

California Education and the Environment Initiative

Increasing Environmental Literacy for K–12 Students...

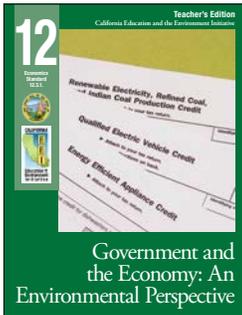
Because the Future is in Their Hands



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.

12.3.1.—Government and the Economy: An Environmental Perspective



This unit explores the role of government in a market economy and how that relates to the protection of our nation’s environment. It also examines the ways in which the government works with businesses to protect and sustain the natural resources upon which the economy depends. In the first lesson, students read an article which highlights externalities of modern production and consumption. Lesson 2 presents students with two case studies that demonstrate the interaction between economic policy and protection of the environment, exploring concepts of marginal costs, marginal benefits, and opportunity costs. In Lesson 3, students study emissions trading and mechanisms such as “cap and trade.” Lesson 4 involves a study of government fiscal policies that have been used to address environmental concerns and their effects on the market. Students conclude the unit by exploring scenarios involving market failure, and they work in groups to determine what fiscal tools and policies to establish to resolve the situation.

		RH.11–12.1	RH.11–12.2	RH.11–12.4	RH.11–12.5	RH.11–12.6	RH.11–12.7	RH.11–12.8	RH.11–12.10	WHST.11–12.1	WHST.11–12.2	WHST.11–12.4	WHST.11–12.9	WHST.11–12.10	SL.11–12.1	SL.11–12.3	SL.11–12.4	
LESSONS	California Connections		✓	✓	✓	✓	✓	✓	✓		✓							
	1	✓	✓	✓			✓						✓	✓	✓			
	2	✓	✓	✓											✓			✓
	3		✓	✓			✓							✓	✓			
	4		✓	✓								✓		✓	✓	✓		
	5			✓							✓	✓	✓	✓	✓	✓	✓	✓
	Traditional Assessment										✓							
	Alternative Assessment										✓	✓	✓	✓				

COMMON CORE STANDARDS

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
- **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 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 19–20 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, (optional partners or small group) (optional), whole class
- **Lesson 2:** Class divided in half (2 large groups), whole class
- **Lesson 3:** Whole class
- **Lesson 4:** Pairs, whole class, individuals
- **Lesson 5:** Groups of 4, whole class, individuals

National Geographic Resources

- **Human Imprint** wall map (Lesson 1)

Unit Assessment Options

Assessments	Common Core Standards Applications
Traditional Assessment	
<p>Students complete multiple-choice questions. Then they write five paragraphs responding to five different questions. These include ideas on:</p> <ul style="list-style-type: none"> ■ the government’s responsibility in regard to the economy and the environment ■ the connection between business and the environment ■ how government action can affect the economy ■ a businesses’ participation in a “cap and trade” program ■ a description of externalities and how they affect decisions made by business and government 	<p>WHST.11–12.2: Write informative/explanatory texts...</p> <ol style="list-style-type: none"> a) Introduce a topic and organize complex ideas, concepts, and information... b) Develop the topic thoroughly by selecting the most significant and relevant 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...create cohesion, and clarify the relationships among complex ideas and concepts. d) Use precise language, domain-specific vocabulary and techniques...to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.
Alternative Assessment	
<p>Students write an essay in response to a prompt asking why government intervention is often necessary to protect the environment and the effects of that intervention on the economy. They describe some of the approaches our government uses to balance environmental protection with economic needs. In their essays, students are expected to provide examples from the case studies examined in the unit and include specific terms and concepts listed in the essay assignment.</p>	<p>WHST.11–12.2: Write informative/explanatory texts...</p> <ol style="list-style-type: none"> a) Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole... b) Develop the topic thoroughly by selecting the most significant and relevant 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 complex ideas and concepts. d) Use precise language, domain-specific vocabulary and techniques...to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e) Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). <p>WHST.11–12.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11–12.9: Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>WHST.11–12.10: Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</p>

Lesson 1: Turning Environmental Challenges into Economic Opportunities

Students read about and discuss e-waste and e-cycling in California, and learn about government incentives to get businesses to deal with the waste they generate and reduce the amount of energy they consume. Students discuss how businesses and government have similar, yet different goals.



