Testing Blueprints

Ideal % of Test	Ideal # of Items	5th Grade Science Process/Inquiry Standards and Objectives
18 - 22%	**8 - 10**	**P1.0 Observe and Measure**
		Observe and Measure – Observing is the first action taken by the learner to acquire new information about an objects, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.
	4 - 6	**1.1 SI (metric) Units** Observe and measure objects, organisms, and/or events (e.g., mass, length, time, volume, temperature) using the International System of Units (SI) (i.e., grams, milligrams, meters, millimeters, centimeters, kilometers, liters, milliliters, and degrees Celsius). Measure using tools (e.g., simple microscopes or magnifier, graduated cylinders, gram spring scales, metric rulers, metric balances and Celsius thermometers).
	4	**1.2 Similar/Different Characteristics** Compare and/or contrast similar and/or different characteristics (e.g., color, shape, size, texture, sound, position, change) in a given set of objects, organisms, or events.
18 - 22%	**8 - 10**	**P2.0 Classify**
		Classify – Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objectives to meet this process standard.
	5	**2.1 Observable Properties** Classify a set of objects, organisms, and/or events using no more than three observable properties (e.g., dichotomous keys).
	5	**2.2 Serial Order** Arrange objects, organisms and/or events in serial order (e.g., least to greatest, fastest to slowest).
29 - 33%	**13 - 15**	**P3.0 Experiment**
		Experiment – Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. The student will accomplish these objectives to meet this process standard.
	9 - 11	**3.2 Experimental Design** Evaluate the design of a scientific investigation (e.g., order of investigation procedures, number of tested variables).
	4	**3.4 Hazards/Practice Safety** Recognize potential hazards and practice safety procedures in all science investigations.

27 - 31%	**12 - 14**	**P4.0 Interpret and Communicate**
		Interpret and Communicate – Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.
	4 - 6	**4.2 Data Tables/Line/Bar/Trend and Circle Graphs** Interpret data tables, line bar, trend, and/or simple circle graphs.
	4 - 6	**4.3 Prediction Based on Data** Make predictions based on patterns in experimental data.
	4 - 6	**4.4 Explanations Based on Data** Communicate the results of investigations and/or give explanations based on data.
100%	**45**	**Total Test**
Ideal % of Test	**Ideal # of Items**	**5th Grade Science Content Standards and Objectives**
39 - 44%	**16 - 18**	**C1.0 Properties of Matter and Energy**
		Properties of Matter and Energy – Describe characteristics of objects based on physical qualities such as size, shape, color, mass, temperature, and texture. Energy can produce changes in properties of objects such as changes in temperature. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:
	4 - 5	**1.1 Matter Has Physical Properties** Matter has physical properties that can be used for identification (e.g., color, texture, shape).
	4 - 5	**1.2 Physical Properties Can Be Measured** Physical properties of objects can be observed, described, and measured using tools such as simple microscopes, gram spring scales, metric rulers, metric balances, and Celsius thermometers.
	4 - 5	**1.3 Energy Can Be Transferred** Energy can be transferred in many ways (e.g., energy from the Sun to air, water, and metal).
	4 - 5	**1.4 Potential/Kinetic Energy** Energy can be classified as either potential or kinetic.
24- 32%	**10 - 13**	**C2.0 Organisms and Environments**
		Organisms and Environments – Organisms within an ecosystem are dependent on one another and the environment. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

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	5 - 7	**2.1 Dependence Upon Community** Organisms in an ecosystem depend on each other for food, shelter, and reproduction. **a.** Ecosystems include food chains and food webs. **b.** Relationships exist between consumers, producers, and decomposers within an ecosystem. **c.** Predators and prey relationships affect populations in an ecosystem.
	5 - 7	**2.2 Individual Organism and Species Survival** Changes in environmental conditions due to human interactions or natural phenomena can affect the survival of individual organisms and/or entire species. **a.** Earth's resources can be natural (non-renewable) or man-made (renewable). **b.** The practices of recycling, reusing, and reducing help to conserve Earth's limited resources.
29- 37%	**12 - 15**	**C3.0 Structures of the Earth and the Solar System**
		Structure of Earth and the Solar System – Interaction between air, water, rock/soil, and all living things. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:
	4 - 6	**3.1 Properties of Soils** Soil consists of weathered rocks and decomposed organic material from dead plants, animals, and bacteria. Soils are often found in layers.
	4 - 6	**3.2 Weather Patterns** Weather exhibits daily and seasonal patterns (i.e., air temperature, basic cloud types – cumulus, cirrus, stratus, and nimbus, wind direction, wind speed, humidity, precipitation). **a.** Weather measurement tools include thermometer, barometer, anemometer, and rain gauge. **b.** Weather maps are used to display current weather and weather predictions.
	4	**3.3 Earth as a Planet** Earth is the third planet from the Sun in a system that includes the moon, the Sun, and seven other planets. **a.** Most objects in the solar system are in regular and predictable motion (e.g., phases of the moon). **b.** Objects in the Solar System have individual characteristics (e.g., distance from Sun, number of moons, and temperature of object). **c.** The Earth rotates on its axis while making revolutions around the Sun.
100%	**41[1]**	**Total Test**

[1] Each test item aligns to both a Process Standard/Objective and a Content Standard/Objective, except for Safety Items which only align to P3.4.