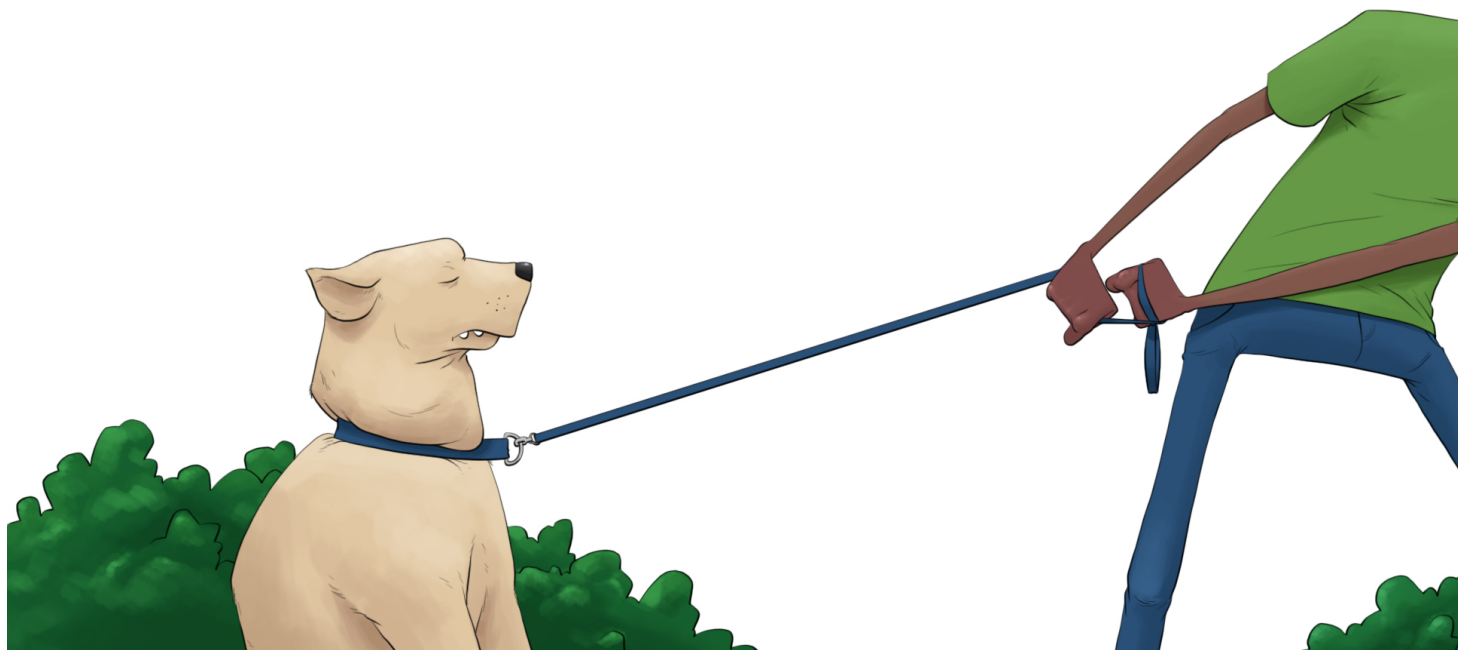


Unit 3 Introduction



Energy

So far you have learned about motion and forces. That's a pretty good introduction to physical science. Motion and forces are related to another very important physical science concept—energy. *Energy is a conserved quantity that an object possesses that has the capability to produce change.* Energy is all around us. The food that we eat contains energy. Electrical energy is used when we plug something into the wall. The sun creates light energy, which is used in many different ways. You could probably list several examples of energy that you use in your daily life. Energy plays a vital role in the world in which we live. This unit contains material on what energy really is and the relationship among motion, forces, and energy.



Video 3.1. Energy

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Learning Outcomes

1. Calculate the work done on an object by analyzing force and displacement.
2. Explain the transformation of energy from one form to another.
3. Identify the total mechanical energy of an object as a combination of its gravitational potential energy, elastic potential energy, and kinetic energy.
4. Solve conservation of energy problems, including situations where energy is dissipated.

