



Rochester Community Schools

Physical Science Credit By Exam

Preparation for taking the Physical Science exam

GRADE: 9 (Required)

PREREQUISITE: None

Physical Science addresses the Physical Science and Earth Science Expectations of the Michigan Science Standards. Students develop an understanding of the major topics of chemistry and physics; including forces and motion, energy associated with heat, electromagnetic systems, light and sound and energy transformations, matter, changes in matter, energy transfer and conservation. Through a variety of laboratory experiences, students acquire the skills of inquiry and apply their understanding of scientific concepts. .

To prepare for the Credit by Exam (CBE) for this course, you will need to do the following:

The following concepts will be covered on this assessment.

- Structure and Properties of Matter: atomic structure, periodic table and trends, ions, isotopes
- Describing Matter: Elements, Mixtures, Compounds; States of Matter
- Chemical Bonding: Covalent, Ionic, and Metallic bonds; Chemical properties of each type
- Chemical Reactions: Conservation of Matter, Chemical Equations
- Nuclear Processes: Fission, Fusion, and Radioactive Decay
- Electromagnetic Radiation: Properties of waves, how waves travel, areas of EM Spectrum
- Earth's Energy: Importance of seismic waves, earth's layers, thermal convection,
- Motion: Newton's Laws of Motion, Momentum, Forces
- Energy: Potential Energy, Kinetic Energy, Thermal Energy, Conservation of Energy
- Universal Law of Gravity, Kepler's Laws, Earth's Climate & Historical Changes

The following skills/concepts should be understood/reviewed and students will need to apply them within the assessment and their writing task:

- Interpret and analyze data tables and graphs
- Evaluate models of scientific concepts
- Evaluate effectiveness of experimental setups
- Calculate variables associated with concepts (formula sheet will be provided)

On the CBE date, students will be expected to take a Multiple Choice assessment covering the course material as stated above.

Michigan K-12 Science Standards

- HS-PS1-1
- HS-PS1-2
- HS-PS1-3
- HS-PS1-4
- HS-PS1-5
- HS-PS1-6
- HS-PS1-7
- HS-PS1-8
- HS-PS2-6
- HS-PS2-1
- HS-PS2-2
- HS-PS2-3
- HS-PS2-4
- HS-PS2-5
- HS-PS2-6
- HS-PS3-1
- HS-PS3-2
- HS-PS3-3
- HS-PS3-4
- HS-PS3-5
- HS-PS4-1
- HS-PS4-2
- HS-PS4-3
- HS-PS4-4
- HS-PS4-5
- HS-ESS1-1
- HS-ESS1-2
- HS-ESS1-4
- HS-ESS1-5
- HS-ESS1-6
- HS-ESS2-1
- HS-ESS2-2
- HS-ESS2-3
- HS-ESS2-4
- HS-ESS2-5
- HS-ESS3-2
- HS-ESS3-4
- HS-ESS3-6