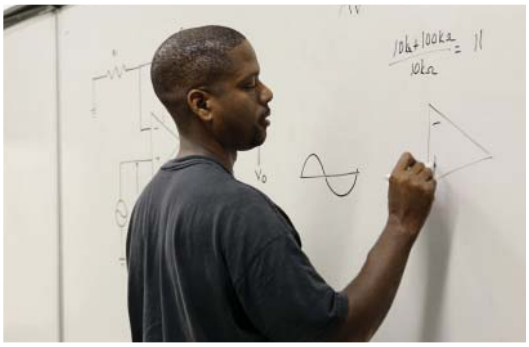
cde Improving Academic Achievement

Colorado Academic STANDARDS

Seventh Grade

Science

Science



Colorado Academic Standards
Science

"Science is facts; just as houses are made of stone, so is science made of facts; but a pile of stones is not a house, and a collection of facts is not necessarily science." *--Jules Henri Poincaré (1854-1912) French mathematician.*

~~~~~~

High expectations in education are essential for the U.S. to continue as a world leader in the 21st century. In order to be successful in postsecondary education, the workforce, and in life, students need a rigorous, age-appropriate set of standards that include finding and gathering information, critical thinking, and reasoning skills to evaluate information, and use information in social and cultural contexts. Students must learn to comprehend and process information, analyze and draw conclusions, and apply the results to everyday life.

A quality science education embodies 21st century skills and postsecondary and workforce readiness by teaching students critical skills and thought processes to meet the challenges of today's world. Scientifically literate graduates will help to ensure Colorado's economic vitality by encouraging the development of research and technology, managing and preserving our environmental treasures, and caring for the health and well-being of our citizens.

Science is both a body of knowledge that represents the current understanding of natural systems, and the process whereby that body of knowledge has been established and is continually extended, refined, and revised. Because science is both the knowledge of the natural world and the processes that have established this knowledge, science education must address both of these aspects.

At a time when pseudo-scientific ideas and outright fraud are becoming more common place, developing the skepticism and critical thinking skills of science gives students vital skills needed to make informed decisions about their health, the environment, and other scientific issues facing society. A major aspect of science is the continual interpretation of evidence. All scientific ideas constantly are being challenged by new evidence and are evolving to fit the new evidence. Students must understand the collaborative social processes that guide these changes so they can reason through and think critically about popular scientific information, and draw valid conclusions based on evidence, which often is limited. Imbedded in the cognitive process, students learn and apply the social and cultural skills expected of all citizens in school and in the workplace. For example, during class activities, laboratory exercises, and projects, students learn and practice self-discipline, collaboration, and working in groups.

The Colorado Academic Standards in science represent what all Colorado students should know and be able to do in science as a result of their preschool through twelfth-grade science education. Specific expectations are given for students who complete each grade from preschool through eighth grade and for high school. These standards outline the essential level of science content knowledge and the application of the skills needed by all Colorado citizens to participate productively in our increasingly global, information-driven society.
~~~~~~

Standards Organization and Construction

As the subcommittee began the revision process to improve the existing standards, it became evident that the way the standards information was organized, defined, and constructed needed to change from the existing documents. The new design is intended to provide more clarity and direction for teachers, and to show how 21st century skills and the elements of school readiness and postsecondary and workforce readiness indicators give depth and context to essential learning.

The "Continuum of State Standards Definitions" section that follows shows the hierarchical order of the standards components. The "Standards Template" section demonstrates how this continuum is put into practice.

The elements of the revised standards are:

Prepared Graduate Competencies: The preschool through twelfth-grade concepts and skills that all students who complete the Colorado education system must master to ensure their success in a postsecondary and workforce setting.

Standard: The topical organization of an academic content area.

High School Expectations: The articulation of the concepts and skills of a standard that indicates a student is making progress toward being a prepared graduate. *What do students need to know in high school?*

Grade Level Expectations: The articulation (at each grade level), concepts, and skills of a standard that indicate a student is making progress toward being ready for high school. *What do students need to know from preschool through eighth grade?*

Evidence Outcomes: The indication that a student is meeting an expectation at the mastery level. *How do we know that a student can do it?*

