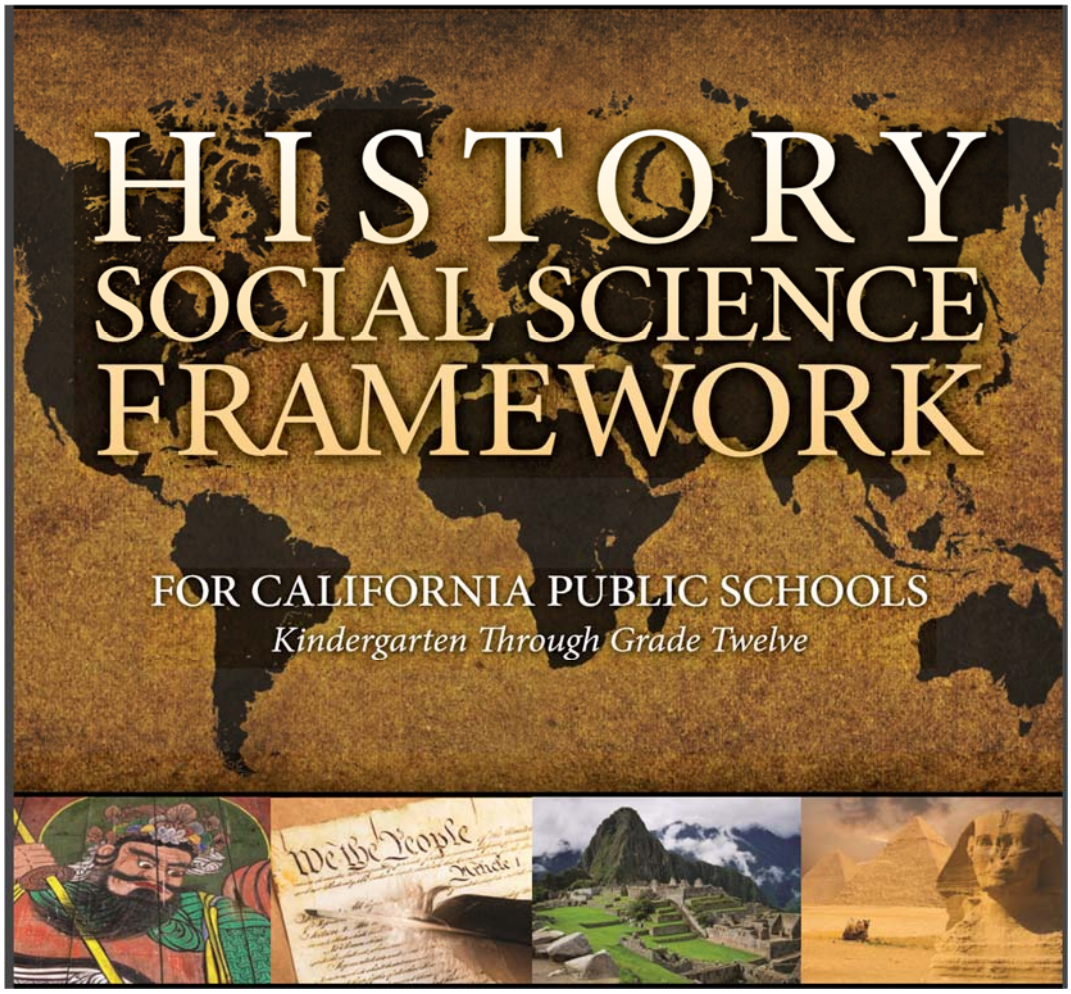

Coverage of California's Environmental Principles and Concepts (EP&Cs) and Related Content in

California's 2016 History-Social Science Framework

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Introduction

In high school, students… survey economic, political, and social revolutions and the **increasing impact of humanity** on the natural and physical environment. Page 8

Students will also consider some of the costs of unfettered capitalism, such as **industrialization's impact on the environment,**… Page 9

An environmental perspective views people as living in interdependent relationships within diverse environments. Page 13

Chapter 2 Instructional Practice for Kindergarten through Grade Five

Elementary-school students' geographic reasoning skills include using maps and globe skills to describe environmental and cultural features of places and the relationships and interactions between them… Students **also explain the relationship and interdependence of human activities and the environment**, and how these relationships affect the distribution and movement of people, goods, and ideas. Additionally, students should explain how weather, climate, other environmental characteristics, as well as human-made and natural catastrophic disasters, affect people's lives in a place or region and the migration of people within and between regions. Page 29

Chapter 3 Kindergarten – Learning and Working Now and Long Ago

Exploring the environment surrounding the school today and discussing how it is different from what it was when the school was built, focuses students on the fact that people in earlier times used many of the same goods and ecosystem services as we do today, such as lumber, water, and food. They discover that in earlier times people more directly consumed the goods and ecosystem services from natural systems rather than obtaining them from sources like grocery stores and lumberyards (California Environmental Principle II). **Student reflection on management and use of natural resources on their campus provides them a picture of the way resource use has changed over time** (See EEI curriculum unit Some Things Change and Some Things Stay the Same K.4.5–K.6.3). Page 48

Chapter 4 Grade One – A Child's Place in Time and Space

As they explore places where Californians live students focus on the fact that human communities are generally located in close proximity to t**he natural systems that provide the goods and ecosystem services upon which humans depend** (California Environmental Principle I). Moreover, student reflection on human populations and their **consumption rates, and the expansion and operation of human communities builds students' understanding of the influence of these activities on the geographic extent and viability of natural systems** (California Environmental Principle II, EEI Curriculum Unit People and Places: Then and Now 1.2.4). Page 49

Teachers may connect the learning about the interactions between the environment and people to Standards 1.5 and 1.6.

…

As they explore places where Californians live students focus on the fact that human communities are generally located in close proximity to the natural systems that provide the goods and ecosystem services upon which humans depend (California Environmental Principle

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I). Moreover, student reflection on human populations and their consumption rates, and the expansion and operation of human communities builds students' understanding of the influence of these activities on the geographic extent and viability of natural systems (California Environmental Principle II, EEI Curriculum Unit People and Places: Then and Now 1.2.4). Page 55

Chapter 5 Grade Two – People Who Make a Difference

Students also compare and contrast basic land use in urban, suburban, and rural environments in California. Maps, photographs, informational books, and Web resources provide **evidence of differences in and environmental impacts of land use** and help students answer the question, How can we best describe California? Page 65

Applying what they know about natural systems and food production, students can focus on strawberries, a major California crop, to learn about the i**nterdependence of producers and consumers in the economic system**. (California Environmental Principle I, EEI Curriculum Unit: The Dollars and Sense of Food Production 2.4.2–2.4.3.) Page 68

Chapter 6 Grade Three – Continuity and Change

As students observe, describe, and compare these features, they learn to differentiate between major landforms, and they begin to consider the interaction between these features and human activity. The teacher can initiate inquiries into human-environment interaction using literature such as *A River Ran Wild,* by Lynne Cherry, and *River Town,* by Bonnie and Arthur Geisert.
…
Focusing on a California natural regions map and reader, students can research the ecosystems found near them; the resources provided by these ecosystems; and, the ways that people use them. **They investigate the goods and services provided by these ecosystems and how they are used to support human communities** (California Environmental Principle I, EEI Curriculum Unit: The Geography of Where We Live 3.1.1–3.1.2, see Appendix F).

… In Standard 3.2, students study the American Indians who lived or continue to live in their local region, **how they used the resources of this region, and in what ways they modified the natural environment**. Page 74

Working with Tribal and Natural Regions maps, students can describe ways in which physical geography, including climate, **affected the natural resources upon which California Indian nations depended.** Investigating the plants and animals used by local Indians, students explain how they **adapted to their natural environment so that they could harvest, transport, and consume resources**. (California Environmental Principle I, EEI Curriculum Unit: California Indian People: Exploring Tribal Regions 3.2.2). Page 75

Students may observe how each period of settlement in their locality left its mark on the land, and predict **how decisions being made today in their communities will impact their communities in the future.** Through this focus on place, students also deepen their understanding of California's environment (see Appendix F) Page 77

Through an understanding of maps, geographic information, and quantitative analysis, **students should come away from their California history course with an understanding of the important interactions between people and their environment**. Page 88

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For example, students can investigate the relationship between climate and geography and day to day human activity with questions like this: How does the natural environment affect the type of house you build and how many neighbors you have? or, How does the environment affect the type and quantity of food you eat? Page 90

Most California Indians practiced hunting and gathering because the natural environment offered a rich abundance of food; few engaged in horticulture. **However, the tribes did have an impact on the natural environment.** Students study the extent to which **early people of California depended on, adapted to, and modified the physical environment** by controlled burning to remove underbrush, cultivation and replanting of gathered wild plants, the use of sea and river resources. In their study of indigenous peoples, **students can consider man's complex relationship with the natural environment, by considering the questions that can be derived from California Environmental Principle I,** such as What natural resources are necessary to sustain human life? Contemporary cities and densely settled areas frequently are located in the same areas as these early American Indian settlements, especially on the coasts where rivers meet the sea. In analyzing how geographic factors have influenced the location of settlements, then and now, students have an opportunity to observe how the past and the present may be linked by similar dynamics. (For additional resources, see EEI Curriculum Unit California Indian People and Management of Natural Resources 4.2.1). Pages 92-93

Chapter 7 Grade Four—California: A Changing State

Colonists introduced European plants, agriculture, and a pastoral economy based mainly on cattle. (**This unit of study may allow for the teaching of the Environmental Principles and Concepts** (see Appendix F)). Page 96

The Gold Rush also caused irreparable environmental destruction through the introduction of hydraulic mining in the 1850s, which clogged and polluted rivers throughout the state, at great cost to the farmers affected downstream. Examining the development of new **methods to extract, harvest, and transport gold during this period allows students to see direct interactions between natural systems and human social systems** (California Environmental Principle I 413 I), See EEI Curriculum Unit Witnessing the Gold Rush 4.3.3). Pages 103-104

The **state's growing economy and population caused enormous stress on the environment, leading to serious issues of air and water pollution**, loss of farmland, and loss of important wetlands and bay waters through in-fill. Page 115

To understand these large-scale shifts in historical context, students can return to broader framing questions from earlier in the year: Why did people come to California? **How did people shape their environments?** and How and why did the state grow? Page 116

Chapter 8 Grade Five – United States History and Geography: Making a New Nation

Europeans introduced new food crops and domestic livestock that diversified the diets of the American Indians. T**his exchange dramatically altered the natural environment** and introduced diseases that decimated many American Indian tribes. Page 132

How did westward movement **transform indigenous environments** and communities? Page 162

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How did westward movement transform indigenous environments and communities? Page 164

Students focus on the factors that led people to establish settlements in particular locations, **primary among them the availability of natural resources**. (California Environmental Principle V; EEI Curriculum Unit Nature and Newcomers 5.8.4.) Page 165

Students can address questions like: How does the increased traffic of tens of thousands of emigrants **transform indigenous environments and resources**? Page 166

