

UBD Unit Design Template

Time Frame: 8-10 weeks	Unit Title: Physics Topics	Course Name: Physical Science
Stage 1: Desired Results		
Established Goal(s)	Transferable Skills	
<u>Enduring Understandings</u> NGSS HS-PS2-1 Forces and Interaction HS-PS2-2 Forces and Interaction HS-PS2-4 Forces and Interaction HS-PS2-5 Forces and Interaction HS-PS3-2 Energy HS-PS3-3 Energy HS-PS3-5 Energy NJrSrHS Competencies Patterns Energy and Matter in Systems Cause and Effect	Students will be able to independently use their learning to... Build a simple circuit Interpret and draw circuit diagrams Measure and calculate to understand the relationship between math and physics Understand how the forces of motion affect objects on the microscopic and macroscopic scale Understand the relationship between electricity and magnetism Describe the relationship between magnetism and the earth Utilize the engineering process	
	Meaning	
	<u>Understandings</u> Students will understand... That electricity and magnetism are two sides of the same coin. The arrangement of electrons dictates a substances magnetism Magnets are needs for technology and power generation That phenomena in physics can be predicted and represented with math. Newton's Laws of Motion apply universally	<u>Essential Questions</u> ● Where does electricity come from? ● How are electricity and magnetism related? ● What makes a substance magnetic? ● How is math used as a tool in physics? ● How can I make electricity do what I want? ● What is the relationship between the forces?
	Acquisition	
	21st Century Skills Problem solving Perseverance Data interpretation Data Analysis Scientific Literacy	

	<p>Students will know...</p> <ul style="list-style-type: none"> ● Circuits ● Ohm's Law ● Faraday's Law ● Coulomb's Law ● Magnetism ● Electricity ● Power generation ● Newton's Laws of Motion 	<p>Students will be able to...</p> <ul style="list-style-type: none"> ● Build a simple breadboard circuit ● Calculate Ohm's law ● Demonstrate Faraday's Law ● Explain what magnets are ● Build a device to generate a small amount of electricity ● Create a device that decreases the force on an object
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