District of Columbia
Office of the State Superintendent of Education

DEFORESTATION

High School Environmental Science Instructional Sequence

This high school environmental science instructional sequence was created to support teaching the Next Generation Science Standards through the Biological Sciences Curriculum Study (BSCS) 5E instructional model. Developed by District of Columbia teachers, these lessons include real-world contexts for learning about environmental science through a lens that encourages student investigation of local issues.

The lessons also support Scope and Sequence documents used by District local education agencies:
Unit 1: Ecosystems: Interactions, Energy and Dynamics
Advisory 1 and 2

Acknowledgements:
Charlene Cummings, District of Columbia International School

This curriculum resource can be downloaded online:
https://osse.dc.gov/service/environmental-literacy-program-elp

Overview and Goal of the Lesson: In this sequence of lessons, students will investigate the causes and effects of deforestation and explain ecosystem services. Students will explore their local communities and discuss the ecosystem services that trees can provide. Students will participate in a hyperlocal Meaningful Watershed Educational Experience (MWEE) in which they will complete a tree inventory of their school's campus. In contrast, students will then shift to focus on predicting causes of deforestation around the world. By researching and exploring personal stories of communities around the world affected by deforestation, students will be able to explain and describe the causes and effects of deforestation. With new learned knowledge, students will participate in a Socratic seminar via the lens of an ambassador from a country that is suffering from deforestation. Finally, to address local issues, students will construct a proposal for where a tree should be planted on their school grounds or in their communities.

Essential Question(s): What are the causes and effects of deforestation? What environmental services do trees provide?

NGSS Emphasized and Addressed in this Lesson Sequence: Deforestation

PERFORMANCE EXPECTATIONS	SCIENCE AND ENGINEERING PRACTICES	DISCIPLINARY CORE IDEAS	CROSSCUTTING CONCEPTS
HS- LS2-3. Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions. **HS-LS2-5.** Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere. **HS-LS2-7.** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.	**Constructing Explanations and Designing Solutions** • Construct and revise an explanation based on valid and reliable evidence obtained from a variety of sources and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future. • Design, evaluate, and refine a solution to a complex real-world problem, based on scientific knowledge, student-generated sources of evidence, prioritized criteria, and tradeoff considerations. **Engage in Argument from Evidence** • Evaluate the claims, evidence, and reasoning behind currently accepted explanations or solutions to determine the merits of arguments.	**LS2.B. Cycles of Matter and Energy Transfer in Ecosystems** • Photosynthesis and cellular respiration are important components of the carbon cycle, in which carbon is exchanged among the biosphere, atmosphere, oceans, and geosphere through chemical, physical, geological, and biological processes. **LS2.C. Ecosystem Dynamics, Functioning, and Resilience** • Moreover, anthropogenic changes (induced by human activity) in the environment - including habitat destruction, pollution, introduction of invasive species, overexploitation, and climate change - can disrupt an ecosystem and threaten the survival of some species. **LS4.D Biodiversity and Humans** • Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus, sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.	**Cause and Effect** • Empirical evidence is required to differentiate between cause and correlation and make claims about specific causes and effects. **Stability and Change** • Much of science deals with constructing explanations of how things change and how they remain stable.

Materials

ITEM	QUANTITY	PURPOSE
Ecosystem Services Worksheet	1 per student	Engage
Outdoor Observation Handout	1 per student	Engage
Map of School Campus	1 per class	Explore 1
Computer/ tablet with internet access	1 per student pair	Explore 1/ Explore 2
Tree Inventory Handout(s)	1 per student pair	Explore 1 (MWEE)
Interactive Global Forest Change Handout	1 per student pair	Explore 2
Computer/ tablet with internet access	1 per student pair	Explain
Cause and Effect Graphic Organizer	1 per student	Explain
Large Chart Paper	1 per student group	Explain
Markers	1 per student group	Explain
Tree Proposal Requirements	1 per student	Elaborate
Claim, Reasoning, Evidence Peer Review Rubric	1 per student	Elaborate
Getting to Know your Country Worksheet	1 per student	Evaluate
Socratic Seminar Reflection	1 per student	Evaluate
Socratic Seminar Rubric	1 per student	Evaluate