Chapter 9 Instructional Practice for Grades Six through Eight

They **analyze how relationships between humans and environments (including human-induced environmental change** and changes in technology) affect settlement and movement, diffusion of ideas and cultural practices, and conflict and cooperation. Additionally, **middle school students should be able to identify and explain the relationship between the natural environment** and economic growth in a given community or region. Page 171

Grade Six – World History and Geography: Ancient Civilizations

How did the **environment influence human migration**, ancient ways of life, and the development of societies? Page 178

…

Although teachers should keep the focus on ancient events and problems, **this course gives students the opportunity to grapple with geography, environmental issues**, political systems and power structures, and civic engagement… Page 178

How did the environment influence the migrations of early humans? How did early humans adapt to new environments and climate changes? Page 188

In California EEI Curriculum Unit 6.1.1, “Paleolithic People: Tools, Tasks and Fire,” students analyze why humans chose certain migration routes, settled in particular locations, developed lifestyles, cultures, and methods to extract, harvest, and consume natural resources to understand **how early humans adapted to the natural systems and environmental cycles in different regions, and how these factors influence the settlement of human communities.** Students analyze how human migrants might adapt to a colder or hotter climate, growth of human population, competition with another hominid species, floods, or droughts. Page 190

What environmental factors helped civilizations grow? What impact did civilizations and complex urban societies have on the surrounding environment? Page 194

Teachers introduce students to the environmental roots of civilization with this question: **What environmental factors helped civilizations grow? What impact did civilizations and complex urban societies have on the surrounding environment?** All these societies depended on their river locations to build dense agricultural societies. First students examine maps to identify the environmental factors, such as climate, topography, and flood patterns, that caused these civilizations to rise up along rivers. The teacher might use either of the California EEI Curriculum Units 6.2.1. River Systems and Ancient Peoples, or 6.2.2 Advances in Ancient Civilizations. **These lessons emphasize environmental causes and effects** and the influence that the rise of civilization along these rivers had on the organization, economies, and belief systems of Mesopotamia and Egypt. Page 196

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The teacher transitions to the study of African civilization of Kush with this question: **What environmental factors helped the Kush civilization grow? What impact did civilizations and complex urban societies have on the surrounding environment?** Kush lay in the upper Nile Valley, where rainfall was higher and where farm and cattle land stretched far beyond the banks of the river. Kush had complex relations with Egypt. In some periods, Egyptian pharaohs dominated Kush, taxing the population and extracting goods, particularly gold. After the New Kingdom faded, Kush reasserted its independence, though maintaining close contacts with Egypt. Next students explore the question: From 4000 BCE to 500 BCE, how did contact, trade, and other links grow among the urban societies of Mesopotamia, Egypt, Kush, India, and the eastern Mediterranean? Teachers may introduce comparisons between the societies of Kush and Egypt through pictorial representations of the two architectural traditions. For example, kings of Kush built pyramids, although they were smaller than Egypt's structures. In the first millennium BCE, however, Kush developed a distinctive cultural style that included painted pottery, the elephant as an artistic motif, an alphabetic writing system, and a flourishing iron industry. The similarities between Egypt and Kush, and the distinct features of each civilization, offer an opportunity for students to analyze how one culture adopts products, styles, and ideas from another culture, but adapts those borrowings to fit its own needs and preferences. Another way to compare these civilizations is to have students trace how popular goods traded in the Egyptian world were related to the natural resources available in Egypt and Kush. They learn that Egyptian trade influenced the development of laws, policies, and incentives on the use and management of ecosystem goods and services in the eastern Mediterranean and Nile Valley, **which had the long-term effects on the functioning and health of those ecosystems,** through California EE Curriculum Units 6.2.6/8, "Egypt and Kush: A Tale of Two Kingdoms." Pages 203-204

• How did the environment, the history of the Israelites, and their interactions with other societies shape their religion? Page 205

To begin the unit, the teacher introduces this question: How did the environment, the history of the Israelites, and their interactions with other societies shape their religion? Page 205

Judaism was heavily influenced by the environment, the history of the Israelites, and their interactions with other societies. The students return to the question: How did the environment, the history of the Israelites, and their interactions with other societies shape their religion? The many farming metaphors in the Torah show the pastoral/agricultural environment. The fragile position of Canaan in the Fertile Crescent between more powerful neighboring states dramatically affected the history of the Israelites. Page 206

How did the environment influence the emergence and decline of the Indus civilization? Page 214
…
They begin with the environment: How did the environment influence the emergence and decline of the Indus civilization? Page 214

How did the environment influence the development of civilization in China?
They begin with the environment: How did the environment influence the emergence and decline of the Indus civilization?
…
Students begin their study with the question: How did the environment influence the development of civilization in China? The Huang He could be a capricious river, exposing

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populations to catastrophic floods. On the other hand, farmers supported dense populations and early cities by cultivating the valley's loess, that is, the light, fertile soil that yielded bountiful grain crops. Through lesson five of California EEI Curriculum Unit, "The Rivers and Ancient Empires 993 of China and India," students learn about the importance of ecosystem goods and services to the early Chinese. Humans and human communities benefit from the dynamic nature of rivers and streams in ways that are essential to human life and to the functioning of our economies and cultures. Building on its agriculture and natural resources, the Shang society made key advances in bronze-working and written language. Pages 222-223

• How did the environment influence the expansion of Rome and its integrated trade networks?
…
The sixth-grade teacher emphasizes the development of the Roman Republic and the transition to the Roman Empire, focusing on the themes of environment, political systems and citizenship, and increasing trade and connections between societies. Page 230

The Roman military was large, tough, and powerful. Environmental factors also influenced Rome's expansion, which students analyze with this focus question: How did the environment influence the expansion of Rome and its integrated trade networks? During the Early Republic (509-264 BCE), the Romans took over the entire Italian peninsula, whose fertile valleys and coastal plains produced bountiful harvests of wheat, wine, olive oil, and wool. Page 232

Uniting the diverse environments of Egypt, North Africa, Syria, Anatolia, Greece and Europe gave Romans access to vast resources. Page 236

Chapter 11 Grade Seven – World History and Geography: Medieval and Early Modern Times

• How did the environment and technological innovations affect the expansion of agriculture, cities, and human population? What impact did human expansion have on the environment? Page 238

• Increasing human impact on the natural and physical environment, including the diffusion of plants, animals, and microorganisms to parts of the world where they had previously been unknown. Page 240

• How did the environment and technological innovations affect the growth and contraction of the Roman Empire, the Byzantine Empire, and Medieval Christendom? What impact did human expansion have on the environment? Page 245

Instead the teacher should begin with the question: How did the environment and technological innovations affect the growth and contraction of the Roman Empire? Rome began on the Italian peninsula and spread around the Mediterranean Sea. Page 246

Next students study the Byzantine Empire, with the question: **How did the environment and contact with other cultures affect the growth and contraction of the Byzantine Empire?** Page 254

In addition to considering the political aspects of feudalism, students look at these questions: How did the environment and technological innovations affect the growth of Medieval Christendom? What impact did human expansion have on the environment? In the tenth century, serfs and free peasants employed new technologies, such as the moldboard plow and

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the horse collar, to cultivate new farmland and boost agricultural production. Around 1000 CE, these innovations caused an agricultural revolution in Western Christendom, which caused the population to increase, trade to expand, and cities to grow again. In this expansion, many of the forests of northern Europe were cut down, as humans used wood for heating and cooking and cleared land for farming. Lessons 2 and 3 of the California EEI Curriculum Unit, “Managing Nature’s Bounty: Feudalism in Medieval Europe,” analyze how feudal relations and the manor system allocated ecosystem resources, and how physical geography influenced feudal administrative positions and resource management. Page 257

• How did the environment affect the development and expansion of the Persian Empire, Muslim empires, and cities? What impact did this expansion have on the environment? Page 259

The teacher begins with introducing the question: How did the environment affect the development and expansion of the Persian Empire, Muslim empires, and cities? What impact did this expansion have on the environment? A climatic map of Southwestern Asia shows that much of this area falls within a long belt of dry country that extends from the Sahara Desert to the arid lands of northern China. In lesson one of the California EEI Curriculum Unit, “Arabic Trade Networks,” students examine the physical features and natural systems of the Arabian Peninsula and the human improvements to farming practices which increased supplies of food. Across this dry zone, including Arabia, pastoral nomads herded camels and other animals, and oasis cities sheltered farmers, artisans, and merchants. North of the Arabian peninsula is the lush agricultural land of Mesopotamia and Persia. Here settled farmers had supported an advanced civilization going back to ancient Mesopotamia. A map of the eastern hemisphere also shows students that Southwestern Asia, Persia, Arabia, the Red Sea, and the Persian Gulf were natural channels for land and sea trade in spices, textiles, and many other goods between the Indian Ocean world and the Mediterranean area. These geographical factors put Southwestern Asia and Arab, Persian, and Indian merchants and sailors at the center of the Afroeurasian trade networks, which began to grow dynamically after the seventh century. Pages 259-260

• Under the Gupta Empire, how did the environment, cultural and religious changes, and technological innovations affect the people of India? Page 269

• How did the environmental conditions and technological innovations cause the medieval economic revolution? What were the effects of this revolution? Page 273

Students analyze the question: How did the environmental conditions and technological innovations cause the medieval economic revolution? What were the effects of this revolution? Cause-and-effect graphic organizers help students analyze the many factors that contributed to the Chinese economic revolution that occurred between the seventh and thirteenth centuries. The factors of population growth, expansion of agriculture, urbanization, spread of manufacturing, and technological innovation were both causes and effects of the economic revolution, as each factor intensified the effects of the others. The economic revolution began with the introduction (from Vietnam) of champa rice, a variety that produces two crops per year. Farmers migrated to the Yangzi River valley to take advantage of the increased yield, and the population grew rapidly. Chinese laborers and merchants extended the empire’s system of canals connecting navigable rivers to about 30,000 miles. Page 275

• How did the environment affect the expansion of agriculture, population, cities, 953 and empires in Mesoamerica and the Andean region? Page 284

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To begin their study of civilizations in the Americas, students investigate the question: How did the environment affect the expansion of agriculture, population, cities, and empires in Mesoamerica and the Andean region? One important environmental factor was the separation of the Americas and Afroeurasia after 15,000 BCE. As a result, different ecosystems developed in the Americas than in Afroeurasia. The Americas had no beasts of burden; corn was the major staple rather than rice or wheat. A second environmental factor is the sheer size and variety of habitats in the Americas. The north-south axis of the Americas extends nearly 11,000 miles, from the frigid Arctic rim to the equatorial rain forests of the Amazon River basin to Tierra Del Fuego at the southern tip of South America. A mountain spine runs nearly the entire length, and divides the Americas longitudinally, separating narrow coastal plains on the Pacific from broad plains on the eastern side that stretch toward the Atlantic. Several great river systems, especially the Mississippi and the Amazon, have been channels of human communication since ancient times. Thousands of different cultures, speaking many different languages and following different customs, lived on the two continents. Their ways of life varied from gathering and hunting to agrarian urban states. Lesson 2 or 4 of the California EEI Curriculum Unit “Sun Gods and Jaguar Kings” guides students 976 through the landforms and climate zones that formed the environment for the two urbanized regions of the Americas. Pages 284-285

