

<p align="center"><b>Colorado Academic Standards with Extended Evidence Outcomes Alternate Assessment (CoAlt) Science Grade 5</b></p>	<p align="center"><b>Approximate % of Score Points</b></p>	<p align="center"><b>Approximate Score Points</b></p>
<b>1 Physical Science</b>	16%	12
<p><b>1. Mixtures of matter can be separated regardless of how they were created; all weight and mass of the mixture are the same as the sum of weight and mass of its parts</b></p>		
<p>I. Separate simple mixtures based on physical properties</p>		
<p>II. Demonstrate that the weight of a mixture of solid objects before and after it is separated into parts is the same</p>		
<b>2 Life Science</b>	42%	30
<p><b>1. All organisms have structures and systems with separate functions</b></p>		
<p>I. Compare and contrast physical characteristics in plants and animals (plant/plant, animal/animal)</p>		
<p>II. Sort animals by observable characteristics based on a given group (birds, reptiles, insects and mammals)</p>		
<p>III. Identify how living organisms attain basic needs for survival</p>		
<p><b>2. Human body systems have basic structures, functions, and needs</b></p>		
<p>I. Identify the function of the main internal organs of the body</p>		
<p>II. Describe ways to maintain a healthy body</p>		
<b>3 Earth Systems Science</b>	42%	30
<p><b>1. Earth and sun provide a diversity of renewable and nonrenewable resources</b></p>		
<p>I. Identify Earth's resources (water, wind, and some fossil fuels such as coal, gas, solar)</p>		
<p>II. Identify ways to conserve resources (turn off lights, turn off water when brushing teeth)</p>		
<p>III. Distinguish between renewable and nonrenewable resources</p>		
<p><b>2. Earth's surface changes constantly through a variety of processes and forces</b></p>		
<p>I. Identify features of the Earth's surface (river, lakes, beaches, mountains, desert)</p>		
<p>II. Match Earth's materials to land forms (sand to beaches, rocks to mountains)</p>		
<p>III. Identify forces that can change the Earth's surface (erosion, deposition, climate, and human activity)</p>		
<p><b>3. Weather conditions change because of the uneven heating of Earth's surface by the Sun's energy. Weather changes are measured by differences in temperature, air pressure, wind, and water in the atmosphere and type of precipitation</b></p>		
<p>I. Make and record daily qualitative observations about the weather (temperature, wind, precipitation)</p>		
<p>II. Identify sources for daily/weekly weather information</p>		
<p>III. Compare forms of precipitation (rain, snow, hail)</p>		
<b>TOTAL</b>	<b>100%</b>	<b>72</b>

<p style="text-align: center;"><b>Colorado Academic Standards with Extended Evidence Outcomes Alternate Assessment (CoAlt) Science Grade 8</b></p>	<p style="text-align: center;"><b>Approximate % of Score Points</b></p>	<p style="text-align: center;"><b>Approximate Score Points</b></p>
<b>1 Physical Science</b>	27%	29
<b>1. Identify and calculate the direction and magnitude of forces that act on an object, and explain the results in the object’s change of motion</b>		
I. Gather and record data about speed of moving objects		
II. Gather and record data about the direction force causes an object to move		
<b>2. There are different forms of energy, and those forms of energy can be changed from one form to another – but total energy is conserved</b>		
I. Select examples of different forms of energy (heat, sound, light, mechanical, and electrical)		
<b>3. Distinguish between physical and chemical changes, noting that mass is conserved during any change</b>		
I. Identify an object/substance as having undergone a chemical or physical change		
II. Identify an object before and after a chemical change or physical change		
<b>4. Recognize that waves such as electromagnetic, sound, seismic, and water have common characteristics and unique properties</b>		
I. Identify sources of waves (e.g. bell, sun, vibration, seismic, water)		
II. Compare and contrast different water or sound waves using amplitude, frequency, wavelength, and speed		
III. Identify materials that absorb, reflect, and refract light		
<b>2 Life Science</b>	27%	29
<b>1. Human activities can deliberately or inadvertently alter ecosystems and their resiliency</b>		
I. Predict the effect of a human activity on a local ecosystem		
<b>2. Organisms reproduce and transmit genetic information (genes) to offspring, which influences individuals’ traits in the next generation</b>		
I. Label the stages of human aging/ maturation (birth, infancy, early childhood, adolescence, adulthood, death)		
II. Identify two human traits that are passed from one generation to the next		
<b>3 Earth Systems Science</b>	46%	50
<b>1. Weather is a result of complex interactions of Earth’s atmosphere, land and water, that are driven by energy from the sun, and can be predicted and described through complex models</b>		
I. Identify severe weather conditions		
II. Follow a simple action plan for severe weather		
III. Compare safe versus unsafe practices during severe weather conditions (blizzards, flood, tornado, lightning)		
<b>2. Earth has a variety of climates defined by average temperature, precipitation, humidity, air pressure, and wind that have changed over time in a particular location</b>		
I. Compare different climates on Earth using characteristics such as temperature, hot/cold, precipitation, rain/snow etc.		
II. Identify tools to measure temperature, wind, and precipitation		
<b>3. The solar system is comprised of various objects that orbit the Sun and are classified based on their characteristics</b>		

