Space Teams Correlation with Next Generation Science Standards

Middle School	Middle School Physical Science Domain Forces and Interactions		Middle School Physical Science Domain Energy			Middle School Life Sciences Domain Matter and Energy in Organisms and Ecosystems	Middle School Earth and Space Sciences Domain Space Systems			Middle School Earth and Space Sciences Domain Earth's Systems	Middle School Engineering Design Domain Engineering Design			
Space Teams Labs Module	**MS-PS2-2**	**MS-PS2-4**	**MS-PS3-1**	**MS-PS3-2**	**MS-PS3-5**	**MS-LS2-3**	**MS-ESS1-1**	**MS-ESS1-2**	**MS-ESS1-3**	**MS-ESS2-4**	**MS-ETS1-1**	**MS-ETS1-2**	**MS-ETS1-3**	**MS-ETS1-4**
Module 1: Planetary Science	✓	✓					✓	✓	✓	✓				
Module 2: Spacecraft Design											✓	✓	✓	✓
Module 3: Orbital Mechanics and Remote Sensing	✓	✓		✓	✓			✓	✓		✓	✓	✓	✓
Module 4: Atmospheric Entry & Landing			✓											
Module 5: Offworld Habitat Construction											✓	✓	✓	✓
Module 6: Surface Operations, Resource Utilization and Sustainability						✓					✓	✓	✓	✓

High School	High School Physical Science Domain Forces and Interactions			High School Physical Science Domain Energy		High School Earth and Space Sciences Domain Space Systems		High School Earth and Space Sciences Domain Weather and Climate	High School Earth and Space Sciences Domain Human Sustainability		High School Engineering Design Domain Engineering Design			
Space Teams Labs Module	**HS-PS2-1**	**HS-PS2-2**	**HS-PS2-4**	**HS-PS3-2**	**HS-PS3-3**	**HS-ESS1-1**	**HS-ESS1-4**	**HS-ESS2-4**	**HS-ESS3-2**	**HS-ESS3-3**	**HS-ETS1-1**	**HS-ETS1-2**	**HS-ETS1-3**	**HS-ETS1-4**
Module 1: Planetary Science						✓		✓						
Module 2: Spacecraft Design					✓					✓	✓	✓	✓	✓
Module 3: Orbital Mechanics and Remote Sensing	✓	✓	✓	✓			✓				✓	✓	✓	✓
Module 4: Atmospheric Entry & Landing														
Module 5: Offworld Habitat Construction					✓					✓	✓	✓	✓	✓
Module 6: Surface Operations, Resource Utilization and Sustainability									✓	✓	✓	✓	✓	✓

Applicable NGSS Performance Objectives (Abbreviated Descriptions)

MS-PS2-2	Change in an object's motion depends on the sum of the forces on the object and the mass of the object
MS-PS2-4	Gravitational interactions are attractive and depend on the masses of interacting objects
MS-PS3-1	Relationships of kinetic energy to the mass of an object and to the speed of an object
MS-PS3-2	Arrangement of objects interacting at a distance changes potential energy stored in the system
MS-PS3-5	When the kinetic energy of an object changes, energy is transferred to or from the object
MS-LS2-3	Cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
MS-ESS1-1	The Earth-sun-moon system describes the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons
MS-ESS1-2	Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system
MS-ESS1-3	Analyze and interpret data to determine scale properties of objects in the solar system.
MS-ETS1-1	Design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts
MS-ETS1-2	Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
MS-ETS1-3	Determine similarities and differences among several design solutions to achieve a better solution to meet the criteria for success.
MS-ETS1-4	Iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.
HS-PS2-1	Newton's second law of motion - the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.
HS-PS2-2	Total momentum of a system of objects is conserved when there is no net force on the system.
HS-PS2-4	Newton's Law of Gravitation and Coulomb's Law describe and predict the gravitational and electrostatic forces between objects.
HS-PS3-2	Energy at the macroscopic scale can be accounted for as a combination of the motions of particles and the relative position of particles (objects).
HS-PS3-3	Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy
HS-ESS1-1	The sun and the role of nuclear fusion in the sun's core to release energy that eventually reaches Earth in the form of radiation
HS-ESS1-4	Use mathematical or computational representations to predict the motion of orbiting objects in the solar system
HS-ESS2-4	Variations in the flow of energy into and out of Earth's systems result in changes in climate
HS-ESS3-2	Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios
HS-ESS3-3	Simulate the relationships among management of natural resources, the sustainability of human populations, and biodiversity
HS-ETS1-1	Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions
HS-ETS1-2	Solve a complex problem by breaking it down into smaller, more manageable problems that can be solved through engineering
HS-ETS1-3	Solve a complex problem based on prioritized criteria and trade-offs that account for a range of constraints
HS-ETS1-4	Simulate proposed solutions to a complex real-world problem with numerous criteria and constraints