• How did the environment affect the development and expansion of the Ghana and Mali empires and the trade networks that connected them to the rest of Afroeurasia? Page 288

As of 500 CE, groups of farming and animal-herding peoples lived in West Africa, a region with four large zones of climate and vegetation running west to east. Students begin with the question: How did the environment affect the development and expansion of the Ghana and Mali empires and the trade networks that connected them to the rest of Afroeurasia? The most northerly belt is the intensely arid Sahara, home to oasis-dwellers and pastoral nomads. Just south of the desert is the semiarid Sahel zone, where cattle and camel herding predominated. Third is the tropical grassland, or savanna, which had sufficient rainfall to support farmers and their fields of rice, sorghum, and millet. In the far south is the wet tropical forest. There, settled life depended on cultivation of root crops and other forest foods. In the Sahel and savanna, agriculture and herding supported the growth of regional trade. Tracing a great arc across West Africa, the Niger River provided a natural highway of communication linking different ecological zones. Farming, trade, and early development of iron smelting stimulated town building. Page 289

This unit begins with the question: What impact did human expansion in the voyages of exploration have on the environment, trade networks, and global interconnection? Page 300

The loss of so many people caused severe economic and demographic disruption in tropical Africa. The effects of the Columbian Exchange were profound environmental change and huge human population shifts. European voyages to the Americas and the Indian Ocean transformed world trade networks. The Spanish extracted precious metals, gold and especially silver, and the Portuguese, Dutch, French, and English extracted raw materials, such as lumber and furs, from their American colonies and shipped them to Afroeurasia. Europeans set up plantations to grow cash crops that were exported to Afroeurasia. Page 302

Chapter 12 Grade Eight – United States History and Geography: Growth and Conflict

Students can also learn about the ideals and aspirations of the people of the Early American Republic through a lens of demand for natural resources, a context for understanding the

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country's physical landscapes, political divisions, and the resulting pressures which led to territorial expansion. This approach challenges them to consider the complications involved in westward expansion and begin to recognize many consequences of that growth (California Environmental Principle II). They learn what happens as the country doubled in size at the same time the new nation was struggling with issues of debt and, simultaneously, political control of what appeared to many as nearly limitless natural resources. (See EEI Curriculum Unit Land, Politics, and Expansion in the Early Republic 8.4.1) Pages 331-332
Teachers include discussions 596 about the role of the great rivers, the struggles over water rights in the development of the West, and the effect of geography on shaping the different ways that people settled and developed western regions. Students learn that as settlers began their westward journey in the 19th century, water played a vital role in determining the location of settlements. They can participate in a role playing activity to explore the influence of rivers on development and settlement patterns, and discover that the management of this essential resource took on a different form than in the eastern states where supplies were adequate to meet demand. Students recognize that the limited availability of water in the West underscored many political, legal, and economic decisions about water management (California Environmental Principle V, EEI Curriculum Unit Struggles with Water 8.8.4). Page 353

Students identify and explore patterns of agricultural, industrial, and commercial development in the United States in the late 19th and early 20th centuries, and the effect of such development on the American environment (California Environmental Principle II) and apply their knowledge of to an exploration of how increased mechanization and production in the late 19th century influenced the growth of American communities (EEI Curriculum Unit Agricultural and Industrial Development in the United States 8.12.1). Page 367

Chapter 13 Instructional Practice for Grades Nine through Twelve

Students also should explain how current globalization trends and policies affect economic growth, labor markets, rights of citizens, the environment, and resource and income distribution in different nations. Page 377

Chapter 14 Grade Nine – Elective Courses in History–Social Science

• How does a society's geographic location and environment shape work and living opportunities as well as relationships with people outside of that society?
…
As the National Council for the Social Studies explains in the C3 Framework: "Geographic inquiry helps people understand and appreciate their own place in the world, and fosters curiosity about Earth's wide diversity of environments and cultures." Page 389

A general guiding question for the course is: "How does a society's geographic location and environment shape work and living opportunities as well as relationships with people outside of that society?" Answering this question requires an investigation of earth's physical and human features, and how people and the earth's natural systems continuously influence one another and the possibilities available to each. In addition to understanding how access or a lack of access to resources – fresh or ocean water, fertile soil, flora and fauna, minerals and oil, trees and other building materials – shapes the operations of a particular society, this course also looks at how these factors impact geo-politics.
…
Other geographic issues include the current major political, economic, and environmental crises occurring on a regional or global level. Students can use the lens of geography to investigate a

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current war, asking which groups are in conflict, and over what resources or territory? What resources are available to each in order to fuel the armed conflict?
…
What are the environmental impacts of the war? A re residents displaced, and if so, where do they go and what resources are available to them? There are instances in which environmental crises can precipitate war due to a scarcity or perceived future scarcity of natural resources such as fresh water or fuel. Looking at current environmental challenges provides students with greater geographic understanding, as well as insight into potential human conflicts. These include air and water pollution, invasions of non-native species or the spread of disease, climate change, deforestation, soil degradation, and dwindling natural resources. How societies adapt and innovate in the face of such challenges, as well as how environments change over time in response to these adaptations, are critical geographic considerations. An investigative activity includes the examination of two countries on different continents and in different climatic zones that takes into consideration the impact of geographic factors such as population, climate, natural resources, and technological and other innovations integral to development. How do these geographic realities influence each nation's defense and security, trade, and diplomacy? A final piece to the activity is the comparison of these two regions. How would economic opportunities differ in these two regions? How would daily life – from the type of dwelling, to the modes of transportation and terrain, to diet, to weather – look in these two locations? What national concerns occupy each country, and how does this affect their global position? This investigation encourages students to consider the diversity of human experiences embedded within earth's varied regions.
Helpful data for this investigation can come f 89 rom online sites such as NASA's Socioeconomic Data and Applications Center, Natural Earth, and the CIA's World Factbook, all of which provide global data. The U.S. Census Bureau provides domestic geographic information. California's Education and Environment Initiative website hosts a number of curriculum units that cover geographic and natural resource material.
…
• What enabled California's rapid growth?
California has long been a place of extraordinary growth and innovation. Students will recall the tremendous events of the nineteenth century – the arrival of people from around the world during the gold rush; the transcontinental railroad that connected California to the rest of the country; and the establishment of large-scale ranches and farms that undergirded the economy. These events and processes set the stage for California's development in the twentieth century into the nation's most populous, diverse, and economically robust state. This course examines the human and environmental factors integral to achieving this growth. It can be taught in one or two semesters, depending on the breadth and depth of coverage. The outline below follows a chronological history of California, with a focus on the three strands integral to development: the people, the natural resources, and the government's investment in growth. Pages 389-392

What highs and lows defined the 1920s and 1930s in California? In addition to more traditional primary sources used to teach these decades, teachers may want to use excerpts from one or more novels or journalistic accounts. For example, Upton Sinclair's Oil! describes the power of the oil industry in California, the rise of the car culture, and the cultural and environmental influence of the private automobile on Los Angeles.
…
The next unit asks simply: **How did World War II impact California?** The war drove the state's economy and reshaped California's demographics and environment. The federal government 189 poured billions of defense dollars into California during World War II, pulling the state out of economic depression and drawing a tremendous number of new residents in search of work. Women and African-Americans found well-paid work building ships and airplanes. So many

employees flocked to the Los Angeles and Bay Area defense hubs that housing was in desperately low supply. Suburbs began to mushroom out of these two metropolitan areas, transforming the countryside. One-time farms, orchards, and ranches were paved over in the housing boom, and thousands of miles of new highways snaked through the state in the decades after the war. Heavy industry and numerous passenger cars meant that air pollution choked Los Angeles residents as early as the 1940s. Page 397-398

Next, Mr. Basara asks his students to discuss a new set of questions, ones that require more analysis and critical thought:
• Broadly speaking, how would you describe what was happening in California from 1930-1960?...
• What do these numbers tell you about the impact on the environment? Specifically, which resources were being used and/or stressed? Page 400

California has become a national leader in environmental protection. Increasingly in the late twentieth century the state sought to balance economic growth alongside resource protection to sustain an ecosystem for the people, flora, and fauna of the state. California has enacted numerous measures to protect against air and water pollution, and protects the coastal habitat through the California Coastal Commission.
…
• How do the Earth's systems operate independently and in relationship to one another, and what has this meant for humans over time? Physical geography is the study of natural features and processes on or near the surface of the planet. Geographic inquiry also includes study of the human presence on the earth, the nature of the environment, and both the impact of humans on the environment and the impact of the environment on humans. This study should include coverage of the Environmental Principles and Concepts adopted as part of the Education and the Environment Initiative (Appendix F). Whereas geography provides an understanding of the world, its people, and the human footprint on the Earth, physical geographers examine the use of resources such as water, oil, the patterns and processes of climate and weather, and ways in which humanity has modified the natural environment. As explained by the National Council for the Social Studies' C3 Framework, understanding geography requires "deep knowledge of Earth's physical and human features, including the locations of places and regions, the distribution of landforms and water bodies, and historic changes in political boundaries, economic activities and cultures."2 A guiding question for this course is: "How do the earth's systems operate independently and in relationship to one another, and what has this meant for humans over time?"
…
The environment is not static, but changes over time for natural and human-driven reasons. Deforestation is quite visible, and creates consequences relating to air quality and watershed and soil health, all of which impact the options available to humans and animals within that habitat. Additional environmental changes include soil degradation, air and water pollution, and invasion of nonnative species. Broadly speaking, climate change causes multiple consequences – from rising sea levels to new weather patterns – that reshape the earth's geography.
An investigate project for students can include mapping a state or a nation in order to learn about various types of landforms, climatic zones, influence of bodies of water, distribution of flora and fauna, and other physical geographic features, all with an eye toward what opportunities and challenges this presents to the human population in that specific location. Pages 405-406

By studying California's geography, students can reflect on the number of economic opportunities created by the state's natural diversity and abundance, such as agriculture,

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tourism, and extractive industries. These opportunities have created an enormous population – the largest of any state, and nearly 1/8th of the nation's total – that have resulted in certain environmental challenges such as a scarcity of fresh water. While California has a dramatic geography, similar projects on different regions (perhaps an ancestral project, on their family's country of origin) can provide students with valuable insights. Examining these opportunities and challenges will provide students with knowledge of the interplay between earth's physical geography and human endeavors. Helpful data for this investigation can come from online sites such as NASA's Socioeconomic Data and Applications Center, Natural Earth, and the CIA's World Factbook, all of which provide global data. The U.S. Census Bureau provides domestic geographic information. California's Education and Environment Initiative website hosts a number of curriculum units that cover geographic and natural resource material. Page 408

Chapter 15 Grade Ten – World History, Culture, and Geography: The Modern World

The ability to see connections between events and larger social, economic, and political trends may be developed by having students consider the most fundamental changes of the era:
• The intensification of the movement toward a global market aided by rapid transportation of goods around the world, powerful international financial institutions, and instantaneous communication
• The emergence of industrial production as the dominant economic force that shaped the world economy and created a related culture of consumption
• Increasing human impact on the natural and physical environment through the growth in world population, especially urban settings where populations engaged in mass consumption through mechanical and chemical developments related to the Industrial Revolution Page 430

