Science Indicators
Second Marking Period
2009-10

Grade	Indicator	Standard Indicator
Kindergarten	K.1.2	Demonstrate that everyone can do science.
Kindergarten	K.2.1	Use whole numbers, up to 10, in counting, identifying, sorting, and describing objects and experiences.
Kindergarten	K.5.1	Use shapes to describe different objects.
Grade 1	1.1.4a	Use tools, such as magnifiers, to investigate the world and make observations.
Grade 1	1.2.5	Demonstrate that magnifiers help people see things they could not see without them.
Grade 1	1.2.7	Write brief informational descriptions of a real object, person, place, or event using information from observations.
Grade 1	1.4.2	Observe and describe that there can be differences, such as size or markings, among the individuals within one kind of plant or animal group.
Grade 2	2.1.4	Make new observations when there is disagreement among initial observations.
Grade 2	2.1.5	Demonstrate the ability to work with a team but still reach and communicate one own's conclusions.
Grade 2	2.2.1	Give estimates of numerical answers to problems before doing them formally.
Grade 2	2.2.2c	Make quantitive estimates of time intervals and check them by measurements.
Grade 2	2.3.3	Investigate by observing and then describing chunks of rocks and their many sizes and shapes, from boulders to grains of salt.
Grade 2	2.3.5	Investigate that things can be done to materials such as freezing, mixing, cutting, heating, wetting, etc., to change some of their properties.
Grade 2	2.3.6	Discuss how people use electricity or burn fuels, such as wood, oil, coal, or natural gas to cook their food or warm their houses.
Grade 2	2.3.7	Investigate and observe that the way to change how something is moving is to give it a push or pull.
Grade 2	2.3.8	Demonstrate and observe that magnets can be used to make some things move without being touched.
Grade 2	2.5.3	Observe and describe how changing one thing causes change in something else such as exercise and heart rate.
Grade 2	2.6.3	Describe that things change in different ways, such as in size, weight, color, age, and movement. Investigate that small changes can be detected by taking measurements.
Grade 3	3.1.6	Give examples of how tools, such as automobiles, computers, and electric motors, have affected the way we live.
Grade 3	3.1.7	Recognize that and explain how an invention can be used in different ways, such as a radio being used to get information and for entertainment.
Grade 3	3.2.4	Appropriately use simple tools, such as clamps, rulers, scissors, hand lenses, and other technology, such as calculators and computers, to help solve problems.
Grade 3	3.2.7	Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask the same questions.
Grade 3	3.3.1	Observe and describe the apparent motion of the sun and moon over a span of one day.
Grade 3	3.3.2	Observe and describe that there are more stars in the sky than anyone can easily count, but they are not scattered easily.
Grade 3	3.3.3	Observe and describe that the sun can be seen only in the daytime.
Grade 3	3.3.4	Observe and describe that the moon looks a little different everyday, but looks the same again about every four weeks.
Grade 3	3.3.5	Give examples of how change, such as weather patterns, is a continual process occurring on Earth.
Grade 3	3.3.6	Describe ways human beings protect themselves from adverse weather conditions.

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Grade 3	3.3.7	Identify and explain some effects human activities have on weather.
Grade 3	3.6.3	Explain how a model of something is different from the real thing but can be used to learn something about the real thing.
Grade 4	4.1.1	Observe and describe that scientific investigations generally work the same way in different places.
Grade 4	4.1.3	Explain that clear communication is an essential part of doing science since it enables scientists to inform others about their work, to expose their ideas to evaluation by other scientists, and to allow scientists to stay informed about scientific discoveries around the world.
Grade 4	4.1.6	Explain that even a good design may fail even though steps are taken ahead of time to reduce the liklehood of failure.
Grade 4	4.2.1	Judge whether measurements and computations of quantities, such as length, area, volume, weight, or time, are reasonable.
Grade 4	4.2.5	Write descriptions of investigations, using observations and other evidence as support for explanations.
Grade 4	4.2.6	Support statements with facts found in print and electronic media, identify the sources used, and expect others to do the same.
Grade 4	4.2.7	Identify better reasons for believing something than "Everybody does that. . ." or "I just know" and discount such reasons when given by others.
Grade 4	4.3.1	Observe and report that the moon can be seen sometimes at night and sometimes during the day.
Grade 4	4.3.2	Begin to investigate and explain that air is a substance that surrounds us, takes up space, and whose movements we feel as wind.
Grade 4	4.3.3	Identify salt as the major difference between fresh and ocean waters.
Grade 4	4.3.4	Describe some of the effects of oceans on climate.
Grade 4	4.3.5	Describe how waves, wind, water, and glacial ice shape and reshape Earth's land surface by the erosion of rock and soil in some areas and depositing them in other areas.
Grade 4	4.3.6	Recognize and describe that rock is composed of different combinations of minerals.
Grade 4	4.3.7	Explain that smaller rocks come from the breakage and weathering of bedrock and larger rocks and that soil is made partly from weathered rock, partly from plant remains, and also contains many living organisms.
Grade 4	4.3.8	Explain that the rotation of Earth on its axis every 24 hours produces the night-and-day cycle.
Grade 4	4.3.9	Draw or correctly select drawings of shadows and their direction and length at different times of day.
Grade 4	4.3.14	Explain that energy in fossil fuels comes from plants that grew long ago.
Grade 4	4.5.3	Illustrate how length can be thought of as unit lengths joined together, area as a collection of unit squares, and volume as a set of unit cubes.
Grade 4	4.5.4	Demonstrate how graphical displays of numbers may make it possible to spot patterns that are not otherwise obvious, such as comparative size and trends.
Grade 4	4.6.4	Observe and describe that some features of thngs may stay the same even when other features change.
Grade 5	5.1.4	Give examples of technology, such as telescopes, microscopes, and cameras, that enable scientists and others to observe things that are too small or too far away to be seen without them and to study the motion of objects that are moving very rapidly or are hardly moving.
Grade 5	5.2.1	Multiply and divide whole numbers mentally, on paper, and with a calculator.
Grade 5	5.2.2	Use appropriate fractions and decimals when solving problems.

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Grade 5	5.3.11	Investigate and describe that changes in speed or direction of motion of an object are caused by forces. Understand that the greater the force, the greater the change in motion and the more massive an object, the less effect a given force will have.
Grade 5	5.4.1	Explain that for offspring to resemble their parents there must be a reliable way to transfer information from one generation to another.
Grade 5	5.4.2	Observe and describe that some living things consist of a single cell that needs food, water, air, a way to dispose of waste, and an environment in which to live.
Grade 5	5.4.3	Observe and explain that some organisms are made of a collection of similar cells that benefit from cooperating. Explain that some organisms' cells, such as human nerve cells and muscle cells, vary greatly in appearance and perform very different roles in the organism.
Grade 5	5.4.5	Explain how changes in an organism's habitat are sometimes beneficial and sometimes harmful.
Grade 5	5.4.6	Recognize and explain that most microorganisms do not cause disease and many are beneficial.
Grade 5	5.4.8	Observe that and describe how fossils can be compared to one another and to living organisms according to their similarities and differences.
Grade 5	5.4.9	Explain that like other animals, human beings have body systems.