

California Education and the Environment Initiative

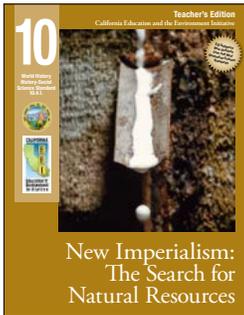
Increasing Environmental Literacy for K–12 Students...
Because the Future is in Their Hands



TEACH COMMON CORE STANDARDS WITH THE EEI CURRICULUM

Created with your needs in mind, this document shows the correlation between the EEI Curriculum and the California Common Core State Standards. By teaching the EEI unit lessons in your classroom, you will be simultaneously addressing the Common Core standards depicted in this guide.

10.4.1.—New Imperialism: The Search for Natural Resources



In this unit, students examine the environmental effects of colonization and the New Imperialism. They begin by studying hydrogen as a fuel source and the role it plays in California’s economy and politics. They then study other natural resources, focusing on rubber and quinine. Students examine how these resources led to colonization and impacted the colonists, native peoples, and the environment. They understand through reflection, discussion, and writing assignments how New Imperialism has affected and continues to affect the american landscape.

		SL.9–10.1	SL.9–10.4	L.9–10.4	RH.9–10.1	RH.9–10.2	RH.9–10.3	RH.9–10.4	RH.9–10.5	RH.9–10.7	RH.9–10.8	RH.9–10.10	WHST.9–10.2	WHST.9–10.4	WHST.9–10.5	WHST.9–10.9
LESSONS	California Connections			✓				✓	✓		✓		✓			✓
	1	✓		✓		✓		✓	✓			✓		✓	✓	✓
	2	✓	✓	✓		✓	✓	✓			✓			✓		
	3	✓	✓	✓	✓	✓		✓	✓	✓	✓			✓		
	4	✓		✓	✓			✓		✓			✓	✓	✓	✓
	5	✓		✓	✓	✓		✓						✓		✓
	6	✓		✓				✓						✓		
	Traditional Assessment					✓								✓	✓	
Alternative Assessment	✓	✓							✓				✓		✓	✓

Note: For your reference, the list of California Common Core State Standards abbreviations is on the following page.

Using the EEI-Common Core Correlation Matrix

The matrix on the front page identifies a number of Common Core standards that are supported by this EEI unit. However, the check marks in the matrix do not necessarily signify that the Common Core standards checked will be taught to mastery by using this EEI unit alone. Teachers are encouraged to select which Common Core standards they wish to emphasize, rather than teaching to every indicated standard. By spending more time on selected standards, students will move toward greater Common Core proficiency in comprehension, critical thinking and making reasoned arguments from evidence. Teaching this EEI unit will provide opportunities for teachers to implement the shift in instructional practice necessary for full Common Core implementation.

California Common Core State Standards Abbreviations

- **CCSS:** California Common Core State Standards
- **L:** Language Standards
- **RH:** Reading Standards for Literacy in History/Social Studies
- **SL:** Speaking and Listening Standards
- **WHST:** Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects

Note: *Since each Common Core standard includes a breadth of skills, in this correlation, the portion of the standard description that is featured in the Common Core Standards and Applications is cited, using “...” to indicate omitted phrases. For a list of the complete standard descriptions, please see the Common Core Reference Pages located on pages 22–23 of this document.*

A Note about Common Core Speaking and Listening Standards

Throughout this unit, students participate in various learning structures and groups to analyze, discuss, and synthesize data, which supports the skill in Speaking and Listening Standard 1 “Participate effectively in a range of collaborative discussions (one-on-one, groups...) with diverse partners.” With prior instruction on collaborative discussions, these various groupings and the materials students examine lend themselves to prime discussion material for collaborative discussions. Learning structures with tasks for pairs and groups are in the following lessons:

- **Lesson 1:** Whole class, pairs
- **Lesson 2:** Whole class, groups of four
- **Lesson 3:** Whole class, eight groups
- **Lesson 4:** Whole class, six groups
- **Lesson 5:** Whole class, partners
- **Lesson 6:** Whole class, partners

National Geographic Resources

No maps or posters are used with this unit.

