

Day of Week	Date	Skill	Plan
M	12/1/2014	Written objectives located at bottom of lesson plan Unit: Energy and Work All Psc. All Ess? All UQ All CQ All	Entry: List one of each Type of machine studied. Give an example of that you use daily. Include how the machine makes your life easier. Review: Review Energy and Work TEST/Quiz: Discuss: Review study guide and calculations practice. 1/2 time class, 1/2 time small groups. Look for misconceptions during observations. DEMOS: Classwork/Homework:
T	12/2/2014	Unit: Electricity & Magnetism Psc. 3.2.1-2 U Q- 1 CQ 1	Entry: Silent study time Review: TEST/Quiz: Energy and Work Test Discuss: Intro to Waves presentation -types, parts, calculations Classwork/Homework: Demo: mini lab or demo of waves: water, Slinky, etc. Waves problems, [If time] Project: Following test Read about waves and begin study guide
W	12/3/2014	Unit Electricity & Magnetism Psc. 3.2.1-4 U Q- 2,3 CQ 2,3	Entry: Review Homework: Quiz/Test: Discuss: Wave behavior & sound -presentation includes: reflection, refraction, diffraction, interference. Harmonics, Dopler effect, Sonar, Radar, Wave interference Mini lab or observations. Classwork/Homework: Wave Problems
H	12/4/2013	Unit: Energy Psc. 3.2.1-4 EQ: UQ 3 CQ 3	Entry: Review: Quiz/Test: Discuss: Classwork/Homework: http://phet.colorado.edu/sims/wave-on-a-string/wave-on-a-string_en.html LAB: Wave on a string simulation & interference simulation on line.

F	12/5/2013	Entry: Homework: Quiz/Test: Waves Discuss: Static Electricity and current electricity
Club Day	Unit: Energy Psc. 3.3.1 Ess? 1,2 UQ 1,2 CQ 1,2	Classwork/Homework: Charge and Electricity study guide and problems

Psc.3.1 Understand types of energy, conservation of energy and energy transfer.

Energy: Conservation and Transfer

PSc.3.1.1 Explain thermal energy and its transfer.

PSc.3.1.2 Explain the law of conservation of energy in a mechanical system in terms of kinetic energy, potential energy and heat.

PSc.3.1.3 Explain work in terms of the relationship among the applied force to an object, the resulting displacement of the object, and the energy transferred to an object.

PSc.3.1.4 Explain the relationship among work, power and simple machines both qualitatively and quantitatively.

Essential Questions

- 1 Why is energy so important to us?
- 2 What would the world be like without machines?
- 3 How are waves important in our everyday lives?

Unit Questions

- 1 Why is energy conservation so important?
- 2 What are the different types of energy and how does energy transfer work?
- 3 Why is there no such thing as a 100% efficient machine?
- 4 What is the relationship between work, power and energy?
- 5 What exactly is a wave and what does it need to do what it does?
- 6 What are the different types of waves?
- 7 What are the different characteristics of waves?

Content Questions

- 1 What are some ways to conserve energy?
- 2 What are the differences between Kinetic and potential energy?
- 3 How do you solve for work, power and energy?
- 4 How do you solve for machine efficiency?
- 5 What are the similarities between the 2 main types of waves?
- 6 What are the differences/similarities between light and sound?
- 7 What are the differences between reflection, refraction, diffraction, and interference?

Waves

PSc.3.2 Understand the nature of waves.

Psc.3.2.1 Explain the relationships among wave frequency, wave period, wave velocity, amplitude, and

PSc.3.2.2 Compare waves (mechanical, electromagnetic, and surface) using their characteristics.

PSc.3.2.3 Classify waves as transverse or compressional (longitudinal).

PSc.3.2.4 Illustrate the wave interactions of reflection, refraction, diffraction, and interference.

EQ	How are waves important in our everyday lives?
Unit Questions	<ol style="list-style-type: none">1 What exactly is a wave and what does it need to do what it does?2 What are the different types of waves?3 What are the different characteristics of waves?
Content Questions	<ol style="list-style-type: none">1 What are the similarities between the 2 main types of waves?2 What are the differences/similarities between light and sound?3 What are the differences between reflection, refraction, diffraction, and interference?
Electricity & Magnetism	Psc.3.3 Understand electricity and magnetism and their relationship. PSc.3.3.1 Summarize static and current electricity. PSc.3.3.2 Explain simple series and parallel DC circuits in terms of Ohm's law. PSc.3.3.3 Explain how current is affected by changes in composition, length, temperature, and diameter of wire. PSc.3.3.4 Explain magnetism in terms of domains, interactions of poles, and magnetic fields. PSc.3.3.5 Explain the practical application of magnetism.
Essential Questions	What would the world be like without electricity and magnets?
Unit Questions	<ol style="list-style-type: none">1 What are the differences between static and current electricity?2 What are the equations used for current electricity?3 What are the conceptual and mathematical differences between series and parallel circuits?4 What are the characteristics of magnetism?5 What is the relationship between electricity and magnetism?
Content Questions	<ol style="list-style-type: none">1 How do you solve for voltage, current, and resistance using Ohm's law?2 What are some factors that affect the current through a circuit?3 How do you solve for series circuits? Parallel circuits?4 How do magnetic domains behave?5 How do electricity and magnetism work together in generators and motors?

wavelength through calculation and investigation.