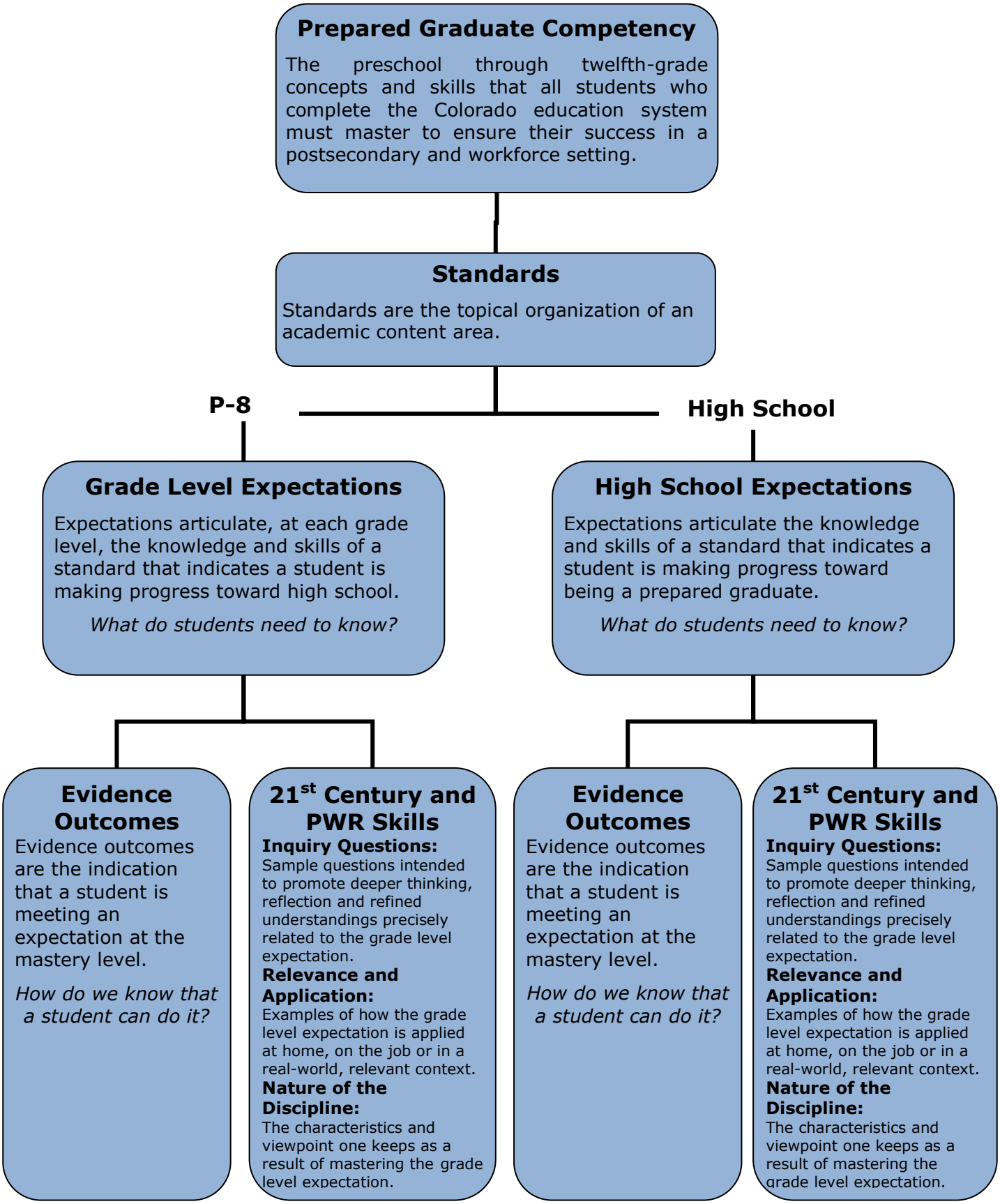
21st Century Skills and Readiness Competencies: Includes the following:

- ***Inquiry Questions:***
  Sample questions are intended to promote deeper thinking, reflection and refined understandings precisely related to the grade level expectation.

- ***Relevance and Application:***
  Examples of how the grade level expectation is applied at home, on the job or in a real-world, relevant context.

- ***Nature of the Discipline:***
  The characteristics and viewpoint one keeps as a result of mastering the grade level expectation.

Continuum of State Standards Definitions



STANDARDS TEMPLATE

Content Area: NAME OF CONTENT AREA

Standard: The topical organization of an academic content area.

Prepared Graduates:

- The preschool through twelfth-grade concepts and skills that all students who complete the Colorado education system must master to ensure their success in a postsecondary and workforce setting.