Unit Assessment Options

Assessments	Common Core Standards Applications
Traditional Assessment	
<p>Students answer multiple-choice and short-answer questions.</p> <p>Suggestion: <i>Require students to include textual evidence in their responses.</i></p>	<p>RH.9–10.2: Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.</p> <p>WHST.9–10.2: Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.</p> <p>WHST.9–10.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
Alternative Assessment	
<p>Students conduct a mock interview with a colonial administrator that culminates in their writing a newspaper article about natural resources.</p> <p>Suggestion: <i>Use multimedia resources to publish the article to emphasize the difference between different types of informational writing.</i></p>	<p>RH.9–10.5: Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.</p> <p>SL.9–10.1: Initiate and participate effectively in a range of collaborative discussions (...in groups, and teacher-led) with diverse partners on <i>grades 9–10 topics, texts, and issues</i>, building on others' ideas and expressing their own clearly and persuasively.</p> <p>SL.9–10.4: Present information, findings, and supporting evidence clearly, concisely, and logically (using appropriate eye contact, adequate volume, and clear pronunciation) such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose...</p> <p>WHST.9–10.2: Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.</p> <p>a) Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>b) Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>c) Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>d) Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers.</p>

Assessments	Common Core Standards Applications
	<p>e) Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>f) Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>WHST.9–10.5: Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p>WHST.9–10.9: Draw evidence from informational texts to support analysis, reflection, and research.</p>

Lesson 1: The Hydrogen Highway— Resources for a Revolution

Students read **California Connections: Paving the Way for a Cleaner Tomorrow** and answer questions that help them connect resource issues in the modern world with the issues faced by the new industrial economies during the era of New Imperialism.



Use this correlation in conjunction with the **Procedures** located on page 36 of the Teacher’s Edition. Only procedure steps with a Common Core correlation are included in the table below.

Student Tasks	Common Core Standards Applications
<p>Vocabulary Development: For depth of understanding, vocabulary may be featured within the context of the unit instead of or in addition to the beginning of the lesson.</p>	<p>L.9–10.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grades 9–10 reading and content</i>, choosing flexibly from a range of strategies.</p> <p>RH.9–10.4: Determine the meaning of words and phrases as they are used in a text...</p>
<p>Steps 1 and 2: Lead a whole-class discussion about resources according to provided questions and the projection of The Hydrogen Highway (Visual Aid #1).</p> <ul style="list-style-type: none"> ■ Why is energy vital to our security and economy? (<i>Energy is necessary to run our businesses, homes, transportation. Without energy sources, we would not be able to function.</i>) ■ When in history did the demand for energy start to increase? (<i>At the time of the Industrial Revolution; the 19th century, when new technologies developed that needed and used more power and energy</i>) ■ Why is energy an important topic today? (<i>Answers should include that certain energy sources are being depleted; human communities are looking for more reliable and renewable energy sources; many people are concerned about the effects of traditional energy sources on the environment and want to find ways to use alternative sources of energy.</i>) 	<p>SL.9–10.1: Initiate and participate effectively in a range of collaborative discussions (... in groups, and teacher-led) with diverse partners on <i>grades 9–10 topics, texts, and issues</i>, building on others’ ideas and expressing their own clearly and persuasively.</p> <p>c) Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.</p>
<p>Steps 3 and 4: Students read California Connections: Paving the Way for a Cleaner Tomorrow (Student Edition, pages 2–5) and answer questions in Parallels of Industrialization and the Hydrogen Highway (Student Workbook, page 4) in pairs.</p> <p>Suggestion: Refer to the Reading California Connections Using a Common Core Reading and Writing Focus on pages 16–20 to view specific suggestions for integrating Common Core standards while reading the selection not only for content, but for text structure as well.</p> <p>Tip: If Student Workbooks need to be reused from year to year, students should not write in them. Some strategies teachers use to preserve the workbooks are:</p> <ul style="list-style-type: none"> ■ Have students use binder paper or other lined or unlined paper ■ Have students use a sheet protector over the page and write with a whiteboard marker 	<p>RH.9–10.2: Determine the central ideas or information of a... secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.</p> <p>RH.9–10.10: By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>WHST.9–10.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>

Student Tasks	Common Core Standards Applications
<p>Steps 3 and 4(continued):</p> <ul style="list-style-type: none"> ■ <i>Do together as a class on a projector or chart paper</i> ■ <i>Project the digital fill-in version and do together as a class</i> ■ <i>Students use digital devices to fill in the digital version found on the website.</i> ■ <i>Make student copies when necessary</i> 	<p>RH.9–10.2: Determine the central ideas or information of a... secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.</p> <p>RH.9–10.10: By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>WHST.9–10.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
<p>Step 5: Students share answers to questions on Parallels of Industrialization and the Hydrogen Highway and correct answers while sharing.</p> <p>Suggestion: <i>Lead a discussion to decide which passages most effectively answer each question.</i></p>	<p>RH.9–10.5: Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.</p> <p>SL.9–10.1: Initiate and participate effectively in a range of collaborative discussions (...teacher-led)...</p> <p>WHST.9–10.5: Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p>WHST.9–10.9: Draw evidence from informational texts to support analysis, reflection, and research.</p>

Lesson 2: Natural Resources for an Industrial Economy

Students read about the relationships between the industrializing nations of the 19th century and natural resources. They discover the major roles of natural resources in fueling an industrial economy and develop chains that directly link industrialization with ecosystem goods and ecosystem services.