5E Lesson Sequence

TOTAL DURATION: *10 CLASS PERIODS*				
5E MODEL STAGE	**DURATION**	**TEACHER AND STUDENT ACTIONS**		**NOTES**
Engage ***The Phenomena of Trees and their Value***	*One class period*	What Teacher Does	1. Teacher introduces the phenomena of trees and their ecosystem value by showing a picture of a location with many trees and one with few (see Supporting Document 1). 2. Teacher asks the following questions that are on the *Ecosystems Services Handout*. Which location is more appealing to you? Why? Why are trees/healthy ecosystems important for our school, neighborhoods, and planet? What does your community look like? (See Supporting Document 2) 3. Teacher tells students to complete a turn and talk about the questions that were answered on the handout. 4. Teacher will ask students to share out answers about the following question: "Why are trees/healthy ecosystems important for our school, neighborhoods, and planet?" 5. Teacher will post answers given on the board or large chart paper to generate discussion. 6. Teacher will show video/or have students read shortened article/informational text about ecosystem services. 7. Teacher will show a photo set of pictures in which they will be labeled 1 and 2. Teacher will ask students to vote which photo they like better (Supporting Document 1). 8. Teacher asks students why students may have chosen picture 1 or picture 2. 9. Teacher tells students that they are now going to walk around the block and make observations using this outdoor observation handout.[1]	Teacher will need to provide background knowledge of what ecosystem services are. **Websites:** • What Are Ecosystem Services? (from University of Richmond)[2] • Ecosystem Services (from Baltimore Ecosystem Study Urban Lexicon)[3] **Videos:** • Ecosystem Services (from the California Academy of Sciences)[4] • Measuring Ecosystem Services (from Silvacom)[5] **Article:** • Ecosystem Services (from the Ecological Society of America)[6] Teacher can have students simply put up a 1 or 2 with their fingers to designate their choice, use cards, or have them write down a number and hold up the paper.
		What Students Do	1. Students make observations about the pictures and answers the questions on the handout. 2. Students participate in a turn and talk about the questions on the handout. 3. Students watch or read about ecosystem services. 4. Students actively participate and decide which pictures in the photo set are more appealing. 5. Students will make observations outside their school on their handout about what they see.	

5E MODEL STAGE	DURATION	TEACHER AND STUDENT ACTIONS		NOTES
Explore 1 ***Hyperlocal MWEE Tree Inventory***	*Two class periods*	What Teacher Does	1. Teacher says that today the students will participate in a tree inventory of the school grounds. Teacher will explain the hyperlocal Meaningful Watershed Educational Experience (MWEE) and its purpose (Supporting Document 3). 2. Teacher will facilitate MWEE by following protocol. 3. Teacher will project map of school and have students mark map of identified trees. 4. Teacher says, "Now we will look at the value of these trees on school grounds using a computer program." 5. Teacher will facilitate protocol for using the i-Tree application and have students input data.	Supporting Document 3: The following MWEE has all the supplemental handouts that can be modified and can be used as a guide. Casey Trees is an organization that helps teach students about tree identification. They have created a booklet that helps to identify local area trees based on different characteristics. Teacher will need maps of school grounds for student use. Some trees may be planted along school yards that are not native to the DC area for aesthetics and may not be in the booklet. Teacher can decide if students are identifying trees by species or by tree health. i-Tree is a peer-reviewed software suite from the US Forest Service that provides urban and rural forestry analysis and benefits assessment tools. The i-Tree Tools help communities of all sizes to strengthen their forest management and advocacy efforts by quantifying the structure of trees and forests, and the environmental services that trees provide.
		What Students Do	1. Students will participate in tree inventory of the school grounds using handout and identification booklets. 2. Students will mark identified trees on map of school grounds. 3. Students will input data found in i-Tree and answer associated comprehension and reflection questions. 4. Students will share findings with class.	
Explore 2 ***Predicting Reasons of Deforestation around the World***	*One class period*	What Teacher Does	1. Teacher will have students label Brazil with a 1 on their map and then show a time-lapse video[7] of deforestation in Brazil and facilitate a group discussion of what they are seeing. 2. Teacher will have students label the Dominican Republic (DR) and Haiti with a 2 on their map and then will show picture of DR/Haiti tree cover and facilitate a group discussion of what they are seeing. 3. Teacher will direct students to the Interactive Map[8] at Global Forest Change. Teacher will provide tutorial on how to use the website and key, and how to record data on the *Interactive Global Forest Change* handout (Supporting Document 4).	This lesson is for students to start exploring and making predictions about why deforestation is happening. They will be looking at different locations around the world and brainstorm why this is happening. They should have a sense from the MWEE why trees are important and some of the effects that deforestation in these areas have on these ecosystems. The short time-lapse video shows deforestation of Brazil from the 1970s to 2011. Any picture that shows the land of DR's and Haiti's tree cover will suffice.