National Geographic Resources

- **Human Imprint** wall map

Use this correlation in conjunction with the **Procedures** located on pages 38–39 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. Use the Key Unit Vocabulary (Student Workbook, pages 2–3) to introduce new words throughout the unit.</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 ■ Do together as a class on a projector or chart paper ■ Project the digital fill-in version and do together as a class ■ Students use digital devices to fill in the digital version found on the website. ■ Make student copies when necessary 	<p>RH.11–12.4: Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of the text...</p>
<p>Steps 2 and 3: Students interpret the Human Imprint wall map and discuss the areas of “high impact” and possible causes of the negative effects in these areas. They brainstorm solutions to the e-waste problem, then review six questions regarding e-waste, and use these questions to focus their reading of California Connections: E-Waste and Eco-Industrial Zones (Student Edition, pages 2–5). They work together with partners or small groups to use the reading to answer the questions.</p> <p>Suggestion: While working together to answer the questions, remind students to cite specific evidence from the text that leads toward the answers they explain.</p> <p>Suggestion: Ask students to discuss how connecting the information in the map with the California Connections article creates a more thorough understanding of the topic.</p> <p>Suggestion: Refer to the Reading California Connections Using a Common Core Reading and Writing Focus on pages 14–18 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>RH.11–12.1: Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.</p> <p>RH.11–12.2: Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.</p> <p>RH.11–12.7: Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.</p>

Student Tasks	Common Core Standards Applications
<p>Steps 2 and 3 (Continued):</p>	<p>WHST.11–12.9: Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>WHST.11–12.10: Write routinely over... shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</p>
<p>Step 4: Students join in a discussion that connects the ideas they generated during their brainstorming for solutions to the e-waste problem with the information they read in the article. They discuss the effectiveness of these solutions and their costs and benefits to businesses. Then they write a paragraph in which they make a statement as to whether businesses would participate in these solutions without government action, and then support it with reasoning.</p> <p>Suggestion: <i>In Step 2, students discuss the responsibility the government and the businesses who manufacture the products have for reducing e-waste. Now that they have read some information, pose a question asking students to consider the everyday consumer's role and/or responsibility in issues regarding e-waste. Is it up to the government? Is it up to business? Do consumers have a responsibility? If so, to what degree and in what way? Encourage students to look at the issue from a variety of perspectives, then to consider their own personal roles and/or responsibilities regarding the e-waste issue.</i></p> <p>Suggestion: <i>Before the discussion, remind students of the elements in Speaking and Listening Standard 1, and select those which best apply to a discussion around this issue. After the discussion, students can briefly evaluate their use of collaborative discussion techniques and note any areas for improvement. Continue to do this in future lessons, and have students note if they see improvements.</i></p>	<p>SL.11–12.1: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grades 11–12 topics, texts, and issues</i>, building on others' ideas and expressing their own clearly and persuasively.</p> <p>a) Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p>c) Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.</p> <p>d) Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.</p>

Lesson 2: Economic Benefits and Costs of Environmental Regulation

Students read and discuss case studies about Zero Emission Vehicles and the Exxon Valdez oil spill. They respond to questions that address how environmental laws affect economic markets as they protect environmental and human health.



Use this correlation in conjunction with the **Procedures** located on pages 50–51 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. Use the Key Unit Vocabulary (Student Workbook, pages 2–3) to introduce new words throughout the unit.</p>	<p>RH.11–12.4: Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of the text...</p>
<p>Step 3: The class is divided in half. One half reads a case study about zero emission vehicle regulations, and the other reads a case study about the Exxon Valdez oil spill. They use questions to direct their reading, then, as a group, they prepare an oral summary of the most important points in the article to present to the other students.</p>	<p>RH.11–12.1: Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.</p> <p>RH.11–12.2: Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.</p> <p>SL.11–12.1: Initiate and participate effectively in a range of collaborative discussions...</p>
<p>Step 4: Each group presents the highlights of their reading to the class, while the other half answers the applicable questions. Then the other half of the class presents their information.</p> <p>Afterwards, students participate in a discussion in which they look for similarities and differences between these case studies and the information they studied in Lesson 1. Then they discuss the related laws, regulations, and incentives offered by the government and their impact on markets, as well as looking at the benefits and costs of the government actions.</p> <p>Suggestion: Remind students to cite textual evidence during their discussion. Encourage students to look at the issues from multiple perspectives, considering the complexity of the many factors that come into play.</p>	<p>SL.11–12.1: Initiate and participate effectively in a range of collaborative discussions...</p> <p>a) Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p>c) Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.</p>

