



Week	Title	Standards Covered	
1	Science and Engineering		
2	Scientists and Engineers Use the Five Senses	Nature of Science	
3	You Can be a Scientist or Engineer		
4	The Engineering Design Process	Science and Engineering	
5	Structure and Function	Crosscutting Concepts	
	M	lotion and Stability of Forces (PS2)	
6	Motion		
7	What is a Push?	K.PS2.1 Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	
8	What is a Pull?	strengths of different directions of pushes and pulls on the motion of all object.	
9	Engineering: Push and Pull	K.PS2.2 Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or pull.	
10	Measurement and Data	Nature of Science	
	From Molecules to Organisms: Structure and Function (LS1)		
11	Living and Nonliving Things	Nature of Science	
12	Plants Have Needs		
13	Animals Have Needs	K.LS1.1 Use observations to describe patterns of what plants and animals	
14	Humans Have Needs	(including humans) need to survive.	
15	Engineering: Needs		
		Earth Systems (ESS2)	
16	Cause and Effect	Crosscutting Concepts	
17	Plants Change the Environment		
18	Animals Change the Environment	K.ESS2.2 Construct an argument supported by evidence for how plants and	
19	Humans Change the Environment	animals (including humans) can change the environment to meet their needs.	
20	Engineering: Change		

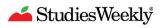




Week	Title	Standards Covered	
	Earth and Human Activity (ESS3)		
21	Models	Nature of Science	
22	Food chains	K.ESS3.1 Use a model to represent the relationship between the needs of	
23	Habitats	different plants or animals (including humans) and the places they live.	
24	Engineering: Protect a Habitat	Covers grade 1 standard 1.ESS3.1	
	Energy (PS3)		
25	Patterns	Crosscutting Concepts	
26	The Sun	K.PS3.1 Make observations to determine the effect of sunlight on Earth's	
27	Sun Protection	surface.	
28	Engineering: Sun Protection	K.PS3.2 Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.	
	Earth Systems (ESS2)		
29	What is Weather?	K.ESS2.1 Use and share observations of local weather conditions to describe	
30	Weather Has Patterns	patterns over time.	
Earth and Human Activity (ESS3)			
31	Severe Weather	K.ESS3.2 Ask questions to understand the purpose of weather forecasting to	
32	Engineering: Weather	prepare for and respond to severe weather.	



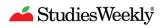
Week	Title	Standards Covered
1	Science and Engineering	
2	You Can Be a Scientist or Engineer!	Nature of Science
3	Teamwork	
4	Patterns	Crosscutting Concepts
5	The Engineering Design Process	Science and Engineering
6	Cause and Effect	Crosscutting Concepts
	Waves and Their App	lications in Technologies for Information Transfer (PS4)
7	What is Sound?	1.PS4.1 Plan and conduct investigations to provide evidence that vibrating
8	Features of Sound	materials can make sound and that sound can make materials vibrate.
9	What is Light?	1.PS4.2 Make observations to construct an evidence-based account that
10	Sources of Light	objects can be seen only when illuminated.
11	Light On Materials	1.PS4.3 Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.
12	Sound and Light	1.PS4.4 Use tools and materials to design and build a device that uses light or
13	Engineering: Sound and Light	sound to solve the problem of communicating over a distance.
	From Molecu	lles to Organisms: Structure and Function (LS1)
14	Structure and Function	Crosscutting Concept
15	Animals Have Parts That Help Them	
16	Animals Live In Many Places	
17	Plants Have Parts That Help Them	1.LS1.1 Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.
18	Plants Live In Many Places	and meet their needs.
19	Engineering: Animals & Plants	
20	Models	Nature of Science
21	Animal Offspring	1.LS1.2 Obtain information from media and/or text to determine patterns in the behavior of parents and offspring that help offspring survive.
22	Plant Offspring	