5E MODEL STAGE	DURATION	TEACHER AND STUDENT ACTIONS		NOTES
		What Students Do	1. Students will watch video, analyze picture, identify geographic locations and make predictions on handout. 2. Students will be brainstorming reasons for deforestation and possible solutions. 3. Students will work with partners when using the interactive map. They will label the locations they are investigating and answer associated questions.	Websites/Articles: • An Island Divided: What We Must Learn From the Tragedy of Hispaniola[9] • Devastating Photos of Deforestation[10] During group discussion, teacher will need to make sure students are discussing how the local issue of lack of trees in some neighborhoods is different from the global issue of deforestation. The interactive map is a quick look at Earth's ecosystems and explore deforestation in different areas. Students can work in partners. They may need geographic location ideas so a map may be needed or a conversation about where students might want to research. Teachers need to make sure that students are able to use technology with internet capabilities to access the interactive map.
Explain *Causes and Effects of Deforestation*	*Two class periods*	What Teacher Does	1. Teacher will say, "There are many causes of deforestation globally that truly affects the people that reside there. Today you are going investigate and learn some of these stories and share them with your classmates." 2. Teacher will provide the *Cause and Effect Graphic Organizer* to students and explain how it is to be completed (Supporting Document 5). 3. Teacher will assign students readings/videos and monitor group work. 4. Teacher will hang posters/chart paper around the classroom. 5. Teacher will facilitate gallery walk for students to review information from each group. Teacher will tell students to write comments, circle commonalities, and notes on posters. 6. Teacher will facilitate group discussion about what information was found, similarities, and differences among findings.	This activity is very student-centered that allows differentiation of materials and for students to become the experts and teach their peers in this jigsaw/ gallery walk activity. Different graphic organizers can be used during the jigsaw for differentiation. If technology is not available for videos, readings will suffice for personal stories of deforestation around the world. • Sample VIDEO from Ghana[11] • Sample VIDEO from Cote d'Ivoire[12] • Sample VIDEO from Ethiopia[13] • Sample VIDEO from Madagascar[14] • Sample VIDEO from Panama[15]
		What Students Do	1. Students read and watch their required readings/videos to become experts in topic. They will record their information on jigsaw graphic organizer. 2. Students will create posters with information. 3. Students will participate in gallery walk to explore, share, and record information. 4. Students will engage in class discussion about gathered information, similarities, and the differences among findings.	

