The tables that follow are designed to provide information about the content of each benchmark modular assessment **by grade and subject**. In the table you will find the name of the benchmark module, a brief description of the skills the module assesses, the names of each test form (e.g. A, B, C, etc.), and the number of test items on each form.

Benchmark Modules: Science Grade 4

Test Name	What This Test Measures	Form	Number of Items
Benchmark Module: Science Grade 4 – Earth Science Standard 1	This test measures the student's ability to describe the relationship between heat energy, evaporation, and condensation of water on Earth and to describe the water cycle.	A	12
		B	11
		C	11
Benchmark Module: Science Grade 4 – Earth Science Standard 2	This test measures the student's ability to observe, measure, and record the basic elements of weather; interpret recorded weather data for simple patterns; and evaluate weather predictions based on observational data.	A	19
		B	18
		C	18
Benchmark Module: Science Grade 4 – Earth Science Standard 3	This test measures the student's ability to identify basic properties of minerals and rocks, explain how the processes of weathering and erosion change and move materials that become soil, and observe the basic components of soil and relate the components to plant growth.	A	18
		B	18
		C	18
Benchmark Module: Science Grade 4 – Earth Science Standard 4	This test measures the student's ability to describe Utah fossils and explain how they were formed and to explain how fossils can be used to make inferences about past life, climate, geology, and environments.	A	12
		B	12

Benchmark Modules: Science Grade 5

Test Name	What This Test Measures	Form	Number of Items
Benchmark Module: Science Grade 5 – Chemistry Standard 1	This test measures the student's ability to describe that matter is neither created nor destroyed (even though it may undergo a change), evaluate evidence that indicates a physical change has occurred, and investigate evidence for changes in matter that occur during a chemical reaction.	A	17
		B	17
		C	17
Benchmark Module: Science Grade 5 – Earth Science Standard 2	This test measures the student's ability to describe how weathering and erosion change Earth's surface; explain how volcanoes, earthquakes, and uplift affect Earth's surface; and relate the building up and breaking down of Earth's surface over time to the various physical land features.	A	16
		B	16
		C	15
Benchmark Module: Science Grade 5 – Physics Standard 3	This test measures the student's ability to investigate and compare the behavior of magnetism using magnets and to describe how the magnetic field of Earth and a magnet are similar.	A	13
		B	13
		C	13
Benchmark Module: Science Grade 5 – Physics Standard 4	This test measures the student's ability to describe the behavior of static electricity in nature and everyday occurrences, as well as analyze the behavior of current electricity.	A	14
		B	14
		C	14
Benchmark Module: Science Grade 5 – Life Science Standard 5	This test measures the student's ability to use supporting evidence to show that traits are transferred from a parent organism to its offspring, as well as describe how some characteristics could give a species a survival advantage in a particular environment.	A	13
		B	13
		C	13

Benchmark Modules: Science Grade 6

Test Name	What This Test Measures	Form	Number of Items
Benchmark Module: Science Grade 6 – Earth Science Standard 1	This test measures the student's ability to explain patterns of changes in the appearance of the moon as it orbits Earth, as well as demonstrate how the relative positions of Earth, the moon, and the sun create the appearance of the moon's phases.	A	11
		B	11
		C	11
Benchmark Module: Science Grade 6 – Earth Science Standard 2	This test measures the student's ability to describe the relationship between the tilt of Earth's axis and its yearly orbit around the sun, as well as explain how the relationship between the tilt of Earth's axis and its yearly orbit around the sun produces the seasons.	A	14
		B	13
Benchmark Module: Science Grade 6 – Earth Science Standard 3	This test measures the student's ability to describe and compare the components of the solar system, describe the use of technology to observe objects in the solar system (and relate this to science's understanding of the solar system), and describe the forces that keep objects in orbit in the solar system.	A	14
		B	15
		C	14
Benchmark Module: Science Grade 6 – Earth Science Standard 4	This test measures the student's ability to compare the size and distance of objects within systems in the universe and describe the appearance and apparent motion of groups of stars in the night sky relative to Earth (and how various cultures have understood and used them).	A	14
		B	14
Benchmark Module: Science Grade 6 – Life Science Standard 5	This test measures the student's ability to observe and summarize information about microorganisms, demonstrate the skills needed to plan and conduct an experiment to determine a microorganism's requirements in a specific environment, and identify positive and negative effects of microorganisms (and how science has developed positive uses for some microorganisms and has overcome the negative effect of others).	A	11
		B	11
		C	10
Benchmark Module: Science Grade 6 – Physics Standard 6	This test measures the student's ability to investigate the movement of heat between objects by conduction, convection, and radiation; describe how light can be produced, reflected, refracted, and separated into visible light of various colors; and describe the production of sound in terms of vibration of objects that create vibrations in other materials.	A	14
		B	13
		C	13

