**Grade 3**

**Science**

**Observation for Continued Assessment and End of the Year Evaluation**

This document is designed to assist in monitoring an individual student’s progress throughout the school year. The 2010 Science Virginia Standards of Learning Curriculum Framework establishes the foundation for the knowledge and skills each student should acquire.

Seven spaces are provided by each skill within this document for recording a student’s proficiency level (score of 4, 3, 2, or 1). The Comments section, after each standard, allows the teacher to provide specific information on observations, areas of strength, areas needing additional instruction, and a suggested plan for increasing student performance.

Student work, conversations with the student and observations provide evidence for the evaluation of performance. Evaluations are based on the student’s ability to explain, model, and apply learning.

This document is a fillable Word document. Complete the information on page 1 (below) and then click File, Save As the student's last name first initial and grade level. When entering a student's proficiency score on the appropriate line next to an SOL, click on the line and type the appropriate score number. When adding additional scores throughout the year/course, simply click onto the subsequent line and type the score number. Successive changes require a File, Save to ensure updates are properly recorded.

Student Name:

ID #:

School:

Teacher:

School Year:

**Modified and created by Dr. Dan Mulligan**

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**Scoring Rubric - Proficiency Levels**

* exhibits minimal performance
* shows very limited evidence of conceptual understanding and use of strategies
* responds with inappropriate answer and/or procedure frequently
* very often displays misunderstandings
* completes task appropriately and accurately infrequently
* needs assistance, guidance and modified instruction

Limited Proficiency (1)

* exhibits inconsistent performance and misunderstandings at times
* shows some evidence of conceptual understanding
* has difficulty applying strategies or completing tasks in unfamiliar situations
* responds with appropriate answer or procedure sometimes
* requires teacher guidance frequently
* needs additional time, opportunities
* demonstrates some proficient competencies but is inconsistent

Not Yet Proficient (2)

* exhibits consistent performance
* shows conceptual understanding
* applies strategies in most situations
* responds with appropriate answer or procedure
* completes task accurately; needs minimal assistance
* exhibits fluency and applies learning
* shows some flexibility in thinking
* works in confidence
* recognizes cause and effect relationships; applies models, and explains concepts

Proficient (3)

* consistent performance beyond grade level
* works independently; shows confidence and initiative
* understands advanced concepts
* applies strategies creatively
* analyzes and synthesizes
* justifies and elaborates responses
* makes critical judgments
* makes application and extensions beyond grade level; exceeds Proficient competencies in more challenging situations

Exceeds Expected Proficiency (4)

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|  **Grade 3 Science** |
|  | **3.1 Overall Score** |
|                                                 | a. Make and communicate careful observations |
|                                                 | b. Demonstrate that observations should be repeated to ensure accuracy |
|                                                 | c. Classify objects into at least two major sets and subsets based on similar characteristics, such as predator/prey and herbivore, carnivore, and omnivore |
|                                                 | d. Sequence natural events chronologically (Example: 3.8 – plant and animal life cycles, phases of the moon, the water cycle, and tidal change) |
|                                                 | e. Measure length to the nearest centimeter, mass to the nearest gram, volume to the nearest milliliter, temperature to the nearest degree Celsius, and time to the nearest minute, using the appropriate instruments  |
|                                                 | f. Develop hypotheses from simple questions. These questions should be related to the concepts in the third-grade standards. Hypotheses should be stated in terms such as: “If an object is cut into smaller pieces, then the physical properties of the object and its smaller pieces will remain the same.”  |
|                                                 | g. Analyze data that have been gathered and organized |
|                                                 | h. Communicate results of investigations by displaying data in the form of tables, charts, and graphs. Students will construct bar and picture graphs and line plots to display data (Example: 3.7 – comparison of types of soil and their effect on plant growth) |
|                                                 | i. Communicate any unexpected or unusual quantitative data that are noted |
|                                                 | j. Make and communicate predictions about the outcomes of investigations |
|                                                 | k. Design and build a model to show experimental results |
| Comments |

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|  | **3.2 Overall Score** |
|                                                 | a. Identify and differentiate the six types of simple machines: lever, screw, pulley, wheel and axle, inclined plane, and wedge |
|                                                 | b. Differentiate and classify specific examples of simple machines found in school and household items. These include a screwdriver, nutcracker, screw, flagpole pulley, ramp, and seesaw |
|                                                 | c. Analyze the application of and explain the function of each of the six types of simple machines. An example would be that an inclined plane is a ramp to make it easier for a heavy object to be moved up or down |
|                                                 | d. Identify and classify the simple machines which compose a compound machine, such as scissors, wheelbarrow, and bicycle |
|                                                 | e. Design and construct an apparatus that contains a simple machine  |
| Comments |

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|  | **3.3 Overall Score** |
|                                                 | a. Explain that physical properties are observable characteristics that enable one to differentiate objects |
|                                                 | b. Infer that objects are made of one or more materials based on observations of the physical properties that are common to each individual object  |
|                                                 | c. Compare the physical properties of smaller, visible pieces of a material to those physical properties of the entire material |
|                                                 | d. Conclude that materials have their own set of physical properties that are observable |
|                                                 | e. Design an investigation to determine if the physical properties of a material will remain the same if the material is reduced in size |
| Comments |
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|  | **3.4 Overall Score** |
|                                                 | a. Give examples of methods that animals use to gather and store food, find shelter, defend themselves, and rear young |
|                                                 | b. Describe and explain the terms camouflage, mimicry, hibernation, migration, dormancy, instinct, and learned behavior |
|                                                 | c. Explain how an animal’s behavioral adaptations help it live in its specific habitat |
|                                                 | d. Distinguish between physical and behavioral adaptations of animals |
|                                                 | e. Compare the physical characteristics of animals, and explain how the animals are adapted to a certain environment |
|                                                 | f. Compare and contrast instinct and learned behavior |
|                                                 | g. Create (model) a camouflage pattern for an animal living in a specific dry-land or water-related environment (relates to 3.6) |
|                                                 | h. Design and construct a model of a habitat for an animal with a specific adaptation |
| Comments |