Use this correlation in conjunction with the **Procedures** located on page 48 of the Teacher’s Edition. Only procedure steps with a Common Core correlation are included in the table below.

Student Tasks	Common Core Standards Applications
<p>Vocabulary Development: For depth of understanding, vocabulary may be featured within the context of the unit instead of or in addition to the beginning of the lesson.</p>	<p>L.9–10.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grades 9–10 reading and content</i>, choosing flexibly from a range of strategies.</p> <p>RH.9–10.4: Determine the meaning of words and phrases as they are used in a text...</p>
<p>Step 1: Lead a brainstorming session about the relationship between natural resources and the Industrial Revolution by projecting Richard Trevithick’s 1804 Locomotive; Cotton Warper, 1916; Telegraph Lines, 1891; Bessemer Process Furnace, 1898; and Chicago Business District, 1898 (Visual Aids #2–6).</p>	<p>SL.9–10.1: Initiate and participate effectively in a range of collaborative discussions (...teacher-led)...</p>
<p>Step 2: Organize students into groups of 4. In their groups (or individually), students read the Background section of Evaluating the Need for Natural Resources in Industrial Economies (Student Workbook, pages 5–9).</p>	<p>RH.9–10.2: Determine the central ideas or information of a ...secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.</p>

Student Tasks	Common Core Standards Applications
<p>Steps 3 and 4: Distribute Industrialization Links (Teacher’s Masters, pages 2–6) and chart making materials to groups. Read the instructions for the Making a Chain section of Evaluating the Need for Resources in Industrial Economies and show students the prepared sample chains. Give them 20 minutes to complete their chains and then have each group present and explain one of the chains that they created. Give students time to complete the Chains of Casualty section of Evaluating the Need for Natural Resources in Industrial Economies.</p>	<p>RH.9–10.3: Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.</p> <p>RH.9–10.8: Assess the extent to which the reasoning and evidence in a text support the author’s claims.</p> <p>SL.9–10.4: Present information, findings, and supporting evidence clearly, concisely, and logically (using appropriate eye contact, adequate volume, and clear pronunciation) such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose...</p> <p>WHST.9–10.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
<p>Step 5: Assign the four questions on Evaluating the Need for Natural Resources in Industrial Economies as homework.</p>	<p>WHST.9–10.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>

Lesson 3: Perspectives on the Control and Use of Natural Resources

Students analyze historical documents to identify the reasons people sought to control certain areas of the world. After sharing quotes from each document, students participate in a discussion regarding the political, social, and economic influences on the rise of New Imperialism in the late 19th century.



Use this correlation in conjunction with the **Procedures** located on pages 70–71 of the Teacher’s Edition. Only procedure steps with a Common Core correlation are included in the table below.

Student Tasks	Common Core Standards Applications
<p>Vocabulary Development: For depth of understanding, vocabulary may be featured within the context of the unit instead of or in addition to the beginning of the lesson.</p>	<p>L.9–10.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grades 9–10 reading and content</i>, choosing flexibly from a range of strategies.</p> <p>RH.9–10.4: Determine the meaning of words and phrases as they are used in a text...</p>
<p>Step 1: Lead a discussion based on Lesson 2 and then introduce the concept of colonization. Project Colonization Concept Map (Visual Aid #7) and discuss reasons for establishing a colony. Record student responses on the Colonization Concept Map.</p>	<p>SL.9–10.1: Initiate and participate effectively in a range of collaborative discussions (...teacher-led)...</p>
<p>Step 3: Organize students into eight groups. Tell them to turn to Primary Source Analysis Form (Student Workbook, pages 10–11) and review questions. Assign readings according to the provided instructions and have students fill out the form and record textual evidence on wall charts.</p> <p>Suggestion: <i>Under each recorded quote, have students write one or two sentences analyzing why they feel their chosen quotes are poignant.</i></p>	<p>RH.9–10.1: Cite specific textual evidence to support analysis of primary ...sources, attending to such features as the date and origin of the information.</p> <p>RH.9–10.2: Determine the central ideas or information of a primary...source; provide an accurate summary of how key events or ideas develop over the course of the text.</p> <p>RH.9–10.5: Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.</p> <p>RH.9–10.8: Assess the extent to which the reasoning and evidence in a text support the author’s claims.</p>
<p>Step 4: Students share their findings with the class.</p> <p>Suggestion: <i>Model using appropriate eye contact, adequate volume, and clear pronunciation for the students, and then model not using them. Have the students make an outline of their presentation and practice using the appropriate techniques.</i></p>	<p>SL.9–10.4: Present information, findings, and supporting evidence clearly, concisely, and logically (using appropriate eye contact, adequate volume, and clear pronunciation) such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose...</p>

