## Main Criteria: Colorado Academic Standards (CAS) Secondary Criteria: Virtual Field Trips Subjects: Science, Social Studies Grade: 9 Correlation Options: Show Correlated

## **Colorado Academic Standards (CAS)**

#### Science

Grade: 9 - Adopted: 2009

CONTENT AREA	CO.2.	Life Science
STANDARD	2.1.	Matter tends to be cycled within an ecosystem, while energy is transformed and eventually exits an ecosystem. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.1.a.	Analyze how energy flows through trophic levels
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.1.b.	Evaluate the potential ecological impacts of a plant-based or meat- based diet
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol La Selva Amazonica - Pte 1 (En Espagnol) The Amazon Rainforest - Part 1 - Older Grades
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.1.d.	Develop, communicate, and justify an evidence-based scientific explanation showing how ecosystems follow the laws of conservation of matter and energy
		<u>Virtual Field Trips</u> La Selva Amazonica - Pte 1 (En Espagnol) The Amazon Rainforest - Part 1 - Older Grades The Amazon Rainforest - Part 2 - Older Grades
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.1.e.	Define and distinguish between matter and energy, and how they are cycled or lost through life processes
		<u>Virtual Field Trips</u> La Selva Amazonica - Pte 1 (En Espagnol) The Amazon Rainforest - Part 1 - Older Grades The Amazon Rainforest - Part 2 - Older Grades
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.1.g.	Use computer simulations to analyze how energy flows through trophic levels
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol
CONTENT AREA	CO.2.	Life Science
STANDARD	2.2.	The size and persistence of populations depend on their interactions with each other and on the abiotic factors in an ecosystem. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.2.a.	Analyze and interpret data about the impact of removing keystone species from an ecosystem or introducing non-native species into an ecosystem
		<u>Virtual Field Trips</u> The Amazon Rainforest - Part 2 - Older Grades
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.2.b.	Describe or evaluate communities in terms of primary and secondary succession as they progress over time
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol

CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.2.c.	Evaluate data and assumptions regarding different scenarios for future human population growth and their projected consequences
		Virtual Field Trips
		Galapagos Islands - Espagnol The Amazon Rainforest - Part 2 - Older Grades
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.2.d.	Examine, evaluate, question, and ethically use information from a variety of sources and media to investigate ecosystem interactions
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol The Amazon Rainforest - Part 2 - Older Grades
CONTENT AREA	CO.2.	Life Science
STANDARD	2.4.	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 broken. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.4.b.	Discuss the interdependence of autotrophic and heterotrophic life forms such as depicting the flow of a carbon atom from the atmosphere, to a leaf, through the food chain, and back to the atmosphere
		Virtual Field Trips
		La Selva Amazonica - Pte 1 (En Espagnol)
		The Amazon Rainforest - Part 1 - Older Grades The Amazon Rainforest - Part 2 - Older Grades
CONTENT AREA	CO.2.	Life Science
STANDARD	2.5.	Cells use passive and active transport of substances across membranes to maintain relatively stable intracellular environments. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.5.b.	Compare organisms that live in freshwater and marine environments, and identify the challenges of osmotic regulation for these organisms
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol
CONTENT AREA	CO.2.	Life Science
STANDARD	2.6.	Cells, tissues, organs, and organ systems maintain relatively stable internal environments, even in the face of changing external environments. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.6.a.	Discuss how two or more body systems interact to promote health for the whole organism
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol National Parks West - Nevada, California
CONCEPTS AND SKILLS /	2.6.b.	Analyze and interpret data on homeostatic mechanisms using
EVIDENCE OUTCOMES		direct and indirect evidence to develop and support claims about the effectiveness of feedback loops to maintain homeostasis
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol National Parks West - Nevada, California
CONCEPTS AND SKILLS /	2.6.d.	Use computer simulations and models of homeostatic mechanisms
EVIDENCE OUTCOMES		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol National Parks West - Nevada, California
CONTENT AREA	CO.2.	Life Science

STANDARD	2.9.	Evolution occurs as the heritable characteristics of populations change across generations and can lead populations to become better adapted to their environment. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.9.a.	Develop, communicate, and justify an evidence-based scientific explanation for how Earth's diverse life forms today evolved from common ancestors
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.9.b.	Analyze and interpret multiple lines of evidence supporting the idea that all species are related by common ancestry such as molecular studies, comparative anatomy, biogeography, fossil record and embryology
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.9.c.	Analyze and interpret data suggesting that over geologic time, discrete bursts of rapid genetic changes and gradual changes have resulted in speciation
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.9.d.	Analyze and interpret data on how evolution can be driven by three key components of natural selection - heritability, genetic variation, and differential survival and reproduction
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol
CONTENT AREA	CO.3.	Earth Systems Science
STANDARD	3.1.	The history of the universe, solar system and Earth can be inferred from evidence left from past events. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.1.a.	Develop, communicate, and justify an evidence-based scientific explanation addressing questions about Earth's history <u>Virtual Field Trips</u> Galapagos Islands - Espagnol National Parks - West - Alaska & Hawaii National Parks West - Nevada, California National Parks West - Wyoming, Utah
		National Parks of the Western Region - Part 1
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.1.b.	Analyze and interpret data regarding Earth's history using direct and indirect evidence <u>Virtual Field Trips</u> Galapagos Islands - Espagnol National Parks - West - Alaska & Hawaii National Parks West - Nevada, California National Parks West - Nevada, Clifornia National Parks West - Wyoming, Utah National Parks of the Western Region - Part 1
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.1.d.	Seek, evaluate, and use a variety of specialized resources available from libraries, the Internet, and the community to find scientific information on Earth's history <u>Virtual Field Trips</u> Galapagos Islands - Espagnol National Parks - West - Alaska & Hawaii National Parks West - Nevada, California National Parks West - Wyoming, Utah National Parks of the Western Region - Part 1
CONTENT AREA	CO.3.	Earth Systems Science