Student Tasks	Common Core Standards Applications
Step 4 (Continued):	SL.11–12.4: Present information, findings, and supporting evidence...conveying a clear and distinct perspective...such that listeners can follow the line of reasoning...

Lesson 3: Cap and Trade

Students view a presentation that provides a history of emissions trading. As they observe each visual aid and discuss each concept, they build an understanding of how cap and trade programs work within the market economy to reduce carbon emissions.



Use this correlation in conjunction with the **Procedures** located on pages 72–76 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. Use the Key Unit Vocabulary (Student Workbook, pages 2–3) to introduce new words throughout the unit.</p>	<p>RH.11–12.4: Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of the text...</p>
<p>Steps 3 and 4: Students watch a presentation that gives information about emissions trading. As they listen and participate in discussing the questions, they complete summary and analysis information addressing the many factors leading to the need for emissions trading, as well as the viability of solutions. They combine details from a variety of diagrams, photos, and maps with the information given orally and in text to derive a more complete understanding of the issues involved, and to address the questions posed in the material.</p>	<p>RH.11–12.2: Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.</p> <p>RH.11–12.7: Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.</p> <p>WHST.11–12.9: Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>WHST.11–12.10: Write routinely over...shorter time frames (a single sitting or a day or two) for a range of disciplinespecific tasks, purposes, and audiences.</p>

Lesson 4: Fiscal Policy and the Environment

Students investigate two examples of government’s use of fiscal policy mechanisms to regulate use of natural resources. They compare and contrast the mechanisms and their effectiveness, and examine the tension between supporting the economy and protecting the environment.



Use this correlation in conjunction with the **Procedures** located on page 112 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. Use the Key Unit Vocabulary (Student Workbook, pages 2–3) to introduce new words throughout the unit.</p>	<p>RH.11–12.4: Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of the text...</p>
<p>Steps 2 and 3: In pairs, students read two case studies and identify the fiscal policy involved in each. They complete a chart describing each program along with its problems.</p>	<p>RH.11–12.2: Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.</p> <p>WHST.11–12.9: Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>WHST.11–12.10: Write routinely over...shorter time frames (a single sitting or a day or two) for a range of disciplinespecific tasks, purposes, and audiences.</p>
<p>Step 4: Students come together as a class to discuss their answers and evaluate each policy.</p>	<p>SL.11–12.1: Initiate and participate effectively in a range of collaborative discussions...</p>
<p>Step 5: Students write paragraphs describing and analyzing programs they studied in previous lessons as they relate to fiscal policy. They include the benefits, limitations, and market effects of these programs and policies.</p>	<p>WHST.11–12.2: Write informative/explanatory texts...</p> <ol style="list-style-type: none"> Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole... Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples...

Student Tasks	Common Core Standards Applications
<p>Step 5 (Continued):</p>	<ul style="list-style-type: none"> c) Use varied transitions and sentence structures to... create cohesion, and clarify the relationships among complex ideas and concepts. d) Use precise language, domain-specific vocabulary... to manage the complexity of the topic; convey a knowledgeable stance... e) Provide a concluding statement... that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).

Lesson 5: Applying Fiscal Policy

Working in groups, students read and discuss scenarios on current environmental issues. They suggest possible solutions using fiscal policy or command and control policies. They use concepts of opportunity costs and marginal costs and benefits to explain their decisions.



