

APPENDIX A

**CROSS-WALK OF SUBMITTED ACADEMIC RATING SCALE ITEMS AND UPDATED SCIENCE
ACADEMIC RATING SCALE ITEMS FOR FALL 2009 FIELD TEST**

Kindergarten items

Kindergarten General Knowledge Items in OMB package	Updated Kindergarten Science Items
B1. Recognizes distinct differences in habits and living patterns between him/herself and other groups of people he/she knows – for example, knowing that there are many different types of families, or knowing the different types of homes people live in, or the different types of foods that people eat.....	EXCLUDED BECAUSE OFF- CONTENT
B2. Understands what people do who have different kinds of jobs – for example, knowing that people use different tools, equipment, and machinery in their jobs (farmers, doctors, dentists, etc.), or that most jobs require special training.....	EXCLUDED BECAUSE OFF- CONTENT
B3. Uses his/her senses to explore and observe – for example, observing and noting the habits of classroom pets, or identifying environmental sounds, or describing the differences in clay before and after water is added.	SAME CONTENT (K_1) Verb tense was changed from gerund to present
B4. Forms explanations based on observations and explorations – for example, by describing or drawing the conditions (water, soil, sun) that help a plant grow, or by explaining that a block will slide more quickly down a steeper slope.	SAME CONTENT (K_2) Verb tense was changed from gerund to present
B5. Classifies and compares living and non-living things in different ways – for example, classifying objects according to "things that are alive and not alive," or "things that fly and things that crawl," or "plants and animals.".....	SAME CONTENT (K_3) Verb tense was changed from gerund to present
NEW at this grade level similar to existing third grade item	K_4. Makes logical predictions when pursuing scientific investigations – for example, observes and identifies patterns in nature and predicts what happens next (e.g., if told the sky became dark and cloudy, predicts that it will rain; or predicts if a new object will float or sink).....
NEW at this grade level similar to existing third grade item	K_5. Communicates scientific information – for example, records or describes the properties of common objects verbally or through drawings or graphs.....
NEW at this grade level similar to existing third grade item	K_6. Demonstrates understanding of physical science concepts – for example, makes observations that different materials have different properties and that objects are made of different types of materials, compares the relative sizes and characteristics of objects, or describes and explains the different way things move.....
NEW at this grade level similar to existing third grade item	K_7. Demonstrates understanding of life science concepts – for example, recognizes the five senses and the related body parts, identifies major structures and functions of parts of plants and animals, or describes the similarities and differences in the appearance and behavior of plants and animals.....
NEW at this grade level similar to existing third grade item	K_8. Demonstrates understanding of earth and space science concepts – for example, identifies that changes in weather occur from day to day and season to season; describes properties of rocks, soil, and water; or identifies that the sun gives light and

heat to Earth.....

First Grade items

First Grade General Knowledge Items in OMB package	Updated First Grade Science Items
a. Identifies similarities and differences in group habits and living patterns – for example, compares and contrasts customs and traditions (forms of transportation, clothing, food, housing, holidays) in different groups or cultures.....	EXCLUDED BECAUSE OFF- CONTENT
b. Recognizes some ways in which people rely on each other for goods and services – for example, by making a list of all the jobs involved in getting milk to the supermarket, or writing stories or research reports based on interviews with community workers.....	EXCLUDED BECAUSE OFF- CONTENT
c. Shows a beginning understanding that maps represent actual places – for example, by making maps of his/her classroom, bedroom, or school and labeling them, or locating where a parent was born on a world map or globe.....	EXCLUDED BECAUSE OFF-CONTENT
d. Makes logical predictions when pursuing scientific investigations – for example, looking closely at a group of objects before predicting if they are magnetic or not.....	SAME CONTENT (F_4) Example wording has been revised to better align with skill
e. Forms explanations and conclusions based on observation and investigation – for example, by explaining the best growing conditions for a plant after investigating with light and water, or concluding that earthworms come out of the soil because it's raining after paying attention to the sidewalks on a rainy day.....	SAME CONTENT (F_2) Verb tense was changed from gerund to present Description of skill slightly different for consistency with other grades
f. Classifies and compares living and non-living things in different ways – for example, by classifying vegetables that grow above or below the ground, or classifying different sounds as either low pitch or high pitch, or measuring objects and classifying them by size or weight.....	SAME (F_3) Verb tense was changed from gerund to present
NEW at this grade level similar to existing kindergarten item	F_1. Uses his/her senses to explore and observe – for example, moves objects and describes how a push or pull can change the way an object is moving; observes that some living things closely resemble their parents; observes and describes properties of rocks, soil, and water; or uses tools (such as hand lenses, thermometers, rulers) to gather information about objects around them.....
NEW at this grade level similar to existing third grade item	F_5. Communicates scientific information for example, records data from measurement tools (e.g., clocks, thermometers, etc.) or constructs bar graphs.....
NEW at this grade level similar to existing third grade item	F_6. Demonstrates understanding of physical science concepts – for example, identifies the three states of matter, identifies that heat causes change and compares objects according to temperature, or compares the way different objects move (e.g., in straight line, by vibration, in