Student Tasks	Common Core Standards Applications
<p>Step 5: Project Colonial Holdings in the Era of New Imperialism (Visual Aid #8). Explain that the map shows the areas where the industrializing nations at this time exerted colonial control. Ask students to use the World wall map to identify the colonies of the industrializing nations. Ask students what they notice about the location of the colonies on the wall map.</p>	<p>RH.9–10.7: Integrate quantitative or technical analysis...</p> <p>SL.9–10.1: Initiate and participate effectively in a range of collaborative discussions (...teacher-led)...</p>
<p>Step 6: Tell students to complete the activity in Differing Perspectives: The Control and Use of Natural Resources (Student Workbook, pages 12–13).</p>	<p>WHST.9–10.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>

Lesson 4: Tapping the Resources of the Rainforest

Students read historical information about different aspects of natural rubber extraction from the Brazilian Amazon. They consider questions that will help them understand why the Amazon rubber “boom” went “bust.”



Use this correlation in conjunction with the **Procedures** located on page 96 of the Teacher’s Edition. Only procedure steps with a Common Core correlation are included in the table below.

Student Tasks	Common Core Standards Applications
<p>Vocabulary Development: For depth of understanding, vocabulary may be featured within the context of the unit instead of or in addition to the beginning of the lesson.</p>	<p>L.9–10.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grades 9–10 reading and content</i>, choosing flexibly from a range of strategies.</p> <p>RH.9–10.4: Determine the meaning of words and phrases as they are used in a text...</p>
<p>Step 1: Introduce the history and uses of rubber by discussing its uses with the class.</p>	<p>SL.9–10.1: Initiate and participate effectively in a range of collaborative discussions (...teacher-led)...</p>
<p>Steps 3–5: Organize students into six groups and have them fill out Growing Rubber for Growing Industries (Student Workbook, pages 14–18) according to information cards passed among the groups. Discuss answers.</p> <p>Suggestion: Lead a discussion in which students refer to the details of both text and pictures to show how they arrived at their answers.</p>	<p>RH.9–10.1: Cite specific textual evidence to support analysis of primary...sources, attending to such features as the date and origin of the information.</p> <p>RH.9–10.7: Integrate quantitative or technical analysis...</p> <p>SL.9–10.1: Initiate and participate effectively in a range of collaborative discussions (...teacher-led)...</p> <p>WHST.9–10.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.9–10.9: Draw evidence from informational texts to support analysis, reflection, and research.</p>

Student Tasks	Common Core Standards Applications
<p>Step 6: Students write a summary paragraph at the end of Growing Rubber for Growing Industries.</p> <p>Suggestion: <i>The procedures in the Teacher’s Edition ask for a “summary paragraph,” but the student instructions say “essay.” Instead of assigning as homework, have students write a timed essay using their notes. Allow students the opportunity to exchange their essays and provide commentary about what can be done to improve the essays, as a tool to explain a process.</i></p>	<p>WHST.9–10.2: Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.</p> <ul style="list-style-type: none"> a) Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b) Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic. c) Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d) Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e) Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f) Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic). <p>WHST.9–10.5: Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p>

Lesson 5: The Tree That Saved an Empire

Students read about the history of quinine and label a map to track the movement of the Cinchona tree, the source of this medicine, from South America to European colonial holdings in Asia. Students then examine a British directive regarding quinine that helped ensure Europe’s continued economic success.



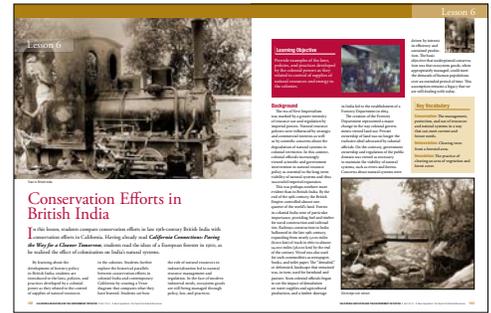
Use this correlation in conjunction with the **Procedures** located on pages 120–121 of the Teacher’s Edition. Only procedure steps with a Common Core correlation are included in the table below.

