

SCIENCE

4th Nine Weeks: Scope and Sequence

<p style="text-align: center;">Content Standards 8th Grade</p>	<p style="text-align: center;">Dates Taught</p>	<p style="text-align: center;">% of Students scoring over 70%</p>	<p style="text-align: center;">Dates Re-taught (Optional)</p>	<p style="text-align: center;">Formative and Summative Assessments/ (Any Additional Comments Optional)</p>
<p>Content Standard 8: Identify Newton’s three laws of motion.</p>				
<p>Defining terminology such as action and reaction forces, inertia, acceleration, momentum, and friction.</p>				
<p>Interpreting distance-time graphs.</p>				
<p>Content Standard 9: Describe how mechanical advantages of simple machines reduce the amount of force needed for work.</p>				
<p>Describing the effect of force on pressure in fluids Example: increasing force on fluid leading to increase of pressure within a hydraulic cylinder</p>				
<p>Content Standard 12: Classify waves as mechanical or electromagnetic.</p>				
<p>Examples: mechanical—earthquake waves Electromagnetic—ultraviolet waves, visible light waves</p>				
<p>Describing how earthquake waves, sound waves, water waves, and electromagnetic waves can be destructive or beneficial due to the transfer of energy.</p>				
<p>Describing longitudinal and transverse waves</p>				
<p>Describing how waves travel through different media</p>				
<p>Relating wavelength, frequency, and amplitude to energy</p>				
<p>Describing the electromagnetic spectrum in terms of frequencies Example: electromagnetic spectrum in increasing frequencies—microwaves, infrared light, visible light, ultraviolet light, X-rays</p>				

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<p>Content Standard 5: Identify major differences between plants and animals, including internal structures, external structures, methods of locomotion, methods of reproduction, and stages of development.</p>				
<p>Describing the processes of photosynthesis and cellular respiration.</p>				
<p>Identify differences in internal cellular structures like chloroplasts and cell walls, external structures, methods of locomotion, sexual and asexual methods of reproduction, and stages of development.</p>				
<p>Content Standard 6: Describe evidence of species variation due to climate, changing landforms, interspecies interaction, and genetic mutation.</p>				
<p>Examples: fossils records over geologic time, rapid bacterial mutations due to environmental pressures.</p>				
<p>Describe evidence of species variation due to climate in the cases of the snowshoe rabbit and arctic fox.</p>				
<p>Describe evidence of species variation due to geographic isolations such as a population becoming separated by a mountain range, an island breaking off from a mainland as in the case of Australia, or when a river separates a population as in the case of the Grand Canyon squirrel populations.</p>				
<p>Describe evidence of species variation due to interspecies interaction by recognizing the roles of parasitism, mutualism, and commensalism.</p>				
<p>Recognize that genetic mutation leads to diversity within a species when can lead to speciation.</p>				

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<p>Content Standard 7: Describe biotic and abiotic factors in the environment.</p>				
<p>Examples: biotic—plants, animals; abiotic—climate, water, soil</p>				
<p>Classifying organisms as autotrophs or heterotrophs.</p>				
<p>Arranging the sequence of energy flow in an ecosystem through food webs, food chains, and energy pyramids.</p>				
<p>Describe biotic factors and recognize examples. are from item specifications</p>				
<p>Describe abiotic factors and recognize examples.</p>				

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<p>Content Standard 7: Describe Earth’s biomes.</p>				
<p>Examples: aquatic biomes, grasslands, deserts, chaparrals, taigas, tundras</p>				
<p>Identifying geographic factors that cause diversity in flora and fauna, including elevation, location, and climate</p>				
<p>Content Standard 8: Describe how Earth’s rotation, Earth’s axial tilt, and distance from the equator cause variations in the heating and cooling of various locations on Earth.</p>				
<p>Content Standard 9: Identify the moon’s phases</p>				
<p>Describing lunar and solar eclipses</p>				
<p>Relating effects of the moon’s positions on oceanic tides</p>				
<p>Content Standard 10: Describe components of the universe and their relationships to each other, including stars, planets and their moons, solar systems, and galaxies.</p>				
<p>Identifying the impact of space exploration on innovations in technology <i>Examples: MRI, microwave, satellite imagery, GPS</i></p>				
<p>Mapping season changes in locations of constellations in the night sky</p>				
<p>Describing the life cycle of a star <i>Example: H-R diagram</i></p>				

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Content Standards 6th Grade	Dates Taught	% of Students scoring over 70%	Dates Re-taught (Optional)	Formative and Summative Assessments/ (Any Additional Comments Optional)
Content Standard 11: Describe units used to measure distance in space, including astronomical units and light years.				