High School and Grade Level Expectations

Concepts and skills students master:

Grade Level Expectation: High Schools: The articulation of the concepts and skills of a standard that indicates a student is making progress toward being a prepared graduate.

Grade Level Expectations: The articulation, at each grade level, the concepts and skills of a standard that indicates a student is making progress toward being ready for high school.

What do students need to know?

Evidence Outcomes	**21st Century Skills and Readiness Competencies**
Students can: Evidence outcomes are the indication that a student is meeting an expectation at the mastery level. *How do we know that a student can do it?*	**Inquiry Questions:** Sample questions intended to promote deeper thinking, reflection and refined understandings precisely related to the grade level expectation.
	Relevance and Application: Examples of how the grade level expectation is applied at home, on the job or in a real-world, relevant context.
	Nature of the Discipline: The characteristics and viewpoint one keeps as a result of mastering the grade level expectation.

Prepared Graduate Competencies in Science

The preschool through twelfth-grade concepts and skills that all students who complete the Colorado education system must master to ensure their success in a postsecondary and workforce setting.

Prepared Graduates:

- Observe, explain, and predict natural phenomena governed by Newton's laws of motion, acknowledging the limitations of their application to very small or very fast objects
- Apply an understanding of atomic and molecular structure to explain the properties of matter, and predict outcomes of chemical and nuclear reactions
- Apply an understanding that energy exists in various forms, and its transformation and conservation occur in processes that are predictable and measurable
- Analyze the relationship between structure and function in living systems at a variety of organizational levels, and recognize living systems' dependence on natural selection
- Explain and illustrate with examples how living systems interact with the biotic and abiotic environment
- Analyze how various organisms grow, develop, and differentiate during their lifetimes based on an interplay between genetics and their environment
- Explain how biological evolution accounts for the unity and diversity of living organisms
- Describe and interpret how Earth's geologic history and place in space are relevant to our understanding of the processes that have shaped our planet
- Evaluate evidence that Earth's geosphere, atmosphere, hydrosphere, and biosphere interact as a complex system
- Describe how humans are dependent on the diversity of resources provided by Earth and Sun

Standards in Science

Standards are the topical organization of an academic content area. The three standards of science are:

1. **Physical Science**
   Students know and understand common properties, forms, and changes in matter and energy.

2. **Life Science**
   Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment.

3. **Earth Systems Science**
   Students know and understand the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space.

Science
Grade Level Expectations at a Glance

Standard	Grade Level Expectation
Seventh Grade	
1. Physical Science	1. Mixtures of substances can be separated based on their properties such as solubility, boiling points, magnetic properties, and densities
2. Life Science	1. Individual organisms with certain traits are more likely than others to survive and have offspring in a specific environment 2. The human body is composed of atoms, molecules, cells, tissues, organs, and organ systems that have specific functions and interactions 3. Cells are the smallest unit of life that can function independently and perform all the necessary functions of life 4. Photosynthesis and cellular respiration are important processes by which energy is acquired and utilized by organisms 5. Multiple lines of evidence show the evolution of organisms over geologic time
3. Earth Systems Science	1. Major geologic events such as earthquakes, volcanic eruptions, mid-ocean ridges, and mountain formation are associated with plate boundaries and attributed to plate motions 2. Geologic time, history, and changing life forms are indicated by fossils and successive sedimentation, folding, faulting, and uplifting of layers of sedimentary rock

21st Century Skills and Readiness Competencies in Science

Colorado's Description of 21st Century Skills
Colorado's description of 21st century skills is a synthesis of the essential abilities students must apply in our rapidly changing world. Today's students need a repertoire of knowledge and skills that are more diverse, complex, and integrated than any previous generation. These skills do not stand alone in the standards, but are woven into the evidence outcomes, inquiry questions, and application and are within the nature of science. Science inherently demonstrates each of Colorado's 21st century skills, as follows:

Critical Thinking and Reasoning
Science requires students to analyze evidence and draw conclusions based on that evidence. Scientific investigation involves defining problems and designing studies to test hypotheses related to those problems. In science, students must justify and defend scientific explanations and distinguish between correlation and causation.

Information Literacy
Understanding science requires students to research current ideas about the natural world. Students must be able to distinguish fact from opinion and truth from fantasy. Science requires a degree of skepticism because the ideas of science are subject to change. Science students must be able to understand what constitutes reliable sources of information and how to validate those sources. One key to science is understanding that converging different lines of evidence from multiple sources strengthens a scientific conclusion.