Student Tasks	Common Core Standards Applications
<p>Vocabulary Development: For depth of understanding, vocabulary may be featured within the context of the unit instead of or in addition to the beginning of the lesson.</p>	<p>L.9–10.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grades 9–10 reading and content</i>, choosing flexibly from a range of strategies.</p> <p>RH.9–10.4: Determine the meaning of words and phrases as they are used in a text...</p>
<p>Steps 1 and 2: Project Colonial Holdings in the Era of New Imperialism (Visual Aid #8) and lead a discussion on malaria and how it affected colonization, using the directions in the Teacher’s Edition.</p>	<p>SL.9–10.1: Initiate and participate effectively in a range of collaborative discussions (...teacher-led)...</p>
<p>Step 3: Students read Part 1—Mapping the History of Quinine (Student Edition, pages 10–12) and fill out Quinine and Global Implications of Imperialism (Student Workbook, page 19) in pairs, using the atlas as a resource.</p> <p>Suggestion: <i>Require students to include textual evidence in their responses.</i></p>	<p>RH.9–10.1: Cite specific textual evidence to support analysis of primary...sources, attending to such features as the date and origin of the information.</p> <p>RH.9–10.2: Determine the central ideas or information of a...secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.</p> <p>WHST.9–10.9: Draw evidence from informational texts to support analysis, reflection, and research.</p>
<p>Step 4: Discuss student results and correct answers.</p>	<p>SL.9–10.1: Initiate and participate effectively in a range of collaborative discussions (...teacher-led)...</p>
<p>Step 5: Read House of Commons Parliamentary Papers Enclosure to No. 13 (Student Edition, page 13) aloud with class.</p>	<p>RH.9–10.2: Determine the central ideas or information of a primary...source; provide an accurate summary of how key events or ideas develop over the course of the text.</p>

Student Tasks	Common Core Standards Applications
<p>Step 6: Discuss the excerpt with the class using the provided questions.</p> <ul style="list-style-type: none"> ■ What were the reasons for removing the Cinchona seeds from South America? <i>(The excerpt indicates that the British believed the Cinchona tree might become extinct if not cultivated elsewhere. Additionally, the British point to the unstable political situation in South America, which would have threatened their access to the trees.)</i> ■ What were the effects of removing the seeds on Imperial governments and the colonies? <i>(India would have a new export to add to the economy, and malaria medicine would be available as needed instead of whenever the South American countries had some.)</i> 	<p>SL.9–10.1: Initiate and participate effectively in a range of collaborative discussions (...teacher-led)...</p>
<p>Step 7: Students complete Part 2—Putting It All Together (Student Workbook, pages 20–21).</p>	<p>WHST.9–10.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>

Lesson 6: Conservation Efforts in British India

Students solve a puzzle to learn about conservation efforts in 19th-century British India, and compare them to conservation efforts in contemporary California.



Use this correlation in conjunction with the **Procedures** located on pages 136–137 of the Teacher’s Edition. Only procedure steps with a Common Core correlation are included in the table below.

Student Tasks	Common Core Standards Applications
<p>Vocabulary Development: For depth of understanding, vocabulary may be featured within the context of the unit instead of or in addition to the beginning of the lesson.</p>	<p>L.9–10.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grades 9–10 reading and content</i>, choosing flexibly from a range of strategies.</p> <p>RH.9–10.4: Determine the meaning of words and phrases as they are used in a text...</p>
<p>Step 1: Discuss <i>California Connections: Paving the Way for a Cleaner Tomorrow</i> from Lesson 1 with the class and ask the questions provided in the Teacher’s Edition.</p>	<p>SL.9–10.1: Initiate and participate effectively in a range of collaborative discussions (...teacher-led)...</p>
<p>Step 3: In pairs, have students complete Conservation in British India (Student Workbook, pages 22–23) and Conservation in Contemporary California (Student Workbook, pages 24–25).</p> <p>Suggestion: <i>Change the questions from closed-ended to open-ended to allow for more in-depth responses.</i></p>	<p>WHST.9–10.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
<p>Steps 4 and 5: Students complete the Venn diagram in Comparing Conservation in British India and Contemporary California (Student Workbook, page 26) in pairs then discuss as a class.</p>	<p>SL.9–10.1: Initiate and participate effectively in a range of collaborative discussions (...in pairs, teacher-led)...</p> <p>WHST.9–10.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>