5E MODEL STAGE	DURATION	TEACHER AND STUDENT ACTIONS		NOTES
Elaborate *Action Project: Tree Proposal*	*Two class periods*	What Teacher Does	1. Teacher will ask students, "What can you do locally to help curb this issue?" 2. Teacher will refer back to MWEE and go over a sample data sheet. Teacher will ask students what data they find most important or highlight all important information on the data sheet. 3. Teacher will introduce the *Proposal Requirements* for students to complete (Supporting Document 6).	**This elaborate section of the 5E model should be completed after the students are assessed during the evaluate portion of the 5E model.** When teacher refers to hyperlocal activity, the teacher can bring up a sample data sheet and have students point out important information such as type of tree, its monetary value, how much carbon it produces, etc. Students will need to refer back to their work during the MWEE. They will have to use i-Tree in order to get any necessary values needed for their proposal and use data to support their claims. Tree proposal document has been adapted from these proposal guidelines.[16] Students will be able peer review student proposals by making sure that each proposal has claims, evidence, and reasoning. The rubric has been adapted from page 24 of this science notebook resource.[17]
		What Students Do	1. Students will create and draft a tree proposal on why a tree should be planted in a certain location. 2. Students will present their proposals to a small group of students in round robin format. 3. Students who are not presenting will peer review student presenter's proposal using the *"Claim, Reasoning, Evidence" Peer Review Rubrics* provided by teacher (Supporting Document 7). 4. Students will revise proposals, if needed, based on peer evaluations.	
Evaluate *Socratic Seminar through a UN Lens*	*Two class periods*	What Teacher Does	1. Teacher will tell students that they are now going to represent different countries and have a Socratic seminar in which students discuss the issues of deforestation and ecosystem services with a lens of an assigned country. 2. Teacher will pass out *handout* that includes Resources and a Getting to Know Your Country worksheet (Supporting Document 8). 3. Teacher will divide students into groups and assign representing countries. 4. Teacher will facilitate Socratic seminar in the classroom. 5. Teacher will assign students a writing assignment, *Socratic Seminar Reflection,* about what they have learned about ecosystem value and the causes and effects of global deforestation (Supporting Document 9).	Country resources have been adapted from the following websites: • Getting to know your country[18] • UN resources[19] This blog describes protocol on how to run a Socratic seminar in the classroom.[20] Socratic seminar reflection and rubrics have been adapted from Greece Central School District.[21]
		What Students Do	1. Students will work in groups and research assigned country. 2. Students will actively participate in Socratic seminar. 3. Student will self-evaluate their participation in the seminar using a *Rubric* (Supporting Document 10). 4. Student will complete a reflection about what they have learned about ecosystem value and the causes and effects of global deforestation.	

Footnotes

1 www.ifaw.org/sites/default/files/education-publications/ca/cae_aaw11_extension_lesson_ecoinvestigators.pdf
2 https://facultystaff.richmond.edu/~sabrash/ES%20201/Readings/Reading9.pdf
3 http://besurbanlexicon.blogspot.com/2012/06/ecosystem-services.html
4 www.youtube.com/watch?v=BCH1Gre3Mg0
5 www.youtube.com/watch?v=-Jw9dPYVT_Y
6 https://cfpub.epa.gov/watertrain/pdf/issue2.pdf
7 www.youtube.com/watch?v=hllU9NEcJyg
8 http://earthenginepartners.appspot.com/science-2013-global-forest
9 www.ecowatch.com/an-island-divided-what-we-must-learn-from-the-tragedy-of-hispaniola-1881891391.html
10 www.zmescience.com/other/great-pics/devastating-photos-deforestation-04092015/
11 www.youtube.com/watch?v=dBgXQ4z5ZLs
12 www.youtube.com/watch?v=OZWyMAYiMsU
13 www.youtube.com/watch?v=OIxSuASxl2M&t=4s
14 www.youtube.com/watch?v=C4TCvxW15MM
15 www.youtube.com/watch?v=Wc2f4Nj7SWo
16 www.mjchf.org/media/pdf/Guidelines_BrighterFuture.pdf
17 www.indps.k12.wi.us/cms_files/resources/Notebooking%20ideas_including%20claim%20evidence%20reasoning.pdf
18 http://unausa.org/images/content/GC_Model_UN/Resources/ActivityGuide3_Getting_to_know_Your_Country.pdf
19 http://unausa.org/images/content/GC_Model_UN/Resources/ActivityGuide2_Model_UN_Scavenger_Hunt.pdf
20 http://blogs.henrico.k12.va.us/rdbalch/files/2014/05/Socratic-Seminar-A-Teacher-Resource-Packet.pdf
21 https://ny01913679.schoolwires.net/greececsd

SUPPORTING DOCUMENTS

Name:_____ Date:_____
Class: _____

What do you see?