<p style="text-align: center;">NEW at this grade level similar to existing third grade item</p>	<p>a circle).....</p> <p>F_7. Demonstrates understanding of life science concepts – for example, understands that living organisms inhabit various environments and have various external features to help them satisfy their needs, differentiates between those living things that closely resemble their parents (e.g., chick) and those living things that do not (e.g., tadpole), or recognizes that all plants and animals have basic life needs (e.g., air, water, food, etc.).....</p>
<p style="text-align: center;">NEW at this grade level similar to existing third grade item</p>	<p>F_8. Demonstrates understanding of earth and space science concepts – for example, describes how weather affects people’s daily activities, describes how land and water store heat from the sun and then warm the air over the land and water, explains that shadows are caused when sunlight is blocked by objects, or identifies natural resources.....</p>

SECOND GRADE ITEMS

Second Grade Science Items (Third Grade Examples) in OMB package	Updated Second Grade Science Items
a. Makes logical predictions when conducting scientific investigations – for example, predicts that water will heat faster in the sun in a black cup than in a white cup, or predicts that the plants on the south side of the building will grow more quickly than the ones on the north side.....	S_4. Makes logical predictions when pursuing scientific investigations – for example, predicts the outcome of a simple investigation and compares the result with prediction, such as predicting if a plant will grow best in direct sunlight or in shade (UPDATED EXAMPLE)
b. Communicates scientific information – for example, documents predictions, observations, and conclusions when doing an investigation, or makes diagrams of closed and open circuits, or makes line graphs of the height of plants over time.....	S_5. Communicates scientific information – for example, records data gathered using simple equipment in simple investigations (e.g., changes in weather conditions), summarizes data using charts or graphs, or uses correct units of measurement when recording or summarizing data (UPDATED EXAMPLE)
c. Classifies and compares living and non-living things in different ways – for example, compares plant and animal needs, or sorts substances according to whether they dissolve in water, or sorts rocks by hardness and brittleness.....	S_3. Classifies and compares living and non-living things in different ways – for example, compares living things based on life cycle; classifies or compares objects by size or substance; or describes differences in how the environment affects living things (e.g., migration of birds as the availability of food becomes less when autumn changes to winter) versus how it affects non-living things (e.g., erosion of rocks, evaporation of water) (UPDATED EXAMPLE)
d. Forms explanations and conclusions based on observation and investigation – for example, explains why one boat floats and another does not, or concludes that the candle stays lit longer under the larger jar because there is more oxygen available, or explains how many layers of clothing provide insulation against heat loss.....	SAME CONTENT (S_2) Very slight revisions to wording Description of skill slightly different for consistency with other grades
e. Demonstrates understanding of physical science concepts – for example, explains that friction slows a block going down an inclined plane, or identifies the state of matter (solids, liquids, gases) of different substances, or identifies simple machines that help lift heavy objects.....	S_6. Demonstrates understanding of physical science concepts – for example, describes the effects of electrically charged materials and magnets, or explains that sound is made by vibrating objects and describes its pitch and loudness (UPDATED EXAMPLE)
f. Demonstrates understanding of life science concepts – for example, describes some characteristics that are inherited, or draws a diagram of a food chain, or explains the functions of parts of a plant, or categorizes foods according to the groups on the food pyramid.....	S_7. Demonstrates understanding of life science concepts – for example, explains that the sequential stages of life cycles are different for different animals, describes how living organisms depend on each other and their environments for survival, identifies differences between living and nonliving objects, or describes how the environment influences some characteristics of living organisms (UPDATED EXAMPLE).....
g. Demonstrates understanding of earth and space science concepts – for example, explains why we have seasons, or labels condensation and evaporation on a diagram of the water cycle, or describes the difference between a planet and a moon.....	S_8. Demonstrates understanding of earth and space science concepts – for example, describes the effects of weathering and erosion, the relationship between the Sun and the Earth, the use of tools to measure weather conditions, or the processes involved with soil formation (UPDATED EXAMPLE)
NEW at this grade level though similar to existing kindergarten item	S_1. Uses his/her senses to explore and observe – for example, compares and classifies objects according to two or more physical attributes (e.g.,

a basketball is round and has a rough texture, a feather is soft and is 7 centimeters long), or uses observations through the senses to predict an outcome of a simple investigation such as that a marble will roll with a greater speed if a ramp is raised 2 cm