Unit 3: Earth's Resources Planning Guide

Standard: 2.8 - 4/13/18
PLC Standard 1: What do students have to learn?

The student will investigate and understand that plants produce oxygen and food, are a source of useful products, and provide benefits in nature.

Key concepts include
a) important plant products are identified and classified
b) the availability of plant products affects the development of a geographic area
c) plants provide oxygen, homes, and food for many animals
d) plants can help reduce erosion.

Pacing & Standard	Essential Skills and Knowledge	Essential Understandings	Essential Questions
Week 1 2.8c	• Understand that plants produce oxygen and food. • Compare and contrast different ways animals use plants as homes and shelters. • Construct and interpret a chart illustrating the plant foods consumed	1. Plants create their own food using energy from the sun. They also need air, soil and water to survive 2. Plants are the main source of food for all life on earth - without plants there would be no life 3. Plants produce oxygen for life to exist on earth - half of the earth's oxygen comes from phytoplankton (ocean plants) and the other half land plants. 4. Parts of a plant 5. Plant life cycle	★ Lesson 1 ○ What do plants need to grow? ★ Lesson 2 ○ What are some plant parts? ★ Lesson 3 ○ What are some plant life cycles? ★ Lesson 4 ○ How do plants and animals need one

	by different animals.	6. Humans use lumber to make their homes, but animals and insects use bushes, grasses, shrubs, bark of trees, tree trunks, branches and leaves as their shelter or to hide in 7. Owls find shelter in a tree, while lions hide in tall grass; leopards sleep in tree branches, while eagles build their nests in the highest tree branches 8. Squirrels eat seeds, nuts, fruits, grass, and human food 9. Black bears eat grasses, roots, berries and human food 10. Beavers eat leaves, twigs, inner bark, corn, beans, shrubs, ferns, grasses and aquatic plants 11. Deers eat fruit, corn, acorns, grass, leaves, garden crops and other plants 12. Skunks eat berries, grasses, nuts, fruits, leaves and roots 13. Rabbits eat weeds, grasses, flowers and vegetables, twigs and bark	another?
Week 2 2.8a	• Classify and identify the sources and uses of plant products, such as fiber, cotton, oil, spices, lumber, rubber, medicines, and paper.	1. **Cinnamon:** Bark of trees ->medicine/cooking 2. **Fiber:** grasses, reeds, trees ->paper 3. **Lumbar:** wood ->homes, cabinets, furniture, boats, toys, masks, art, tools, tree house 4. **Rubber:** rubber trees ->tires, hoses, playground equipment, balls, toys, medical gloves 5. **Cotton:** cotton plant ->clothing,	★ Lesson 5 ○ What are natural resources? ★ Lesson 6 ○ How can we classify plant products? ★ Lesson 7 ○ What are the different uses of plant products?

		bedding, curtains, towels, money, cotton balls, baseballs, hot dogs, ice cream, potato chips 6. **Spices:** various plants ->medicines/cooking 7. **Oil:** soybeans, peanuts ->mayonnaise, butter, skin products, potato chips, bread, peanut butter 8. **Medicines:** various plants and trees a. Aloe vera: aloe plant b. Quinine: Cinchona trees (found in South America to treat Malaria around the world)	
Week 3 2.8a,b Week 4 2.8b	• List and classify plant products (e.g., peanuts, cotton, soybeans, apples, evergreens) grown in Virginia. • Describe plant products grown in Virginia that are useful to people, including wood, fruits, and vegetables. • Describe how the availability of certain plant products in a geographic area would affect the development	1. Different regions can grow different plants, because each region has a different climate (varying temperatures and amounts of precipitation) 2. Due to Virginia having many different regions, we are able to grow and produce many different plants and many different plant products. a. **Coastal Plains:** Peanuts, soybeans, cotton b. **Piedmont:** apples, tobacco, cabbage c. **Mountains**: Evergreens, apples, corn d. **Valleys/Ridges:** Evergreens, apples, corn	★ Lesson 8 ○ How are plants adapted to their environments? ★ Lesson 9 ○ Can plants survive in different environments? ★ Lesson 10 ○ What are the different types of plants that grow in Virginia?

	of that area.	e. **Appalachian Plateau:** tobacco 3. Different plant products help the different geographic regions, because not only can they feed animals and people, but they can also be sold to make money.	
Week 5 2.8d	• Construct and interpret a model that demonstrates how plants reduce soil erosion.	1. Erode means to “wear away” 2. Erosion happens when wind and water moves rocks and soil slowly over time 3. Trees and other plants help stop erosion 4. Branches and leaves of trees act like a wall and prevent soil from blowing away 5. Roots grow down into the soil and hold it in place so that water can not wash the soil away	★ Lesson 11 ○ What changes Earth?

Resources
PLC Standard 2: How are students going to learn this information?

