Texas Assessment of Knowledge and Skills - Modified
Answer Key

Grade: 05
Subject: Science
Administration: April 2009

Item Number	Correct Answer	Objective Measured	Student Expectations
01	B	02	5.5 (B)
02	G	03	5.8 (A)
03	A	01	5.1 (A)
04	H	04	5.12 (C)
05	C	02	2.9 (B)
06	G	01	5.2 (D)
07	A	03	5.8 (B)
08	G	04	3.11 (A)
09	C	01	5.2 (A)
10	F	03	5.5 (B)
11	B	01	5.2 (C)
12	F	02	3.8 (D)
13	B	04	3.6 (B)
14	H	03	3.6 (A)
15	C	01	5.3 (B)
16	F	04	5.12 (A)
17	C	02	5.5 (A)
18	G	01	5.2 (D)
19	C	03	5.7 (B)
20	G	04	5.6 (B)
21	C	01	5.2 (E)
22	F	02	3.8 (C)
23	B	04	5.11 (B)
24	G	01	5.3 (C)
25	A	03	5.7 (A)
26	G	01	5.2 (C)
27	C	04	4.6 (A)
28	F	03	5.8 (C)
29	A	02	5.10 (A)
30	H	01	5.4 (A)
31	C	02	5.9 (C)
32	G	01	5.4 (A)

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Grade 5 Science

For a more complete description of the objectives measured, please refer to the Revised TAKS Information Booklet for Grade 5 Science at http://www.tea.state.tx.us/student.assessment/taks/booklets/index.html.

Objective 1: The student will demonstrate an understanding of the nature of science.

(3.1, 4.1, 5.1) **Scientific processes.** The student conducts field and laboratory investigations following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to

(A) demonstrate safe practices during field and laboratory investigations.

(3.2, 4.2, 5.2) **Scientific processes.** The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to

(A) plan and implement descriptive and simple experimental investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology;

(B) collect information by observing and measuring;

(C) analyze and interpret information to construct reasonable explanations from direct and indirect evidence;

(D) communicate valid conclusions; and

(E) construct simple graphs, tables, maps, and charts using tools [including computers] to organize, examine, and evaluate information.

(3.3, 4.3, 5.3) **Scientific processes.** The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to

(A) analyze, review, [and critique] scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;

(B) draw inferences based on information [related to promotional materials] for products and services; and

(C) represent the natural world using models and identify their limitations.

(3.4, 4.4, 5.4) **Scientific processes.** The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to

(A) collect and analyze information using tools including calculators, microscopes, [cameras, sound recorders, computers,] hand lenses, rulers, thermometers, compasses, balances, [hot plates,] meter sticks, timing devices, magnets, collecting nets, and safety goggles (5.4).

Objective 2: The student will demonstrate an understanding of the life sciences.

(2.9) **Science concepts.** The student knows that living organisms have basic needs. The student is expected to

(A) identify the external characteristics of different kinds of plants and animals that allow their needs to be met; and

(B) compare and give examples of the ways living organisms depend on each other and on their environments.

(3.8) **Science concepts.** The student knows that living organisms need food, water, light, air, a way to dispose of waste, and an environment in which to live. The student is expected to

(A) observe and describe the habitats of organisms within an ecosystem;

(B) observe and identify organisms with similar needs that compete with one another for resources such as oxygen, water, food, or space;

(C) describe environmental changes in which some organisms would thrive, become ill, or perish; and

(D) describe how living organisms modify their physical environment to meet their needs such as beavers building a dam or humans building a home.

(4.6) **Science concepts.** The student knows that change can create recognizable patterns. The student is expected to

(A) identify patterns of change such as in weather, metamorphosis, and objects in the sky.

(5.5) **Science concepts.** The student knows that a system is a collection of cycles, structures, and processes that interact. The student is expected to

(A) describe some cycles, structures, and processes that are found in a simple system; and

(B) describe some interactions that occur in a simple system.

(5.6) **Science concepts.** The student knows that some change occurs in cycles. The student is expected to

(C) describe and compare life cycles of plants and animals.

(4.8, 5.9) **Science concepts.** The student knows that adaptations may increase the survival of members of a species. The student is expected to

(A) compare the adaptive characteristics of species that improve their ability to survive and reproduce in an ecosystem (5.9);

(B) analyze and describe adaptive characteristics that result in an organism's unique niche in an ecosystem (5.9); and

(C) predict some adaptive characteristics required for survival and reproduction by an organism in an ecosystem (5.9).