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<p style="text-align: center;">Content Standards 5th Grade</p>	<p style="text-align: center;">Dates Taught</p>	<p style="text-align: center;">% of Students scoring over 70%</p>	<p style="text-align: center;">Dates Re-taught (Optional)</p>	<p style="text-align: center;">Formative and Summative Assessments/ (Any Additional Comments Optional)</p>
LIFE SCIENCE				
<p>Content Standard 8: Identify major body systems and their functions, including the circulatory system, respiratory system, excretory system, and reproductive system.</p>				
<p>Content Standard 9: Describe the relationship of populations of a habitat to various communities and ecosystems.</p>				
<p>Describing the relationship between food chains and food webs</p>				
<p>Describing symbiotic relationships</p>				

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Content Standards 4th Grade	Dates Taught	% of Students scoring over 70%	Dates Re-taught (Optional)	Formative and Summative Assessments/ (Any Additional Comments Optional)
PHYSICAL SCIENCE				
Content Standard 2: Compare different pitches of sound produced by changing the size, tension, amount, or type of vibrating material.				
Describing the relationship between the structure of the ear and hearing				
Content Standard 3: Recognize how light interacts with transparent, translucent, and opaque materials.				
Examples: transparent – most light passes through, Translucent-some light passes through, Opaque-no light passes through				
Predicting the reflection or absorption of light by various objects				
EARTH AND SPACE SCIENCE				
Content Standard 9: Describe the appearance and movement of Earth and its Moon				
Identifying the waxing and waning of the moon in the night sky				
Identifying lunar and solar eclipses				

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<p style="text-align: center;">Content Standards 3rd Grade</p>	<p style="text-align: center;">Dates Taught</p>	<p style="text-align: center;">% of Students scoring over 70%</p>	<p style="text-align: center;">Dates Re-taught (Optional)</p>	<p style="text-align: center;">Formative and Summative Assessments/ (Any Additional Comments Optional)</p>
<p>Content Standard 6: Identify structures and functions of the muscular and skeletal systems of the human body.</p>				
<p>Content Standard 7: Describe the life cycles of plants, including seed, seed germination, growth, and reproduction.</p>				
<p>Describing the role of plants in a food chain</p>				
<p>Identifying plant and animal cells</p>				
<p>Describing how plants occupy space and use light, nutrients, water, and air</p>				
<p>Classifying plants according to their features <i>Examples:</i> evergreen or deciduous, flowering or nonflowering</p>				
<p>Identifying helpful and harmful effects of plants <i>Examples:</i> helpful – provide food, control erosion; harmful – cause allergic reactions, produce poisons</p>				
<p>Identifying how bees pollinate flowers</p>				
<p>Identifying photosynthesis as the method used by plants to produce food</p>				

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<p style="text-align: center;">Content Standards 1st Grade</p>	<p style="text-align: center;">Dates Taught</p>	<p style="text-align: center;">% of Students scoring over 70%</p>	<p style="text-align: center;">Dates Re-taught (Optional)</p>	<p style="text-align: center;">Formative and Summative Assessments/ (Any Additional Comments Optional)</p>
PHYSICAL SCIENCE				
<p>Content Standard 1: Select appropriate tools and technological resources needed to gather, analyze, and interpret data.</p>				
<p><i>Examples:</i> platform balances, hand lenses, computers, maps, graphs, journals</p>				
<p>Content Standard 2: Identify basic properties of objects.</p>				
<p><i>Examples:</i> size, shape, color, texture</p>				
LIFE SCIENCE				
<p>Content Standard 5: Identify parts of the human body, including head, neck, shoulders, arms, spine, and legs.</p>				
<p>Recognizing the importance of a balanced diet for healthy bones</p>				
<p>Discussing the relationship of muscles and bones to locomotion</p>				
<p>Discussing the relationship of bones to protection of vital organs <i>Examples:</i> protection of brain by skull</p>				
<p>Identifying technology used by scientists to study the human body <i>Examples:</i> X-ray images, magnetic resonance imaging (MRI)</p>				

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Content Standards KINDERGARTEN	Dates Taught	% of Students scoring over 70%	Dates Re-taught (Optional)	Formative and Summative Assessments/ (Any Additional Comments Optional)
PHYSICAL SCIENCE				
Content Standard 2: Identify the sun as Earth’s source of light and heat.				
Predicting the effect of the sun on living and nonliving things				
Identifying relationships between light and shadows				
Predicting the occurrence of shadows				
Content Standard 4: Identify properties of motion, including change of position and change of speed.				
Content Standard 5: Predict whether an object will be attracted by a magnet.				