• What were the results of the Industrial Revolutions? How was technology, and the environment transformed by industrialization? Page 445

Students can also identify the environmental impact of the Industrial Revolution and discuss the positive and negative consequences of industrialization. Students learn that the industrializing nations, for example Great Britain, 333 were confronted with a wide array of changes resulting from the Industrial Revolution. They determine that the rapidly growing population was putting great demands on the natural resources available to these countries, resulting for example, in a decreasing supply of wood, Great Britain's primary source of energy, as well as a major resource for buildings, ships, and tools (California Environmental Principle I). Students learn that Great Britain created a system of factory production and coal-powered machinery to resolve the energy shortage, setting the stage for it to become the wealthiest country in the world. Using graphs of population growth, cotton textile, iron, and coal production, as well as an array of primary sources leads students to an understanding of the relevance of natural resources, entrepreneurship, labor, and capital combined to the beginning of the Industrial Revolution. (See Appendix F EEI Curriculum Unit Britain Solves a Problem and Creates the Industrial Revolution 10.3.1.-10.3.5.) Page 447

In India, for example, students explore the environmental and social effects of Britain's acquisition and control 494 of the raw goods and markets, and in South Africa, where its wealth of gold and diamonds provided the capital needed for further industrialization. Students learn how the competition for and decisions regarding natural resource acquisition and use influenced perspectives regarding the use of colonial lands and the nature of colonial rule (California Environmental Principle V). Pages 453-454

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Knowledge of scientific and medical breakthroughs has spread worldwide, with international efforts to address problems of disease, natural disasters, and environmental degradation. Page 495

Global consumption patterns created homogenized cultural experiences in the global cities that sprang up around the world; for example, critics assert that the “McDonaldization” of the world effectively Americanizes diverse cities. In addition, critics point out negative aspects of globalization, pointing to environmental concerns… Page 496

The United Nations resembles an international forum rather than an international government, and its ability to impose standards (such as environmental regulations or consumer protection law) on its own members remains very limited.
…
What are the strengths and weaknesses of the United Nations when it comes to dealing with problems (whether economic, criminal, or environmental) that cross international borders? Page 502

At the same time, climate effects traceable in part to the environmental consequences of reliance on fossil fuels are leading to demands for changes in the way energy is produced and used. Meanwhile, climate change has contributed to political and economic upheavals that are changing patterns of human migration and fueling regional conflicts. Page 509

Chapter 16 Grade Eleven – United States History and Geography: Continuity and Change in Modern United States History

As students learn about the prosperity and proliferation of consumer goods on the market in the 1920s, students learn that with these changes came both intended and unforeseeable consequences, many resulting in social effects on people and impacts on the environments in which they lived (California Environmental Principle IV). Page 530

Students investigate the ways in which the economic boom and social transformation that occurred after WWII, resulted in significant changes to many industries, for example large-scale agriculture and energy production. Students learn that human industrial activities have influenced the functioning and health of natural systems as a result of the extraction, harvesting, manufacturing, transportation, and consumption of these goods and services (California Environmental Principle II). Page 559

In addition to studying the social order of post-war America, students can investigate the ways in which significant changes to many industries, for example large-scale agriculture and energy production, altered the environment. Students can learn about some of the environmental consequences of the major industries that boomed after World War II forming the foundation on which students build their understanding that knowledge and perceptions about environmental concerns has changed over time, in turn influencing local economies. Page 560

Finally, students read about the beginning of the modern environmental movement in the 1960s and the environmental protection laws that were passed as a result in the next decade. They can note similarities and differences between environmentalism and other forms of activism of the decade, and they can also trace effects of the Cold War (especially fears of nuclear proliferation) to the priorities of the movement. Examining case studies, such as the controversial expansion of Redwood National and State Parks in 1978 and oil drilling in the Arctic National Wildlife Refuge, helps students develop skills in analyze complex and

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controversial issues. Students might also link those early achievements with a student-led debate over issues such as climate change today and the appropriate role of government in dealing with these problems. Page 578

Similarly, the North American Free Trade Agreement (NAFTA) between Canada, the United States, and Mexico played a central role in fostering closer relationships between the three countries, but tensions remain on issues related to economic regulation, labor conditions, immigration, and damage to the environment.
…
Another way for students to examine globalization is to conduct case studies of borderlands. The borderland between the United States and Mexico is a dynamic region in which cultures and political systems merge and environmental issues cross political boundaries. Students can use the Tijuana River as an example of U.S.- Mexican economic, political, and environmental issues. Using management of natural resources in the region as a context for their studies builds their understanding of the spectrum of considerations that are involved with making decisions about resources and natural systems, and in this case, how those factors influence international decisions (California Environmental Principle V). See EEI Curriculum Unit 11.9.7 The United States and Mexico – Working Together. Page 583

Students can study how late-twentieth century developments such as the Internet, new multi-national corporations, broadened environmental impacts, Page 586

Chapter 17 Grade Twelve – Principles of American Democracy

Finally, students will conclude their study of American government with a study of both historical and modern problems of American democracy. In this final unit, students can investigate a variety of topics, such as the fight against corruption by monopolies or moneyed elites during the Progressive Era, the tension between national security and civil liberties - especially after 9/11, the battle over healthcare reform in the Clinton and Obama administrations, and efforts to promote environmental protection and combat climate change. Page 591

Students can also participate in classroom mock trials,… and participate in service learning at a local hospital, shelter, arts organization, library, or environmental project to study how they are addressing community needs. Page 594

Students research topics like health care or labor law reform, economic stabilization policies, immigration policy, environmental protection laws, and anti-terrorism legislation in order to answer a variety of questions, such as What can Congress do? Why is it so hard to get a law passed? Page 597

Students should examine the important realms of law and the courts (for example, criminal justice, family law, environmental protection, and education) that remain largely under state and county control. Page 609

Using questions like **How do government actions impact civil society?** to engage students in this unit, teachers can conduct structured discussions in which students deliberate on issues that might impact our vision of a civil society, such as globalization, international and internal migrations, environmental change, or technological innovation. Page 616

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Contemporary problems like the environment, economics, and terrorism cross state borders and demand a different kind of national and international community than the world of the twentieth century. Pages 616-617

Topics for discussion might include technology (such as nuclear proliferation or the effect of the Internet on the political process or on intellectual property), the environment (such as global warming, preservation of wildlife, or alternative energies)… Page 618

Among the persistent issues facing the United States, and California in particular, is how to balance individual rights and liberties with the common good in matters related to land as well as water, air, and other natural resources. Students examine case studies that embody the struggle to find this balance and consider the spectrum of factors that influence and negotiate policy decisions about natural resources and natural systems (California Environmental Principle V). Students learn that many conflicts over environmental issues result from competing perspectives involving individual rights and the common good, an illustrative example of the reciprocity between rights and obligations. (See EEI Curriculum Unit 12.2 – This Land is our Land). Page 619

Chapter 18 Grade Twelve – Principles of Economics

Government agencies like the Federal Reserve and Consumer Financial Protection Bureau sometimes intervene in markets to promote the general welfare, provide for national defense, address environmental concerns,
…
They learn to identify the benefits and costs of government influence in the economy in different industries and for different groups of people. For example, students can consider the government's response to hydraulic fracturing. Government regulation of "fracking" can impact the environment, the local labor market, and the growth of a variety of small and large business interests. Students can't race how government policy steers any one sector of the economy through its regulatory activity.
…
Federal, state, and local governments have enacted a wide range of laws intended to protect the health of the environment, many implemented through fiscal policies, used to influence business decisions and practices that affect public health and the natural environment. Students learn about the externalities of modern production and consumption, and the interactions between economic policy and protection of the environment, allowing them to explore marginal costs, marginal benefits, and opportunity 366 costs of government actions. This builds their knowledge about the considerations and processes involved in decisions related to the environment and natural resources (California Environmental Principle V). Students investigate the range of fiscal tools government uses to help protect the environment: establishing or managing markets, providing subsidies, imposing taxes, and using command and control policies (See EEI Curriculum Unit 12.3.1. - Government and the Economy: An Environmental Perspective). Students might also analyze the long history of issues related to water ownership in California, for example, offering an opportunity to develop their understanding of the American system of private property ownership through a lens of renewable and nonrenewable resources. Allowing them to explore connections between individual property rights and societal decision-making, helps students recognize the wide spectrum of social, economic, political, and environmental factors related to the use and conservation of natural resources (California Environmental Principle V). Students recognize that many of these factors are considered when governments and communities make decisions about private property rights and the balancing

of individual's self-interest and society as a whole (See EEI Curriculum Unit 12.1.4.- Private Property and Resource Conservation Economics). Pages 635-637

Chapter 20 Access and Equity

Figure 20.4. Sentence Unpacking

Original sentence to unpack:

"Although many countries are addressing pollution, *environmental degradation continues to create devastating human health problems each year."*

Meanings:

- Pollution is a big problem around the world.
- People are creating pollution and ruining the environment.
- The ruined environment leads to health problems in people.
- Health problems are still happening every year.
- The health problems are really, really bad.
- A lot of countries are doing something about pollution.
- Even though the countries are doing something about pollution, there are still big problems.

What this sentence is mostly about: Environmental degradation

What it means in our own words: People are creating a lot of pollution and messing up the environment all around the world, and even though a lot of countries are trying to do things about it, a lot of people have big health problems because of it. Pages 697-698

Student Outcomes Identified by the Partnership for 21st Century Skills (2011) Core Subjects and 21st Century Interdisciplinary: Themes include: Environmental literacy and Health literacy Pages 792-793

Category 1: History–Social Science Content/Alignment with Standards
#15. Instructional materials, where appropriate, examine humanity's place in ecological systems and the necessity for the protection of the environment (Education Code Section 60041). Materials include instructional content based upon the Environmental Principles and Concepts developed by the California Environmental Protection Agency and adopted by the State Board of Education (Public Resources Code Section 71301) where appropriate and aligned to the history–social science content standards. (See Appendix F) Pages 828-834

Appendix A Problems, Questions, and Themes in the History and Geography Classroom

One of the Seven Key Themes in the Framework
Key Theme 6: Science, Technology, and the Environment

The study of science and technology has to do with the changing ways in which humans have used knowledge to exploit their physical and natural surroundings for human benefit. As people have discovered more and more ways of extracting energy and making use of plants, animals, and minerals for their own purposes, they have begun to alter the biosphere—the zone of the earth that can support life—at an increasing pace. Though our technological and scientific creativity has allowed our species to multiply, it has also transformed the living conditions for all species on earth. We do not yet know where these accelerating changes will lead. They include, for example, an explosion of genetic knowledge that promises effective treatments for numerous

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diseases. But they also include global warming, which, if it continues, will have devastating effects on humankind's future.