Benchmark Modules: Science Grade 7

Test Name	What This Test Measures	Form	Number of Items
Benchmark Module: Science Grade 7 – Chemistry Standard 1	This test measures the student's ability to describe the structure of matter in terms of atoms and molecules, accurately measure the characteristics of matter in different states, and investigate the motion of particles.	A	12
		B	11
		C	11
Benchmark Module: Science Grade 7 – Chemistry Standard 2	This test measures the student's ability to examine the effects of density and particle size on the behavior of materials in mixtures, as well as analyze how density affects Earth's structure.	A	16
		B	16
		C	16
Benchmark Module: Science Grade 7 – Life Science Standard 3	This test measures the student's ability to observe and describe cellular structures and functions, as well as identify and describe the function and interdependence of various organs and tissues.	A	11
		B	11
		C	10
Benchmark Module: Science Grade 7 – Life Science Standard 4	This test measures the student's ability to compare how sexual and asexual reproduction passes genetic information from parent to offspring, as well as relate the adaptability of organisms in an environment to their inherited traits and structures.	A	13
Benchmark Module: Science Grade 7 – Life Science Standard 5	This test measures the student's ability to classify based on observable properties, use and develop a simple classification system, and classify organisms using an orderly pattern based on structure.	A	15
		B	15
		C	16

Benchmark Modules: Science Grade 8

Test Name	What This Test Measures	Form	Number of Items
Benchmark Module: Science Grade 8 – Chemistry Standard 1	This test measures the student's ability to describe the chemical and physical properties of various substances, observe and evaluate evidence of chemical and physical change, investigate and measure the effects of increasing or decreasing the amount of energy in a physical or chemical change (and relate the kind of energy added to the motion of the particles), and identify the observable features of chemical reactions.	A	15
		B	15
		C	16
Benchmark Module: Science Grade 8 – Life Science Standard 2	This test measures the student's ability to compare the ways that plants and animals obtain and use energy, generalize the dependent relationships between organisms, and analyze human influence on the capacity of an environment to sustain living things.	A	14
		B	14
		C	13
Benchmark Module: Science Grade 8 – Earth Science Standard 3	This test measures the student's ability to compare rocks and minerals and describe how they are related, describe the nature of the changes that rocks undergo over long periods of time, describe how rock and fossil evidence is used to infer Earth's history, and compare rapid and gradual changes to Earth's surface.	A	13
		B	12
Benchmark Module: Science Grade 8 – Physics Standard 4	This test measures the student's ability to investigate the transfer of energy through various materials, examine the force exerted on objects by gravity, investigate the application of forces that act on objects (and the resulting motion), and analyze various forms of energy and how living organisms sense and respond to energy.	A	13
		B	13
		C	13

Benchmark Modules: Chemistry

Test Name	What This Test Measures	Form	Number of Items
Benchmark Module: Science – Chemistry Standard 1	This test measures the student's ability to recognize the origin and distribution of elements in the universe; relate the structure, behavior, and scale of an atom to the particles that compose it; and correlate atomic structure and the physical and chemical properties of an element to the position of the element on the periodic table.	A	14
		B	14
Benchmark Module: Science – Chemistry Standard 2	This test measures the student's ability to evaluate quantum energy changes in the atom in terms of the energy contained in light emissions, and evaluate how changes in the nucleus of an atom result in the emission of radioactivity.	A	10
		B	9
Benchmark Module: Science – Chemistry Standard 3	This test measures the student's ability to analyze the relationship between the valence (outermost) electrons of an atom and the type of bond formed between atoms; explain that the properties of a compound may be different from those of the elements or compounds from which it is formed; and relate the properties of simple compounds to the type of bonding, shape of molecules, and intermolecular forces.	A	12
		B	12
Benchmark Module: Science – Chemistry Standard 4	This test measures the student's ability to identify evidence of chemical reactions and demonstrate how chemical equations are used to describe them, as well as analyze evidence for the laws of conservation of mass and conservation of energy in chemical reactions.	A	8
Benchmark Module: Science – Chemistry Standard 5	This test measures the student's ability to evaluate factors specific to collisions (e.g., temperature, particle size, concentration, and catalysts) that affect the rate of a chemical reaction, as well as recognize that certain reactions do not convert all reactants to products but achieve a state of dynamic equilibrium that can be changed.	A	9
		B	9
Benchmark Module: Science – Chemistry Standard 6	This test measures the student's ability to describe factors affecting the process of dissolving and evaluate the effects that changes in concentration have on solutions, summarize the quantitative and qualitative effects of colligative properties on a solution when a solute is added, and differentiate between acids and bases in terms of hydrogen ion concentration.	A	12
		B	11

