

MARLBORO CENTRAL SCHOOL DISTRICT-CURRICULUM MAP

Subject Science

Grade 7

Title or Topics (Unit organizing idea)	Concepts (understandings)	Skills (What students actually do)	Major Assessments (Tests, projects, etc.)	Time Frame (Number of weeks)
<u>September</u> Scientific Thinking and Communicating	Inquiry Skills- Observing Inferring Problem Solving Scientific Method	- Identify the difference between observation and inference - Identify and apply the steps of the scientific method	- Formative and Summative Assessments - Project – Experimental Design - Various activities	
<u>October</u> Scientific Thinking and Communicating	Metric measurement- Density Volume Mass Temperature Linear Graphing	- Proper use of the triple beam balance - Find the volume of regular and irregular solids as well as liquids - Metric conversions - Creating and interpreting graphs from	- Formative and Summative Assessments - Project – Experimental Design - Various activities	
<u>November</u> Properties and Changes of Matter	Matter Physical and Chemical properties Law of conservation of Mass Elements, Compounds and Mixtures Kinetic Molecular Theory	- Classifying matter - Identify physical & characteristic properties of matter and explain their uses - Compare mixtures & pure substances - Compare the particle motion in solids, liquids and gasses	- Formative and Summative Assessments - Project – States of matter brochure - Various activities	
<u>December</u>	Atomic Theory Structure of an atom Elements & atomic symbols The Periodic Table Chemical bonding – ionic & covalent	- Identify atoms as the smallest parts of an atom - Explain that chemical bonds are what hold atoms together in molecules - Define valence electrons & tell how they are related to the periodic table - List information in the periodic table and describe how it is organized	- Formative and Summative Assessments - Project – Element advertisement for the class, wall size periodic table	

Title or Topics (Unit organizing idea)	Concepts (understandings)	Skills (What students actually do)	Major Assessments (Tests, projects, etc.)	Time Frame (Number of weeks)
<u>January</u> Energy and Motion	Relative Motion Graphing Motion Acceleration Inertia/Mass	<ul style="list-style-type: none"> - Describe how reactivity of elements changes across the periodic table - Explain when an object is in motion & how motion is relative to a reference point - Calculate an object's velocity - Interpret and create motion graphs 	<ul style="list-style-type: none"> - Various activities - Formative and Summative Assessments - Project – Writing/Graphing assignment - Various activities 	
<u>February</u> Energy and Motion	Balanced and Unbalanced Forces Force, Mass and Acceleration Action/Reaction	<ul style="list-style-type: none"> - Explain how balanced and unbalanced forces are related to motion - State Newton's Three Laws of Motion and use them to explain the motion involved in everyday activities - Describe friction & identify the factors that determine the friction force between two surfaces 	<ul style="list-style-type: none"> - Formative and Summative Assessments - Project – The Physics of Sports - Various activities 	
<u>March</u> Energy and Motion	Friction and Gravity Law of Universal Gravitation Orbiting Satellites	<ul style="list-style-type: none"> - Describe the effects of gravity and air resistance of an object in free fall - Describing the forces that keep satellites in orbit 	<ul style="list-style-type: none"> - Formative and Summative Assessments - Project – The Physics of Sports (ongoing) - Various activities 	
<u>April</u> Work and Machines	Work Mechanical Advantage Mechanical Efficiency Simple Machines Complex Machines	<ul style="list-style-type: none"> - Identify and calculate work - Explain how machines make work easier - Define and design a complex machine 	<ul style="list-style-type: none"> - Formative and Summative Assessments - Project – Design a Rube Goldberg inspired machine - Various activities 	
<u>May and June</u> Energy Changes and Transformation Into or Out of Systems	Kinetic and Potential Energy Energy Transfers Law of Conservation of Energy Particle Motion Heat Flow – Warm to Cold equilibrium Heat transfer – radiation, conduction & convection	<ul style="list-style-type: none"> - Describe the relationship between work and energy - Define and calculate potential and kinetic energy - List different forms of energy - Identify and describe conversions from one type of energy to another - State the law of conservation of energy 	<ul style="list-style-type: none"> - Formative and Summative Assessments - Project – Egg Drop - Project – Alternative Energy Resource Presentation - Various activities 	

	Wave motion Electromagnetic Spectrum			
June				