Use this correlation in conjunction with the **Procedures** located on pages 126–127 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. Use the Key Unit Vocabulary (Student Workbook, pages 2–3) to introduce new words throughout the unit.</p>	<p>RH.11–12.4: Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of the text...</p>
<p>Step 2: In groups of 4, students take on the role of a decision maker for the U.S. EPA. They study an assigned scenario that has both environmental and economic components and consequences that the government must address. In their groups, they summarize the problem and propose a best course of government action to resolve the issue. They consider all the possibilities they’ve learned in the unit, especially considering command and control (CAC) tactics as well as fiscal policies.</p>	<p>SL.11–12.1: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grades 11–12 topics, texts, and issues</i>, building on others’ ideas and expressing their own clearly and persuasively.</p> <ul style="list-style-type: none"> a) Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts...to stimulate a thoughtful, well-reasoned exchange of ideas. b) Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c) Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d) Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible...

Student Tasks	Common Core Standards Applications
<p>Steps 3 and 4: Each group summarizes their scenario to the class, and shares their group’s decisions and how they reached them.</p> <p>After all groups have presented, students conduct a class discussion during which they compare each other’s decisions and the decision-making processes they used.</p> <p>Students continue a discussion of the risks involved in decision making, including short- and long-term costs. They consider the government’s role in supporting the economy as well as protecting citizens and the environment, and how the needs of each of these can be contradictory. They discuss the challenge that government has in trying to balance the costs and benefits to citizens and business.</p>	<p>SL.11–12.1: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grades 11–12 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 probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.</p> <p>d) Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible...</p> <p>SL.11–12.3: Evaluate a speaker’s point of view, reasoning, and use of evidence...</p> <p>SL.11–12.4: Present information, findings, and supporting evidence...conveying a clear and distinct perspective and a logical argument, such that listeners can follow the line of reasoning... and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. Use appropriate eye contact, adequate volume, and clear pronunciation. CA</p>
<p>Step 5: Each student writes an essay identifying and justifying their group’s solution to their assigned problem. In the essay, they identify and describe the problem, describe three fiscal policies (subsidies, taxes, and command and control) and their possible effects, and explain which policy or policies they think would be best to implement and why.</p> <p>Suggestion: <i>Before students begin to write, review the writing standards that apply to this assignment, and identify those that students will be expected to include. This essay uses both informative and persuasive writing forms, as students provide background information and then take a stand on a solution and support it with reasoning and evidence.</i></p>	<p>WHST.11–12.1: Write arguments focused on <i>discipline-specific content</i>.</p> <p>a) Introduce precise, knowledgeable claim(s)...</p>

Student Tasks	Common Core Standards Applications
<p>Step 5 (Continued):</p>	<p>WHST.11–12.2: Write informative/explanatory texts, including the narration of historical events...or technical processes.</p> <ul style="list-style-type: none"> a) Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole... b) Develop the topic thoroughly by selecting the most significant and relevant 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 complex ideas and concepts. d) Use precise language, domain-specific vocabulary...to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e) Provide a concluding statement... that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). <p>WHST.11–12.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11–12.9: Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>WHST.11–12.10: Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</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.11–12.1)**
- 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.11–12.2)**
- 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.11–12.3)**
- Note how the author explains and refines the meaning of key terms, symbols, domain-specific words, and phrases. **(RH.11–12.4)**
- 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.11–12.5)**
- 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.11–12.6)**
- 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.11–12.7)**
- 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.11–12.8)**
- 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.11–12.9)**
- Note comprehension strategies for understanding text. **(RH.11–12.10)**

Note: Standard descriptions from the Reading Standards for 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.11–12.10: ...read and comprehend history/social studies texts...independently and proficiently.

Suggestion: While reading the text, have students apply reading strategies to aid comprehension of the social studies content.

WHST.11–12.2a: Introduce a topic...

- The author provides a clear, succinct introduction.

RH.11–12.5: Analyze in detail how a source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.

- These paragraphs set up background information about e-waste.

WHST.11–12.2b: Develop the topic by selecting... extended definitions...

- e-waste

California Connections: E-Waste and Eco-Industrial Zones
Lesson 1 | page 1 of 4

E-Waste and Eco-Industrial Zones



While the term "e-waste" might make you think of junk email clogging your inbox, the term actually applies to unwanted electronic devices, such as old cell phones and outdated computers. Not all electronic devices are e-waste, only those that contain toxic materials.