Benchmark Modules: Earth Science

Test Name	What This Test Measures	Form	Number of Items
Benchmark Module: Science – Earth Science Standard 1	This test measures the student's ability to describe both the big bang theory of universe formation and the nebular theory of solar system formation (and evidence supporting them), as well as analyze Earth as part of the solar system, which is part of the Milky Way galaxy.	A	13
		B	13
		C	13
Benchmark Module: Science – Earth Science Standard 2	This test measures the student's ability to evaluate the source of Earth's internal heat and the evidence of Earth's internal structure, describe the development of the current theory of plate tectonics and the evidence that supports this theory, and demonstrate how the motion of tectonic plates affects Earth and living things.	A	12
		B	12
		C	12
Benchmark Module: Science – Earth Science Standard 3	This test measures the student's ability to relate how energy from the sun drives atmospheric processes and how atmospheric currents transport matter and transfer energy, describe elements of weather and the factors that cause them to vary from day to day, and examine the natural and human-caused processes that cause Earth's climate to change over intervals of time ranging from decades to millennia.	A	16
		B	15
		C	15
Benchmark Module: Science – Earth Science Standard 4	This test measures the student's ability to characterize the water cycle in terms of its reservoirs, water movement among reservoirs, and how water has been recycled throughout time; analyze the characteristics and importance of freshwater found on Earth's surface (and its effect on living systems); and analyze the physical, chemical, and biological dynamics of the oceans and the flow of energy through the oceans.	A	12
		B	12
		C	12
Benchmark Module: Science – Earth Science Standard 5	This test measures the student's ability to characterize Earth as a changing and complex system of interacting spheres, describe how humans depend on Earth's resources, and indicate how natural hazards pose risks to humans.	A	15
		B	14

Benchmark Modules: Life Sciences

Test Name	What This Test Measures	Form	Number of Items
Benchmark Module: Science – Life Science Standard 1	This test measures the student's ability to summarize how energy flows through an ecosystem, explain relationships between matter cycles and organisms, and describe how interactions among organisms and their environment help shape ecosystems.	A	14
		B	14
Benchmark Module: Science – Life Science Standard 2	This test measures the student's ability to describe the fundamental chemistry of living cells and the flow of energy and matter in cellular function, as well as investigate the structure and function of cells and cell parts.	A	12
		B	11
		C	11
Benchmark Module: Science – Life Science Standard 3	This test measures the student's ability to describe the structure and function of organs, as well as describe the relationship between structure and function of organ systems in plants and animals	A	10
		B	11
		C	10
Benchmark Module: Science – Life Science Standard 4	This test measures the student's ability to compare sexual and asexual reproduction, predict and interpret patterns of inheritance in sexually reproducing organisms, and explain how the structure and replication of DNA are essential to heredity and protein synthesis.	A	11
		B	10
		C	11
Benchmark Module: Science – Life Science Standard 5	This test measures the student's ability to relate principles of evolution to biological diversity, cite evidence for changes in populations over time (and use concepts of evolution to explain these changes), and classify organisms into a hierarchy of groups based on similarities that reflect their evolutionary relationships.	A	13
		B	13
		C	13

Benchmark Modules: Physics

Test Name	What This Test Measures	Form	Number of Items
Benchmark Module: Science – Physics Standard 1	This test measures the student's ability to describe the motion of an object in terms of position, time, and velocity; analyze the motion of an object in terms of velocity, time, and acceleration; relate the motion of objects to a frame of reference; and use Newton's first law to explain the motion of an object.	A	13
		B	13
		C	12
Benchmark Module: Science – Physics Standard 2	This test measures the student's ability to analyze forces acting on an object; use Newton's second law to relate the force, mass, and acceleration of an object; and explain that forces act in pairs as described by Newton's third law.	A	12
		B	12
		C	11
Benchmark Module: Science – Physics Standard 3	This test measures the student's ability to relate the strength of the gravitational force to the distance between two objects and the mass of the objects (e.g., Newton's law of universal gravitation) and to describe the factors that affect the electric force (e.g., Coulomb's law).	A	11
		B	10
Benchmark Module: Science – Physics Standard 4	This test measures the student's ability to determine kinetic and potential energy in a system, describe conservation of energy in terms of systems, and describe common energy transformations and the effect on availability of energy.	A	13
		B	13
		C	13
Benchmark Module: Science – Physics Standard 5	This test measures the student's ability to demonstrate an understanding of mechanical waves in terms of general wave properties, as well as describe the nature of electromagnetic radiation and visible light.	A	14
		B	13