GLAD Unit Planner

GLAD Resources

Standard	FOSS	Inquiry	Maker Labs	Technology	GLAD	Lesson Plans/Formative Assessments	Discovery Education
2.8c Lesson 1: What do plants need to grow?		Block the light Airtight Seal What do plants need to grow?	Botanist Journal		Inquiry Chart Plant Unit Observation Charts Plant Sound Off	Worksheet: What do plants need? Worksheet 2: What do plants need?	
Standard	**FOSS**	**Inquiry**	**Maker Labs**	**Technology**	**GLAD**	**Lesson Plans/Formative Assessments**	**Discovery Education**
2.8c Lesson 2 What are some plant parts?		Plant Stems Plant Parts Plants Give Fish Oxygen	Create a Flower Garden and label the parts of the plant	Powerpoint: Plant Parts	Chant: Parts of a Plant Pictorial Input 1: Parts of a Plant Pictorial Input 2: Parts of a Plant	Flipbook: Parts of a plant	
2.8c Lesson 3 What are some plant life cycles?		Grow a Soybean in a bag Daily Plant Observation Log	Claymation Plant Life Cycle Create a comic strip	Powerpoint Game: What Will I Grow up to Be?	Graphic Organizer: Flow Chart Narrative Input: The Tiny Seed, Eric Carle Chant: Plant Life Cycle Bugaloo	Minibook: How a Seed Grows	
2.8c		PLT:Nature Walk:	PLT:Treasure	Powerpoint:	Chart: Bubble	All About Plants	

Lesson 4 How do plants and animals need one another?		Schoolyard Safari PLT: The Closer you Look	Tree Write a thank you note to a plant as if you were the animal using it for shelter	Important Plant Products	Map	Plant Benefits PW: Everyone Needs a Home PLT: Cross-Section of a Rainforest	
Standard	**FOSS**	**Inquiry**	**Maker Labs**	**Technology**	**GLAD**	**Lesson Plans/Formative Assessments**	**Discovery Education**
2.8a **Lesson 5** What are natural resources?		Bar Graph: Analyze your lunch Product Hunt	Create a story: how you changed from a tree to a colored pencil What natural resources would you need to start a town? Then, create your own advertisement to persuade people to move there	Everyday Uses of Wood	Narrative Input: The Giving Tree	VDOE: We Need Plants Worksheet: circle the products that come from plants	SOS: Placemat Strategy: How it's Made: Cotton T-Shirt
2.8a **Lesson 6** How can we classify plant products?		Magazine Hunt: How can we classify plant products?			Pictorial Input: Plant Products	Classify Plant Products Plant Product Sort	
2.8a		PLT: Make Your	Plant Product		Narrative Input:	Tree Poem:	

Lesson 7 What are the different uses of plant products?		Own Paper	Mural Mobile using 3D products		The Lorax Process Grid: Plant Products	Cut-outs of local trees and have students write in products and their uses for their poem	
Standard	**FOSS**	**Inquiry**	**Maker Labs**	**Technology**	**GLAD**	**Lesson Plans/Formative Assessments**	**Discovery Education**
2.8a,b Lesson 8 How are plants adapted to their environments?		PLT:Region Exchange Box Penpals Waxy Leaves	Adaptation cards: draw a picture of your plant and write its name on the front of the card, then write one sentence about its adaptation and where it lives. Hang cards on a world map.		Comparative Input: Water Lilies to Desert Cactus		
2.8a,b Lesson 9 Can plants survive in different environments?		Can Plants Survive in Different Environments?				Compare plant specimens	
2.8a,b Lesson 10			Run/jog/skip/hop to region in Virginia Outdoor	Virtual Field Trip: Virginia's Coastal Regions	Graphic Organizer: 5 Regions of	Plant Products in Virginia	

What are the different types of plants that grow in Virginia?			Activity	Simulation: Soybean Crops	Virginia	Label the 5 regions of Virginia	
Standard	**FOSS**	**Inquiry**	**Maker Labs**	**Technology**	**GLAD**	**Lesson Plans/Formative Assessments**	**Discovery Education**
2.8d Lesson 11 What changes Earth?		PLT: Plant a Tree Stream table	Write about a memory you have of erosion	Soil and Erosion Demo			

Assessments **PLC Standard 3: How will we know students understood the information?**	
2	**STEAM** Make a Bird's Nest, Nature Sculptures, Engineer a Structure Using Newspaper, Newspaper Platform Challenge, Create a drip irrigation system, Can you make dirty water clean?
1	**Unit Review/Stations/Science Day**
1	**Assessment** Plant Brochure, Rain Forest/Temperate Forest Compare and Contrast, ACPS Transfer Task

Cognitive Performance Matrix

STD	Objectives Behavior, Condition, Criteria	Remember Recognize and Recall Facts	Understand Explain ideas or concepts	Apply Use information in new situations	Analyze Make a connection between two or more ideas	Evaluate Justify a position or a decision	Create Produce new or original work
2.8c							
2.8c							
2.8c							

2.8a							
2.8a							
2.8a,b							
2.8b							
2.8b							
2.8d							

Unit Plan Agenda

STD	Activator (Engage)	Direct Instruction (Explain)	Guided Instruction (Elaborate)	Independent Instruction (Explore)	Closure (Evaluate)
D1 2.8c	Show a plant - label parts of a plant on chart			Observation Charts	Exit Ticket
D2	Share out		Inquiry Chart - What we		Exit Ticket

	observations from charts		know, What we want to know		
D3		Pictorial Input - oxygen and food products	Add pictures to chart		What types of food do plants produce?
D4	Narrative input of the Giving Tree	Intro to the products of a plant			
D5	Scavenger hunt outside in garden- look how organisms are food and shelter		Key observations- - birds in large bushes for shelter -Deer tracks- eating flowers -Humans- what we could grow for food in this garden		
D6	Process Grid comparing plant foods eaten by 3 different animals	Introduce different categories of process grid	Table groups share out their information		
D7					
D8					
D9					
D10					
D11					
D12					

D13					
D14					
D15					
D16					