Student Tasks	Common Core Standards Applications
<p>Step 6: Project Conservation Efforts in British India—Closing (Visual Aid #13) and lead a discussion according to the questions provided in the Teacher’s Edition.</p> <ul style="list-style-type: none"> ■ What do you think accounts for the differences in efforts to conserve natural resources in British India and Contemporary California? (<i>Conservation efforts in British India were in their infancy. In contemporary California, knowledge of global effects of the overuse of natural resources and advanced technology has enabled conservationists to seek out alternative energy sources to allow humans to maintain their standard of living.</i>) ■ Why is it important that the government create laws and policies to encourage conservation? (<i>Economies depend on availability of resources over the long term, so it is important that governments help conserve resources to keep the economy healthy. The primary purpose of business is to create profit. While many businesses practice conservation, it is government’s job to act as the voice of the environment because nature cannot speak directly for itself.</i>) 	<p>SL.9–10.1: Initiate and participate effectively in a range of collaborative discussions (...teacher-led)...</p>

Unit Assessment

Refer to the introduction pages at the front of this document for information regarding the Traditional and Alternative Assessments for this unit and their Common Core correlations.

Reading *California Connections* using a Common Core Reading and Writing Focus

Reading

History teachers can further enhance the teaching of Common Core Reading Literacy Standards by noting the suggestions below and in the following pages while reading the *California Connections* selection for content. Explicitly teach students to pay attention to the structure of the text by noting the following:

- Note how the author cites evidence to support main points and analysis; note any gaps or inconsistencies; note the date and origin of the source and whether it is primary or secondary. **(RH.9–10.1)**
- Note how the author sets up the central ideas or information; trace the relationship among key details and ideas; summarize how key events or ideas develop over the course of the text. **(RH.9–10.2)**
- Analyze a series of events described in the text; evaluate various explanations for actions or events; determine which explanation best accords with textual evidence; determine whether earlier events caused later ones or simply preceded them; acknowledge where matters are left uncertain. **(RH.9–10.3)**
- Note how the author explains and refines the meaning of key terms, symbols, domain-specific words, and phrases. **(RH.9–10.4)**
- Analyze how the structure is used to emphasize key points or advance an explanation or analysis and how key sentences, paragraphs, and larger portions of the text contribute to the whole. **(RH.9–10.5)**
- Compare and evaluate the point of view of the author(s); note which details are included and emphasized; assess the author's claims, reasoning, and evidence; compare the text with other authors on the same topic. **(RH.9–10.6)**
- Note how the information in the *California Connections* text integrates with information provided throughout the unit in diverse visual, quantitative, and qualitative formats, including tables, charts, research data, and maps, in print or digital texts. **(RH.9–10.7)**
- Assess whether the author's extent of reasoning and evidence in a text support the author's claim; evaluate the author's premises, claims, and evidence. **(RH.9–10.8)**
- When other documents are included, compare and contrast findings presented in this text to those in other sources, noting when the findings support or contradict previous explanations, and identify any discrepancies. **(RH.9–10.9)**
- Note comprehension strategies for understanding text. **(RH.9–10.10)**

Note: Standard descriptions from the Reading Standards for Literacy in History/Social Studies are paraphrased and combined, using terminology that applies to reading a *California Connections* selection.

Writing

Many *California Connections* selections can be used as a model for future student writing tasks applying the Writing Literacy Standards by noting how the author structures the text, organizes the ideas, and provides well-chosen relevant and sufficient facts, extended definitions, concrete details, quotations, or other information and examples.

Using the *California Connections* Selection

The following pages note specific places where the *California Connections* selection provides examples for specific Writing Literacy Standards, using this selection as a writing model. They also provide suggestions for teaching students to analyze text structure using the Reading Literacy Standards. Teachers can incorporate more suggestions from the list above.

RH.9–10.5: Analyze how a text uses structure to emphasize key points...

Suggestion: Prior to reading the selection, students should review why informational text is organized in this manner. Have students identify headings, subheadings, and captions.

California Connections: Paving the Way for a Cleaner Tomorrow
Lesson 1 | page 1 of 4

Paving the Way for a Cleaner Tomorrow



Our state's trend-setting influence is not limited to fashion. When California passed strict auto emissions laws in the 1960s, 10 other states followed suit. These efforts have dramatically improved the air quality in California's metropolitan areas. In 2004, California took the lead again by creating the California Hydrogen Highway Network (CaH2Net). The mission of this public-private partnership is to develop a "clean" transportation system.

Although the technology for hydrogen-fueled vehicles has existed for some time, it has been challenging to get consumers to "buy in" to an alternative to the fossil fuels used in most cars and buses.

