

Southern Regional High School
Manahawkin, New Jersey
Course Syllabus

Department: Science

Course: CP Physics

Marking Period 1

Topics/Units to be covered:

- Classroom Expectations/Grading
- Lab Safety
- Choose coordinate systems for motion problems
- Differentiate between scalar and vector quantities.
- Define a displacement vector and determine a time interval.
- Relate the direction and magnitude of velocity and acceleration vectors to the motion of objects.
- List and apply Newton's Laws
- Recognize that friction is often disregarded.
- Identify static and kinetic friction.
- Determine the direction of frictional forces.
- Apply the law of conservation of momentum.
- Differentiate between mass and weight.
- Calculate the coefficient of friction.
- Create pictorial and physical models for solving motion problems.

- Quarterly

Marking Period 2

Topics/Units to be covered:

- Predict the range of a projectile
- Relate seasons to the angle of Earth's rotational axis.
- Accurately launch projectiles to a predetermined range.
- Describe how air resistance and aerodynamics influence trajectory.
- Identify forces acting on an object at terminal
- Define and calculate impulse.
- Calculate mechanical, potential and kinetic energy.
- Apply the law of conservation of energy.
- Calculate efficiency of a system.
- Identify simple machines
- List manifestations of lost energy in a system

- Quarterly

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Marking Period 3

Topics/Units to be covered:

- Diagram electric and magnetic fields
 - Predict forces between charged objects and magnetic poles.
 - Build series and parallel electrical circuits
 - Describe conditions for flow of charge.
 - Describe the magnetic field of the Earth.
 - Use Ohm's law to calculate variables for a simple circuit.
 - Differentiate between AC and DC.
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- Quarterly

Marking Period 4

Topics/Units to be covered:

- Differentiate longitudinal, transverse, and surface waves.
 - Differentiate between mechanical and electromagnetic waves.
 - Identify a standing wave and its applications.
 - Explain causes of hearing loss.
 - Apply Snell's law
 - Describe similarities and differences between E & M waves.
 - Identify the parts of the human eye.
 - Use the law of reflection
 - Draw ray diagrams for mirrors and lenses.
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- Final exam