Collaboration
Science students must be able to listen to others' ideas, and engage in scientific dialogs that are based on evidence – not opinion. These types of conversations allow them to compare and evaluate the merit of different ideas. The peer review process helps to ensure the validity of scientific explanations.

Self-Direction
Students in science must have persistence and perseverance when exploring scientific concepts. Students must generate their own questions, and design investigations to find the answers. Students must be open to revising and redefining their thinking based on evidence.

Invention
Designing investigations and engineering new products involves a large degree of invention. Scientists and engineers often have to think "outside the box" as they push the limits of our current knowledge. They must learn from their failures to take the next steps in understanding. Science students also must integrate ideas from multiple disciplines to formulate an understanding of the natural world. In addition to using invention to design investigations, scientists also use findings from investigations to help them to invent new products.

Colorado's Description for School Readiness
(Adopted by the State Board of Education, December 2008)
School readiness describes both the preparedness of a child to engage in and benefit from learning experiences, and the ability of a school to meet the needs of all students enrolled in publicly funded preschools or kindergartens. School readiness is enhanced when schools, families, and community service providers work collaboratively to ensure that every child is ready for higher levels of learning in academic content.

Colorado's Description of Postsecondary and Workforce Readiness
(Adopted by the State Board of Education, June 2009)
Postsecondary and workforce readiness describes the knowledge, skills, and behaviors essential for high school graduates to be prepared to enter college and the workforce and to compete in the global economy. The description assumes students have developed consistent intellectual growth throughout their high school career as a result of academic work that is increasingly challenging, engaging, and coherent. Postsecondary education and workforce readiness assumes that students are ready and able to demonstrate the following without the need for remediation: Critical thinking and problem-solving; finding and using information/information technology; creativity and innovation; global and cultural awareness; civic responsibility; work ethic; personal responsibility; communication; and collaboration.

How These Skills and Competencies are Embedded in the Revised Standards
Three themes are used to describe these important skills and competencies and are interwoven throughout the standards: *inquiry questions; relevance and application; and the nature of each discipline.* These competencies should not be thought of stand-alone concepts, but should be integrated throughout the curriculum in all grade levels. Just as it is impossible to teach thinking skills to students without the content to think about, it is equally impossible for students to understand the content of a discipline without grappling with complex questions and the investigation of topics.

Inquiry Questions – Inquiry is a multifaceted process requiring students to think and pursue understanding. Inquiry demands that students (a) engage in an active observation and questioning process; (b) investigate to gather evidence; (c) formulate explanations based on evidence; (d) communicate and justify explanations, and; (e) reflect and refine ideas. Inquiry is more than hands-on activities; it requires students to cognitively wrestle with core concepts as they make sense of new ideas.

Relevance and Application – The hallmark of learning a discipline is the ability to apply the knowledge, skills, and concepts in real-world, relevant contexts. Components of this include solving problems, developing, adapting, and refining solutions for the betterment of society. The application of a discipline, including how technology assists or accelerates the work, enables students to more fully appreciate how the mastery of the grade level expectation matters after formal schooling is complete.

Nature of Discipline – The unique advantage of a discipline is the perspective it gives the mind to see the world and situations differently. The characteristics and viewpoint one keeps as a result of mastering the grade level expectation is the nature of the discipline retained in the mind's eye.

1. Physical Science

Students know and understand common properties, forms and changes in matter and energy.

Prepared Graduates
The preschool through twelfth-grade concepts and skills that all students who complete the Colorado education system must master to ensure their success in a postsecondary and workforce setting.

Prepared Graduate Competencies in the Physical Science standard:

- Observe, explain, and predict natural phenomena governed by Newton's laws of motion, acknowledging the limitations of their application to very small or very fast objects
- Apply an understanding of atomic and molecular structure to explain the properties of matter, and predict outcomes of chemical and nuclear reactions
- Apply an understanding that energy exists in various forms, and its transformation and conservation occur in processes that are predictable and measurable

Content Area: Science
Standard: 1. Physical Science

Prepared Graduates:

- Apply an understanding of atomic and molecular structure to explain the properties of matter, and predict outcomes of chemical and nuclear reactions

Grade Level Expectation: Seventh Grade

Concepts and skills students master:

1. Mixtures of substances can be separated based on their properties such as solubility, boiling points, magnetic properties, and densities

Evidence Outcomes	21st Century Skills and Readiness Competencies
Students can: a. Identify properties of substances in a mixture that could be used to separate those substances from each other (DOK 1) b. Develop and design a scientific investigation to separate the components of a mixture (DOK 2-4)	**Inquiry Questions:** 1. What techniques can be used to separate mixtures of substances based their properties? 2. Which properties are the most useful in trying to separate mixtures of substances? 3. How much difference must there be among the properties of substances for the properties to be useful in separating the substances?
	Relevance and Application: 1. Materials are sorted based on their properties in a variety of applications. For example, water filtration systems rely on the solubility, density, and physical sizes of substances and recycling facilities use the properties of materials to separate substances in single-stream recycling systems. 2. Mining and oil refining processes use properties to separate materials. 3. The kidneys use properties to filter wastes from the blood.
	Nature of Science: 1. Ask testable questions and make a falsifiable hypothesis about using properties in perform separations, and design a method to find an answer. (DOK 2-4) 2. Evaluate and critique experimental procedures designed to separate mixtures. (DOK 2-3) 3. Share experimental data, and respectfully discuss inconsistent results. (DOK 2-3) 4. Describe several ways in which scientists would study mixtures, and suggest ways that this has contributed to our understanding of materials. (DOK 1-2)

2. Life Science

Students know and understand the characteristics and structure of living things, the processes of life and how living things interact with each other and their environment.

Prepared Graduates
The preschool through twelfth-grade concepts and skills that all students who complete the Colorado education system must master to ensure their success in a postsecondary and workforce setting.

Prepared Graduate Competencies in the Life Science standard:

- Analyze the relationship between structure and function in living systems at a variety of organizational levels, and recognize living systems' dependence on natural selection
- Explain and illustrate with examples how living systems interact with the biotic and abiotic environment
- Analyze how various organisms grow, develop, and differentiate during their lifetimes based on an interplay between genetics and their environment
- Explain how biological evolution accounts for the unity and diversity of living organisms

Content Area: Science
Standard: 2. Life Science

Prepared Graduates:

- Explain how biological evolution accounts for the unity and diversity of living organisms

Grade Level Expectation: Seventh Grade

Concepts and skills students master:

1. Individual organisms with certain traits are more likely than others to survive and have offspring in a specific environment

Evidence Outcomes	21st Century Skills and Readiness Competencies
Students can: a. Develop, communicate, and justify an evidence-based explanation for why a given organism with specific traits will or will not survive to have offspring in a given environment (DOK 1-3) b. Analyze and interpret data about specific adaptations to provide evidence and develop claims about differential survival and reproductive success (DOK 1-3) c. Use information and communication technology tools to gather information from credible sources, analyze findings, and draw conclusions to create and justify an evidence-based scientific explanation (DOK 1-2) d. Use computer simulations to model differential survival and reproductive success associated with specific traits in a given environment (DOK 1-2)	**Inquiry Questions:** 1. What is the relationship between an organism's traits and its potential for survival and reproduction? 2. How is the use of the word "adaptation" different in everyday usage than in biology? **Relevance and Application:** 1. Bacteria have evolved to survive in the presence of the environmental pressure of antibiotics – giving rise to antibiotic resistance. 2. Species that can live with humans –such as rats and pigeons – are more common around towns and cities. **Nature of Science:** 1. Create and use sound experimental designs to collect data around survival and genetic traits. (DOK 2-3) 2. Describe several ways in which scientists would study genetics, and suggest ways that this has contributed to our understanding of survival and populations. (DOK 1-2)

Content Area: Science
Standard: 2. Life Science

Prepared Graduates:

- Analyze the relationship between structure and function in living systems at a variety of organizational levels, and recognize living systems' dependence on natural selection

Grade Level Expectation: Seventh Grade

Concepts and skills students master:

2. The human body is composed of atoms, molecules, cells, tissues, organs, and organ systems that have specific functions and interactions