When discarded, these pieces of equipment may leach toxins into the environment and are part of a whole new category of government-regulated hazardous waste, called "electronic waste", or "e-waste" for short. Technology is such a part of our everyday lives that we can't remember life without cell phones and computers. But what happens to all these electronic wonders when they "die" or become obsolete?

On average, cell phones are owned for less than 18 months, and the typical computer is outdated within 3 to 5 years. By 2005, an estimated 63 million personal computers were "retired" throughout the nation. Fewer than 6% were reused or recycled. Some clever consumers find interesting uses for parts of old laptop and desktop computers, but most of the components of these devices were, until

very recently, just thrown away, creating two million tons of toxic trash as a result.

Hazardous Wastes
Our creation and use of technology has created a dilemma. All the new technologies help us save time and money, but they generate waste that, if mismanaged, can be hazardous to humans and other living things. E-waste often contains toxic materials, such as lead, mercury, and other heavy metals. The rapid turnover of cell phones means that almost 2 million are discarded each week, creating 65,000 tons of toxic waste each year. A typical 17" computer monitor's cathode ray tube (CRT) can contain over 2 pounds of lead, and a 27" TV screen over 8 pounds of lead. Lead released from mismanaged e-waste is of particular concern because this



Cell phone

heavy metal is a toxin that affects the human brain. When lead breaks down in the environment, it can create lead oxide dust. When a significant amount of lead dust is absorbed by the body through the lungs or stomach, it affects the nervous system. Too

2 CALIFORNIA EDUCATION AND THE ENVIRONMENT INITIATIVE | Unit 12.3.1 | Government and the Economy: An Environmental Perspective | Student Edition

RH.11–12.5: Analyze in detail how a...source is structured...

- cause/effect

RH.11–12.2: Determine the central ideas or information of a...secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.

Suggestion: While reading the text, determine the relationships between finding solutions for e-waste and the economic incentives to do so.

WHST.11–12.2b: Develop the topic thoroughly by selecting the most significant and relevant facts,...concrete details,... and examples...

RH.11–12.6: Evaluate authors' differing points of view on [an] issue by assessing the authors' claims, reasoning, and evidence.

Suggestion: While reading the article, evaluate how well the author presents and supports the opposing interests and limiting factors regarding this issue. Analyze whether the author presents a point of view that points out the downside of providing incentives.

WHST.11–12.2b: Develop the topic thoroughly by selecting the most significant and relevant facts,... concrete details,...and examples...

- *This detail provides a comparison to something familiar to students to aid comprehension about what is similar and different from a known example.*

WHST.11–12.2b: Develop the topic thoroughly by selecting the most significant and relevant facts,...concrete details,... and examples...

RH.11–12.5: Analyze in detail how a...source is structured...

- *This section describes a sequential process*

California Connections: E-Waste and Eco-Industrial Zones
Lesson 1 | page 2 of 4

much lead can result in learning problems and fatigue, as well as damaging other internal organs. Young children are at higher risk for lead poisoning because their bodies absorb lead more readily than adults, and because they tend to put everything in their mouths.

Landmark Legislation
In 2003, the State of California enacted landmark legislation: the Electronic Waste Recycling Act. This law was intended to offset the cost of diverting e-waste from unsafe disposal toward responsible recycling. This law allows the government to use monetary incentives to encourage the responsible collection and recycling of certain electronic products. Electronic devices covered by the law include TVs and computer monitors with CRTs, liquid crystal display (LCD) screens, plasma televisions, and portable DVD players with LCD screens. Retailers collect a recycling fee from consumers, on behalf of the government, when the specified electronic devices are sold. The government then distributes these funds to qualified recycling operations that salvage useful materials from covered e-waste. This law internalizes the cost of recycling into the purchase price.



Plasma televisions

This electronic waste recycling fee may sound similar to the "California Redemption Value" (CRV) you pay at a store when purchasing drinks in glass, plastic, or aluminum containers. However, in this case, there is no redemption value and consumers are not entitled to a refund when they recycle their old devices. In addition to establishing an e-waste recycling system, the Electronic Waste Recycling Act requires manufacturers to reduce hazardous substances in certain electronics they sell to consumers if they want to do business in California.

