

2022+ WY-TOPP Science Modulares Blueprint

Elementary School Grades (3-5) - WY-TOPP Science Modulares

Domain order is PS, LS, ESS; in numerical order by each domain.

Test Name	Standard (P.E.)	Standard Text (P.E.)	Number of Items
Modular ES Physical Science - Forces and Motion: 3-PS2-2	3-PS2-2	Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.	1 Cluster
Modular ES Life Science - Inheritance of Traits: 3-LS3-1	3-LS3-1	Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.	1 Cluster
Modular ES Life Science - Common Ancestry and Diversity: 3-LS4-1 *Also available in Braille	3-LS4-1	Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago. (State assessment boundary: Assessment does not include identification of specific fossils or present plants and animals. Assessment is limited to major fossil types and relative ages.)	1 Cluster
Modular ES Earth and Space Science - Weather and Climate: 3-ESS2-1 *Also available in Braille	3-ESS2-1	Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.	1 Cluster
Modular ES Physical Science - Energy Transfer: 4-PS3-4 *Also available in Braille	4-PS3-4	Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.	1 Cluster
Modular ES Physical Science - Waves Properties 1: 4-PS4-1	4-PS4-1	Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.	1 Cluster
Modular ES Physical Science - Waves Properties 2: 4-PS4-2	4-PS4-2	Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.	1 Cluster
Modular ES Physical Science - Waves Properties 3: 4-PS4-3	4-PS4-3	Generate and compare multiple solutions that use patterns to transfer information.	1 Cluster
Modular ES Earth and Space Science - Earth's Systems 1: 4-ESS2-1	4-ESS2-1	Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.	1 Cluster
Modular ES Physical Science - Properties of Matter: 5-PS1-2	5-PS1-2	Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.	1 Cluster

Test Name	Standard (P.E.)	Standard Text (P.E.)	Number of Items
Modular ES Physical Science - Chemical Reactions: 5-PS1-4	5-PS1-4	Conduct an investigation to determine whether the mixing of two or more substances results in new substances.	1 Cluster
Modular ES Physical Science - Forces and Interaction: 5-PS2-1 *Also available in Braille	5-PS2-1	Support an argument that the gravitational force exerted by Earth on objects is directed down.	1 Cluster
Modular ES Life Science - Ecosystems: 5-LS2-1 *Also available in Braille	5-LS2-1	Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	1 Cluster
Modular ES Earth and Space Science - Earth's Systems 2: 5-ESS2-2 *Also available in Braille	5-ESS2-2	Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.	1 Cluster

Middle School Grades (6-8) - WY-TOPP Science Modulars

Domain order is PS, LS, ESS; in numerical order by each domain.

Test Name	Standard (P.E.)	Standard Text (P.E.)	Number of Items
Modular MS Physical Science - Properties of Matter: PS1-4	MS-PS1-4	Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.	1 Cluster
Modular MS Physical Science - Chemical Reactions: PS1-5	MS-PS1-5	Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.	1 Cluster
Modular MS Physical Science - Forces and Motion: PS2-2 <i>*Also available in Braille</i>	MS-PS2-2	Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.	1 Cluster
Modular MS Physical Science - Energy: PS3-3	MS-PS3-3	Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer	1 Cluster
Modular MS Physical Science - Wave Properties 2: PS4-1 <i>*Also available in Braille</i>	MS-PS4-1	Use mathematical representations to describe a simple model for waves, which includes how the amplitude of a wave is related to the energy in a wave.	1 Cluster
Modular MS Life Science - Structure and Function: LS1-3 <i>*Also available in Braille</i>	MS-LS1-3	Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.	1 Cluster
Modular MS Life Science - Matter and Energy in Organisms: LS1-7	MS-LS1-7	Develop a model to describe how food molecules (sugar) are rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.	1 Cluster
Modular MS Life Science - Information Processing: LS1-8	MS-LS1-8	Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.	1 Cluster
Modular MS Life Science - Ecosystems: LS2-2	MS-LS2-2	Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.	1 Cluster
Modular MS Life Science - Inheritance of Traits 1: LS3-2	MS-LS3-2	Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.	1 Cluster