Week	Title	Standards Covered	
	Heredity: Inheritance and Variation of Traits (LS3)		
23	Animals and their Offspring		
24	Plants and their Offspring	1.LS3.1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.	
25	Engineering: Learning from Offspring		
	Earth's Place in the Universe (ESS1)		
26	Measurement and Data	Nature of Science	
27	Objects in Space		
28	Daytime Sky	1.ESS1.1 Use observations of the sun, moon, and stars to describe patterns	
29	Nighttime Sky	that can be predicted.	
30	Phases of the Moon		
31	Seasons	1 FCC1 2 Make absorvations at different times of year to relate the arrayint of	
32	Engineering Design: Sundial	1.ESS1.2 Make observations at different times of year to relate the amount of daylight and relative temperature to the time of year.	

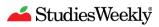


Week	Title	Standards Covered	
1	What is Science? What is Engineering?		
2	How Scientists and Engineers Think and Act	Nature of Science	
3	Working Together		
4	Engineering Design Process	Science and Engineering	
5	Crosscutting Concepts	Crosscutting Concepts	
6	Measurement and Data	Nature of Science	
		Matter and Its Interactions (PS1)	
7	States of Matter		
8	Properties of Matter		
9	Investigating Matter: Part 1	2.PS1.1 Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.	
10	Investigating Matter: Part 2		
11	Engineering Design: Catapults	2.PS1.2 Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for the intended purpose.	
12	Assembly and Disassembly	2.PS1.3 Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.	
13	Changes in States of Matter	2.PS1.4 Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.	
	Ecosystems: Interactions, Energy and Dynamics (LS2)		
14	Germination and Plant Growth	2.LS2.1 Plan and conduct an investigation to determine if plants need sunlight and water to grow.	
15	Plant Parts and Functions		
16	Pollination	2.LS2.2 Develop a simple model that mimics the function of an animal in	
17	Seed Dispersal	dispersing seeds or pollinating plants.	
18	Engineering Design: Seed Dispersal or Pollination		





Week	Title	Standards Covered	
	Biological Unity and Diversity (LS4)		
19	Rainforest and Temperate Forest Habitats	2.LS4.1 Make observations of plants and animals to compare the diversity of life in different habitats.	
20	Tundra, Grassland, and Desert Habitats		
21	Saltwater and Freshwater Habitats		
22	Human Impacts on Habitats	This week is optional	
	E	Earth's Place in the Universe (ESS1)	
23	Earth's Surface Changes Quickly	2.ESS1.1 Use information from several sources to provide evidence that Earth	
24	Earth's Surface Changes Slowly	events can occur quickly or slowly.	
	Earth's Systems (ESS2)		
25	Natural Disaster Safeguards		
26	Engineering Design: Protection Against Flooding	2.ESS2.1 Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.	
27	Engineering Design: Protection Against High Winds		
28	Landforms	2.ESS2.2 Develop a model to represent the shapes and kind of land and bodies	
29	Bodies of Water	of water in an area.	
30	Water Cycle		
31	Engineering Design: My Community's Landforms and Bodies of Water	2.ESS2.3 Obtain information to identify where water is found on Earth and that it can be solid or liquid.	
32	Weather	This week is optional	





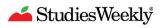
Week	Title	Standards Covered
1	Who Are Scientists and Engineers?	Nature of Science
2	Big Ideas of Science and Engineering	Crosscutting Concepts
3	Measurement and Data	Nature of Science
4	Engineering Design Process	Science and Engineering
	Motion a	and Stability: Forces and Interactions (PS2)
5	Forces	3.PS2.1 Plan and conduct investigations on the effects of balanced and unbalanced forces on the motion of an object.
6	Patterns in Forces	
7	Engineering Design: Why do I move when the car stops?	3.PS2.2 Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.
8	Magnetic Forces	3.PS2.3 Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.
9	Electromagnets	
10	Electric Forces	3.PS2.4 Define a simple design problem that can be solved by applying
11	Engineering Design: Magnetic and Electric Forces	scientific ideas about magnets.
	Ecosystems: Interactions, Energy, and Dynamics (LS2)	
12	Surviving in a Group	3.LS2.1 Construct an argument that some animals form groups that help members survive.
	Biological Unity and Diversity (LS4)	
13	Fossils	3.LS4.1 Analyze and interpret data from fossils to provide evidence of the
14	Clues from the Past	organisms and the environments in which they lived long ago.
15	Organisms in their Habitats	3.LS4.3 Construct an argument with evidence that in a particular habitat some
16	Engineering Design: The Big Mix up	organisms can survive well, some survive less well, and some cannot survive at all.
17	Changing Ecosystems	
18	People and the Ocean	3.LS4.4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there
19	Engineering Design: Water Collection	may change.



