

Kindergarten

- S.IP.E.1** Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.
- S.IP.00.11** Make purposeful observation of the natural world using the appropriate senses.
- S.IP.00.12** Generate questions based on observations.
- S.IP.00.13** Plan and conduct simple investigations.
- S.IP.00.14** Manipulate simple tools (for example: hand lens, pencils, balances, non-standard objects for measurement) that aid observation and data collection.
- S.IP.00.15** Make accurate measurements with appropriate (non-standard) units for the measurement tool.
- S.IA.E.1** Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.
- S.IA.00.12** Share ideas about science through purposeful conversation.
- S.IA.00.13** Communicate and present findings of observations.
- S.IA.00.14** Develop strategies for information gathering (ask an expert, use a book, make observations, conduct simple investigations, and watch a video).
- E.SE.00.11** Identify Earth materials that occur in nature (sand, rocks, soil, water).

First Grade

- S.IP.01.11** Make purposeful observation of the natural world using the appropriate senses.
- S.IP.01.12** Generate questions based on observations.
- S.IP.01.13** Plan and conduct simple investigations.
- S.IP.01.14** Manipulate simple tools (for example: hand lens, pencils, rulers, thermometers, rain gauges, balances, non-standard objects for measurement) that aid observation and data collection.
- S.IP.01.15** Make accurate measurements with appropriate (non-standard) units for the measurement tool.
- S.IA.E.1** Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.
- S.IA.01.12** Share ideas about science through purposeful conversation.
- S.IA.01.13** Communicate and present findings of observations.
- S.IA.01.14** Develop strategies for information gathering (ask an expert, use a book, make observations, conduct simple investigations, and watch a video).
- P.PM.E.1** Physical Properties- All objects and substances have physical properties that can be measured.
- P.PM.01.11** Demonstrate the ability to sort objects according to observable attributes such as color, shape, size, sinking or floating.

Second Grade

- S.IP.E.1** Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.
- S.IP.02.11** Make purposeful observation of the natural world using the appropriate senses.

S.IP.02.12 Generate questions based on observations.

S.IP.02.13 Plan and conduct simple investigations.

S.IP.02.14 Manipulate simple tools (ruler, meter stick, measuring cups, hand lens, thermometer, balance) that aid observation and data collection.

S.IA.E.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.

S.IA.02.12 Share ideas about science through purposeful conversation.

S.IA.02.13 Communicate and present findings of observations.

S.IA.02.14 Develop strategies and skills for information gathering and problem solving (books, internet, ask an expert, observation, investigation, technology tools).

S.RS.E.1 Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision-making and the application of science throughout history and within society.

S.RS.02.11 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.

S.RS.02.13 Recognize that when a science investigation is done the way it was done before, similar results are expected.

S.RS.02.15 Use evidence when communicating scientific ideas.

Third Grade

S.IP.E.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.

S.IP.03.11 Make purposeful observation of the natural world using the appropriate senses.

S.IP.03.12 Generate questions based on observations.

S.IP.03.13 Plan and conduct simple and fair investigations.

S.IP.03.14 Manipulate simple tools that aid observation and data collection (for example: hand lens, balance, ruler, meter stick, measuring cup, thermometer, spring scale, stop watch/timer).

S.IP.03.15 Make accurate measurements with appropriate units (centimeters, meters, Celsius, grams, seconds, minutes) for the measurement tool.

S.IA.03.11 Summarize information from charts and graphs to answer scientific questions.

E.ES.03.41 Identify natural resources (metals, fuels, fresh water, fertile soil, and forests). *

E.ES.03.51 Describe ways humans are dependent on the natural environment (forests, water, clean air, earth materials) and constructed environments (homes, neighborhoods, shopping malls, factories, and industry).

E.SE.03.13 Recognize and describe different types of Earth materials (mineral, rock, clay, boulder, gravel, sand, soil, water, and air). *

E.SE.03.14 Recognize that rocks are made up of minerals.

E.SE.03.31 Identify Earth materials used to construct some common objects (bricks, buildings, roads, glass).

Fourth Grade

S.IP.04.11 Make purposeful observation of the natural world using the appropriate senses.

S.IP.04.12 Generate questions based on observations.

S.IP.04.13 Plan and conduct simple and fair investigations.

S.IP.04.14 Manipulate simple tools that aid observation and data collection (for example: hand lens, balance, ruler, meter stick, measuring cup, thermometer, spring scale, stop watch/timer, graduated cylinder/beaker).

S.IA.04.13 Communicate and present findings of observations and investigations.

E.ST.04.31 Explain how fossils provide evidence of the history of the Earth.

Fifth Grade

S.IP.05.11 Generate scientific questions based on observations, investigations, and research.

S.IP.05.12 Design and conduct scientific investigations.

S.IP.05.13 Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens) appropriate to scientific investigations.

S.IA.05.11 Analyze information from data tables and graphs to answer scientific questions.

Sixth Grade

S.IP.06.11 Generate scientific questions based on observations, investigations, and research.

S.IP.06.12 Design and conduct scientific investigations.

S.IP.06.13 Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens, thermometer, models, sieves, microscopes) appropriate to scientific investigations.

E.SE.M.4 Rock Formation- Rocks and rock formations bear evidence of the minerals, materials, temperature/pressure conditions, and forces that created them.

E.SE.06.41 Compare and contrast the formation of rock types (igneous, metamorphic, and sedimentary) and demonstrate the similarities and differences using the rock cycle model.

E.ST.06.31 Explain how rocks and fossils are used to understand the age and geological history of the Earth (timelines and relative dating, rock layers).

E.ST.06.41 Explain how Earth processes (erosion, mountain building, and glacier movement) are used for the measurement of geologic time through observing rock layers.

E.ST.06.42 Describe how fossils provide important evidence of how life and environmental conditions have changed.

Seventh Grade

S.IP.07.11 Generate scientific questions based on observations, investigations, and research.

S.IP.07.12 Design and conduct scientific investigations.

S.IP.07.13 Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens, thermometer, models, sieves, microscopes, hot plates, pH meters) appropriate to scientific investigations.

S.IP.07.14 Use metric measurement

High School

E3.p2A Identify common rock-forming minerals (quartz, feldspar, biotite, calcite, hornblende).
(prerequisite.)

E3.p2B Identify common igneous (granite, basalt, andesite, obsidian, pumice), metamorphic (schist, gneiss, marble, slate, quartzite), and sedimentary (sandstone, limestone, shale, conglomerate) rocks and describe the processes that change one kind of rock to another. (prerequisite)

E3.1A Discriminate between igneous, metamorphic, and sedimentary rocks and describe the processes that change one kind of rock into another. **E3.1c** Explain how the size and shape of grains in a sedimentary rock indicate the environment of formation (including climate) and deposition.

E3.1d Explain how the crystal sizes of igneous rocks indicate the rate of cooling and whether the rock is extrusive or intrusive. **E3.1e** Explain how the texture (foliated, nonfoliated) of metamorphic rock can indicate whether it has experienced regional or contact metamorphism. E3.p2A Identify common rock

forming minerals (quartz, feldspar, mica etc.) E3.p2B Identify common igneous, metamorphic and sedimentary rocks and describe the processes that change one kind of rock to another