

MARLBORO CENTRAL SCHOOL DISTRICT-CURRICULUM MAP

Subject: Science

Grade: 8

Title or Topics (Unit organizing idea)	Concepts (understandings)	Skills (What students actually do)	Major Assessments (Tests, projects, etc.)	Time Frame (Number of weeks)
<p><u>September</u></p> <p>Introduction to Science</p> <p>Living Things</p>	<ul style="list-style-type: none"> - Scientific Inquiry - Tools of the Scientist - Metric System - Characteristics and Needs of Living things 	<ul style="list-style-type: none"> - Learn how to observe and infer - Study data - Understand the tools of a scientist and the tools involved 	<p>Tests, Handouts, and Activities</p>	
<p><u>October</u></p> <p>Living Things (con't.)</p>	<ul style="list-style-type: none"> - Cell Theory - Spontaneous Generation - Organelles - Plant vs Animal Cells - Cell, tissue, organ, system 	<ul style="list-style-type: none"> - Create a list of characteristics of living things - Label cells - Know function of cell organelles - Distinguish between plant and animal cells 	<p>Tests, Handouts, and Activities Common Task</p>	
<p><u>November</u></p> <p>Microscope</p> <p>Cell Environment</p>	<ul style="list-style-type: none"> - Microscope parts and functions - Diffusion - Osmosis - Active Transport 	<ul style="list-style-type: none"> - Label microscope parts - Work with microscope - Know the difference between diffusion and osmosis 	<p>Tests, Handouts, Worksheets, and Activities</p>	
<p><u>December</u></p> <p>Cell Processes</p> <p>Cell Division</p>	<ul style="list-style-type: none"> - Photosynthesis - Respiration - Mitosis - Cancer 	<ul style="list-style-type: none"> - Know the relationship between respiration and photosynthesis - Know the stages of mitosis - Discuss cancer and how it affects us 	<p>Tests, Handouts, Worksheets, Activities, and Concept Maps</p>	

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<u>January</u> Mendelian Genetics	<ul style="list-style-type: none"> - Inheritance - Mendelian Genetics - Dominant and Recessive - Punnett Squares - Codominance - Hybrid 	<ul style="list-style-type: none"> - Learn how to determine between dominant and recessive traits - Complete a Punnett square - Principles of Probability - Learn phenotypes and genotypes 	Tests, Handouts, Graphic Organizers, Worksheets, and Activities	
<u>February</u> Modern Genetics	<ul style="list-style-type: none"> - Genes - Alleles - Pedigrees - Human Genetic Disorders - Selective Breeding - Genetic Engineering 	<ul style="list-style-type: none"> - Learn blood types - Sex determination - Complete pedigree chart (family tree) - Learn various genetic disorders in humans - Learn how organisms are created genetically 	Tests, Handouts, Graphic Organizers, Worksheets, and Activities	
<u>March</u> Darwinism	<ul style="list-style-type: none"> - Variations and Evolution - Natural selection - Evolution in Action - Fossil Record - Geologic Time Scale - Evolutionary Relationships 	<ul style="list-style-type: none"> - Discuss and explain Darwin's voyage - Understand the similarities and differences among organisms - Understand how adaptations lead to evolution through the process of natural selection - Fossil Age Identification Methods - Understand the family branching tree 	Tests, Handouts, Worksheets, Activities, and Concept Maps	
<u>April</u> Ecology	<ul style="list-style-type: none"> - Energy & food pyramids - Species>population>communities>ecosystems - Symbiotic relationships 	<ul style="list-style-type: none"> - Understand energy relationships among organisms - Understand nutritional relationships among organisms - Understand survival and extinction 	Tests, Handouts, Worksheets, Activities, and Concept Maps	
<u>May</u>	<ul style="list-style-type: none"> - Competition for resources - Causes of extinction 	<ul style="list-style-type: none"> - Understand the use of fossil fuels and their impact on the environment 	Tests, Handouts, Worksheets, Activities, and Concept Maps	

Human Impact on the Environment	<ul style="list-style-type: none"> - Pollution of the environment - Protecting Earth's resources 	<ul style="list-style-type: none"> - Discuss various forms of alternative energy - Understand the relationship between conservation and the future of our planet - Recycling and its impact on the environment 		
<u>June</u> Review				