

# Grade 9

## Energy

**1** Predict the resulting motion of a system after applying external forces on the system, including friction (e.g., a book on a table, an object being pushed across a floor, an accelerating car). [SCI.AAS.PS.HS.1](#)

---

**1a** Identify the transformation of potential energy to kinetic energy as an object moves. [SCI.AAS.PS.HS.1A](#)

---

## Waves and Their Applications in Technologies for Information

**2c** Identify different types of waves and the media through which they travel (sound waves traveling through air and water, seismic waves traveling through Earth). [SCI.AAS.PS.HS.2C](#)

---

**2e** Identify common devices that use light or sound waves to transmit information. [SCI.AAS.PS.HS.2E](#)

---

**3** Recognize how magnets and electricity are used in modern products (e.g., speakers, wireless chargers). [SCI.AAS.PS.HS.3](#)

---

**3c** Using an illustration, identify the differences between a simple series circuit and a parallel circuit. [SCI.AAS.PS.HS.3C](#)

---

## Matter and Its Interactions

**4a** Using physical properties, differentiate between metals and nonmetals. [SCI.AAS.PS.HS.4A](#)

---

**5b** Recognize that temperature affects the pressure and volume of a confined gas (e.g., placing a balloon on ice, reducing tire pressure on a cold day). [SCI.AAS.PS.HS.5B](#)

---

**6** Identify the properties of various types of solutions and how they are useful in real-world applications. [SCI.AAS.PS.HS.6](#)

---

**6c** Identify common acids and bases (e.g., bleach, salt, lemon, soap). [SCI.AAS.PS.HS.6C](#)

---

**6d** Differentiate between reactants and products. [SCI.AAS.PS.HS.6D](#)