(3.10, 4.9, 5.10) **Science concepts.** The student knows that likenesses between offspring and parents can be inherited or learned. The student is expected to

(A) identify traits that are inherited from parent to offspring in plants and animals (5.10); and

(B) give examples of learned characteristics that result from the influence of the environment (5.10).

Grade 5 Science (continued)

Objective 3: The student will demonstrate an understanding of the physical sciences.

(3.6) **Science concepts.** The student knows that forces cause change. The student is expected to

(A) measure and record changes in the position and direction of the motion of an object to which a force such as a push or pull has been applied.

(4.6) **Science concepts.** The student knows that change can create recognizable patterns. The student is expected to

(A) identify patterns of change such as in weather, metamorphosis, and objects in the sky.

(5.5) **Science concepts.** The student knows that a system is a collection of cycles, structures, and processes that interact. The student is expected to

(A) describe some cycles, structures, and processes that are found in a simple system; and

(B) describe some interactions that occur in a simple system.

(3.7, 4.7, 5.7) **Science concepts.** The student knows that matter has physical properties. The student is expected to

(A) classify matter based on its physical properties including magnetism, physical state, and the ability to conduct or insulate heat, electricity, and sound (5.7);

(B) demonstrate that some mixtures maintain the physical properties of their ingredients (5.7);

(C) identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving sugar in water (5.7); and

(D) observe and measure characteristic properties of substances that remain constant such as boiling points and melting points (5.7).

(5.8) **Science concepts.** The student knows that energy occurs in many forms. The student is expected to

(A) differentiate among forms of energy including light, heat, electrical, and solar energy;

(B) identify and demonstrate everyday examples of how light is reflected, such as from tinted windows, and refracted, such as in cameras, telescopes, and eyeglasses;

(C) demonstrate that electricity can flow in a circuit and can produce heat, light, sound, and magnetic effects; and

(D) verify that vibrating an object can produce sound.

Objective 4: The student will demonstrate an understanding of the earth sciences.

(3.6) **Science concepts.** The student knows that forces cause change. The student is expected to

(B) identify that the surface of the Earth can be changed by forces such as earthquakes and glaciers.

Grade 5 Science (continued)

(4.6) **Science concepts.** The student knows that change can create recognizable patterns. The student is expected to

(A) identify patterns of change such as in weather, metamorphosis, and objects in the sky.

(5.5) **Science concepts.** The student knows that a system is a collection of cycles, structures, and processes that interact. The student is expected to

(A) describe some cycles, structures, and processes that are found in a simple system; and

(B) describe some interactions that occur in a simple system.

(5.6) **Science concepts.** The student knows that some change occurs in cycles. The student is expected to

(A) identify events and describe changes that occur on a regular basis such as in daily, weekly, lunar, and seasonal cycles; and

(B) identify the significance of the water, carbon, and nitrogen cycles.

(4.10, 5.11) **Science concepts**. The student knows that certain past events affect present and future events. The student is expected to

(A) identify and observe actions that require time for changes to be measurable, including growth, erosion, dissolving, weathering, and flow (5.11);

(B) draw conclusions about "what happened before" using data such as from tree-growth rings and sedimentary rock sequences (5.11); and

(C) identify past events that led to the formation of the Earth's renewable, non-renewable, and inexhaustible resources (5.11).

(3.11, 4.11, 5.12) **Science concepts.** The student knows that the natural world includes earth materials and objects in the sky. The student is expected to

(A) identify and describe the importance of earth materials including rocks, soil, water, and gases of the atmosphere in the local area and classify them as renewable, non-renewable, or inexhaustible resources (3.11);

(C) identify the planets in our solar system and their position in relation to the Sun (3.11);

(D) describe the characteristics of the Sun (3.11);

(A) test properties of soils including texture, capacity to retain water, and ability to support life (4.11);

(B) summarize the effects of the oceans on land (4.11);

(C) identify the Sun as the major source of energy for the Earth and understand its role in the growth of plants, in the creation of winds, and in the water cycle (4.11);

(A) interpret how land forms are the result of a combination of constructive and destructive forces such as deposition of sediment and weathering (5.12); and

(C) identify the physical characteristics of the Earth and compare them to the physical characteristics of the moon (5.12).