

# Fayette R-III

## FHS- Curriculum Guide for Physical Science

**Fayette R-III Mission: To educate all students to be ethical, successful citizens.**

**Course Description:** Physical science is a freshman level course designed to prepare students for more advanced high school courses. Physical science is the study of fundamental principles in chemistry and physics: matter, mechanics, and energy. This course includes laboratory work utilizing technology including CBL's and Labquests, and performance assessments utilizing the scientific method to help students discover how physical science relates to the world around them. Subjects covered in individual units will include the following:

Scientific Method/Measurement

Motion

Force

Work and Simple Machines

Energy

Electricity and Magnetism

Matter - states of matter, properties of matter, the atom, compounds, chemical bonds, acids and bases

**Course Rationale:** The Science Department of the Fayette School District believes that science is a diverse subject that encompasses many fields of investigation and interests. The primary goals of Fayette science courses are to equip students with an understanding of scientific concepts and principles, to develop students' critical thinking and problem solving skills in a variety of contexts, and to foster students' clear communication of their knowledge with others. We recognize that it is important to teach students methods of using current technology and outside resources to research information and help them make informed decisions for the purpose of better participation in the world around them. To accomplish these goals, students will participate in a variety of instructional activities and will develop information gathering, reading, writing, comprehension, and problem-solving skills both as individuals and as group members.

Physical Science Student Learning Goals	Standard Alignment
1- Students will collect, interpret, analyze and evaluate data using standard units of measurement, components of valid experiments, and technology to make informed scientific decisions.	7-1A.a-g, 7-1B.a-f, 7-1C.a-c SC7, 1.1, 1.2, 1.3, 1.4, 1.6, 1.7, 1.8
2- Students will communicate data and results effectively using lab reports, technology, and proper presentation skills, with an understanding of the importance of using supporting evidence in the scientific community.	7-1E.a-c SC7, 1.8, 4.1, 2.1, 2.2
3- Students will investigate the transformation and conservation of various forms of energy, using Newton's Laws of Motion to explain the interaction of mass and forces to predict changes in motion.	1-2B.a-c, 1-2F.a-d, 2-2D.a-g, 1-2Aa-c,f SC1, SC2, 1.2, 1.3, 1.4, 1.6, 3.4

4- Students will investigate the properties of the principles of forces and motion using measurements to calculate and analyze objects' motion in terms of speed, velocity and acceleration.	2-2Fa-d SC2, 1.2, 1.6, 1.4
5- Students will analyze properties and principles of matter.	1-1A.a-d, 1-1D.a-c, 1-1B.a-c, 1-1Ga, 1-1I.a SC1, 1.2, 1.3, 1.4, 1.6
6- Students will predict properties of elements and outcomes of chemical reactions using the periodic table.	1-1.A.c,d 1-1.E.a-c, , 1-1.F.a-b, 1-1Hc,d SC1, MA4, 1.6, 3.1, 3.5
7- Students will determine magnetic north, compare the magnetic field of bar magnets with that of the earth, and construct electrical circuits.	SC1, SC2, 3.5, 1.2, 1.3

**Resources:** Glencoe Physical Science Textbook  
CBL - Vernier Physical Science, Labquest

**Assessments:** Teacher developed assessments