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I. Demonstrate that Earth’s rotation causes the Sun to appear differently throughout the day (ex. sunrise, high noon, sunset)				
II. Recognizes that celestial objects have patterns of movement (moon and stars around sun)				
III. Explain why planets’ temperatures are dependent on their proximity to the Sun				
IV. Distinguish between fact and fiction regarding space exploration (e.g. Star Wars vs. factual space exploration)				
<p><b>4. The relative positions and motions of Earth, Moon, and Sun can be used to explain observable effects such as seasons, eclipses, and Moon phases</b></p>				
I. Provide reasoning for the Moon’s appearance during the Moon’s common phases (crescent, half and, full moon)				
<p>II. Conduct an investigation of how the Moon changes appearance during the month (crescent, new, half and, full moon). Not applicable for assessment</p>				
III. Identify the relationship between orientation of the Earth and seasons				
IV. Distinguish features of solar and lunar eclipses				
V. Identify tools to view objects in the sky and space				
<p><b>TOTAL</b></p>			<b>100%</b>	<b>108</b>

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<b>1 Physical Science</b>	27%	30
<b>1. Newton's laws of motion and gravitation describe the relationships among forces acting on and between objects, their masses, and changes in their motion – but have limitations</b>		
I. Gather, record and interpret data about speed and direction of moving objects		
II. Demonstrate that objects with greater mass require greater force to initiate or change movement		
III. Predict action-reaction relationships between moving objects		
<b>2. Matter has definite structure that determines characteristic physical and chemical properties</b>		
I. Gather data and justify grouping of objects or materials based on chemical and physical properties (e.g. melting point, boiling, conductivity)		
II. Demonstrate that different ratios of substances can be combined to create unique mixtures		
III. Explore the relationship between atoms, molecules, elements and compounds		
<b>3. Matter can change form through chemical or nuclear reactions abiding by the laws of conservation of mass and energy</b>		
I. Identify common household products or processes that use chemical reactions		
<b>4. Atoms bond in different ways to form molecules and compounds that have definite properties</b>		
I. Demonstrate how two or more objects can be connected together to create a different product or outcome		
II. Demonstrate that different bonding agents have different properties		
<b>5. Energy exists in many forms such as mechanical, chemical, electrical, radiant, thermal, and nuclear, that can be quantified and experimentally determined</b>		
I. Describe ways in which nonliving objects get energy		
II. Identify a source for each type of energy (heat, sound, light, mechanical, electrical)		
III. Predict types of energy associated with objects (heat, sound, light, mechanical, electrical)		
<b>6. When energy changes form, it is neither created nor destroyed; however, because some is necessarily lost as heat, the amount of energy available to do work decreases</b>		
I. Predict and experiment with energy transformations		
II. Select examples of energy transformations		
<b>2 Life Science</b>	42%	46
<b>1. Matter tends to be cycled within an ecosystem, while energy is transformed and eventually exits an ecosystem</b>		
I. Compare and contrast carnivores, herbivores and omnivores		
<b>2. The size and persistence of populations depend on their interactions with each other and on the abiotic factors in an ecosystem</b>		
I. Compare and contrast positive and/or negative impacts humans have on our ecosystem		
II. Describe what happens when an organisms area is destroyed or disturbed		