_____

_____

Which location is more appealing to you? Why?

_____

_____

Discussion Questions

1. **Why are trees/healthy ecosystems important for our school, neighborhoods, and planet?**

   _____

   _____

   _____

   _____

2. **What does your community look like?**

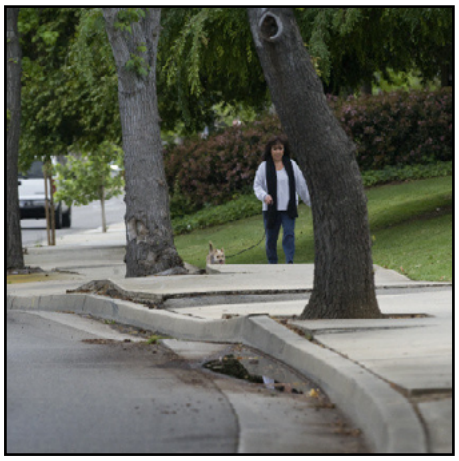
   _____

   _____

   _____

   _____

3. **Which do you prefer?**



4. **Which do you prefer?**

Name:_____ Date:_____
Class: _____

Ecosystem Services Observations and Discussion

Directions: Observe the picture that is posted and answer the following questions. Use as much detail as possible!

What do you see?	Which location is more appealing to you? Why?	What does your community look like?	Why are trees/healthy ecosystems important for our school, neighborhoods, and planet?

Ecosystem Services Observations and Discussion

Directions: Observe the picture that is posted and answer the following questions. Use as much detail as possible!

What do you see?	Which location is more appealing to you? Why?	What does your community look like?	Why are trees/healthy ecosystems important for our school, neighborhoods, and planet?

Name:_____ Date:_____
Class: _____

Meaningful Watershed Educational Experience: Schoolyard Tree Canopy Investigation

ISSUE: School properties often have relatively large sections of open areas on campus. Though some of it may be a playground or other social space, there is usually a section that has been trampled and has no vegetation or groundcover. The District has a formal goal of increasing its tree cover from the current 35 percent to 40 percent by 2032, reversing a loss that began decades ago when the canopy cover was about 50 percent. Schools have an opportunity to host a variety of native trees and large shrubs that will contribute to meeting the goal and increasing biological diversity.

OUTDOOR FIELD EXPERIENCE: Students will walk the grounds -- or a nearby park, if school has little open space -- and note existing species of trees and shrubs, and their general condition. They will create maps of the campus showing flora, with background information including the condition, economic value to the neighborhood (for online calculator, see: http://bit.ly/2FYUiJi); value to wildlife [(1) production of berries, nuts and other fruits and (2) hosting of insect species that are food for birds; see: http://bit.ly/2hcmrAg)], along with other characteristics of the species.

ACTION PROJECT: Students will work with advisers to draw up a list of trees/shrubs that could be planted and flourish in the space available. They will select the species that have the most potential importance to wildlife, devise a plan for continuing care, and plant one tree and one shrub (or more, depending on teacher interest and availability space).

SYNTHESIS AND CONCLUSION: Students will determine what if any plans exist to increase the campus tree cover. Then draw up a proposal to present to the administration or groundskeeper, detailing the importance of trees in an urban context.