Evidence Outcomes	21st Century Skills and Readiness Competencies
Students can: a. Develop and design a scientific investigation about human body systems (DOK 2-4) b. Develop, communicate, and justify an evidence-based scientific explanation regarding the functions and interactions of the human body (DOK 1-3) c. Gather, analyze, and interpret data and models on the functions and interactions of the human body (DOK 1-3)	**Inquiry Questions:** 1. How does each body system contribute to supporting the life of the organism? 2. How do organs and organ systems in the human body interact to perform specific functions? **Relevance and Application:** 1. There are technologies such as magnetic resonance imaging (MRI), computed tomography (CT) scans, and chemical lab tests that are related to the diagnosis and treatment of the human body's diseases **Nature of Science:** 1. Critically evaluate models, and identify the strengths and weaknesses of the model in representing our understanding of the human body (DOK 2-3)

Content Area: Science
Standard: 2. Life Science

Prepared Graduates:

- Analyze the relationship between structure and function in living systems at a variety of organizational levels, and recognize living systems' dependence on natural selection

Grade Level Expectation: Seventh Grade

Concepts and skills students master:

3. Cells are the smallest unit of life that can function independently and perform all the necessary functions of life

Evidence Outcomes	21st Century Skills and Readiness Competencies
Students can: a. Gather, analyze, and interpret data and models on the different types of cells, their structures, components and functions (DOK 1-2) b. Develop, communicate, and justify an evidence-based scientific explanation regarding cell structures, components, and their specific functions (DOK 1-3) c. Compare and contrast the basic structures and functions of plant cells, animal cells, and single-celled organisms (DOK 2) d. Employ tools to gather, view, analyze, and report results for the scientific investigations of cells (DOK 1-2)	**Inquiry Questions:** 1. How is the basic structure of a cell related to its function? 2. How are the components – or organelles – of a cell related to the cell's function? 3. How are various cells unique, and what do they have in common with other cells?
	Relevance and Application: 1. Stem cells are undifferentiated cells that have potential use in medicine. 2. Cancer is caused by a cell that isn't functioning correctly. 3. Cells can be cultured to benefit humanity.
	Nature of Science: 1. Recognize that our current understanding of cells has developed over centuries of studies by many scientists, and that through continued scientific investigations and advances in data collection, we will continue to refine our understanding of cells.

Content Area: Science
Standard: 2. Life Science

Prepared Graduates:

- Analyze the relationship between structure and function in living systems at a variety of organizational levels, and recognize living systems' dependence on natural selection

Grade Level Expectation: Seventh Grade

Concepts and skills students master:

4. Photosynthesis and cellular respiration are important processes by which energy is acquired and utilized by organisms

Evidence Outcomes	21st Century Skills and Readiness Competencies
Students can: a. Gather, analyze, and interpret data regarding the basic functions of photosynthesis and cellular respiration (DOK 1-2) b. Use direct and indirect evidence to describe the relationship between photosynthesis and cellular respiration within plants – and between plants and animals (DOK 1-2) c. Use computer simulations to model the relationship between photosynthesis and cellular respiration within plants – and between plants and animals (DOK 1-2)	**Inquiry Questions:** 1. What is the relationship between photosynthesis and cellular respiration? 2. What energy transformations occur in both the processes of photosynthesis and cellular respiration?
	Relevance and Application: 1. Plants are essential for human health and the health and survival of Earth's ecosystems. 2. The energy in food comes from Sunlight via photosynthesis and is the basis for most ecosystems on earth. 3. Fossil fuels come from the photosynthesis of organisms that lived millions of years ago.
	Nature of Science: 1. Ask a testable question and make a falsifiable hypothesis about photosynthesis or respiration and design an inquiry based method to find an answer. (DOK 2-4) 2. Design an experiment to observe photosynthesis or respiration, and clearly define controls and variables. (DOK 2-4) 3. Share experimental data, and respectfully discuss conflicting results emulating the practice of scientists. (DOK 2-3)

Content Area: Science
Standard: 2. Life Science

Prepared Graduates:

- Explain how biological evolution accounts for the unity and diversity of living organisms

Grade Level Expectation: Seventh Grade

Concepts and skills students master:

5. Multiple lines of evidence show the evolution of organisms over geologic time

Evidence Outcomes	21st Century Skills and Readiness Competencies
Students can: a. Interpret and analyze data from the fossil record to support a claim that organisms and environments have evolved over time (DOK 1-2) b. Analyze and critique the evidence regarding the causes and effects of a mass extinction event (DOK 2-3) c. Analyze and interpret data that show human evolution (DOK 1-3) d. Use technology to share research findings about the evidence regarding the causes and effects of a mass extinction event (DOK 1-2)	**Inquiry Questions:** 1. What might life on Earth have been like in the distant past, and what evidence is there for this? 2. How does the evidence about the way life has evolved on Earth from long ago tell us about Earth today?
	Relevance and Application: 1. There is growing concern over the current extinction of organisms around the world – and the consequences of these extinctions.
	Nature of Science: 1. Share experimental data, and respectfully discuss conflicting results emulating the practice of scientists. (DOK 2-3) 2. Cite various scientific arguments regarding the causes and effects of mass extinctions. (DOK 1)

3. Earth Systems Science

Students know and understand the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space.