Over time, humans have learned to exploit a huge variety of different physical and natural environments, and with increasing efficiency. Today, though we are only one of millions of species, we may control up to 40 percent of all the energy that enters the biosphere from sunlight. The environment includes both our biological and physical surroundings. The world "technology" may be basically defined as the various methods, procedures, and tools that humans have used to get food and energy and to change the environment in useful ways, for example, to grow crops, build houses, or communicate through the Internet. The word "science" is trickier to define. Normally, it refers to the forms of knowledge developed in recent centuries that enable humans to transform their environments faster than ever before. All human societies, however, have created theories about their environments, often embedded within religious traditions. For example, in the European middle ages most educated Christians accepted the description of the universe that the ancient Greek scholar Ptolemy worked out. He put the earth at the center of the universe, and the heavenly bodies were attached to transparent shells that surrounded the earth. Though not accepted by modern science, Ptolemy's description offered a plausible explanation for the movements of the sun, the planets, and the stars. In a sense all human societies to explain the cosmos, the earth, and the mystery of life.

Sometime around 100,000 years ago Homo sapiens acquired language, and with it the capacity for what the historian David Christian has named "collective learning." This meant that members of our species can share complex knowledge with one another, accumulate and store knowledge, and pass knowledge to the next generation. No other species can do these things, except in very rudimentary ways. Equipped with language our distant ancestors acquired the ability, for example, to share skill and understanding in using a new kind of tool, say, a sharper stone axe. Individuals could 1) give a name to that particular type of axe that thousands of other people in their neighborhood could recognized; 3) explain how to use the axe without having to give a demonstration; 4) discuss with others how the axe might benefit the welfare of the community; and 5) pass on to their children and grandchildren complex information about the axe and its uses. Technological knowledge could be transmitted from one community to another, sometimes over great distances. For example, knowledge of how to make flint tools by flaking them off a piece of rock spread all the way across Afroeurasia in the Paleolithic age. And flint tools alone allowed humans to change their local environments in many ways.

In the Paleolithic era, all humans lived by foraging, hunting, or fishing. Since their numbers worldwide were tiny compared to today they had much less impact on the environment than humans did in later eras. This does not mean, however, that hunters and foragers had no impact at all. For example, in many parts of the world, foragers set fire to tracts of vegetation, sometimes large ones, to clear undergrowth, encourage new growth, and attract game (which came to eat the new growth). Early humans also had a big impact on many species of large animals, or megafauna, especially in the Americas, Australia, and Siberia. In those regions animals encountered humans only between about 60,000 and 10,000 years ago and therefore had no evolved instincts for running away when people first appeared. Consequently, hunters wielding spears or bows rapidly depleted the numbers of large species such as mammoths, giant kangaroos, and sloths. Humans should probably be held responsible for the total extinction of many megafaunal species.

About 10,000 years ago, when agricultural societies started to appear, the pace of scientific and technological change sped up sharply. So did human effects on the environment. Early farming was based on new forms of knowledge and technology, including tools and techniques for planting, irrigating, and harvesting, as well as for managing domestic animals. In order to increase the production of the most useful plants and animals, humans began to get rid of plants and animals they did not want or need. They destroyed weeds and killed predators. They

also transformed landscapes by clearing trees, digging irrigation ditches, terracing hills, and draining swamps.

The appearance of agriculture marks one of the most fundamental developments in history because it allowed people to extract much more energy and resources from a given piece of land. As a result, population began to rise rapidly in places where farming was established. Knowledge of how to manage the environment accumulated faster than ever before. Technological advances included new ways of coping with cold climates, more complex systems for managing water in arid climates, and knowledge of how to weave textiles, make pottery, cast bronze weapons and tools, and construct large buildings such as temples and palaces. People also found ways to use more energy by harnessing animals to pull plows, and using streams and rivers to drive water wheels.

Knowledge systems also became much more complex. In many societies, specialists studied the movements of the stars and planets in order to devise accurate calendars. Rulers then used that knowledge coordinate public rituals, market day rotations, and tax-collecting schedules. As wealth accumulated in societies, leaders also had to come up with new techniques to survey land and keep accounts, which stimulated development of writing systems and mathematics.

New technologies of communication and transport were particularly important because they encouraged people to exchange ideas and knowledge over large areas, which further stimulated collective learning. People in different parts of Afroeurasia began about 6,000 years ago to use animals for transport. Shipbuilding and sailing technologies multiplied the possibilities for contacts across wide seas, most spectacularly in the Pacific Ocean, where mariners sailed huge distances to settle the islands of Oceania. The ancient Chinese invented the magnetic compass for navigation, and by the thirteenth century this simple device was in use from the East China Sea to the Mediterranean. Inventions such as paper permitted people to communicate in words or pictures over longer distances and to store greater quantities of information.

In the past 10,000 years, advances in science and technology have had increasing effects on the physical and natural environment. These advances allowed humans to populate the earth in much larger numbers, raise agricultural production, build great cities, and experiment with many new forms of social and political organization. The spread of farming and metalworking also led, however, to forest cutting on large scales, and with it erosion and loss of productive hunting and crop-growing land. In some places humans caused environmental changes that led to social catastrophe. In Mesopotamia in the late third millennium BCE, excessive buildup of salt deposits (salinization) on irrigated land undermined the productivity of the soil, leading to a gradual long-term decline in population in much of the region. In Mesoamerica towards the end of the first millennium CE, the Maya civilization collapsed, at least in part as a result of over-exploitation of the land. In towns and cities around the world, the burning of wood and other fuels, as well as tanning and metalwork industries have created extremely polluted environments, which seriously reduced life-expectancies.

As communications and transportation technologies developed, exchange networks knitted large areas of the world together, until by the sixteenth century all the major land areas of the world, excepting Australia until the late eighteenth century, became interconnected in a single global web of trade and cultural interaction. The fashioning of this global network gave a huge impetus to the development of even more new technologies and forms of knowledge. Information from all parts of the world contributed to a single global system of ideas, skills, and techniques.

For a time, Europe found itself at the center of this system because its fleets dominated so many international trade routes. As a result, Europe and, more broadly, the Atlantic region had an early advantage in benefiting from access to the existing global inventory of new ideas and technologies. This may be one reason why so many of the core ideas of modern science

emerged in Europe between the sixteenth and eighteenth centuries, the era of the scientific revolution. In the eighteenth and early nineteenth centuries, this concentration of scientific knowledge underpinned the industrial revolution. It first got underway in Britain, though that country's economic connections to the wider world were crucial to industrialization's success.

At the heart of the new industrialization was the fossil fuel revolution. Coal, oil, and natural gas are called fossil fuels because they are made from fossilized plants and bacteria that contain much of the energy acquired from sunlight when they were alive. In burning fossil fuels, we are using sunlight energy that has been stored in natural underground "batteries" for several hundred million years. New machines such as the steam engine and the railway locomotive allowed humans to harness huge amounts of energy stored in fossil fuels, especially coal at first. Miners used steam engines to pump water out of underground shafts and tunnels, allowing extraction of coal on a much larger scale than ever before. And steam locomotives carried coal relatively inexpensively from mines to factories and homes. In a sense the fossil fuel revolution came just in the nick of time because by the eighteenth century the growth of world population, the continuing spread of farming, and the accelerating pace of deforestation were causing increasing shortages of energy.

Rapid technological change has produced dangers as well as benefits. Industrialization and the accompanying rapid growth of world population have speeded up rather than slowed deforestation and over-exploitation of land. Burning vast quantities of fossil fuels worldwide has begun to transform the atmosphere in ways that will lead to catastrophic climatic change in the absence of strong countermeasures. New forms of social inequality have emerged because those nations and peoples that first acquired advanced machines and weapons gained military, economic, and political advantages over societies that lagged behind technologically. Indeed, the concentration of technological and scientific skill in Western Europe, North America, and Japan beginning in the mid-nineteenth century allowed mainly the peoples of those regions to politically and economically dominate the rest of the world for about a century and a half.

The human species has been astonishingly inventive. The benefits of scientific and technological advances have been immense, in global communication, farm productivity, medical treatment, useful genetic modification, availability of material goods, and, for hundreds of millions, higher standards of living than humankind could have dreamed of just 200 years ago. But our inventiveness has also brought gaping social and economic imbalances in the world and an array of new dangers from extinction of animal species to nuclear terrorism. Unless we seriously address these threats and inequalities and begin to solve the worst of our problems, we could conceivably set our species back hundreds or thousands of years, just as excessive exploitation of the land ruined great societies in ancient Mesopotamia and Mesoamerica.

* * * * *

As living organisms, humans need to draw energy and resources from their environment. How they have done this from Paleolithic times to the present is one of history's dramatic stories. Science and technology have transformed the daily lives of all peoples. Making sense of the world around us and understanding how and why we live the way we do requires at least some grasp of the immense technological and scientific changes that have occurred in the world, especially in the past two centuries, though this period represents barely a page in the long chronicle of human history. The world's population could never have reached its current level of nearly 7.4 billion without the mastery of nature that human knowledge and skill have afforded. Simply feeding billions of people has depended upon the continuous accumulation of new ideas and techniques for irrigating land, mechanizing farming, genetically modifying seeds, moving goods from place to place, and organizing business and finance. History shows us, however, that these systems might be more fragile than we think. Therefore, we cannot ignore the history of humankind's changing relationship to the natural and physical world.
Pages 884-892

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Appendix F California Education and the Environment Initiative

Environmental Principles and Concepts – December 12, 2004 Assembly Bill 1548 (Pavley, Chapter 665, Statutes of 2003) Assembly Bill 1721 (Pavley, Chapter 581, Statutes of 2005) Environmental Principles and Concepts developed by the California Environmental Protection Agency and adopted by the State Board of Education (Public Resources Code Section 71301) The environmental principles examine the interactions and interdependence of human societies and natural systems. The nature of these interactions is summarized in the Environmental Principles and Concepts (EP&Cs) that are presented below.

Principle I – People Depend on Natural Systems
The continuation and health of individual human lives and of human communities and societies depend on the health of the natural systems that provide essential goods and ecosystem services. As a basis for understanding this principle:
Concept a. Students need to know that the goods produced by natural systems are essential to human life and to the functioning of our economies and cultures.
Concept b. Students need to know that the ecosystem services provided by natural systems are essential to human life and to the functioning of our economies and cultures.
Concept c. Students need to know that the quality, quantity and reliability of the goods and ecosystem services provided by natural systems 2113 are directly affected by the health of those systems.

Principle II – People Influence Natural Systems
The long-term functioning and health of terrestrial, freshwater, coastal and marine ecosystems are influenced by their relationships with human societies. As a basis for understanding this principle:
Concept a. Students need to know that direct and indirect changes to natural systems due to the growth of human populations and their consumption rates influence the geographic extent, composition, biological diversity, and viability of natural systems.
Concept b. Students need to know that methods used to extract, harvest, transport and consume natural resources influence the geographic extent, composition, biological diversity, and viability of natural systems.
Concept c. Students need to know that the expansion and operation of human communities influences the geographic extent, composition, biological diversity, and viability of natural systems.
Concept d. Students need to know that the legal, economic and political systems that govern the use and management of natural systems directly influence the geographic extent, composition, biological diversity, and viability of natural systems.

