Grade 5 Science Year At-A-Glance

Theme: Transforming Matter and Energy

Students connect energy and matter and apply their understanding to exploring how the Earth's surface changes.

Quarter 1	**Unit 1: Energy (about 14 days)**	**Unit 2: Matter (about 18 days)**	**Unit 3: Motion (about 18 days)**
Quarter 2	**Unit 4: Energy and Earth's Processes (about 23 days)**	**Begin Unit 5: Electricity (about 16 days)**	
Quarter 3	**Complete Unit 5: Electricity (about 5 days)**	**Unit 6: Sound (about 20 days)**	**Unit 7: Light (about 20 days)**
Quarter 4	**Unit 8: Energy and Matter as Resources (about 18 days)**	**SOL Review and Post SOL Reteaching (about 23 days)**	**Family Life Education (about 5 days)**

Unit guides will be released prior to the start of each quarter.

Note: Science and Engineering Practices (SEPs), SOL 5.1a-f, should be embedded throughout the year rather than taught in isolation.

Quarter 1: August 19 – October 31 (50 days)

Quarter	Unit	Suggested Time	Standards of Learning
Quarter 1	Unit 1: Energy	about 14 days Assessment Window Week of 09/09/24	**5.2 The student will investigate and understand that energy can take many forms. Key ideas include** a) energy is the ability to do work or to cause change; b) there are many different forms of energy; c) energy can be transformed; and d) energy is conserved.
	Unit 2: Matter	about 18 days Assessment Window Week of 09/30/24	**5.7 The student will investigate and understand that matter has properties and interactions. Key ideas include** a) matter is composed of atoms; b) substances can be mixed together without changes in their physical properties; and c) energy has an effect on the phases of matter.
	Unit 3: Motion	about 18 days Assessment Window Week of 10/28/24	**5.3 The student will investigate and understand that there is a relationship between force and energy of moving objects. Key ideas include** a) moving objects have kinetic energy; b) motion is described by an object's direction and speed; c) changes in motion are related to net force and mass; d) when objects collide, the contact forces transfer energy and can change objects' motion; and e) friction is a force that opposes motion.

Quarter 2: November 6 – January 17 (39 Days)

Quarter 2 Unit Guides will be released on October 16, 2024

Quarter	Unit	Suggested Time	Standards of Learning
Quarter 2	**Unit 4: Energy and Earth's Processes**	about 23 days Assessment Window Week of 12/09/24	**5.8 The student will investigate and understand that Earth constantly changes. Key ideas include** a) Earth's internal energy causes movement of material within the Earth; b) plate tectonics describe movement of the crust; c) the rock cycle models the transformation of rocks; d) processes such as weathering, erosion, and deposition change the surface of the Earth; and e) fossils and geologic patterns provide evident of Earth's change.
	Begin Unit 5: Electricity	about 16 days	**5.4 The student will investigate and understand that electricity is transmitted and used in daily life. Key ideas include** a) electricity flows easily through conductors but not insulators; b) electricity flows through closed circuits; c) static electricity can be generated by rubbing certain materials together; d) electrical energy can be transformed into radiant, mechanical, and thermal energy; and e) a current flowing through a wire creates a magnetic field.

Quarter 3: January 23 – March 27 (45 Days)

Quarter 3 Unit Guides will be released on January 2, 2025

Quarter	Unit	Suggested Time	Standards of Learning
Quarter 3	**Complete** Unit 5: Electricity	about 5 days Assessment Window Week of 01/27/25	**5.4 The student will investigate and understand that electricity is transmitted and used in daily life. Key ideas include** a) electricity flows easily through conductors but not insulators; b) electricity flows through closed circuits; c) static electricity can be generated by rubbing certain materials together; d) electrical energy can be transformed into radiant, mechanical, and thermal energy; and e) a current flowing through a wire creates a magnetic field.
	Unit 6: Sound	about 20 days Assessment Window Week of 02/24/25	**5.5 The student will investigate and understand that sound can be produced and transmitted. Key ideas include** a) sound is produced when an object or substance vibrates; b) sound is the transfer of energy; c) different media transmit sound differently; and d) sound waves have many uses and applications.
	Unit 7: Light	about 20 days Assessment Window Week of 03/24/25	**5.6 The student will investigate and understand that visible light has certain characteristics and behaves in predictable ways. Key ideas include** a) visible light is radiant energy that moves in transverse waves; b) the visible spectrum includes light with different wavelengths; c) matter influences the path of light; and d) radiant energy can be transformed into thermal, mechanical, and electrical energy.

Quarter 4: April 1 – June 12 (46 Days)

Quarter 4 Unit Guides will be released on March 11, 2025

Quarter	Unit	Suggested Time	Standards of Learning
Quarter 4	**Unit 8: Energy and Matter as Resources**	about 18 days Assessment Window Week of 04/28/25	**5.9 The student will investigate and understand that the conservation of energy resources is important. Key ideas include** a) some sources of energy are considered renewable and others are not; and b) individuals and communities have means of conserving both energy and matter; and c) advances in technology improve the ability to transfer and transform energy.
	SOL Review and Post SOL Reteaching	about 23 days	
	Family Life Education	about 5 days	