Week	Title	Standards Covered	
From Molecules to Organisms: Structure and Function (LS1)			
20	Life Cycles	3.LS1.1 Develop and use models to describe that organisms have unique and diverse life cycles but all have a common pattern of birth, growth, reproduction, and death.	
	Heredity	r: Inheritance and Variation of Traits (LS3)	
21	Inheriting Traits	3.LS3.1 Analyze and interpret data to provide evidence that plants and animals	
22	Families	have traits inherited from parents and that variation of these traits exists in a group of similar organisms.	
23	Adaptations		
24	Are an Organism's Traits Influenced by the Environment?	3.LS3.2 Use evidence to support the explanation that traits can be influenced by the environment.	
	Biological Unity and Diversity (LS4)		
25	Variation Helps Organisms Survive	3.LS4.2 Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving and reproducing.	
	Earth's Systems (ESS2)		
26	What Will the Weather Be Today?	3.ESS2.1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.	
27	Weather vs Climate	3.ESS2.2 Obtain and combine information to describe climates in different regions of the world.	
		Earth and Human Activity (ESS3)	
28	Weather Hazards	3.ESS3.1 Make a claim about the merit of a design solution that reduces the	
29	Engineering Design: Can We Control the Weather?	impacts of a weather-related hazard.	
30	Matter		
31	What is Energy?	These weeks are optional	
32	Engineering Design: Heat Transfer		

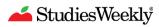


Week	Title	Standards Covered
1	Measurement	
2	Data and Graphing	Nature of Science
3	Engineering Design Process	Science and Engineering
4	Crosscutting Concepts	Crosscutting Concepts
5	Mindsets	Nature of Science
		Energy (PS3)
6	Sound Energy	4.PS3.1 Use evidence to construct an explanation relating the speed of an
7	Let's Play Ball!	object to the energy of that object.
8	Law of Conservation of Energy	4.PS3.2 Make observations to provide evidence that energy can be transferred
9	Electricity	from place to place by sound, light, heat, and electric currents.
10	The Energy of Collision	4.PS3.3 Ask questions and predict outcomes about the changes in energy that occur when objects collide.
11	Types of Energy	4 DOS 4 Annih animatica idan ata darimata and arcan adarimata adarimata and arcan adarimata adar
12	Engineering Design: Rube Goldberg Machine	4.PS3.4 Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.
		Earth and Human Activity (ESS3)
13	Nonrenewable Energy	4.ESS3.1. Obtain and combine information to describe that energy and fuels are derived from renewable and non-renewable resources and how their uses
14	Renewable Energy	affect the environment.
	Waves and Their Appl	ications in Technologies for Information Transfer (PS4)
15	What Causes Changes in the Wavelength of a Wave?	4.PS4.1 Develop and use a model of waves to describe patterns in terms of
16	How Much Energy is in a Wave?	amplitude and wavelength, and to show that waves can cause objects to move.
17	Transferring Data	4.PS4.3 Generate and compare multiple solutions that use patterns to transfer information.
18	The Science of Eyesight	4.PS4.2 Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.
19	Phases of the Moon	entering the eye allows objects to be seen.



