

Appendix A

Big Ideas - Kindergarten

Standard 1 The Processes (PoS), Communication (CoS), and Nature (NoS) of Science (Intended Learning Outcomes).	Standard 2 Earth (E) and Space Science (S)	Standard 3 Physical Science Atomic-molecular theory of matter (A) and Newtonian laws of force and motion (F)	Standard 4 Life Science Changes in organisms over time (CT) and The nature of living things (N).
<p>(P) People can often learn about things around them by just observing those things carefully. Raise questions about the world around them, be willing to seek answers to some of those questions by making careful observations.</p> <p>(N) People are more likely to believe your ideas if you can give reasons for them. Ask “How do you know?” in appropriate situations and attempt reasonable answers when others ask them the same questions.</p> <p>(C) In doing science, it is often helpful to work with a team and to share findings with others.</p>	<p>(E) Change is something that happens to many things.</p> <p>(E) Some changes are so slow or so fast that they are hard to see.</p>	<p>(F) Things move in many different ways, such as straight, zig zag, round and round, back and forth, and fast and slow.</p> <p>(A) Most things are made of parts.</p>	<p>(N) Most things are made of parts.</p> <p>(CT) Change is something that happens to many things.</p>

Earth and Space Science	Physical Science	Life Science	Processes, Communication, and Nature of Science	Applications: Science, Technology, and Society
(E) Earth science (SS) Space science	(A) Atomic/molecular (F) Force and motion	(CT) Changes over time (N) Nature of Living Things	(PoS) Processes of science (CoS) Communication of science (NoS) Nature of science	(T) Tools of science (A) Applications of science (S) Implications of science for people

Appendix A (continued)

Big Ideas – First Grade

Standard 1 The Processes (PoS), Communication (CoS), and Nature (NoS) of Science (Intended Learning Outcomes).	Standard 2 Earth (E) and Space Science (S)	Standard 3 Physical Science Atomic-molecular theory of matter (A) and Newtonian laws of force and motion (F)	Standard 4 Life Science Changes in organisms over time (CT) and the nature of living things (N).
<p>(P) People can often learn about things around them by just observing those things carefully, but sometimes they can learn more by doing something to the things and noting what happens (raise questions about the world around them, be willing to seek answers to some of those questions by making careful observations and trying things out).</p> <p>(C) In doing science, it is often helpful to work with a team and to share findings with others. In this sharing, describing things as accurately as possible is important in science because it enables people to compare their observations with those of others (draw pictures that correctly portray at least some features of the thing being described, describe and compare things in terms of number, shape, texture, size, weight, color, and motion).</p> <p>(N) When people give different descriptions of the same thing, it is usually a good idea to make some fresh observations instead of just arguing about who is right.</p>	<p>(E) The natural world is composed of different materials.</p> <p>(S) The sun can be seen only in the daytime and the moon can be seen sometimes during the day.</p> <p>(E) Seasonal weather changes occur each year.</p>	<p>(F) Things move in many different ways, such as straight, zig zag, round and round, back and forth, and fast and slow.</p> <p>(F) The way to change how something is moving is to give it a push or pull.</p> <p>(A) Objects can be described in terms of the materials they are made of (clay, cloth, paper, etc.) and their physical Properties (color, size, shape, weight, texture, flexibility, etc.).</p>	<p>(CT) Offspring are very much alike, but not exactly, like their parents and like one another.</p> <p>(CT) There is a variation among individuals of one kind within a population.</p> <p>(CT) Some animals and plants are alike in the way they look and things they do, and others are very different from one another.</p> <p>(N) Most living things need water, food, and air.</p> <p>(CT) All kinds of living things have offspring, usually with two parents involved.</p> <p>(N) Plants and animals need to take in water, and animals need to take in food. In addition, plants need light.</p> <p>(N) Animals eat plants and other animals for food.</p>

Earth and Space Science (E) Earth science (SS) Space science	Physical Science (A) Atomic/molecular (F) Force and motion	Life Science (CT) Changes over time (N) Nature of Living Things	Processes, Communication, and Nature of Science (PoS) Processes of science (CoS) Communication of science (NoS) Nature of science	Applications: Science, Technology, and Society (T) Tools of science (A) Applications of science (S) Implications of science for people
---	---	--	---	--

Appendix A (continued) Big Ideas – Second Grade

Standard 1 The Processes (PoS), Communication (CoS), and Nature (NoS) of Science (Intended Learning Outcomes).	Standard 2 Earth (E) and Space Science (S)	Standard 3 Physical Science Atomic-molecular theory of matter (A) and Newtonian laws of force and motion (F)	Standard 4 Life Science Changes in organisms over time (CT) and the nature of living things (N).
<p>(P) When science investigation is done the way it was done before, we expect to get a very similar result.</p> <p>(N) Sometimes people aren't sure what will happen because they don't know everything that might have an effect.</p> <p>(C) In doing science, it is often helpful to work with a team and to share findings with others. All team members should reach their own individual conclusions, however, about what the findings mean.</p>	<p>(E) Chunks of rocks come in many sizes and shapes, from boulders to grains of sand and even smaller</p> <p>(S) There are recognizable patterns among objects in the night sky.</p> <p>(E) Some changes, such as changes in weather can vary based on season and location.</p>	<p>(F) Things near the earth fall to the ground unless something holds them up.</p> <p>(A) Things can be done to materials to change some of their properties, but not all materials respond the same way to what is done to them.</p>	<p>(N) All living things need water, food, air, waste removal, and a particular range of temperatures in their environment.</p> <p>(N) Animals, including humans, have parts that help them seek, find, and take in food when they feel hunger—eyes and noses for detecting food, legs to get it, arms to carry it away and a mouth to eat it.</p> <p>(N) Senses can warn individuals about danger; muscles help them to fight, hide, or get out of danger.</p> <p>(CT) Some kinds of living things that once lived on earth have completely disappeared, although they were something like others that are alive today.</p> <p>(CT) Different plants and animals have external features that help them thrive in different kinds of places.</p> <p>(CT) Living things are found almost everywhere in the world. There are somewhat different kinds in different places.</p>

Earth and Space Science	Physical Science	Life Science	Processes, Communication, and Nature of Science	Applications: Science, Technology, and Society
(E) Earth science (SS) Space science	(A) Atomic/molecular (F) Force and motion	(CT) Changes over time (N) Nature of Living Things	(PoS) Processes of science (CoS) Communication of science (NoS) Nature of science	(T) Tools of science (A) Applications of science (S) Implications of science for people