



Physics

The main intent of science instruction in Davis School District is that students will value and use science as a process of obtaining knowledge based upon observable evidence. The Intended Learning Outcomes (ILOs) describe the skills and attitudes students should learn and demonstrate as a result of science instruction.

Intended Learning Outcomes

1. Use Science Process and Thinking Skills
2. Manifest Scientific Attitudes and Interests
3. Demonstrate Understanding of Science Concepts and Principles
4. Communicate Effectively Using Science Language and Reasoning
5. Demonstrate Awareness of Social and Historical Aspects of Science
6. Demonstrate Understanding of the Nature of Science.

Students will understand how to measure, calculate, and describe the motion of an object in terms of position, time, velocity, and acceleration.

1. Describe the motion of an object in terms of position, time, and velocity.
2. Analyze the motion of an object in terms of velocity, time, and acceleration.
3. Relate the motion of objects to a frame of reference.
4. Use Newton's first law to explain the motion of an object.

Students will understand the relation between force, mass, and acceleration.

1. Analyze forces acting on an object.
2. Using Newton's second law, relate the force, mass, and acceleration of an object.
3. Explain that forces act in pairs as described by Newton's third law.



Students will understand the factors determining the strength of gravitational and electric forces

1. Relate the strength of the gravitational force to the distance between two objects and the mass of the objects (i.e., Newton's law of universal gravitation).
2. Describe the factors that affect the electric force (i.e., Coulomb's law).

Students will understand transfer and conservation of energy.

1. Determine kinetic and potential energy in a system.
2. Describe conservation of energy in terms of systems.
3. Describe common energy transformations and the effect on availability of energy.

Students will understand the properties and applications of waves.

1. Demonstrate an understanding of mechanical waves in terms of general wave properties.
2. Describe the nature of electromagnetic radiation and visible light.