Principle III – Natural Systems Change in Ways that People Benefit from and can Influence
Natural systems proceed through cycles that humans depend upon, benefit from and can alter. As a basis for understanding this principle:
Concept a. Students need to know that natural systems proceed through cycles and processes that are required for their functioning.
Concept b. Students need to know that human practices depend upon and benefit from the cycles and processes that operate within natural systems.
Concept c. Students need to know that human practices can alter the cycles and processes that operate within natural systems.

Principle IV – There are no Permanent or Impermeable Boundaries that Prevent Matter from Flowing between Systems

The exchange of matter between natural systems and human societies affects the long-term functioning of both. As a basis for understanding this principle:
Concept a. Students need to know that the effects of human activities on natural systems are directly related to the quantities of resources consumed and to the quantity and characteristics of the resulting byproducts.
Concept b. Students need to know that the byproducts of human activity are not readily prevented from entering natural systems and may be beneficial, neutral, or detrimental in their effect.
Concept c. Students need to know that the capacity of natural systems to adjust to human-caused alterations depends on the nature of the system as well as the scope, scale, and duration of the activity and the nature of its byproducts.

Principle V – Decisions Affecting Resources and Natural Systems are Complex and Involve Many Factors
Decisions affecting resources and natural systems are based on a wide range of considerations and decision-making processes. As a basis for understanding this principle:
Concept a. Students need to know the spectrum of what is considered in making decisions about resources and natural systems and how those factors influence decisions.
Concept b. Students need to know the process of making decisions about resources and natural systems, and how the assessment of social, economic, political, and environmental factors has changed over time.

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Education and the Environment Curriculum Units

The following supplemental instructional materials are available from the Education and the Environment Initiative, at the California Department of Resources Recycling and Recycle (CalRecycle) Environmental Protection Agency Web site at http://www.californiaeei.org. Each unit was approved by the State Board of Education in 2010 to provide coverage of the identified history-social science standard(s). Units are also available for specific science content standards.

Kindergarten

Standards

K.4.5.

Demonstrate familiarity with the school's layout, environs, and the jobs people do there.

K.6.3.

Understand how people lived in earlier times and how their lives would be different today (e.g., getting water from a well, growing food, making clothing, having fun, forming organizations, living by rules and laws).

Unit Name and Description

Some Things Change and Some Things Stay the Same

Students see that the places we live in change over time, by first looking at their school and pictures of a school like theirs 100 years ago. Students compare and contrast the school, its surroundings, and the people of a "typical" California town 100 years ago, to their modern community. They become familiar with the idea that history relates to events, people, and places of other times. They also learn that the way history unfolds involves an ongoing interaction between people, their needs, and the resources that they use from their natural and physical environment.

First Grade

Standard
1.2.4.
Describe how location, weather, and physical environment affect the way people live, including the effects on their food, clothing, shelter, transportation, and recreation.

Unit Name and Description
People and Places
All lessons in this unit relate to locations in California to the physical and human characteristics of those places. Students learn human activities can change natural systems and how these changes can affect how people live. Information about two cities contrasts how people live in those places (looking at architecture, recreation, and jobs, for example). The unit provides an understanding of humans' dependence on goods and services provided by natural systems.

Standard
1.4.2.
Study transportation methods of earlier days.

Unit Name and Description
On the Move
This unit focuses on transportation changes over time and how this brought about changes to communities. Students study photos and compare past and present transportation methods. Each lesson addresses differences in past and present transportation methods to help students learn how the methods of the past and present rely on ecosystem goods and ecosystem services provided by natural systems.

Second Grade

Standard
2.2.4.
Compare and contrast basic land use in urban, suburban, and rural environments in California.

Unit Name and Description
California Land Use – Then and Now
This unit focuses on land use patterns in California and how these patterns have changed over time. Also presented are basic concepts relating to the different types of land use in urban, suburban, and rural environments in California. Human influence on natural systems is addressed via community development and how the land is used for housing, transportation, agriculture, and recreation.

Standard
2.4.1.
Describe food production and consumption long ago and today, including the roles of farmers, processors, distributors, weather, and land and water resources.

Unit Name and Description
From Field to Table
Accompanied by a mini-newspaper and two grade-level readers, this unit teaches students about food production and consumption, both long ago and today. The roles of farmers, processors, distributors, weather, and land and water resources are introduced. Students also learn to recognize the relationship between human needs, components of the food production system, and the ecosystem goods and ecosystem services made available by natural systems. They study the ways that people have learned to use knowledge of natural systems to improve the quality, quantity, and reliability of food production.

Standards
2.4.2.
Understand the role and interdependence of buyers (consumers) and sellers (producers) of goods and services.
2.4.3.
Understand how limits on resources affect production and consumption (what to produce and what to consume).

Unit Name and Description
The Dollars and Sense of Food Production
Students apply what they know about natural systems, plant growth, and food production to solve a mystery about missing strawberries. As students work to solve the mystery, they review ways in which food production depends on the availability of natural resources and how such resources are limited. Students provide examples of how decisions about what to produce and what to consume can be affected by the quality, quantity, and reliability of the resources provided by natural systems. Students also develop a clearer understanding of the interdependence of consumers and producers.

Third Grade

Standards

3.1.1.

Identify geographical features in their local region (e.g., deserts, mountains, valleys, hills, coastal areas, oceans, lakes).

3.1.2.

Trace the ways in which people have used the resources of the local region and modified the physical environment (e.g., a dam constructed upstream changed a river or coastline).

Unit Name and Description

The Geography of Where We Live

This unit uses a series of wall maps to help students learn about their local region: the deserts, mountains, valleys, hills, coastal areas, oceans, and lakes. They identify the ecosystems (natural systems) that are found in their local region. The unit also explores the resources (ecosystem goods and ecosystem services) that are provided by the natural systems in their local region, and their uses. Students learn about the ways that people use the resources provided by the ecosystems where they live. Finally, they look at the ways humans have changed the natural systems in their local region.

Standard

3.2.2.

Discuss the ways in which physical geography, including climate, influenced how the local Indian nations adapted to their natural environment (e.g., how they obtained food, clothing, tools).

Unit Name and Description

California Indian People – Exploring Tribal Regions

This unit gives students and teachers tools to explore the interactions between the California Indian nations (peoples) and the components and processes of the natural system(s) in their local region. Using a series of wall maps and a grade-level reader, students identify their local region, the California Indians that lived in and around their local region (and perhaps still do), and characteristics of the natural regions in which they lived. Then, students study the ecosystem goods and ecosystem services available to the local California Indians, the resources they came to depend upon from the natural system(s), methods they used to acquire such resources, and how they influenced the components and processes of the natural system(s) with which they interacted.

Standards

3.5.1.

Describe the ways in which local producers have used and are using natural resources, human resources, and capital resources to produce goods and services in the past and the present.

3.5.2.

Understand that some goods are made locally, some elsewhere in the United States, and some abroad.

3.5.3

Understand that individual economic choices involve trade-offs and the evaluation of benefits and costs.

Unit Name and Description

California's Economy – Natural Choices

This unit discusses the ways (past and present) in which local producers have used and are using natural resources, human resources, and capital resources to produce goods and

services. Students study examples of the natural resources (ecosystem goods and ecosystem services) used by local producers. In addition, they learn to compare the costs and benefits of methods used by local producers to extract, harvest, transport, and consume natural resources. Students compare costs and benefits of producing goods—including food and other items—locally, as opposed to transporting them long distances.

Fourth Grade

Standards

4.1.3.

Identify the state capital and describe the various regions of California, including how their characteristics and physical environments (e.g., water, landforms, vegetation, climate) affect human activity.

4.1.5.

Use maps, charts, and pictures to describe how communities in California vary in land use, vegetation, wildlife, climate, population density, architecture, services, and transportation.

Unit Name and Description

Reflections of Where We Live

Lessons in this unit are tied together by the theme of "reflections"—that different aspects of human activity reflect the physical features of the environment in which they live. Students learn how human activities and structures reflect various aspects of the physical environment (water, landforms, vegetation, and climate), and that characteristics of regions in California are tied to human population density. Activities involve the study of maps, charts, and pictures to gather information about different geographic regions and related human population density, activities (including transportation), and structures (i.e., buildings). All lessons reinforce the concept that humans have learned to live in many locations and that how they live is shaped (or influenced), in part, by the environment.

Standard

4.2.1.

Discuss the major nations of California Indians, including their geographic distribution, economic activities, legends, and religious beliefs; and describe how they depended on, adapted to, and modified the physical environment by cultivation of land and use of sea resources.

Unit Name and Description

California Indian Peoples and Management of Natural Resources

This unit emphasizes modern-day California's natural diversity. At the time of European contact, California Indian nations managed this landscape to produce a myriad of resources. Intense land management sustained communities that varied from seasonally moving extended families to permanent settlements of several thousand. The physical and social practices of California Indians emphasized productivity, sustainability, and renewal. Today, California Indians continue many of these traditions. In this unit, students compare the ecosystem goods and ecosystem services available to California Indian people of the past, their worldviews, how they used and managed resources, and examine how they established trade networks to access goods from far-off regions. Students learn how some of these practices continue to the present day.

Standard

4.2.6.

Discuss the role of the Franciscans in changing the economy of California from a hunter-gatherer economy to an agricultural economy.

Unit Name and Description

Cultivating California

This unit provides an environmental framework for discussing the role of the Franciscan missionaries in changing the economy of California. Students consider how people use land and resources as they discern the far-reaching influences of the state's economic transition from hunter-gatherer societies to agriculture. Students begin the unit by reading a story about

Anaheim's transformation from farmland to amusement parks. They then turn their attention to the economic interplay between the California Indians and the Franciscan missionaries in pre-California.

Standard
4.3.3.
Analyze the effects of the Gold Rush on settlements, daily life, politics, and the physical environment (e.g., using biographies of John Sutter, Mariano Guadalupe Vallejo, Louise Clapp).

Unit Name and Description
Witnessing the Gold Rush
This unit provides a new perspective to what is often a favorite subject for teachers and students alike: the California Gold Rush. Students learn how the search for gold and the influx of settlers influenced the natural environment (rivers, forests, mountains, valleys), and placed great demands upon our state's natural and social resources. It also addresses how individuals, government, business, and industry responded to many of the continuing, and often unanticipated, effects of the Gold Rush on California's social, economic, political, and legal systems.

Fifth Grade

Standard
5.4.1.
Understand the influence of location and physical setting on the founding of the original 13 colonies, and identify on a map the locations of the colonies and of the American Indian nations already inhabiting these areas.

Unit Name and Description
Human Settlement and the Natural Regions of the Eastern Seaboard
Students explore the human settlement and natural features of the eastern seaboard, including the physical locations of the American Indian nations and the 13 colonies from the 1600s to 1763. Students act as "naturalists," recording examples of flora and fauna native to the eastern seaboard through excerpts from primary sources. Knowledge of the plants, animals, and the ocean services in the "New World" helps students understand what made the region attractive to Europeans and American Indians alike, and what made permanent settlement possible. The development of early economic systems in the Americas, particularly the staple crop economies, are discussed and the increased likelihood of European encroachment into lands occupied by American Indian nations is introduced.

