

Washington Township School District

STEM/Makerspace Curriculum

Grade:	5	Mystery Science Unit/Project Title:	Mystery Science: Space STEM: Magnetic Field Lines
NJ Learning Standard(s):	5-ESS1-1, 5-ESS1-2		
Objective:	Students will analyze space weather and/or how Earth’s magnetosphere protects us.		
STEM/ Unit Activities	Magnetic Field Lines		
Suggested Assessments:	<ul style="list-style-type: none"> • Science Hypothesis Lab Sheet (teacher created and shared) • Q&A • Lab Work • Tests 		
Supplies Needed:	<ul style="list-style-type: none"> • “Magnetic Fields” Hypothesis Lab Sheet per student (teacher created and shared) • A kit of objects per group, including items such as a plastic cup, Styrofoam cup, aluminum foil, paper, felt, wood blocks, paper clips, staples, copper penny, brass brad (paper fastener) and bobby pins. Note: the actual materials are not important. It is critical that there be a variety of non-metals, ferrous metals and non-ferrous metals. • Two (bar) magnets for each student group • Sealable plastic sandwich bag per group • 3x5-inch index card per group • One teaspoon iron fillings per group (inside the zip-sealed bag) • Extra paper per group 		
Resources to Support Unit:	http://web.csulb.edu/~lhenriqu/Magnets.pdf		

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Grade:	5	Mystery Science Unit/Project Title:	Mystery Science: Sun & Space STEM: "Let's Get Sun Baking"
NJ Learning Standard(s):	5-ESS1-1. 5-ESS1-2		
Objective:	SWBAT: <ul style="list-style-type: none"> • Analyze how to tap into solar energy for everyday purposes • Examine how solar energy is conducted 		
STEM/ Unit Activities	Let's Get Sun Baking		
Suggested Assessments:	<ul style="list-style-type: none"> • Lab work • Lab Journal or Lab Packet • Unit Test (incorporate questions into Mystery Science Unit Test) 		
Supplies Needed:	<ul style="list-style-type: none"> • Cardboard pizza box (the kind delivered pizza comes in) • Box knife or scissors • Aluminum foil • Clear tape • Plastic wrap (a heavy-duty or freezer zip lock bag will also work) • Black construction paper • Newspapers • Ruler, or wooden spoon • Thermometer 		
Resources to Support Unit:	https://www.homesciencetools.com/a/build-a-solar-oven-project		

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Grade:	5	Mystery Science Unit/Project Title:	Mystery Science: Earth and Space STEM: Gravitational Pull of Two Balls with Different Mass
NJ Learning Standard(s):	5-ESS1-1. 5-ESS1-2		
Objective:	Students will examine whether a heavier object (mass) has a different gravitational pull than a lighter object (mass)		
STEM/ Unit Activities	Gravitational Pull		
Suggested Assessments:	<ul style="list-style-type: none"> • Hypothesis packet • Lab work • Quiz 		
Supplies Needed:	Two or more balls (soccer or basketball) with different weights		
Resources to Support Unit:	Lesson: https://youtu.be/ mCC-68LyZM Image on Law of Gravity https://www.pinterest.com/pin/196258496240320168/ Writing tie in: https://www.pinterest.com/pin/196258496240312992/		

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Grade:	5	Mystery Science Unit/Project Title:	Mystery Science: Space STEM: Engineering a Telescope
NJ Learning Standard(s):	5-ESS1-1. 5-ESS1-2		
Objective:	Students will engineer a workable telescope and examine the advancements made in space exploration/knowledge.		
STEM/ Unit Activities	Engineering a Telescope		
Suggested Assessments:	<ul style="list-style-type: none"> • Science Journals • Q&A • Lab Work • Tests 		
Supplies Needed:	<ul style="list-style-type: none"> • 2 lenses (Two magnifying glasses - the first should have a large diameter and less magnifying power - 2X or 3X. The second should have small diameter and large magnifying power - 6X or 8X, the larger the better.) • Hot glue gun • Thick black paper • Black tape (any kind) 		
Resources to Support Unit:	http://www.instructables.com/id/How-to-make-a-Telescope/ https://sunearthday.nasa.gov/2007/materials/magnetic_field_lines.pdf		