




**UNITED NATIONS ASSOCIATION
OF THE UNITED STATES OF AMERICA**



Education First

United Nations Association of the USA and EF Explore America; The UN Sustainable Development Goals: From Global to Local	
Name of Project: The Cost of Coffee	
Duration: 20 class periods	
School: Horn Elementary	Subjects/Grade: Reading and Science/5th Grade
Other subject areas to be included, if any:	Writing Research Oral Communication Technology

Standards and Background

Standards

Texas Essential Knowledges: TEKS

English Language Arts and Reading

ELA.5.1C: Give an organized presentation employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively.

ELA.5.1D: Work collaboratively with others to develop a plan of shared responsibilities.

ELA.5.5A: Read grade-appropriate texts independently. Self-select text and read independently for a sustained period of time.

ELA.5.6F: Make connections to personal experiences, ideas in other texts, and society.

ELA.5.6G: Evaluate details read to determine key ideas.

ELA.5.6H: Synthesize information to create new understanding.

ELA.5.7C: Use text evidence to support an appropriate response.

ELA.5.7E: Interact with sources in meaningful ways such as note taking, annotating, freewriting, or illustrating.

ELA.5.11E: Publish written work for appropriate audiences.

ELA.5.12B: Compose informational texts using a clear central idea and genre characteristics and craft.

ELA.5.13B: Develop and follow a research plan with adult assistance.

ELA.5.13C: Identify and gather relevant information from a variety of sources.

ELA.5.13H: Use an appropriate mode of delivery to present results.

Science

SCI.5.3C: Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.

SCI.5.9C: Predict the effects of changes in ecosystems caused by living organisms, including humans.

SCI.4.7: The students know that Earth consists of useful resources and its surface is constantly changing.

SCI.4.7A: The student is expected to examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants.

SCI.4.7C: The student is expected to identify and classify Earth's renewable resources, including air, plants, water, and animals, and nonrenewable resources, including coal, oil, and natural gas, and the importance of conservation.

<p>UN Sustainable Development Goals</p>	<p>Goal 14: Life Below Water Conserve and sustainably use the oceans, seas and marine resources for sustainable development.</p> <p>Goal 15: Life on Land Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss.</p>
<p>Objectives</p>	<p>English Language Arts and Reading</p> <ul style="list-style-type: none"> ● Students will be able to work collaboratively with others to develop a plan of shared responsibilities throughout the research process. ● Students will be able to develop and follow a research plan, read, interact with, gather relevant evidence, and evaluate information from a variety of sources. ● Students will be able to make connections to personal experiences, ideas in other texts, and society. ● Students will be able to synthesize relevant evidence and information to create new understandings. ● Students will be able to compose informational texts, using text evidence, and publish their written work for appropriate audiences. ● Students will be able to use an appropriate mode of delivery to present findings and solutions by using eye contact, speaking rate, volume, enunciation, natural gestures, and appropriate conventions. <p>Science</p> <ul style="list-style-type: none"> ● Students will be able to connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists. ● Students will be able to predict the effects of changes in ecosystems caused by living organisms, including humans. Students will examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants. Students will also be able to identify and classify Earth's renewable resources, including air, plants, water, and animals, and nonrenewable resources, including coal, oil, and natural gas, and the importance of conservation.

21 st Century Skills/Global Competences					
To be explicitly <i>taught</i> (T) or that will be <i>encouraged</i> (E) by project work.	Creativity	E	Collaboration	E	
	Communication	E	Citizenship/Take Action	E/T	
	Critical Thinking	E	Investigate the World	T	
	Growth Mindset	E	Recognize Perspectives	T	
Materials/Resources Needed					
Equipment:	Computers, Presentation Tools (PowerPoint, Prezi, etc.) and Internet Access				
Materials:	Digital-Based Project				
On-Site/Community Resources:	Science Teacher				
Culminating Products and Performances					
Group:	Students will be in groups of 2-4 students. They will share the responsibilities to complete the research, plan, and product components.			Presentation Audience:	
				Class:	X
				School:	
Individual:	N/A			Community:	
				Experts:	
				Web:	
Assessments					
Formative (During Project)	Quick Checks		Practice Presentations		
	Journal/Learning Log		Notes/Outlines/Rough Drafts	X	
Summative (End of Project)	Written Product(s), with rubric	X	Peer Evaluation	X	
	Oral Presentation, with rubric	X	Self-Evaluation	X	