The Hydrogen Highway Network is administered by the California Air Resources Board (CARB). The CARB is one of the 32 members of the California Fuel Cell Partnership, a collaborative of auto manufacturers, energy companies, fuel cell technology companies, and state and federal agencies. CaFCP's members work collaboratively toward commercializing fuel cell vehicles (FCV) and hydrogen fuel. Hydrogen Highway Network stations in the state that provide fuel to the drivers who operate fuel cell vehicles in demonstration programs.

The combined influence of political, geological, and environmental pressures has made the search for fossil fuel alternatives a national imperative. Much of our nation's oil supply comes from politically unstable regions. According to experts, over 50%

of our viable oil reserves are already depleted. In addition, the remaining oil is getting more and more difficult to extract. The increased cost of extraction means gas costs more and consumer prices increase across the board. When resources become



Hydrogen-fueled car

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WHST.9–10.2: Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

d) Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers.

Suggestion: Have students identify the following words and/or phrases: *Fossil fuel, greenhouse gases, hydrogen fuel cell.*

Ask students to create a concept map that helps them understand the relationship between these words/phrases. Have them pair/share their concept maps and provide them an opportunity to make revisions to their concept maps.

California Connections: Paving the Way for a Cleaner Tomorrow
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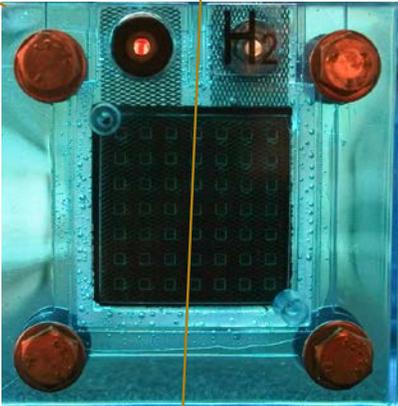
scarce they can also trigger more international conflict as nations fight for control over the remaining energy supplies. Further, the environmental effects of fossil fuel extraction, transportation, and use are significant, and not without risk of accident. Drilling, transporting, and refining oil contributes to air pollution, and can alter and contaminate ecosystems. Burning fossil fuels for energy creates greenhouse gases, such as carbon dioxide. Some of the carbon is reabsorbed by nature during the natural "carbon cycle." Carbon, which is the backbone of life, changes form, and moves continually between animals, including humans, plants, and the environment. The rapid industrialization of the last century, however, has created a surplus of carbon dioxide and other gases. The excess gases collect in the atmosphere and contribute to accelerated rates of climate change.

Federal and state laws regulate the emission of greenhouse gases, and research is underway on alternative fuels such as ethanol, hydrogen, and batteries. Government and industry have invested billions of dollars over the last few decades to find an alternative fuel that is practical, sustainable, and clean. All alternatives have their challenges, and all are years away from

being mainstream. Hydrogen is an excellent long-term solution. The California Hydrogen Highway Network is intent on making this vision a reality.

Building the Hydrogen Highway
CaH2Net's two keys to success are vehicles that can run on hydrogen and having enough hydrogen fueling stations to deliver fuel to consumers when needed. Vehicles can use hydrogen in two ways: they can burn hydrogen as a

conventional vehicle does or convert it to electricity in a fuel cell. Conventional cars burn gas in an internal combustion engine. Their exhaust contains gases such as carbon dioxide, carbon monoxide, and sulfur. Hydrogen combustion engines create so few of these gases that they cannot be measured. Fuel cell vehicles produce energy efficiently without combustion. They operate like a battery that does not need to be recharged. Hydrogen FCVs create electrical energy from the



Hydrogen fuel cell

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WHST.9–10.2: Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

f) Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

Suggestion: Have students use a quick-write to summarize the ways in which vehicles can use hydrogen as a fuel.

L.9–10.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 9–10 reading and content*, choosing flexibly from a range of strategies.

RH.9–10.4: Determine the meaning of words and phrases as they are used in a text...

- *Hydrogen Highway*
- *Alternative fuel*

attractive forces between hydrogen and oxygen. Their “waste” product is water vapor.

Thirteen-million dollars in state and federal funding was initially used to lease fuel cell buses and build hydrogen-fueling stations in urban areas. CaH2Net envisions networks of stations in the two most populated areas of California, the greater Los Angeles and the Sacramento/San Francisco corridor. Later, stations will be built at intervals along California’s major highways to provide fuel in other parts of California. The Hydrogen Highway recently reached an important milestone. By fall 2008, FCV’s had driven nearly two million miles on California roads. Seven buses and almost 250 passenger vehicles have been placed on roads throughout the state. Twenty-five hydrogen fueling stations were in operation, with 11 more in planning stages or under construction.

