

**3501.0955 GRADES 9-12 PHYSICS STANDARDS.****Subpart 1. The nature of science and engineering.**

A. Interactions among science, technology, engineering, mathematics, and society. The student will understand that developments in physics affect society and societal concerns affect the field of physics.

B. Interactions among science, technology, engineering, mathematics, and society. The student will understand that physical and mathematical models are used to describe physical systems.

**Subp. 2. Physical science.**

A. Motion. The student will understand that forces and inertia determine the motion of objects.

B. Motion. The student will understand that when objects change their motion or interact with other objects in the absence of frictional forces, the total amount of mechanical energy remains constant.

C. Energy. The student will understand that sound waves are generated from mechanical oscillations of objects and travel through a medium.

D. Energy. The student will understand that electrons respond to electric fields and voltages by moving through electrical circuits and this motion generates magnetic fields.

E. Energy. The student will understand that magnetic and electric fields interact to produce electromagnetic waves.

F. Energy. The student will understand that heat energy is transferred between objects or regions that are at different temperatures by the processes of convection, conduction, and radiation.

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