Eco-Challenges Bring Economic Opportunities
In this new era, state and federal governments are working to get businesses and consumers to think about the consequences of consuming

goods that rapidly become obsolete and require proper disposal and/or recycling. Convincing businesses, in particular, that "going green" can earn them good will, as well as save them money is not easy. This is changing as many companies find that thinking "green" is good for the "bottom line." Some businesses have cashed in. In the early 1990s, a California think-tank introduced the idea of "eco-industrial parks." The concept is simple. A variety of businesses, operating on a common property often with one large "anchor" company, combine forces to reduce waste and increase efficiency. The businesses share resources: materials, buildings, water, energy, information, administrative costs, and space. As the concept evolved, some

CALIFORNIA EDUCATION AND THE ENVIRONMENT INITIATIVE | Unit 12.3.1 | Government, The Economy, An Environmental Perspective | Student Edition 3

WHST.11–12.2c: Use varied transitions...

- *Ask students if adding the transition "However," at the beginning of the sentence "This is changing..." might help the reader follow the logic of the paragraph. Ask students to note other transition words in the article.*

RH.11–12.5: Analyze in detail how a...source is structured...

- *statement*
- *example*

WHST.11–12.2a:
...include formatting (e.g., headings),...useful to aiding comprehension.

RH.11–12.4: Determine the meaning of words and phrases as they are used in a text...

- *offset*
- *monetary incentives*
- *good will*
- *bottom line*
- *eco-industrial parks*
- *anchor company*

RH.11–12.5: Analyze in detail how a...source is structured...

Suggestion: Have students notice the pattern the author uses in several places in the text of making a statement, giving an explanation, and then providing an example.

California Connections: E-Waste and Eco-Industrial Zones
Lesson 1 | page 3 of 4



E-waste

projects focused on co-locating companies that can use each other's wastes. This means that the wastes produced or processed by one business can be used as a feed stock by another nearby business to create new products. For example, one company's waste tires might be used by another company to create shredded or crumb rubber for new products like rubber mats or road paving materials. This kind of business model is often called a "resource recovery park" or an "eco-industrial park." The terms are often used interchangeably; however, resource recovery (RR) parks more typically include a collection of businesses that are focused on the reuse or recycling of materials (including such operations as composting facilities) where people can take their used and waste materials to be processed or handled.

Zero Waste
Whatever the name, the goal is simple: to get as close as possible to creating a zero-waste system.

One of the first and finest examples of this symbiosis between businesses is located in the city of Kalundborg, Denmark. This unique collaboration developed in the 1970s as businesses began to realize that the exchange of materials and wastes could increase efficiency and conserve resources. In Kalundborg, a refinery, a power station, and a pharmaceutical plant are at the hub of the resource exchange web. At the periphery are farms, a road paving company, and the city of Kalundborg's residential and municipal facilities.

The symbiosis started with energy flows, followed by material flows. A manufacturing plant recognized the nearby refinery's gas flares as a potential fuel source: the refinery was burning off byproduct gases. The material flows include sludge from a manufacturing plant and from the water treatment plant for a fish farm that a nearby farm uses as fertilizer. Another nearby farm uses surplus yeast from an insulin manufacturing plant as pig food. A cement company uses the power plant's leftover ash. Another company buys liquid sulfur from the refinery, which had to install

4 CALIFORNIA EDUCATION AND THE ENVIRONMENT INITIATIVE | Unit 12.3.1 | Government and the Economy: An Environmental Perspective | Student Edition

RH.11–12.4: Determine the meaning of words and phrases as they are used in a text...

- co-locating
- feed stock
- resource recovery park
- eco-industrial park

RH.11–12.7: Integrate and evaluate...information... presented in diverse formats...

- Why was this photo chosen?
- How does it enhance understanding of the message in the text?
- Analyze the other photos in the same way.

RH.11–12.4: Determine the meaning of words and phrases as they are used in a text...

- energy flows
- material flows

RH.11–12.4: Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text...

WHST.11–12.2b: Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions...

- symbiosis

This section provides an extended definition of the term "symbiosis" that continues onto the next page.

WHST.11–12.2b: Develop the topic thoroughly by selecting the most significant and relevant facts,... concrete details,...and examples...

WHST.11–12.2e: Provide a concluding statement...