INTENSIFICATION: Students complete tree condition data forms for several major trees on campus, which allow an in-depth picture of health. They compute the height and circumference of the tree using standard measuring techniques. A rough calculation is made to determine what percentage of the campus open space is covered by tree canopy, and whether it exceeds or falls short of the District's 40 percent goal. If a proposal has been made to plant more trees, students will determine the costs associated with the proposal and identify two or three different ways to fund it (PTSO, DCPS, Casey Trees, etc.). (Tree care worksheet example: http://bit.ly/2Fv5m2U.)

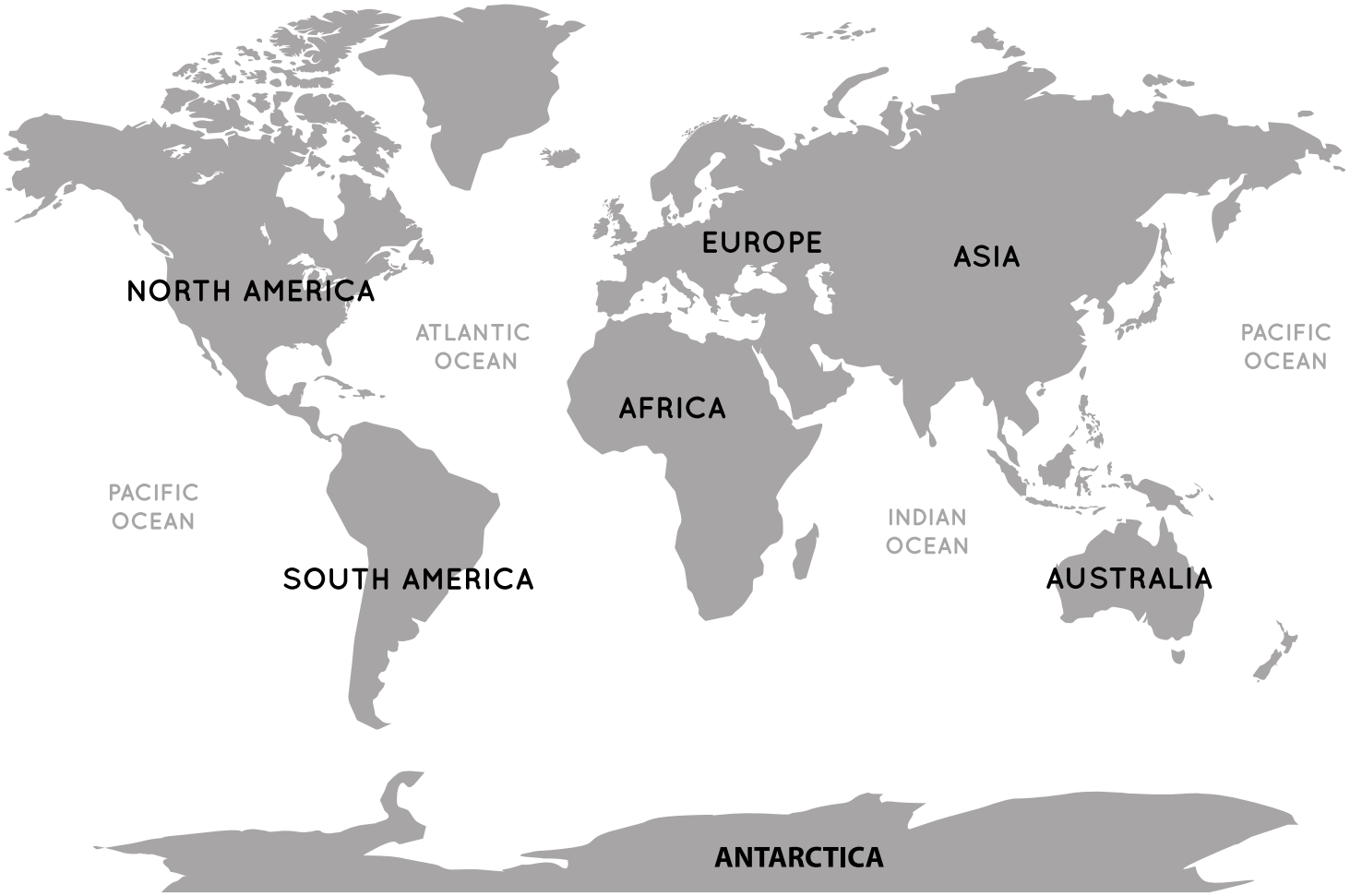
Tree Worksheet 1

Data Collection Excel Spreadsheet

SUPPORT: UDC Cooperative Extension Service, Casey Trees, DDOE, DC Urban Forestry Division. (Also, see DC Urban Tree Canopy Plan: http://bit.ly/2G1S4J2.**)**

