

Science Assessment Framework Grade 3	Bold=Eligible for CRT <i>Italics=Classroom Assessment Only</i>
Strand I: Scientific Thinking and Practice - <u>Standards</u>	
Content Standard I - Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.	
K-4 Benchmark I: Use scientific methods to observe, collect, record, analyze, predict, interpret, and determine reasonableness of data.	
<ol style="list-style-type: none"> 1. Make new observations when discrepancies exist between two descriptions of the same object or phenomenon to improve accuracy. 2. Recognize the difference between data and opinion. 3. Use numerical data in describing and comparing objects, events, and measurements. 4. <i>Collect data in an investigation and analyze those data.</i> 5. Know that the same scientific laws govern investigations in different times and places (e.g., gravity, growing plants). 	
K-4 Benchmark II: Use scientific thinking and knowledge and communicate findings.	
<ol style="list-style-type: none"> 1. Use a variety of methods to display data and present findings. 2. Understand that predictions are based on observations, measurements, and cause-and-effect relationships 	
K-4 Benchmark III: Use mathematical skills and vocabulary to analyze data, understand patterns and relationships, and communicate findings.	
<ol style="list-style-type: none"> 1. Use numerical data in describing and comparing objects, events, and measurements. 2. Pose a question of interest and <i>present observations and measurements with accuracy.</i> 3. Use various methods to display data and present findings and communicate results in accurate mathematical language. 	
Strand II: Content of Science- <u>Standards</u>	
Content Standard I - PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.	
K-4 Benchmark I: Recognize that matter has different forms and properties.	
<ol style="list-style-type: none"> 1. Identify and compare properties of pure substances and mixtures (e.g., sugar, fruit juice). 2. Separate mixtures based on properties (e.g., by size or by substance; rocks and sand, iron filings and sand, salt and sand). 	

K-4 Benchmark II: Know that energy is needed to get things done and that energy has different forms.

- 1. Understand that light is a form of energy and can travel through a vacuum.**
- 2. Know that light travels in a straight line until it strikes an object and then it is reflected, refracted, or absorbed.**
- 3. Measure energy and energy changes (e.g., temperature changes).**
- 4. Construct charts or diagrams that relate variables associated with energy changes (e.g., melting of ice over time).**

K-4 Benchmark III: Identify forces and describe the motion of objects.

- 1. Recognize that magnets can produce motion by attracting some materials (e.g., steel) and have no effect on others (e.g., plastics).**
- 2. Describe how magnets have poles (N and S) and that like poles repel each other while unlike poles attract.**
- 3. Observe that some forces produce motion without objects touching (e.g., magnetic force on nails).**
- 4. Describe motion on different time scales (e.g., the slow motion of a plant toward light, the fast motion of a tuning fork).**

Content Standard II - LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.

K-4 Benchmark I: Know that living things have diverse forms, structures, functions, and habitats.

- 1. Know that an adaptation in physical structure or behavior can improve an organism's chance for survival (e.g., horned toads, chameleons, cacti, mushrooms).**
- 2. Observe that plants and animals have structures that serve different functions (e.g., shape of animals' teeth).**
- 3. Classify common animals according to their observable characteristics (e.g., body coverings, structure).**
- 4. Classify plants according to their characteristics (e.g., tree leaves, flowers, seeds).**

K-4 Benchmark II: Know that living things have similarities and differences and that living things change over time.

- 1. Identify how living things cause changes to the environments in which they live, and that some of these changes are detrimental to the organism and some are beneficial.**
- 2. Know that some kinds of organisms that once lived on Earth have become extinct (e.g., dinosaurs) and that others resemble those that are alive today (e.g., alligators, sharks).**

K-4 Benchmark III: Know the parts of the human body and their functions.

- 1. Know that bacteria and viruses are germs that affect the human body.**
- 2. Describe the nutrients needed by the human body.**

Content Standard III - EARTH AND SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.

K-4 Benchmark I: Know the structure of the solar system and the objects in the universe.

- 1. Describe the objects in the solar system (e.g., sun, Earth and other planets, moon) and their features (e.g., size, temperature).**
- 2. Describe the relationships among the objects in the solar system (e.g., relative distances, orbital motions).**
- 3. Observe that the pattern of stars stays the same as they appear to move across the sky nightly.**
- 4. Observe that different constellations can be seen in different seasons.**
- 5. Know that telescopes enhance the appearance of some distant objects in the sky (e.g., the moon, planets).**

K-4 Benchmark II: Know the structure and formation of Earth and its atmosphere and the processes that shape them.

- 1. Know that Earth's features are constantly changed by a combination of slow and rapid processes that include the action of volcanoes, earthquakes, mountain building, biological changes, erosion, and weathering.**
- 2. Know that fossils are evidence of earlier life and provide data about plants and animals that lived long ago.**
- 3. Know that air takes up space, is colorless, tasteless, and odorless, and exerts a force.**
- 4. Identify how water exists in the air in different forms (e.g., in clouds and fog as tiny droplets; in rain, snow, and hail) and changes from one form to another through various processes (e.g., freezing/condensation, precipitation, evaporation).**

Strand III: Science and Society - Standards

Content Standard I - Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by, individuals and societies.

K-4 Benchmark I: Describe how science influences decisions made by individuals and societies

1. Describe how food packaging (e.g., airtight containers, date) and preparation (heating, cooling, salting, smoking, drying) extend food life and the safety of foods (e.g., elimination of bacteria).

2. Know that science produces information for the manufacture and recycling of materials (e.g., materials that can be recycled [aluminum, paper, plastic] and others that cannot [gasoline]).

3. Know that naturally occurring materials (e.g., wood, clay, cotton, animal skins) may be processed or combined with other materials to change their properties.

4. Know that using poisons can reduce the damage to crops caused by rodents, weeds, and insects, but their use may harm other plants, animals, or the environment

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