- summarizing sentence

California Connections: E-Waste and Eco-Industrial Zones
Lesson 1 | page 4 of 4

a sulfur recovery operation to comply with emissions regulations. In other words, each company benefits from the others, a true symbiosis.

Sustainable Businesses
Today, eco-industrial developers understand that businesses do not necessarily need to be located on the same property. The resource matrix within a regional zone reduces “greenhouse gases” associated with transportation and promotes sustainable businesses that consume waste materials. What is important is facilitating these connections. So far, about two dozen eco-industrial zones have been created in the United States, but the concept is still new, and the future seems bright for creating many more eco-industrial zones.

One of the best examples of a modern resource recovery park in the United States is a collective located in southern California, on the Cabazon Indian Reservation outside Palm Springs. This program is special because it is voluntary. A variety of environmental and waste management firms work together and use almost 600 acres of the reservation. These firms include a biomass power plant

and a tire recycling company. The power plant supplies electricity to 45,000 homes in Southern California by burning wood products, such as yard, construction, and demolition waste. The tire recycling company turns 6,000 pounds of used tires per hour into crumb rubber, used to pave roads and surface playgrounds and equestrian arenas.

State and federal grants from the U.S. Environmental Protection Agency and the U.S. Departments of Commerce, Energy, and Housing and Urban Development are sometimes available to provide the “seed” money to begin the collaboration and planning for an eco-industrial park. Other sources of financing

include environmental groups, banks, and socially responsible investment funds. State and local agencies and community organizations often act as “connectors” and consultants to bring the businesses together. In some states, low-interest loans are provided and permitting fees are reduced. The government and industry collaboration to reduce waste of all kinds, including e-waste, is good for the local economy and helps reduce the carbon footprint of local industries and consumers.

While globalization has brought distant economies closer together, the future may also favor localization when it leads to increased efficiency and sustainability.



Tire recycling

CALIFORNIA EDUCATION AND THE ENVIRONMENT INITIATIVE | Unit 12.3.1 | Government and the Economy: An Environmental Perspective | Student Edition 5

WHST.11–12.2e: Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).

RH.11–12.8: Evaluate an author’s premises, claims, and evidence...

Suggestion: Have students consider why the author thought it important to include this information on organizations and financing options for eco-solutions. Have students examine the article for evidence that the author included any information explaining the downside of providing public money to companies so they can benefit from what also benefits the environment. Conduct a discussion on what other information might be important to seek out to challenge the idea of subsidizing these efforts with public funds. Students may or may not determine that this information would be important for this article as they consider the author’s purpose in writing.

WHST.11–12.2b: Develop the topic thoroughly by selecting...extended definitions...

- biosphere reserve

California Common Core State Standards Descriptions

Reading Standards for Literacy in History/Social Studies

- **RH.11–12.1:** Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
- **RH.11–12.2:** Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.
- **RH.11–12.4:** Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).
- **RH.11–12.5:** Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.
- **RH.11–12.6:** Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.
- **RH.11–12.7:** Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.
- **RH.11–12.8:** Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.
- **RH.11–12.10:** By the end of grade 12, read and comprehend history/social studies texts in the grades 11–12 text complexity band independently and proficiently.

Speaking and Listening Standards

- **SL.11–12.1:** Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grades 11–12 topics, texts, and issues*, building on others' ideas and expressing their own clearly and persuasively.
 - a) Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.
 - c) Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.
 - d) Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
- **SL.11–12.3:** Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
- **SL.11–12.4:** Present information, findings, and supporting evidence (**e.g., reflective, historical investigation, response to literature presentations**), conveying a clear and distinct perspective **and a logical argument**, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. **Use appropriate eye contact, adequate volume, and clear pronunciation. CA**

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

- **WHST.11–12.1:** Write arguments focused on *discipline-specific content*.
 - a) Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.

Common Core Reference Pages

- **WHST.11–12.2:** Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.
 - a) Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
 - b) Develop the topic thoroughly by selecting the most significant and relevant 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 complex ideas and concepts.
 - d) Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.
 - e) Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
- **WHST.11–12.4:** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- **WHST.11–12.9:** Draw evidence from informational texts to support analysis, reflection, and research.
- **WHST.11–12.10:** Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.