Potential Roadblocks

To be successful, every alternative fuel must be cost effective to produce, logical to

store at the station, affordable for drivers, and easy for people to put in their cars. The current demonstration projects and ongoing research and development are exploring these issues and finding solutions.

One of the benefits of hydrogen as a fuel is the variety

of sources from which it can be obtained. As with all fuels, creating hydrogen-based fuels requires energy and produces pollution. Most hydrogen is made from natural gas, a process that releases CO₂ into the atmosphere. However, hydrogen made this way and used in a fuel



WHST.9–10.9: Draw evidence from informational texts to support analysis, reflection, and research.

Suggestion: During a second read of the selection, have students refer back to the map and explain how the information from the map and the text from the reader work together to help readers understand the main ideas and details.

RH.9–10.8: Assess the extent to which the reasoning and evidence in a text support the author’s claims.

Suggestion: Have students review the reading selection and have them identify the author’s claims and the evidence the author uses to support the claim. An extension of the activity could be identifying a claim the author makes and finding additional evidence beyond those provided in the reading selection to support the claim. For example, students could visit the California Department of Food and Agriculture’s website (Division of Weights and Measures) to determine the tests that are in use to determine fuel quality standards.

California Connections: Paving the Way for a Cleaner Tomorrow
Lesson 3 | page 4 of 4

cell vehicle produces 55% fewer greenhouse gases than when gasoline is used in a combustion engine. Hydrogen fuel produced using renewable resources, like solar energy, water, and plant material, generates practically no greenhouse gases. Many hydrogen stations produce fuel at the station. This eliminates the need to transport fuel, but increases the need for novel ideas about storing hydrogen gas at the station.

Research, development, and road testing of the vehicles are proving the technology of fuel

cells. People expect vehicles to travel 300 miles on a tank of fuel and last for 150,000 miles. The auto manufacturers are making good progress towards these goals, but are several years from being ready to sell vehicles.

Federal and state governments are helping with the costs of research and development, and the early stages of manufacturing. Governments are also assisting by developing or modifying needed regulations, codes, and standards. For example, to sell any alternative fuel, California’s

Department of Food and Agriculture sets the quality standards for the fuel and creates tests to measure the fuel as it is dispensed. This ensures that when people pay for fuel, they get what they are paying for.

Moving Ahead

One of many strategies for alternative fuel sources, the work behind the Hydrogen Highway Network is fueled by shared goals: creating energy security and

protecting the environment. While there are still many legal and technical challenges ahead for the Hydrogen Highway, many of the needed changes have already occurred. It is the belief that a partnership between government and industry will help bring alternate energy into use.

Companies are also motivated by their business interests. Auto manufacturers see a market for clean, fuel-efficient vehicles. Energy suppliers envision a diverse fuel supply that will never run out. Entrepreneurs and small business owners see a future market built upon something that does not exist today, somewhat like the market that cell phones created.

The push to develop alternatives has additional benefits. It will create new revenue sources and employment opportunities for the state’s residents. Moreover, California will have made important progress in the search for cleaner, renewable, energy. California is not alone in this effort. Other states, such as Florida and New York, have hydrogen fuel programs. Hydrogen networks are underway in Canada, China, Japan, and Europe. California is leading the world in the shared vision of energy independence, environmental protection, national security, and improved public health.



Hydrogen pumping station

California Common Core State Standards Descriptions

Language Standards

- **L.9–10.4:** Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 9–10 reading and content*, choosing flexibly from a range of strategies.

Reading Standards for Literacy in History/Social Studies

- **RH.9–10.1:** Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
- **RH.9–10.2:** Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
- **RH.9–10.3:** Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
- **RH.9–10.4:** Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
- **RH.9–10.5:** Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
- **RH.9–10.7:** Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
- **RH.9–10.8:** Assess the extent to which the reasoning and evidence in a text support the author’s claims.
- **RH.9–10.10:** By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.

Speaking and Listening Standards

- **SL.9–10.1:** Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grades 9–10 topics, texts, and issues*, building on others’ ideas and expressing their own clearly and persuasively.
 - c) Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.
- **SL.9–10.4:** Present information, findings, and supporting evidence clearly, concisely, and logically (**using appropriate eye contact, adequate volume, and clear pronunciation**) such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose (**e.g., argument, narrative, informative, response to literature presentations**), audience, and task. **CA**

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects

- **WHST.9–10.2:** Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.
 - a) Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
 - b) Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.
 - c) Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.
 - d) Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers.

Common Core Reference Pages

- e) Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
- f) Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
- **WHST.9–10.4:** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- **WHST.9–10.5:** Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
- **WHST.9–10.9:** Draw evidence from informational texts to support analysis, reflection, and research.