></p> <ul style="list-style-type: none"> know that matter can undergo changes of state such as evaporation and condensation 	2, 3; Also <i>Discovery Deck</i>

**LIFE
SCIENCE**

EARL #1 The student understands and uses scientific concepts and principles.		
1.3 – Understand how interactions within and among systems cause changes in matter and energy.	<p><i>Environmental and resource issues</i></p> <ul style="list-style-type: none"> know humans and other living things depend on the natural environment, and can cause changes in their environment that affect their ability to survive 	12, 14 - 16

**SCIENCE
SKILLS/
PROCESSES**

EARL #2 The student understands the skills and processes of science and technology.		
2.1 – Develop the abilities necessary to do scientific inquiry.	<p><i>Questioning</i></p> <ul style="list-style-type: none"> ask questions about objects, organisms, and events in the environment 	All lessons
	<p><i>Designing and conducting investigations</i></p> <ul style="list-style-type: none"> plan and conduct simple investigations, using appropriate tools, measures, and safety rules 	2 – 16
	<p><i>Evidence and explanation</i></p> <ul style="list-style-type: none"> use data to construct reasonable explanations 	2 – 16

SCIENTIFIC
THINKING

	<p>Modeling</p> <ul style="list-style-type: none"> model systems, events, or processes by representing them with concrete objects, metaphors, analogies, or other conceptual or physical constructs (e.g., graphic organizers) <p>Communication</p> <ul style="list-style-type: none"> record and report observations, explanations, and conclusions using oral, written, and mathematical expression 	<p>2 – 4, 6, 7 – 16</p> <p>All lessons</p>
2.2 – Apply science knowledge and skills to solve problems or meet challenges.	<p>Identifying problems</p> <ul style="list-style-type: none"> identify problems found in familiar contexts in which science/technology can be or has been used to design solutions <p>Designing and testing solutions</p> <ul style="list-style-type: none"> propose, design, and test a solution to a problem <p>Evaluating potential solutions</p> <ul style="list-style-type: none"> evaluate how well a design or a product solves a problem 	<p>14 – 16</p> <p>15, 16</p> <p>16</p>
<p>EARL #3 The student understands the nature and contexts of science and technology.</p>		
3.1 – Understand the nature of scientific inquiry.	<p>Intellectual honesty</p> <ul style="list-style-type: none"> understand that all scientific observations should be reported accurately even when they contradict expectations <p>Limitations of science and technology</p> <ul style="list-style-type: none"> distinguish between questions that can be answered with science and technology and those that cannot <p>Dealing with inconsistencies</p> <ul style="list-style-type: none"> explain why similar investigations may not produce similar results <p>Evaluating methods of investigation</p> <ul style="list-style-type: none"> recognize that results of scientific investigations can come from expected and unexpected sources <p>Evolution of scientific ideas</p> <ul style="list-style-type: none"> know that ideas in science change as new scientific thinking, theories, and evidence arise 	<p>2 - 16</p> <p>All lessons</p> <p>3 – 16</p> <p>3 – 16</p> <p>12</p>
3.2 – Know that science and technology are human endeavors, interrelated to each other, to society and to the workplace.	<p>All peoples contribute to science and technology</p> <ul style="list-style-type: none"> know that science and technology have been practiced by all peoples throughout history <p>Careers and occupations using science, mathematics and technology</p> <ul style="list-style-type: none"> identify the knowledge and skills of science used in common occupations 	<p>4, 6, 10, 13</p> <p>12 – 16; Also <i>Discovery Deck</i></p>