Standard
5.8.4.
Discuss the experiences of settlers on the overland trails to the West (e.g., location of the routes; purpose of the journeys; the influence of the terrain, rivers, vegetation, and climate; life in the territories at the end of these trails).

Unit Name and Description
Nature and Newcomers
Through the perspective of the overland trail settlers in early American history, this unit teaches students to uncover connections between the natural environment (natural systems and resources) and the built environment (the ways that human beings attempt to influence the natural world). Students learn about the experiences of settlers on the trails and the factors that influence human beings when making decisions about natural resources, natural cycles, and natural processes. While investigating the physical landscape, vegetation, and climate of the major western overland trails, as well as the effects of natural cycles and processes upon the settlers, students understand the settlers' motivations for moving west.

Sixth Grade

Standard
6.1.1.
Describe the hunter-gatherer societies, including the development of tools and the use of fire.

Unit Name and Description
Paleolithic People: Tools, Tasks, and Fire
In this unit, students explore the essential characteristics of scavenger/hunter-gatherer societies, including the development of tools and the use of fire. Students read a story that sets the stage for exploration of ways in which humans, dating back to our earliest ancestors, have used and influenced the environment. The unit brings to light the prehistory of humans and introduces the interaction between human culture and the natural environment. This unique perspective provides students with a broader understanding of where we have come from and where we may be headed.

Standard
6.1.2.
Identify the locations of human communities that populated the major regions of the world and describe how humans adapted to a variety of environments.

Unit Name and Description
Paleolithic People: Adapting to Change
By identifying the locations of prehistoric human communities and providing examples of factors that influenced their settlements, students learn to compare the lifestyles of different Paleolithic cultures and the ecosystem goods and services upon which they depended. The unit highlights climate change as one of the factors influencing human migration within and out of Africa. In addition, students consider how their own behaviors and activities depend on the ecosystem goods and services available to them today.

Standard
6.2.1.
Locate and describe the major river systems and discuss the physical settings that supported permanent settlement and early civilizations.

Unit Name and Description
Rivers Systems and Ancient Peoples
This unit teaches students that the physical geography of certain areas positioned them to become the locations of the world's first cities. Further lessons detail the rise of agriculture and civilization. Students learn to connect cycles, flow, and the role of rivers in ecosystems to the rise of the world's oldest cities in ancient Mesopotamia and Egypt.

Standard
6.2.2.
Trace the development of agricultural techniques that permitted the production of economic surplus and the emergence of cities as centers of culture and power.

Unit Name and Description
Agricultural Advances in Ancient Civilizations
This unit takes students on a journey from the earliest subsistence farms through the rise of ancient civilizations. By focusing on the effects of agricultural advancements, students learn about the importance of nature and natural cycles to the development of political, economic,

religious, and social structures of the early civilizations of Mesopotamia, Egypt, and Kush. Students draw parallels between ancient and modern times by looking at the critical role of water. Although the unit focuses on ancient people, the problem-solving and critical thinking skills practiced throughout the unit are transferable skills that help students understand human reliance on natural resources in the present day.

Standards
6.2.6.
Describe the role of Egyptian trade in the eastern Mediterranean and Nile valley.
6.2.8.
Identify the location of the Kush civilization and describe its political, commercial, and cultural relations with Egypt.

Unit Name and Description
Egypt and Kush: A Tale of Two Kingdoms
Students learn about the complicated and interwoven histories of two ancient superpowers: Egypt and Kush. The unit begins with a present-day conflict that highlights the positives and perils of resource competition and consumption. Students learn about the unique geography of the Nile Valley region and its myriad of natural resources that supported extensive cultures and a vast network of trade. Students also explore the ways in which civilizations throughout time have sought to control their natural environment and how those efforts have influenced their natural world.

Standards
6.5.1.
Locate and describe the major river system and discuss the physical setting that supported the rise of this civilization.
6.6.1.
Locate and describe the origins of Chinese civilization in the Huang-He Valley during the Shang Dynasty.

Unit Name and Description
The Rivers and the Ancient Empires of China and India
Students apply what they know about river systems— their processes, characteristics, and their importance to human settlement—to an exploration of the civilizations that arose in ancient India and China. By emphasizing the physical and natural environment, students learn about geographic and climatic factors that contributed to the rise of great dynasties in both areas, and discover the dependence of the people on the ecosystem goods and services provided by the rivers. The lessons reinforce how physical characteristics of the regions fostered the beginning of settled life and the growth of sophisticated cultures and civilizations.

Seventh Grade

Standard
7.2.5.
Describe the growth of cities and the establishment of trade routes among Asia, Africa, and Europe, the products and inventions that traveled along these routes (e.g., spices, textiles, paper, steel, new crops), and the role of merchants in Arab society.

Unit Name and Description
Arabic Trade Networks: Growth and Expansions in the Middle Ages
Beginning with a look at the unique geographical features of the Arabian Peninsula, students explore the relationships between components of the natural system and the social systems of Arabia—specifically those related to trade and commerce. Students see that the growth and expansion of Arabic trade led to the growth and expansion of human populations and Medieval cities and towns along the trade routes. They learn about the diffusion of popular goods over this vast trade network and the devastating effect of the plague on Afroeurasia's natural and social systems.

Standard
7.3.5.
Trace the historic influence of such discoveries as tea, the manufacture of paper, woodblock printing, the compass, and gunpowder.

Unit Name and Description
Genius Across the Centuries
This unit explores the influence of selected Chinese inventions and discoveries on the natural and human systems of medieval China and traces the influence of those discoveries on the modern world. Students study about early Chinese experimentation with things found in the world around them, which produced useful goods and services. Students also discover how continued investigation led to innovations that influenced both society and natural systems. They learn how Chinese inventions have been disseminated into the modern world, influencing our production methods and consumption patterns.

Standard
7.6.3.
Understand the development of feudalism, its role in the medieval European economy, the way in which it was influenced by physical geography (the role of the manor and the growth of towns), and how feudal relationships provided the foundation of political order.

Unit Name and Description
Managing Nature's Bounty: Feudalism in Medieval Europe
The direct connection between feudal relationships and the environment is examined by demonstrating how feudalism served as a mechanism for controlling access to and the use of ecosystem goods and services in medieval Europe. Using a modern example, the formation of the California Department of Fish and Game, students learn about the complexities of managing natural resources in California today, before turning their attention to the foundations of resource management that arose feudal Europe. Students explore life on feudal manors and at feudal markets, analyzing the connections between the ecosystem goods and service available and the placement of towns. In the final lesson, students explore feudal law n regards to access to and the use of natural resources and what it meant to be an "outlaw" in medieval times.

Standard

7.7.1.
Study the locations, landforms, and climates of Mexico, Central America, and South America and their effects on Mayan, Aztec, and Incan economies, trade, and development of urban societies.

Unit Name and Description
Sun Gods and Jaguar Kings
This unit teaches students that the diverse geography and natural resources of Central and South America set the stage for the rise of the first urban societies in this part of the world — those of the Maya, Aztec, and Inca civilizations. Students learn how the distribution of resources affected the location, land-use patterns, and settlement of locations within these landscapes. The development of social and political systems to control the production and flow of resources is discussed. These human systems and their interaction with the landscape set the stage for not only the growth of great civilizations, but for their eventual decline. Students and recognize ways in which early Meso-American societies depended on goods and ecosystem services provided by natural systems.

Standard
7.7.3.
Explain how and where each empire arose and how the Aztec and Incan empires were defeated by the Spanish.

Unit Name and Description
Broken Jade and Tarnished Gold
Building on students' understanding of the diverse and resource-rich regions of Central and South America, this unit explores the rise and fall of the Aztec and Inca empires. The lessons highlight how cultural values created the empires the Spanish witnessed, as well as the ways that Spanish values and history shaped their decisions in the Americas. Students begin the unit by learning how empires manage both human and natural resources in order to concentrate wealth and power. The perspectives of each of the three empires on resource use is examined, and the role of disease on the Spanish conquest explored. Through this unit, students learn more than the facts related to the conquest; they understand how multiple factors, particularly decisions regarding the use of natural resources, shaped this critical era.

Eighth Grade

Standard
8.4.1.
Describe the country's physical landscapes, political divisions, and territorial expansion during the terms of the first four presidents.

Unit Name and Description
Land, Politics, and Expansion in the Early Republic
This unit teaches students about the physical landscape of the United States, political divisions, and territorial expansion during the terms of the first four U.S. presidents. Students also learn about factors associated with the use of natural resources, especially land, which led to expansion. Students deepen their understanding of what the promise those resources held meant to American Indians and citizens of the new republic during that time. Students also learn about the development of federal land policy and how the political concerns that existed during this time influenced the development of land ordinances. The influence of expansion on the country's physical landscapes and natural systems is also examined.

Standard
8.6.3.
List the reasons for the wave of immigration from Northern Europe to the United States and describe the growth in the number, size, and spatial arrangements of cities (e.g., Irish immigrants and the Great Irish Famine).

Unit Name and Description
America Grows
Focusing on immigration from Northern Europe to the United States during the first half of the 19th century, this unit explores human dependence upon ecosystem goods and ecosystem services provided by natural systems. Students gain an understanding of the interrelatedness of natural and human social systems—how changes in one set of systems trigger changes in the other. Specifically, students learn how natural systems influence human social systems and how their interactions forced large numbers of Irish and Germans to emigrate to America. The lessons also explore whether the nation's new citizens chose to settle in areas that replicated the natural systems, or the human social systems, that the immigrants had left behind in Europe.

Standard
8.8.4.
Examine the importance of the great rivers and the struggle over water rights.

Unit Name and Description
Struggles Over Water
This unit teaches students about the role that the great rivers and other fresh water resources played in the United States in the early 1800s (for example, the location of towns, farming, and ranching). The lessons describe the role of scientific and technological knowledge in the establishment of water rights and provide examples of the economic, political, legal, and cultural factors that influenced decisions about water. Students also learn how the great river systems and water rights influenced the development of the West. Students see that water use and management in the West, and other parts of the United States, continues to influence the economy, politics, and legal system today.

Standard
8.12.1.
Trace patterns of agricultural and industrial development as they relate to climate, use of natural resources, markets, and trade and locate such development on a map.

Unit Name and Description
Agricultural and Industrial Development in the United States (1877-1914)
This unit examines the influence of urbanization and renewed industrialization at the turn of the century on natural systems and in defining the course of the United States into the 20th century. Students begin the unit by "visiting" the 1893 World's Fair in Chicago, "touring" the California building, and the new technologies on display. Students look carefully at the patterns of agricultural and industrial development in the East and West as they related to climate, natural resources, and availability of markets. They come to understand that technological advances influenced the growth of human populations and the establishment of commercial centers. Students also learn about political, economic, cultural, and environmental factors that affected technological advances in agriculture and industry during this time.