Name:_____ Date:_____
Class: _____

Interactive Global Forest Change Handout



Directions: Find and label Brazil with a 1. Record notes and discussion about time lapse video in the table below. Then find and label Dominican Republic and Haiti with a 2. Record notes and discussion in the table below.

1. Brazil	**2. Dominican Republic/ Haiti**
Notes about Video:	Notes about picture:

Directions: Find and label five countries around the world 3-7 on the world map above. Make a prediction about deforestation in that country then using the Global Forest Change website (http://bit.ly/1dkQMUb), record data using the applicable key. Complete reflection.

	3. _____
Deforestation Prediction (High/Low)	
Forest Cover Loss 2000-2015	
Predicted Cause of Tree Cover Loss	
Forest Cover Gain 2000-2015	

	4. _____
Deforestation Prediction (High/Low)	
Forest Cover Loss 2000-2015	
Predicted Cause of Tree Cover Loss	
Forest Cover Gain 2000-2015	

	5. _____
Deforestation Prediction (High/Low)	
Forest Cover Loss 2000-2015	
Predicted Cause of Tree Cover Loss	
Forest Cover Gain 2000-2015	

	6. _____
Deforestation Prediction (High/Low)	
Forest Cover Loss 2000-2015	
Predicted Cause of Tree Cover Loss	
Forest Cover Gain 2000-2015	

	7. _____
Deforestation Prediction (High/Low)	
Forest Cover Loss 2000-2015	
Predicted Cause of Tree Cover Loss	
Forest Cover Gain 2000-2015	

Reflection (3, 2 ,1)

What are three things you have learned?

_____

_____

_____

_____

What are two interesting facts?

_____

_____

_____

_____

What is one question you still have?

_____

_____

_____

_____

Name:_____ Date:_____

Class: _____

	Global Causes and Effects of Deforestation Graphic Organizer			
Country/ Community				
Title of Video/ Article				
Cause of Deforestation				
Effects of Deforestation				
Current Solutions				

Name:_____ Date:_____
Class: _____

Tree Planting Project Proposal Requirements

1. **Cover Page**
   This includes your name, the name of your school and the title of the project.
2. **Project Abstract**
   The project abstract should present a concise summary of the project. It should be no longer than a page and include the identified issue to be addressed, a brief description of the project, and its goals and objectives. Mention how the program will be evaluated to measure the success of the programs.
3. **Statement of Issue (Claim)**
   The statement of issue should describe the problem that your team will attempt to address. Describe the population (high school and/or community) that will be served.
4. **Project Description (Evidence)**
   Describe the project and provide information on how it will be implemented. Include information on what will be accomplished and the desired outcome.
5. **Significance (Reasoning)**
   What purpose will it serve? How will it contribute to your school's or community's overall well-being?
6. **Sources**
   Be sure to cite your sources used.