Historical Background

According to the UN's Sustainable Development Goals (SDGs), our oceans cover over 75% of the earth's surface and represent over 99% of the living space on the planet by volume. Human activities are sadly affecting over 40% of the world's oceans leading to pollution and loss of marine life. Nature provides us with our oxygen, regulates our weather patterns, pollinates our crops, and produces our food. Human activity has altered almost 75% of the earth's surface, squeezing wildlife and nature into an ever-smaller corner of the planet. Around [1 million animal and plant species are threatened with extinction](#)—many within decades—according to the 2019 Global Assessment Report on Biodiversity and Ecosystem Service. It found that the health of ecosystems on which we and all other species depend is deteriorating more rapidly than ever, affecting the very foundations of our economies, livelihoods, food security, health, and quality of life worldwide. Deforestation and desertification pose major challenges to sustainable development and have affected the lives and livelihoods of millions of people.

Given that most coffee-growing regions are also home to some of the most delicate ecosystems on earth, the potential for serious damage is great. Originating in the 1970s, sun-grown coffee is produced on plantations where trees are cleared so that coffee is grown in rows in direct sunlight. According to [research](#), sun-grown coffee creates the highest yield, but eliminates the diversity of plants which support an array of insects and animals. This negatively impacts the biodiversity of the region and causes other environmental harms. Sun grown coffee produces short-term results but harms the environment in the long run. The switch to sun-grown coffee has resulted in over 2.5 million acres of forest cleared in Central America. Contamination of waterways also poses serious environmental threats from the processing of coffee beans. Discharges from coffee processing plants represent a [major source of river pollution](#). Ecological impacts result from the discharge of organic pollutants from the processing plants to rivers and waterways, triggering eutrophication of water systems and robbing aquatic plants and wildlife of essential oxygen.

Essential Question

What is coffee production costing the planet?

Entry Event

To begin the UN Sustainable Goals project, we will build awareness of the Global Goals. The students will watch [Malala introducing The World's Largest Lesson](#)—setting the stage for the UN Global Goals and inviting students to take part in their achievement. The teacher will share the UN's SDGs with students and discuss the importance of these goals. As a whole group, the students will read an article about how coffee is produced. Afterward, the teacher will present the project's essential question. The students will be asked to review the 17 SDGs and determine which goals connect to the reading and the essential question, providing evidence from the article to support their opinions.

Project Calendar/Procedures

Project Week One/Two

Friday, 1/14		Wednesday, 1/19	Thursday, 1/20	Friday, 1/21
<p>Entry event (see above)</p> <p>Discuss plans for the project.</p>		<p>Introduce Research- students will be assigned small groups (4-5 students in each group) to research how coffee production is impacting the planet's ecosystems (land and water).</p> <p>Handout- Cost of Coffee Research Outline</p>	<p>Research Day</p>	<p>Research Day</p>

Project Week Three

Monday, 1/24	Tuesday, 1/25	Wednesday, 1/26	Thursday, 1/27	Friday, 1/28
<p>Students Design a Solution or Awareness Campaign to the Global Goals</p> <ul style="list-style-type: none"> - Get students excited about helping out by viewing the "Call to Action" video: The World's Largest Lesson 2016 Part 2. <p>As a whole group, the students and teacher will develop a list of ideas on how best to mitigate this topic's impact on our ecosystems.</p>	<p>Students will work in their small groups to research and develop a plan of action.</p>	<p>Develop plan</p>	<p>Develop plan</p>	<p>Build plan</p>

Project Week Four

Monday, 1/31	Tuesday, 2/1	Wednesday, 2/2	Thursday, 2/3	Friday, 2/4
Build plan- students will work in small groups to build their plan- i.e. advertisements, commercials, pamphlets, news report, petition, etc.	Build plan	Write up research- students will begin writing their findings, solutions, and plan in a written format.	Write up research	Write up research

Project Week Five

Monday, 2/7	Tuesday, 2/8	Wednesday, 2/9	Thursday, 2/10	Friday, 2/11
Conference- students will meet with the teacher to review their written report. Students will lead conferences and the teacher will provide constructive feedback.	Conference	Finalize plan	Students showcase plan and research findings	Students complete feedback questionnaire