



Science
Third Grade

1.0 Understands and applies the skills of scientific inquiry.

- 1.1 Generates questions that can be answered through scientific investigations.
- 1.2 Identifies questions that can be answered with scientific questions.
- 1.3 Asks questions that they can answer with scientific knowledge combined with their own observations/investigations.
- 1.4 Recognizes that different kinds of questions lead to different types of investigations.
- 1.5 Designs and conducts scientific investigations.
- 1.6 Develops hypothesis.
- 1.7 Designs and executes investigations.
- 1.8 Uses appropriate equipment for the investigation.
- 1.9 Performs different kinds of investigations depending on the scientific question.
- 1.10 Recognizes the importance of multiple trials with reproducible results.
- 1.11 Summarizes observations.
- 1.12 Selects and uses appropriate tools, technology, and techniques to gather, analyze, and interpret data.
- 1.13 Selects and uses a variety of tools to appropriately gather, analyze, and interpret data.
- 1.14 Uses appropriate tools to measure and record length, weight, volume/capacity, temperature, time, cycles, speed and area.
- 1.15 Records data and calculations correctly.
- 1.16 Organizes data and observations efficiently.
- 1.17 Creates appropriate data tables with labels.
- 1.18 Creates appropriate graphs with label.
- 1.19 Uses evidence to develop and revise descriptions, explanations, predictions, and models.
- 1.20 Bases explanations on observations.
- 1.21 Uses evidence to construct a logical argument for their explanation.
- 1.22 Uses evidence to infer possible applications of extensions for further inquiry.
- 1.23 Accounts for errors in investigations.
- 1.24 Identifies cause and effect relationships.
- 1.25 Identifies the purpose and appropriate use of models.

- 1.26 Communicates and defends procedures, explanations, and scientific arguments.
- 1.27 Uses various methods to communicate methods, observations, results, & interpretations.
- 1.28 Communicates, critiques, and analyzes their work and the work of others.
- 1.29 Recognizes and analyzes alternative predictions, explanations, and models.
- 1.30 Recognizes, considers, and acknowledges different ideas and explanations.
- 1.31 Engages in discussion and arguments that result in revision of explanation.
- 1.32 Uses scientific criteria to find preferred explanations.
- 1.33 Summarizes how conclusions and ideas change as new knowledge is gained.
- 1.34 Uses appropriate safety procedures when conducting investigations.
- 1.35 Recognizes that safety concerns and procedures change with differing scientific procedures.
- 1.36 Knows the locations and appropriate uses of the safety equipment in the classroom.
- 1.37 Uses appropriate safety procedures when conducting investigations.

2.0 Understands and applies scientific concepts, principles, and theories pertaining to Earth and the Universe.

- 2.1 Recognizes the different properties and uses of earth materials
- 2.2 Differentiates between rocks and minerals.
- 2.3 Knows that the different properties of earth materials make them useful in different ways (building materials, growing plants, sources of fuels).
- 2.4 Understands the processes and changes on or in the earth's land, oceans and atmosphere (Not assessed at this grade level).
- 2.5 Understands weather and weather patterns (Not assessed at this grade level).
- 2.6 Understands fossil evidence of past life on Earth.
- 2.7 Understands fossils provide evidence of plants and animals that lived long ago.
- 2.8 Understands the properties, movements, and locations of objects in our solar system (Not assessed at this grade level).

3.0 Understands and applies concepts, principles and theories pertaining to life and its interactions.

- 3.1 Understands and demonstrates knowledge of structures, characteristics, and adaptations of organisms that allow them to function and survive within their habits.
- 3.2 Understands how the internal and external structures of plants and animals serve various functions in growth, survival and reproduction.
- 3.3 Compares the life cycles of different plants including germination, maturity, reproduction and death.
- 3.4 Investigates an organism's patterns of behavior and how these patterns are

related to the nature of that organism's environment.

3.5 Describes how organisms interact with one another in various ways (many plants depend on animals for carrying pollen or dispersing seeds).

3.6 Understands the relationships between living things and their environment.

3.7 Understands the relationships among living and non-living factors in terrestrial and aquatic ecosystems.

3.8 Analyzes the relationships of plants and animals in food webs.

3.9 Explains that all organisms, including humans, cause changes in their environments, which may be beneficial or detrimental.

3.10 Describes the flow of energy in ecosystems.

3.11 Understands that people and other animals take in the oxygen they need to live by breathing.

3.12 Understands that people and other animals obtain energy and materials for body repair and growth from food.

3.13 Demonstrates knowledge of environmental stewardship (Not assessed at this grade level).

3.14 Understands and demonstrates knowledge of basic human body systems and how they work together.

3.15 Understands how the human body systems are organized and work together (Immune system, digestive system).

3.16 Understands that different parts of our body have specific jobs.

4.0 Understands and applies concepts, and theories pertaining to matter, its composition, and the forces that govern it.

4.1 Understands and applies knowledge of the structure and properties of matter.

4.2 Uses magnifiers to observe properties and parts of materials.

4.3 Describes how a mixture of substances can be separated into the original substances using one or more of the characteristic properties.

4.4 Demonstrates knowledge of states of matter and changes in states of matter (Not assessed at this grade level).

4.5 Understands knowledge of states of matter and changes in states of matter (Not assessed at this grade level).

4.6 Understands the characteristic properties of sound, light, electricity, magnetism, and heat.

4.7 Understands that sound is produced when vibrations from objects travel through a medium and are received.

4.8 Understands that sound can vary in volume and the pitch of a sound can be varied by changing the rate of vibration.

4.9 Demonstrates that electricity flows through a closed circuit.

4.10 Understands that electricity in circuits can produce light, heat, sound, and

magnetic effects.

4.11 Traces how electrical energy flows through a simple electrical circuit and describe how the electrical energy can produce thermal energy, light, sounds and magnetic forces.

4.12 Demonstrates that magnets attract and repel each other and certain kinds of other materials.

5.0 Understands the Nature of Science.

5.1 Understands how science develops and changes over time.

5.2 Understands that people continue inventing new ways of doing things, solving problems, and getting work done (Thomas Edison, inventions, etc.).

5.3 Understands the dynamic relationship between science and society.

5.4 Knows that human behavior can affect Earth processes and systems (pollution, conservation, advances in medicine, etc.).

5.5 Describe how technology affects human life.

5.6 Describes how technology can extend human abilities (move things and to extend senses).

5.7 Investigates how technology and inventions change to meet peoples' needs and wants.

5.8 Investigates positive/negative impacts of human activity and technology on the environment.