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<p><b>3. Cellular metabolic activities are carried out by biomolecules produced by organisms</b></p>		
<p>I. Demonstrate how like cells group together to make a structure</p>		
<p>II. Identify common food sources of fats, carbohydrates and proteins</p>		
<p>III. Explain how lifestyle choices impact the body</p>		
<p><b>4. The energy for life primarily derives from the interrelated processes of photosynthesis and cellular respiration. Photosynthesis transforms the sun's light energy into the chemical energy of molecular bonds. Cellular respiration allows cells to utilize chemical energy when these bonds are</b></p>		
<p>I. Identify chemical reactions within organisms (respiration and digestion ensure survival)</p>		
<p>II. Describe three components in the environment that are necessary for photosynthesis (sunlight, water, nutrients) and what occurs when one component is lacking</p>		
<p><b>5. Cells use the passive and active transport of substances across membranes to maintain relatively stable intracellular environments</b></p>		
<p>I. Identify common symptoms that show when a body system is not functioning properly</p>		
<p>II. Identify the three major components of a plant or animal cell (nucleus, cell membrane/cell wall and cytoplasm)</p>		
<p><b>6. Cells, tissues, organs, and organ systems maintain relatively stable internal environments, even in the face of changing external environments</b></p>		
<p>I. Describe how two organ systems work together to promote health</p>		
<p>II. Identify two or more health decisions influencing organ health</p>		
<p><b>7. Physical and behavioral characteristics of an organism are influenced to varying degrees by heritable genes, many of which encode instructions for the production of proteins</b></p>		
<p>I. Compare and contrast the inheritable traits between parents and their offspring (single allele such as tongue rolling, ear lobes, hitchhikers thumb, widows peak, long second toe)</p>		
<p>II. Identify learned versus instinctual behaviors</p>		
<p><b>8. Multicellularity makes possible a division of labor at the cellular level through the expression of select genes, but not the entire genome</b></p>		
<p>I. Identify environmental toxins that are harmful to humans</p>		
<p><b>9. Evolution occurs as the heritable characteristics of populations change across generations and can lead populations to become better adapted to their environment</b></p>		
<p>I. Identify changes in the environment over time that have driven adaptations of living things</p>		
<p><b>3 Earth Systems Science</b></p>	31%	34
<p><b>1. The history of the universe, solar system and Earth can be inferred from evidence left from past events</b></p>		
<p>I. Identify ways how the Earth has changed over time to accommodate a variety of life forms (sea life, dinosaurs, land animals, mammals)</p>		
<p>II. Identify the Solar System as having formed around the sun</p>		
<p><b>2. As part of the solar system, Earth interacts with various extraterrestrial forces and energies such as gravity, solar phenomena, electromagnetic radiation, and impact events that influence the planet's geosphere, atmosphere, and biosphere in a variety of ways</b></p>		

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I. Identify how aerospace design impacts space travel (e.g. Where you can go on an airplane vs where you can go on a space shuttle)		
II. Describe ways in which basic needs can be met in space compared to needs on Earth (e.g. air, water, heat, food)		
<b>3. The theory of plate tectonics helps to explain geological, physical, and geographical features of Earth</b>		
I. Identify and locate places on Earth where earthquakes and volcanoes occur		
II. Label the layers of the Earth (inner core, core, mantle and crust)		
<b>4. Climate is the result of energy transfer among interactions of the atmosphere, hydrosphere, geosphere, and biosphere</b>		
I. Describe how climate affects humans		
II. Explain how human behavior affect climate		
III. Identify Earth's tilt, seasons, elevation, proximity to oceans as factors that determine a location's climate		
IV. Use tools to measure temperature, wind, precipitation and then analyze information from the sources about climate change		
<b>5. There are costs, benefits, and consequences of exploration, development, and consumption of renewable and nonrenewable resources</b>		
I. Determine the effects of using natural resources		
II. Compare the advantages and disadvantages of renewable and non-renewable resources		
<b>6. The interaction of Earth's surface with water, air, gravity, and biological activity causes physical and chemical changes</b>		
I. Identify the properties of gravity		
II. Investigate how human activity can cause physical and chemical changes in water and air		
<b>7. Natural hazards have local, national and global impacts such as volcanoes, earthquakes, tsunamis, hurricanes, and thunderstorms</b>		
I. Identify impacts of natural hazards (blizzard, tornado, flood, volcanoes, fire and earthquakes)		
II. Select appropriate ways to prepare for natural hazards (blizzards, tornadoes, floods)		
<b>TOTAL</b>	<b>100%</b>	<b>110</b>