Name:_____ Date:_____

Class: _____

Claim, Evidence, and Reasoning Statement Rubric

Component	Levels		
	0	2	3
Claim – statement or conclusion that answers the original question/ problem.	Does not make a claim, or makes an inaccurate claim.	Makes an accurate but incomplete claim.	Makes an accurate and complete claim.
Evidence – scientific data that supports the claim. The data needs to be appropriate and sufficient to support the claim	Does not provide evidence, or only provides inappropriate evidence (Evidence that does not support the claim).	Repeats evidence and links it to some scientific principles, but not sufficient.	Provides appropriate and sufficient evidence to support claim.
Reasoning – justification that links the claim and evidence and includes appropriate and sufficient scientific principles to defend the claim and evidence.	Does not provide reasoning, or only provides recording that does not link evidence to claim.	Repeats evidence and links it to some scientific principles, but not sufficient.	Provides accurate and complete reasoning that links evidence to claim. Includes appropriate and sufficient scientific principle

Name:_____ Date:_____
Class: _____

Getting to Know your Country

Directions: *Research the following information for your assigned country. Below are possible research resources.*

The CIA World Factbook: www.cia.gov/library/publications/resources/the-world-factbook/index.html
The Amnesty International: www.amnesty.org/en/
Forest Carbon Partnership REDD+ Country Participants: www.forestcarbonpartnership.org/redd-countries-1

Name of Country: _____

	GOVERNMENT
Official Language	
Governmental System	
	PEOPLE
Population and growth rate	
Major religions or cultures	
Standard of Living	
	DEVELOPMENT
Development status	
Climate	
Environmental (problems, innovations, etc.)	
	ECONOMY
Economic system	
GDP and growth rate	
Major cities	
Infrastructure status (good, poor, etc.)	
Major exports/imports	
Natural resources	
Energy sources	
	CONFLICTS/ ISSUES
What are four problems that affect this nation?	
Ethnic/cultural issues, if any:	

Name:_____ Date:_____
Class: _____

Socratic Seminar Reflection

1. Opening question(s): _____

_____

_____

_____

2. **Summary of key ideas:**

_____

_____

_____

_____

_____

3. Reaction: Identify what someone said; write down his/her comment. React to his/her statement.

_____

_____

_____

_____

_____

4. Explain how the seminar influenced your thinking about the topic or the text(s).

_____

_____

_____

_____

_____

5. Socratic Connections: Identify and explain a connection to . . .

another writer/poet	news article	movie	song
commercial	photograph/painting	TV show	person you know
experience you had	observation	another culture	famous/infamous person
your choices			

6. Explain your connection fully:

_____

_____

_____

_____

7. Self assessment:

Taking a position on a question	5	4	3	2	1
Using evidence to support a position or presenting factual information	5	4	3	2	1
Drawing another person into the discussion	5	4	3	2	1
Asking a clarifying question or moving the discussion along	5	4	3	2	1
Highlighting and marking the text with questions/commentary	5	4	3	2	1

Adapted from: www.indps.k12.wi.us/cms_files/resources/Notebooking%20ideas_including%20claim%20evidence%20reasoning.pdf

Socratic Seminar Rubric

Criteria	4	3	2	1
Contributes to discussion	Frequently (4+ comments)	Occasionally (3 comments)	Rarely (2 comments)	Little to none (1 comment)
Cites references to the text or prompt	Specific, appropriate, and frequent	General, appropriate, and frequent	Weak, inappropriate and/or infrequent	No evidence
Builds on others' ideas/references others' ideas	Thoroughly with direct references	Occasionally with vague references	Sporadically	Off topic
Demonstrates "Habits of Mind" – evidence, definitions, viewpoint, connections, conjecture, relevance	Frequently (4+ habits)	Occasionally (3 habits)	Rarely (2 habits)	Little to none (1 habit)
Explains/initiates new ideas	Explains clearly	Attempts to explain	Presents unexplained ideas	No new ideas
Pays attention to others & Includes others in discussion	Gives full attention to seminar Includes others through verbal exchange or invitation into conversation	Pays attention when others speak	Rarely pays attention when others speak Makes divergent remarks	Uninvolved, interrupting, dominating, criticizing, disrespecting, and/or obstructing process

Adapted from - http://www.hhh.umn.edu/centers/school-change/docs/appendj.pdf & http://www.nusd.k12.az.us/nhs/gthomson.class/web.pagemain/socraticsmeinar.html
By Ann Marie Seely – July 5, 2005

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