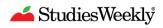


Week	Title	Standards Covered	
	From Molecules to Organisms: Structure and Processes (LS1)		
20	What Is So Special About Leaves?	4.LS1.1 Construct an argument that plants and animals have internal and	
21	Biodiversity	external structures that function to support survival, growth, behavior, and	
22	Engineering Design: Hermit Crabs	reproduction.	
23	Animal Senses	4.LS1.2 Use a model to describe that animals receive different types of	
24	The Five Senses	information through their senses, process the information in their brain, and	
25	Adaptation	respond to the information in different ways.	
	Earth's Place in the Universe (ESS1)		
26	What is a Fossil?	4.ESS1.1 Identify evidence from patterns in rock formations and fossils in rock	
27	The Rock Cycle	layers to support an explanation for changes in a landscape over time.	
		Earth's Systems (ESS2)	
28	Weathering and Erosion	4.ESS2.1 Plan and conduct investigations on the effects of water, ice, wind, and vegetation on the relative rate of weathering and erosion.	
29	Maps are Models	4.ESS2.2 Analyze and interpret data from maps to describe patterns of Earth's	
30	Volcanoes	features.	
Earth and Human Activity (ESS3)			
31	Engineering Design: Natural Disasters	4.ESS3.2 Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.	
32	Stopping the Impact!	natural Lattii processes on numans.	





Week	Title	Standards Covered	
1	Metric System and Measurement	Nature of Science	
2	Crosscutting Concepts	Crosscutting Concepts	
3	Engineering Design Process	Science and Engineering	
		Matter and Its Interactions (PS1)	
4	What is Matter?	5.PS1.1 Develop a model to describe that matter is made of particles too small to be seen.	
5	States of Matter	5.PS1.2 Measure and graph quantities to provide evidence that regardless of	
6	Law of Conservation of Mass	the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.	
7	Properties of Matter - Part 1	5.PS1.3 Make observations and measurements to identify materials based on	
8	Properties of Matter - Part 2	their properties.	
9	Engineering Design: Fixing Potholes	5.PS1.4 Conduct an investigation to determine whether the mixing of two or more substances results in new substances.	
		Energy (PS3)	
10	Matter Flow in Ecosystems	5.PS3.1 Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.	
	From Molecules to Organisms: Structure and Processes (LS1)		
11	Photosynthesis	5.LS1.1 Support an argument that plants get the materials they need for	
12	Plants	growth chiefly from air and water.	
	Ecosysten	ns: Interactions, Energy, and Dynamics (LS2)	
13	Invasive Species	5.LS2.1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	
14	The Carbon Connection	5.LS2.2 Use models to explain factors that upset the stability to local ecosystems.	
Earth's Systems (ESS2)			
15	Hydrosphere		
16	Geosphere		
17	Atmosphere	5.ESS2.1 Develop a model to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	
18	Biosphere		





Week	Title	Standards Covered	
19	Engineering Design: Building Dams		
20	Types of Water	5.ESS2.2 Describe and graph amounts of saltwater and freshwater in various	
21	The Role of Water	reservoirs to provide evidence about the distribution of water on Earth.	
		Earth and Human Activity (ESS3)	
22	Engineering Design: Oil Spill		
23	Protecting the Earth	5.ESS3.1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environments.	
24	Engineering Design: Landfills	use science ideas to protect the Lattis resources and environments.	
	Motion and Stability: Forces and Interactions (PS2)		
25	What is Gravity?		
26	Gravity in Space	5.PS2.1 Support an argument, with evidence, that Earth's gravitational force	
27	Engineering Design: Mission to Mars	pulls objects downward toward the center of the earth.	
	E	Earth's Place in the Universe (ESS1)	
28	What is a Star?	5.ESS1.1 Support an argument with evidence that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.	
29	Shadows	F F004 0 D	
30	The Earth	5.ESS1.2 Represent data in graphical displays to reveal patterns of daily changes in the length and direction of shadows, in addition to different	
31	The Moon	positions of the sun, moon, and stars at different times of the day, month, and year.	
32	The Seasons		