

Course Title: Physical Science

Board Approval Date: June, 2010

Credit/Hours: 1 credit

Course Description:

This course focuses on mastery of the PA Academic Standards for Science and Technology. As students progress through this course they will participate in a systematic study of physical science, which includes an introduction to physics and chemistry. This course encourages students to investigate the physical world around them through various laboratory and applied activities. Students will be exposed to concepts regarding the composition, structure, properties and the interaction of matter, as well as motion, forces, momentum, energy, sound and light.

Learning Activities / Modes of Assessment:

Classes:

1. Each class will begin with a brief question and/or application from previous discussions or activities.
2. Introduction and discussion of topics, concepts and applications. Problem solving and review.
3. Applicable laboratory and application activities and/or projects.

Problem Assignments:

1. Assigned questions/problems will come from the textbook and teacher constructed questions and problems.
2. A problem solving process will be emphasized to help find solution to problems that are encountered.

Labs:

1. Two types of labs will be conducted:
 - a. Inquiry labs (Single concept)
 - b. Application and methods labs
2. Data for some of the labs is collected by using Vernier sensors including: motion detectors, temperature probes, light sensors, etc.

Evaluations:

1. A quiz or test will be give at the end of each unit and at the end of the marking period.
2. Each quiz or test will include questions/problems from class work and applications.
3. Labs reports and essays
4. Class participation, homework, projects and activities.

Instructional Resources:

- Primary: Physical Science concepts in Action; Wyssession, Frank, Yancopoulos: Pearson Education, Inc., publishing as Pearson, Prentice Hall, Boston Massachusetts 02116; Copyright 2006.
- Secondary: Teacher constructed activities and labs.

Course Pacing Guide

Course: Physical Science

Course Unit and Topics	Length of Instruction
1. Science Skills	3 periods
2. Properties of Matter	4 periods
3. Structure of Matter and the Periodic Table	10 periods
4. Chemical Bonds and Reactions	12 periods
5. Solutions, Acids, and Bases	12 periods
6. Motion	10 periods
7. Forces and Newton's Laws of Motion	9 periods
8. Work, Power, Energy, and Machines	9 periods
9. Momentum and Collisions	5 periods
10. Properties of Waves and Sound	4 periods
11. Light, Reflection, and Refraction	4 periods