Test Name	Standard (P.E.)	Standard Text (P.E.)	Number of Items
Modular MS Life Science - Natural Selection: LS4-4	MS-LS4-4	Construct an explanation based on evidence that describes how genetic variations of traits in a population affects individuals' probability of surviving and reproducing in a specific environment.	1 Cluster
Modular MS Life Science - Adaptation: LS4-6	MS-LS4-6	Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.	1 Cluster
Modular MS Earth and Space Science - Space Systems 1: ESS1-1 *Also available in Braille	MS-ESS1-1	Develop and use a model of the Earth-sun -moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.	1 Cluster
Modular MS Earth and Space Science - Space Systems 2: ESS1-2	MS-ESS1-2	Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.	1 Cluster
Modular MS Earth and Space Science - Earth's History: ESS1-4	MS-ESS1-4	Construct a scientific explanation based on evidence from rocks and rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.	1 Cluster
Modular MS Earth and Space Science - Earth's Systems 1: ESS2-1 *Also available in Braille	MS-ESS2-1	Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.	1 Cluster
Modular MS Earth and Space Science - Earth's Systems 2: ESS2-5	MS-ESS2-5	Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.	1 Cluster
Modular MS Earth and Space Science - Human Impacts on Earth Systems: ESS3-3	MS-ESS3-3	Apply scientific principles to design a method for monitoring, evaluating, and managing a human impact on the environment	1 Cluster

High School Grades (9-12) - WY-TOPP Science Modulares

Domain order is PS, LS, ESS; in numerical order by each domain.

Test Name	Standard (P.E.)	Standard Text (P.E.)	Number of Items
Modular HS Life Science - Molecules to Organisms: LS1-2	HS-LS1-2	Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multi-cellular organisms.	1 Cluster
Modular HS Life Science - Ecosystems: LS2-2	HS-LS2-2	Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.	1 Cluster
Modular HS Life Science - Inheritance of Traits: LS3-2 <i>*Also available in Braille</i>	HS-LS3-2	Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.	1 Cluster
Modular HS Life Science - Common Ancestry and Diversity: LS4-1 <i>*Also available in Braille</i>	HS-LS4-1	Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.	1 Cluster
Modular HS Earth and Space Science - Space Systems: ESS1-3 <i>*Also available in Braille</i>	HS-ESS1-3	Communicate scientific ideas about the way stars, over their life cycle, produce elements.	1 Cluster
Modular HS Earth and Space Science - Space Systems 2: ESS1-4	HS-ESS1-4	Use mathematical or computational representations to predict the motion of orbiting objects in the solar system.	1 Cluster
Modular HS Earth and Space Science - Earth's History: ESS1-6	HS-ESS1-6	Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history	1 Cluster
Modular HS Earth and Space Science - Earth's Systems 1: ESS2-3	HS-ESS2-3	Develop a model based on evidence of Earth's interior to describe the cycling of matter by thermal convection.	1 Cluster
Modular HS Earth and Space Science - Earth's Systems 2: ESS2-4	HS-ESS2-4	Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate	1 Cluster

Test Name	Standard (P.E.)	Standard Text (P.E.)	Number of Items
Modular HS Earth and Space Science - Human Impacts on Earth Systems 2: ESS3-3	HS-ESS3-3	Use computational tools to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.	1 Cluster
Modular HS Earth and Space Science - Human Impacts on Earth Systems 1: ESS3-4 <i>*Also available in Braille</i>	HS-ESS3-4	Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.	1 Cluster
Modular HS Earth and Space Science - Weather and Climate: ESS3-5	HS-ESS3-5	Analyze data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.	1 Cluster