Standard
8.12.5.
Examine the location and effects of urbanization, renewed immigration, and industrialization (e.g., the effects on social fabric of cities, wealth and economic opportunity, the conservation movement).

Unit Name and Description
Industrialization, Urbanization, and the *Conservation Movement*
Students look closely at global economic imperative of the late 19th and early 20th century and its influence on the natural world through the development of the San Francisco Bay Area during this time. This examination unveils the connections between technological advances in the construction and planning of urban centers, the growth of population of those centers, and the eventual rise of a "conservation" movement. Key players in the American conservation movement—those who helped propel both public and political awareness of America's need to preserve its natural systems—are highlighted, including John Muir.

Tenth Grade

Standards

10.3.1.

Analyze why England was the first country to industrialize.

10.3.5.

Understand the connections among natural resources, entrepreneurship, labor, and capital in an industrial economy.

Unit Name and Description

Britain Solves a Problem and Creates an Industrial Revolution

In this unit, students analyze ways that natural resources, entrepreneurship, labor, and capital combined to produce key events and processes in the Industrial Revolution. Students examine England's transition from a subsistence agricultural economy through pre-industrial cottage industries and to finally industrial system. They explore the inventions that marked the development of the steam power, coal and iron, and cotton textile industries. Students discover how advancing mechanization improved the methods used to extract, harvest, transport, and produce material goods from natural resources.

Standard

10.3.3.

Describe the growth of population, rural to urban migration, and growth of cities associated with the Industrial Revolution.

Unit Name and Description

Growth of Population, Cities, and Demands

This unit teaches students about the relationship between the Industrial Revolution and the growth; of urban centers around the world. They study the concept of urban growth: depopulation of rural areas and migration to urban areas; the shift from an agrarian-based society to a manufacturing-based society; and they explore a change in demands for natural resources. Students examine problems that arose with the growth of the first "industrial" cities—particularly changes to natural systems—and analyze business and government solutions to these problems. They discover that the American standard of living is rooted in the Industrial Revolution, when consumerism emerged in the middle class and manufacturing replaced cottage industries and agrarian society.

Standard

10.4.1.

Describe the rise of industrial economies and their link to imperialism and colonialism (e.g., the role played by national security and strategic advantage; moral issues raised by the search for national hegemony, Social Darwinism, and the missionary impulse; material issues such as land, resources, and technology).

Unit Name and Description

New Imperialism: The Search for Natural Resources

In this unit, students investigate the decision-making processes used by industrializing nations in the mid-1800s, seeking raw materials and new markets for their growing economies. They compare disparate European beliefs about the use of natural resources and examine the government regulation that resulted from the management practices of the colonizers. Students consider how nature, once changed, presented new challenges to colonial administrators, forcing them to reshape their imperial projects more generally. Throughout the unit, students are

engaged in thinking critically about human reliance on natural resources and the increasing global interdependence of the era of New Imperialism.

Standard
10.4.3.
Explain imperialism from the perspective of the colonizers and the colonized and the varied immediate and long-term responses by the people under colonial rule.

Unit Name and Description
New Imperialism: The Control of India's and South Africa's Resources
This unit focuses on colonial experiences in India and South Africa during British hegemony. Students learn how British and local people's decisions about natural resources changed as a result of the industrialization taking place in the Western world. They analyze a case study about how differing about the use of Mount Shasta's resources by local residents and outside interests. Students then examine colonial India, where they learn how British and local people's decisions regarding natural resources changed over the period of colonization and directly influenced local responses to imperialism. They examine the complexities of colonial rule in South Africa, where the British competed with other Europeans for control of the region's gold and diamond mines. Finally, they identify key stakeholders in South Africa's development and learn the relationship between the control over natural resources and the emerging system of racial segregation.

Eleventh Grade

Standard
11.5.7.
Discuss the rise of mass production techniques, the growth of cities, the impact of new technologies (e.g., the automobile, electricity), and the resulting prosperity and effect on the American landscape.

Unit Name and Description
Mass Production, Marketing, and Consumption in the Roaring Twenties
Students explore the "Roaring Twenties" to understand the dynamics of economic change and its social, political, and environmental consequences. They examine the environmental consequences of decisions made—and not made—by industry, government, and individuals to learn about "unintended consequences" related to disposal of the waste and byproducts generated by the automobiles and other technological advancements that followed World War I. The last lesson challenges students to apply their knowledge by evaluating the pros and cons associated with plastic grocery bags, and they consider ways to prevent or remedy detrimental environmental outcomes.

Standard
11.8.6.
Discuss the diverse environmental regions of North America, their relationship to local economies, and the origins and prospects of environmental problems in those regions.

Unit Name and Description
Postwar Industries and the Emerging Environmental Movement
The unit examines the economic boom that followed World War II, especially in agriculture and energy industries, and it explores how technological changes after World War II resulted in increased demands for natural resources. Students explore some of the economic, social, and political consequences of growing resource demands and consider the effects on the environment across the United States. Students read a chapter from Rachel Carson's Silent Spring as the basis for examining the nation's changing perceptions about the environment and the resulting policy changes that governments implemented to mitigate environmental problems.

Standard
11.9.7.
Examine relations between the United States and Mexico in the twentieth century, including key economic, political, immigration, and environmental issues.

Unit Name and Description
The United States and Mexico – Working Together
This unit teaches students about treaties and agreements between the United States and Mexico related to environmental concerns. They examine the different ways the stakeholders balance decisions while analyzing cross boundary environmental issues. Students consider how population growth and density influence an area's natural resources and environmental health, how environmental factors permeate political boundaries, and how environmental issues influence the relationship between the countries. Students read about the Rio Grande and in a simulated conference, present perspectives of stakeholders concerned about water quality in the region. The final lesson focuses on the Tijuana River watershed and includes a class discussion of how actions in the rest of the border region influence U.S.–Mexico relations.

Note: Page numbers below refer to the page number on an Acrobat file that includes all chapters.

Standard
11.11.5.
Trace the impact of, need for, and controversies associated with environmental conservation, expansion of the national park system, and the development of environmental protection laws, with particular attention to the interaction between environmental protection advocates and property rights advocates.

Unit Name and Description
Many Voices, Many Visions: Analyzing Contemporary Environmental Issues
This unit uses a series of case studies to teach students about the wide range of considerations and decision making processes affecting natural resources management policies. Students develop skill in analyzing complex and controversial issues as they review expansion of Redwood National and State Parks in 1978, winter use of snowmobiles in Yellowstone National Park, and oil drilling in the Arctic National Wildlife Refuge. Each lesson approaches the complex nature of natural resource issues from a different vantage point, giving students the chance to use several different analytical skills and methods. Overall, the unit provides students with the knowledge and skills they need in order to evaluate future resource management issues.

Twelfth Grade: Principles of American Democracy

Standards

12.2.2. Principles of American Democracy

Explain how economic rights are secured and their importance to the individual and to society (e.g., the right to acquire, use, transfer, and dispose of property; right to choose one's work; right to join or not join labor unions; copyright and patent).

12.2.5. Principles of American Democracy

Describe the reciprocity between rights and obligations; that is, why enjoyment of one's rights entails respect for the rights of others.

Unit Name and Description

This Land is Your Land

Students explore California-specific case studies about laws, regulations, policies, and decision-making processes related to environmental decisions and individual rights. Students consider the "balance" between an individual's use and management of natural resources and the "common good." They explore the reciprocity between rights and obligations to ensure public health and safety. Students learn that such decisions are influenced by a spectrum of factors, including laws, policies, financial incentives, risk analyses, knowledge, and rights and responsibilities. Analysis of the history of the Sunshine Canyon Landfill is the basis for examining conflicts over environmental issues that result from competing perspectives.

Standard

12.3.2. Principles of American Democracy

Explain how civil society makes it possible for people, individually or in association with others, to bring their influence to bear on government in ways other than voting and elections.

Unit Name and Description

Active Voices: Civil Society and the Natural Environment

Students examine case studies related to how citizens have influenced governmental decisions related to environmental issues in ways other than voting. Using a set of California specific case studies, students examine how citizens voice their needs for social and environmental justice. They build an understanding of ways by which citizens make their voices heard, including methods that involve interaction with formal governmental processes and strategies that aim to educate and galvanize public opinion. Finally, students, analyze commonalities and differences among the unit's environmental case studies including differences in strategies that various stakeholders chose to implement.

Standard

12.7.6. Principles of American Democracy

Compare the processes of lawmaking at each of the three levels of government, including the role of lobbying and the media.

Unit Name and Description

Making and Implementing Environmental Laws

This unit examines lawmaking processes and roles of federal, state, and local governments related to environmental and public health. Students read about federal and state Superfund laws and Superfund sites in California as a means of comparing different levels of government, They explore the complex relationship between state, federal, and local governments in resolving environmental issues. The final lessons analyze California's Brownfields Program and explore California's Green Chemistry Initiative, and policy strategy for encouraging industry to use "green," rather than potentially toxic, materials.

Note: Page numbers below refer to the page number on an Acrobat file that includes all chapters.

Twelfth Grade: Economics

Standard

12.1.4. Economics

Evaluate the role of private property as an incentive in conserving and improving scarce resources, including renewable and nonrenewable natural resources.

Unit Name and Description

Private Property and Resource Conservation

Students explore economic issues as they relate to resource conservation. Students examine how Californians have dealt with water ownership in the 150 years since statehood. The unit focuses on the possible consequences of common ownership of resources including possible degradation and resource depletion. Students see how water in the state came to be defined as a public, not a private, good. They also learn about land trust and other incentives that encourage private property owners to care for their natural resources. At the end of the unit, students use what they have learned to research and analyze ownership and use of a resource in their community over time.

Standards

12.2.2. Economics

Discuss the effects of changes in supply and/or demand on the relative scarcity, price, and quantity of particular products.

12.2.7. Economics

Analyze how domestic and international competition in a market economy affects goods and services produced and the quality, quantity, and price of those products.

Unit Name and Description

Sustaining Economies and the Earth's Resources

Students study "sustainable economics," an economic system with a focus of sustaining ecosystem goods and services over a long period of time. By examining a case study about the U.S. and international fishing industries, they learn about economic forces and our dependence on natural systems. They analyze the relationship among supply, demand, scarcity, and price to learn about making informed decisions as consumers. In subsequent lessons, students apply their knowledge about ecosystem dynamics to an investigation about industry practices on ocean resources and marine ecosystems. The final lesson examines the function of regulatory measures in sustaining both the natural systems and the fishing industry for future generations.

Standard

12.3.1. Economics

Understand how the role of government in a market economy often includes providing for national defense, addressing environmental concerns, defining and enforcing property rights, attempting to make markets more competitive, and protecting consumers' rights.

Unit Name and Description

Government and the Economy: An Environmental Perspective

This unit focuses on understanding the role of government in a free-market economy from the perspective of addressing environmental concerns. Students examine the fiscal policies, incentives, and market forces governments use to influence business activities that affect the natural environment. Students consider the pros and cons of a new approach toward environmental protection—one that uses market mechanisms. Emissions trading (for example, cap and trade) gives businesses incentives to comply with environmental standards while also allowing them flexibility in compliance.