

INQUIRY

Process Skills

- _____ Conduct systematic controlled experiments to test the hypothesis. **APhys-01**
- _____ Report, display and defend the results of investigations. **APhys-02**

Technological Design

- _____ Build and test different models or simulations of the design solution using suitable materials, tools and technology. **APhys-03**

CONTENT

Physical Science**Measurement**

- _____ Make measurements; construct and interpret graphs; resolve, compose and add vectors and apply basic problem solving solutions. **APhys-04**

Kinematics

- _____ Solve problems with distance, speed, velocity and acceleration of moving objects, including both linear, circular and simple harmonic motion. **APhys-05**

Statics-Linear and Rotational

- _____ Summarize Newton's laws, distinguish between mass and weight, and solve problems using free body diagrams. **APhys-06**

Dynamics-Linear and Rotational

- _____ Solve problems involving the conservation of momentum and angular momentum. **APhys-07**

Mechanical Energy

- _____ Solve problems involving work, energy and power. **APhys-08**

Properties of Matter

- _____ Explain the methods of heat transfer and relate to environmental and energy conservation issues. **APhys-09**

Waves and Modern Physics

- _____ Illustrate reflection, refraction, diffraction and interference of waves; solve problems involving wave speed, frequency and wavelength; and use the Quantum Theory to solve problems involving the photoelectric effect. **APhys-10**

Geometrical Optics

- _____ Use ray tracing techniques to locate images; solve problems using the lens and mirror equations and Snell's law; and solve problems involving interference patterns. **APhys-11**

Electricity and Magnetism

- _____ Relate work, force and energy to electric and magnetic fields and analyze simple direct currents using Ohm's and Kirchoff's laws. **APhys-12**

CONNECTIONS

Science Practices

- _____ Demonstrate correct lab procedures and evaluate the potential sources of error and the validity of scientific claims. **APhys-13**

S/T/S (Science, Technology and Society)

- _____ Identify occupations that require a knowledge of physics. **APhys-14**
- _____ Assess how scientific and technological progress has affected other fields of study, careers, job opportunities and aspects of everyday life. **APhys-15**