

Seattle Public Schools Science Standards
Plant Growth and Development
 (Science and Technology for Children)
Grade 3

LIFE
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, and use characteristics to categorize living things.	<p><i>Basis of biological diversity</i></p> <ul style="list-style-type: none"> observe and describe the life cycle that begins with a seed and proceeds through the production of seeds describe the distinct stages in the life cycle of a plant investigate the relationship of plant features (e.g., roots, stems, flowers, and leaves) 	All lessons
1.2 – Recognize the components, structure, and organization of systems and the interconnections within and among them.	<p><i>Structure and organizations of living systems</i></p> <ul style="list-style-type: none"> observe that organisms (e.g., plants) are composed of many parts that can look different from each other and perform unique functions <p><i>Molecular basis of heredity</i></p> <ul style="list-style-type: none"> investigate how plants reproduce through pollination observe how seeds grow into new plants and resemble the parent plant 	2, 4, 6, 10, 12 10 – 12, 16
1.3 – Understand how interactions within and among systems cause changes in matter and energy.	<p><i>Life processes and the flow of matter and energy</i></p> <ul style="list-style-type: none"> observe that plants need light energy in order to stay alive and grow <p><i>Interdependence of life</i></p> <ul style="list-style-type: none"> experiment with plants showing particular environments and how some plants thrive, some struggle to live, and others die 	3 – 12, 14 8

PHYSICAL
SCIENCE

EARL #1 The student understands and uses scientific concepts and principles.		
1.1 – Use physical properties to identify, describe, and categorize substances, materials, and objects, and uses characteristics to categorize living things.	<p><i>Properties of substances</i></p> <ul style="list-style-type: none"> accurately measure and record physical quantities (e.g., growth of plants) 	5, 7, 15, 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>Questioning</p> <ul style="list-style-type: none"> ask questions about objects, organisms, and events in the environment 	3 – 12, 16
	<p>Designing and conducting investigations</p> <ul style="list-style-type: none"> plan and conduct simple investigations, using appropriate tools, measures, and safety rules <p>Evidence and explanation</p> <ul style="list-style-type: none"> use data to construct reasonable explanations <p>Modeling</p> <ul style="list-style-type: none"> model systems, events, or processes by representing them with concrete objects, 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 	3 – 12, 15 – 16 5 – 7, 15 13, 14 5 – 7, 10, 12
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 in which science and technology can and have been used to find solutions 	16

**SCIENTIFIC
THINKING**

EARL #3 The student understands the nature and contexts of science and technology.		
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 	2, 5 – 7, 10, 12
	<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 	All lessons
	<p>Dealing with inconsistencies</p> <ul style="list-style-type: none"> explain why similar investigations may not produce similar results 	2 – 5
	<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 (e.g., through sharing results of investigations) <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 	6, 7, 10 – 12, 15 16
3.2 – Know that science and technology are human endeavors, interrelated to	<p>All peoples contribute to science and technology</p> <ul style="list-style-type: none"> begin to understand how science and technology have been practiced by all peoples throughout 	1, 2 – 8, 10 – 12, 16

<p>each other, to society and to the workplace.</p>	<p>history</p> <p><i>Relationship of science and technology</i></p> <ul style="list-style-type: none"> • recognize that people have invented tools for everyday life and for scientific investigations <p><i>Careers and occupations using science, mathematics, and technology</i></p> <ul style="list-style-type: none"> • identify the knowledge and skills of science, math, and technology used in common occupations 	<p>3 – 4, 16</p> <p>10</p>
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