STANDARD	3.2.	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. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.2.a.	Develop, communicate, and justify an evidence-based scientific explanation addressing questions around the extraterrestrial forces and energies that influence Earth
		<u>Virtual Field Trips</u> National Parks - West - Alaska & Hawaii
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.2.b.	Analyze and interpret data regarding extraterrestrial forces and energies
		<u>Virtual Field Trips</u> National Parks - West - Alaska & Hawaii
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.2.c.	Clearly identify assumptions behind conclusions regarding extraterrestrial forces and energies and provide feedback on the validity of alternative explanations
		<u>Virtual Field Trips</u> National Parks - West - Alaska & Hawaii
CONTENT AREA	CO.3.	Earth Systems Science
STANDARD	3.3.	The theory of plate tectonics helps explain geological, physical, and geographical features of Earth. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.3.a.	Develop, communicate, and justify an evidence-based scientific explanation about the theory of plate tectonics and how it can be used to understand geological, physical, and geographical features of Earth
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol National Parks - West - Alaska & Hawaii National Parks West - Nevada, California National Parks West - Wyoming, Utah National Parks of the Western Region - Part 1
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.3.b.	Analyze and interpret data on plate tectonics and the geological, physical, and geographical features of Earth
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol
		National Parks West - Nevada, California National Parks West - Wyoming, Utah
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.3.c.	Understand the role plate tectonics has had with respect to long- term global changes in Earth's systems such as continental buildup, glaciations, sea-level fluctuations, and climate change
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol National Parks - West - Alaska & Hawaii
		National Parks West - Nevada, California National Parks West - Wyoming, Utah National Parks of the Western Region - Part 1
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.3.d.	Investigate and explain how new conceptual interpretations of data and innovative geophysical technologies led to the current theory of plate tectonics
		<u>Virtual Field Trips</u> Galapagos Islands - Espagnol National Parks - West - Alaska & Hawaii National Parks West - Nevada, California
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		National Parks West - Wyoming, Utah National Parks of the Western Region - Part 1
CONTENT AREA	CO.3.	Earth Systems Science
STANDARD	3.4.	Climate is the result of energy transfer among interactions of the atmosphere, hydrosphere, geosphere, and biosphere. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.4.a.	Develop, communicate, and justify an evidence-based scientific explanation that shows climate is a result of energy transfer among the atmosphere, hydrosphere, geosphere and biosphere
		<u>Virtual Field Trips</u> La Selva Amazonica - Pte 1 (En Espagnol) National Parks West - Nevada, California The Amazon Rainforest - Part 1 - Older Grades
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.4.b.	Analyze and interpret data on Earth's climate
		<u>Virtual Field Trips</u> La Selva Amazonica - Pte 1 (En Espagnol) National Parks West - Nevada, California The Amazon Rainforest - Part 1 - Older Grades
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.4.c.	Explain how a combination of factors such as Earth's tilt, seasons, geophysical location, proximity to oceans, landmass location, latitude, and elevation determine a location's climate
		<u>Virtual Field Trips</u> La Selva Amazonica - Pte 1 (En Espagnol) National Parks West - Nevada, California The Amazon Rainforest - Part 1 - Older Grades
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.4.d.	Identify mechanisms in the past and present that have changed Earth's climate
		<u>Virtual Field Trips</u> National Parks - West - Alaska & Hawaii National Parks of the Western Region - Part 1
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.4.e.	Analyze the evidence and assumptions regarding climate change Virtual Field Trips
		National Parks - West - Alaska & Hawaii National Parks of the Western Region - Part 1
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.4.f.	Interpret evidence from weather stations, buoys, satellites, radars, ice and ocean sediment cores, tree rings, cave deposits, native knowledge, and other sources in relation to climate change
		<u>Virtual Field Trips</u> National Parks - West - Alaska & Hawaii National Parks of the Western Region - Part 1
CONTENT AREA	CO.3.	Earth Systems Science
STANDARD	3.5.	There are costs, benefits, and consequences of exploration, development, and consumption of renewable and nonrenewable resources. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.5.a.	Develop, communicate, and justify an evidence-based scientific explanation regarding the costs and benefits of exploration, development, and consumption of renewable and nonrenewable resources
		<u>Virtual Field Trips</u> The Amazon Rainforest - Part 2 - Older Grades
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.5.b.	Evaluate positive and negative impacts on the geosphere, atmosphere, hydrosphere, and biosphere in regards to resource use

CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.5.c.	Virtual Field Trips   National Parks - West - Alaska & Hawaii   National Parks West - Nevada, California   The Amazon Rainforest - Part 2 - Older Grades   Create a plan to reduce environmental impacts due to resource consumption <u>Virtual Field Trips</u> National Parks - West - Alaska & Hawaii   National Parks - West - Alaska & Hawaii   National Parks West - Nevada, California   The Amazon Rainforest - Part 2 - Older Grades   Analyze and interpret data about the effect of resource
EVIDENCE OUTCOMES		consumption and development on resource reserves to draw conclusions about sustainable use <u>Virtual Field Trips</u> National Parks West - Nevada, California The Amazon Rainforest - Part 2 - Older Grades
CONTENT AREA	CO.3.	Earth Systems Science
STANDARD	3.6.	The interaction of Earth's surface with water, air, gravity, and biological activity causes physical and chemical changes. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.6.a.	Develop, communicate, and justify an evidence-based scientific explanation addressing questions regarding the interaction of Earth's surface with water, air, gravity, and biological activity <u>Virtual Field Trips</u> Galapagos Islands - Espagnol National Parks - West - Alaska & Hawaii National Parks West - Wyoming, Utah National Parks of the Western Region - Part 1
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.6.b.	Analyze and interpret data, maps, and models concerning the direct and indirect evidence produced by physical and chemical changes that water, air, gravity, and biological activity create <u>Virtual Field Trips</u> Galapagos Islands - Espagnol National Parks - West - Alaska & Hawaii National Parks West - Wyoming, Utah National Parks of the Western Region - Part 1
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.6.c.	Evaluate negative and positive consequences of physical and chemical changes on the geosphere <u>Virtual Field Trips</u> Galapagos Islands - Espagnol National Parks - West - Alaska & Hawaii National Parks West - Wyoming, Utah National Parks of the Western Region - Part 1 The Amazon Rainforest - Part 2 - Older Grades
CONTENT AREA	CO.3.	Earth Systems Science
STANDARD	3.7.	Natural hazards have local, national and global impacts such as volcanoes, earthquakes, tsunamis, hurricanes, and thunderstorms. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	3.7.a.	Develop, communicate, and justify an evidence-based scientific explanation regarding natural hazards, and explain their potential local and global impacts <u>Virtual Field Trips</u> National Parks - West - Alaska & Hawaii National Parks West - Wyoming, Utah

# Colorado Academic Standards (CAS)

#### **Social Studies**

# Grade: 9 - Adopted: 2009

CONTENT AREA	CO.1.	History
STANDARD	1.2.	The key concepts of continuity and change, cause and effect, complexity, unity and diversity over time. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES		United States history (Reconstruction to the present):
EVIDENCE OUTCOMES	1.2.e.	Analyze continuity and change in eras over the course of United States history <u>Virtual Field Trips</u> Washington, DC - Grades 6 - 12
EVIDENCE OUTCOMES	1.2.f.	Investigate causes and effects of significant events in United States history. Topics to include but not limited to WWI, Great Depression, Cold War <u>Virtual Field Trips</u> Washington, DC - Grades 6 - 12
CONTENT AREA	CO.1.	History
STANDARD	1.3.	The significance of ideas as powerful forces throughout history. Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES		World history (both East and West; to include but not be limited to modern world history):
EVIDENCE OUTCOMES	1.3.a.	Discuss the historical development and impact of major world religions and philosophies. Topics to include but not limited to the Enlightenment and modern changes in Christianity, Islam, Judaism, Buddhism and Hinduism <u>Virtual Field Trips</u> Jerusalem - Then and Now (Older Grades)
EVIDENCE OUTCOMES	1.3.c.	Evaluate the historical development and impact of political thought, theory and actions <u>Virtual Field Trips</u> Washington, DC - Grades 6 - 12
CONTENT AREA	CO.2.	Geography
STANDARD	2.1.	Use different types of maps and geographic tools to analyze features on Earth to investigate and solve geographic questions . Students can:
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	2.1.d.	Locate physical and human features and evaluate their implications for society <u>Virtual Field Trips</u> Barcelona - English Barcelona - Espagnol La Selva Amazonica - Pte 1 (En Espagnol) National Parks - West - Alaska & Hawaii National Parks West - Nevada, California National Parks West - Nevada, California National Parks West - Wyoming, Utah National Parks of the Western Region - Part 1 Paris - City of Light - Grades 6 - 12 Paris - La Ville Lumiere (En Francais) The Amazon Rainforest - Part 1 - Older Grades The Amazon Rainforest - Part 2 - Older Grades
CONTENT AREA	CO.4.	Civics
STANDARD	4.2.	Purposes of and limitations on the foundations, structures and functions of government. Students can:

CONCEPTS AND SKILLS / EVIDENCE OUTCOMES	4.2.f.	Analyze how court decisions, legislative debates, and various and diverse groups have helped to preserve, develop, and interpret the rights and ideals of the American system of government
		Virtual Field Trips
		Washington, DC - Grades 6 - 12

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