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|  | **3.5 Overall Score** |
|                                                 | a. Differentiate between predators and prey |
|                                                 | b. Distinguish among producers, consumers, herbivores, omnivores, carnivores, and decomposers |
|                                                 | c. Infer that most food chains begin with a green plant |
|                                                 | d. Identify sequences of feeding relationships in a food chain |
|                                                 | e. Explain how a change in one part of the food chain might affect the rest of the food chain  |
|                                                 | f. Create and interpret a model of a food chain showing producers and consumers  |
| Comments |
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|  | **3.6 Overall Score** |
|                                                 | a. Describe major water-related ecosystems and examples of animals and plants that live in each |
|                                                 | b. Describe major dry-land ecosystems and examples of animals and plants that live in each |
|                                                 | c. Compare and contrast water-related and dry-land ecosystems |
|                                                 | d. Explain how animals and plants use resources in their ecosystems |
|                                                 | e. Distinguish between a population and a community |
|                                                 | f. Predict what would occur if a population is a specific ecosystem was to die |
|                                                 | g. Analyze models or diagrams of different water-related ecosystems in order to describe the community of organisms each contains and interpret how the organisms use the resources in that ecosystem |
|                                                 | h. Analyze models or diagrams of different dry-land ecosystems in order to describe the community of organisms each contains and interpret how the organisms use the resources in that ecosystem |
|                                                 | i. List ways that humans can help conserve limited resources |
| Comments |

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|  | **3.7 Overall Score** |
|  | a. Observe and recognize that soil, as a natural resource, provides the support and nutrients necessary for plant growth |
|                                                 | b. Understand the key terminology related to soil, including humus, nutrients, topsoil, and bedrock |
|                                                 | c. Interpret and illustrate a basic diagram showing major soil layers, including bedrock, subsoil, and topsoil |
|                                                 | d. Analyze and describe the different components of soil, including rock fragments, clay, silt, sand, and humus |
|                                                 | e. Explain how soil forms over time  |
|                                                 | f. Design an investigation to compare how different types of soil affect plant growth. This includes organizing data in tables and constructing simple graphs  |
|                                                 | g. Collect, chart, and analyze data on soil conservation on the school grounds |
|                                                 | h. Evaluate the importance of soil to people |
|                                                 | i. Describe how soil can be conserved  |
| Comments |

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|  | **3.8 Overall Score** |
|                                                 | a. Explain how some events in nature occur in a pattern or cycle, such as the seasons, day and night, phases of the moon (first quarter, full, last [third] quarter, new), tides, and life cycles |
|                                                 | b. Recognize that the relationships that exist between and among Earth, the sun, and the moon result in day and night, seasonal changes, phases of the moon, and the tides |
|                                                 | c. Model and describe how Earth’s rotation causes day and night |
|                                                 | d. Model and describe how the sun’s rays strike Earth to cause seasons |
|                                                 | e. Observe, chart, and illustrate phases of the moon (first quarter, full, last [third] quarter, new), and describe the changing pattern of the moon as it revolves around Earth  |
|                                                 | f. Collect and analyze data from simple tide tables to determine a pattern of high and low tides  |
|                                                 | g. Explain the pattern of growth and change that organisms, such as the frog and butterfly undergo during their life cycle |
| Comments |
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|  | **3.9 Overall Score** |
|                                                 | a. Identify the sun as the origin of energy that drives the water cycle |
|                                                 | b. Describe the processes of evaporation, condensation, and precipitation as they relate to the water cycle |
|                                                 | c. Construct and interpret a model of the water cycle |
|                                                 | d. Identify the different ways that organisms get water from the environment |
|                                                 | e. Identify major water sources for a community, including rivers, reservoirs, and wells. Describe the major water sources for the local community |
|                                                 | f. Explain methods of water conservation in the home and school |
|                                                 | g. Identify and communicate the importance of water to people and to other living organisms |
|                                                 | h. Analyze possible sources of water pollution in their neighborhoods, at school, and in the local community. This includes runoff from over-fertilized lawns and fields, oil from parking lots, eroding soil, and animal waste. |
| Comments |

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|  | **3.10 Overall Score** |
|                                                 | a. Explain how organisms in an area are dependent on each other |
|                                                 | b. Compare and contrast human influences on the quality of air, water, and habitats |
|                                                 | c. Analyze the effects of fire, flood, disease, and erosion on organisms and habitats |
|                                                 | d. Describe how conservation practices can affect the survival of a species |
|                                                 | e. Describe a conservation practice in the local community  |
| Comments |
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|  | **3.11 Overall Score** |
|                                                 | a. Explain that they sun is the major source of energy for Earth |
|                                                 | b. Identify sources of energy and their uses |
|                                                 | c. Describe how solar energy, wind, and moving water can be used to produce electricity |
|                                                 | d. Describe how fossil fuels are used as an energy source |
|                                                 | e. Compare and contrast renewable and nonrenewable energy sources  |
|                                                 | f. Analyze the advantages and disadvantages of using different naturally occurring energy sources  |
|                                                 | g. Design a basic investigation to determine the effects of sunlight on warming various objects and materials, including water |
| Comments |