Prepared Graduates:
The preschool through twelfth-grade concepts and skills that all students who complete the Colorado education system must master to ensure their success in a postsecondary and workforce setting.

Prepared Graduate Competencies in the Earth Systems Science standard:

- Describe and interpret how Earth's geologic history and place in space are relevant to our understanding of the processes that have shaped our planet
- Evaluate evidence that Earth's geosphere, atmosphere, hydrosphere, and biosphere interact as a complex system
- Describe how humans are dependent on the diversity of resources provided by Earth and Sun

Content Area: Science
Standard: 3. Earth Systems Science

Prepared Graduates:

- Evaluate evidence that Earth's geosphere, atmosphere, hydrosphere, and biosphere interact as a complex system

Grade Level Expectation: Seventh Grade

Concepts and skills students master:

1. Major geologic events such as earthquakes, volcanic eruptions, mid-ocean ridges, and mountain formation are associated with plate boundaries and attributed to plate motions

Evidence Outcomes	21st Century Skills and Readiness Competencies
Students can: a. Gather, analyze, and communicate data that explains Earth's plates, plate motions, and the results of plate motions (DOK 1-2) b. Identify, interpret, and explain models of plates motions on Earth (DOK 1-3) c. Use maps to locate likely geologic "hot spots", using evidence of earthquakes and volcanic activity (DOK 1-3) d. Use web-based or other technology tools to show connections and patterns in data about tectonic plate boundaries and earthquakes, volcanic eruptions, and mountain formation (DOK 1-2)	**Inquiry Questions:** 1. How can major geologic events be attributed to plate movement? 2. What evidence supports the theory of plate tectonics? 3. What are the effects of plate movement along plate boundaries? **Relevance and Application:** 1. Computer models and simulations help us understand and make informed decisions about major geologic events. 2. Building codes and emergency plans often reflect natural threats in an area. **Nature of Science:** 1. Construct a model to demonstrate how plate movement results in geologic events. (DOK 2-3) 2. Trace the development of a scientific theory using the theory of plate tectonics. (DOK 2-3) 3. Describe the ethical traditions of science: value peer review; truthful reporting of methods and outcomes; making work public; and sharing a lens of professional skepticism when reviewing the work of others. (DOK 1)

Content Area: Science
Standard: 3. Earth Systems Science

Prepared Graduates:

- Describe and interpret how Earth's geologic history and place in space are relevant to our understanding of the processes that have shaped our planet

Grade Level Expectation: Seventh Grade

Concepts and skills students master:

2. Geologic time, history, and changing life forms are indicated by fossils and successive sedimentation, folding, faulting, and uplifting of layers of sedimentary rock

Evidence Outcomes	21st Century Skills and Readiness Competencies
Students can: a. Describe the geologic time scale and why it is used (DOK 1) b. Identify and describe the impact of major geologic events on life on Earth (DOK 1) c. Identify and describe major events in Earth's geologic history (DOK 1) d. Use direct and indirect evidence to determine the sequence of events in geologic time (DOK 1-2)	**Inquiry Questions:** 1. How can we interpret data from layers of rock? 2. What is geologic time?
	Relevance and Application: 1. Knowledge of Earth's structure such as knowing where to mine for gold or drill for oil helps humans locate and extract resources. 2. Dating fossils absolutely and relatively helps assemble the story of the evolution of life on Earth.
	Nature of Science: 1. Ask testable questions and make falsifiable hypotheses on the history of the earth and design a method to find an answer. (DOK 2-4) 2. Describe how scientists study fossils, and suggest ways that understanding fossil evidence contributed to our knowledge about life on Earth over geologic time. (DOK 2-3)

Colorado Department of Education
Office of Standards and Instructional Support
201 East Colfax Ave. • Denver, CO 80203
Science Content Specialist:
XXXXXX (XXXXXX@cde.state.co.us)
http://www.cde.state.co.us/CoScience/StateStandards.asp