



Physical Science Scope and Sequence

	Quarter: 1	Quarter2	Quarter 3	Quarter 4
	Study of Matter	Energy and Waves	Forces and Motion	The Universe
Content	<p>PS.M.1: Classification of matter</p> <ul style="list-style-type: none"> • Heterogeneous vs. homogeneous • Properties of matter • States of matter and its changes <p>PS.M.2: Atoms</p> <ul style="list-style-type: none"> • Models of the atom (components) • Ions (cations and anions) • Isotopes <p>PS.M.3: Periodic trends of the elements</p> <ul style="list-style-type: none"> • Periodic law • Representative groups <p>PS.M.4: Bonding and compounds</p> <ul style="list-style-type: none"> • Bonding (ionic and covalent) • Nomenclature <p>PS.M.5: Reactions of matter</p> <ul style="list-style-type: none"> • Chemical reactions • Nuclear reactions 	<p>PS.EW.1: Conservation of energy</p> <ul style="list-style-type: none"> •Quantifying kinetic energy •Quantifying gravitational potential energy <p>PS.EW.2: Transfer and transformation of energy (including work)</p> <p>PS.EW.3: Waves</p> <ul style="list-style-type: none"> •Refraction, reflection, diffraction, absorption, superposition •Radiant energy and the electromagnetic spectrum •Doppler shift <p>PS.EW.4: Thermal energy</p> <p>PS.EW.5: Electricity</p> <ul style="list-style-type: none"> •Movement of electrons •Current •Electric potential (voltage) •Resistors and transfer of energy 	<p>PS.FM.1: Motion</p> <ul style="list-style-type: none"> •Introduction to one-dimensional vectors •Displacement, velocity (constant, average and instantaneous) and acceleration •Interpreting position vs. time and velocity vs. time graphs <p>PS.FM.2: Forces</p> <ul style="list-style-type: none"> •Force diagrams •Types of forces (gravity, friction, normal, tension) •Field model for forces at a distance <p>PS.FM.3: Dynamics (how forces affect motion)</p> <ul style="list-style-type: none"> •Objects at rest •Objects moving with constant velocity •Accelerating objects 	<p>PS.U.1: History of the universe</p> <p>PS.U.2: Galaxies</p> <p>PS.U.3: Stars</p> <ul style="list-style-type: none"> •Formation: stages of evolution •Fusion in stars
Resources	McGraw Hill ODE Model Curriculum	McGraw Hill ODE Model Curriculum	McGraw Hill ODE Model Curriculum	McGraw Hill ODE Model Curriculum

Vocabulary				
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Quarter(s) 1-4

During the years of 9-12, all students must become proficient in the use of the following scientific processes, with appropriate laboratory safety techniques, to construct their knowledge and understanding in all science content areas:

SIA1 Identify questions and concepts that guide scientific investigations.

SIA2 Design and conduct scientific investigations.

SIA3 Use technology and mathematics to improve investigations and communications.

SIA4 Formulate and revise explanations and models using logic and evidence (critical thinking).

SIA5 Recognize and analyze explanations and models.

SIA6 Communicate and support a scientific argument.

WHCSD Scope and Sequence

Physical Science

2021-2022