

Unit 4: Virginia's Natural Resources

Unit Overview - End Date: 4/19/18
PLC Standard 1: What do the students have to learn?

Standard 4.9: The student will investigate and understand important Virginia natural resources.

Key concepts include

- a) watersheds and water resources
- b) animals and plants
- c) minerals, rocks, ores, and energy sources
- d) forests, soil, and land.

Pacing and Standard	Essential Skills	Essential Understandings	Sequence
Week 1 4.9b 4.9c	• Compare and contrast natural and human-made resources. • Recognize the importance of Virginia's mineral resources, including coal, limestone, granite, and sand and gravel.	• Virginia is rich with natural resources ◦ Forests, Farm lands ◦ Coal, sand, rocks ◦ Wildlife, aquatic organisms ◦ Clean water, air and natural scenery • Rocks are made of minerals ◦ Virginia's mineral resources include: ◦ Coal, limestone, granite, sand and gravel • Characteristics of minerals ◦ Shape ◦ Luster ◦ Hardness ◦ Streak • Limestone is caused by water evaporating on earth • Coal is an important natural resource used for energy • Coal is formed from many dead plants	★ Lesson 1 ◦ Explain the importance of natural resources such as water, animals and plants. ★ Lesson 2 ◦ What are mineral resources? ★ Lesson 3 ◦ Explain the importance of energy sources from rocks and minerals

Week 2 4.9d	• Describe a variety of soil and land uses important in Virginia. • Appraise the importance of natural and cultivated forests in Virginia.	• Virginia's soil and land supports a great variety of life • Soil is made from particles of rocks broken down by weathering • Permeability: when water flows easily through soil • Porosity of soil helps plants obtain water and air they need to grow ○ Large pores in the soil helps air and water move through the soil • If water can not drain from the soil, then there will be too much water in the soil; over time, this can cause roots of a plant to rot • Dead plants and animals give soil nutrients and makes soil fertile • Properties of soil ○ Texture ○ Particle size ○ Color ○ Layers (horizons) • Dogwood is a common plant that grows in Virginia and used for medicine. Confederate soldiers used the bark to make tea to treat fevers, pain and wounds • Lumber is an important product of Virginia's forests	★ Lesson 4 ○ Many types of soil? ★ Lesson 5 ○ The importance of forests and land
Week 3 4.9a	• Distinguish among rivers, lakes, and bays; describe characteristics of each; and name an example of each in Virginia. • Create and interpret a model of a watershed. • Evaluate the statement: "We all live downstream."	• A watershed is an area over which surface water (and the materials it carries) flows to a single collection place. • The Chesapeake Bay watershed covers approximately half of Virginia's land area.	★ Lesson 6 ○ Many types of water features ★ Lesson 7 ○ Watersheds

	• Identify watershed addresses.	• The Chesapeake Bay is important because it provides spawning grounds, nursery beds • The other two major watershed systems are the Gulf of Mexico and the North Carolina Sounds. • Identify the region of the James River Watershed • Organize a river cleanup program to help protect Virginia’s water resources						
Resources								
<u>GLAD Virginia’s Natural Resources Unit</u>								
Standard	Activator/ Closure	FOSS	Technology	Maker Labs	GLAD	Discovery Education	Lesson Plans/Work Sheets	Inquiry Lessons/ Demonstrations
4.9b Lesson 1 Natural Resources			Brainpop: Natural Resource Sort		Inquiry Chart Observation Charts		Picture perfect Science: John Muir: A Sense of Wonder PLT: Renewable or Not? PLT: Resource Go Round	Natural Resource Survey/Scavenger Hunt Natural Resource Game PLT: A Few of my Favorite Things

4.9c Lesson 3 The Importance and Uses of Mineral Resources			Minerals in Your House				Geology Rocks!	PLT: Soil Stories - Soil Percolation Investigation
Standard	Activators	FOSS	Technology	Maker Labs	GLAD	Discovery Education	Lesson Plans/Work Sheets	Inquiry Lessons/ Demonstrations
4.9d Lesson 4 What is Soil?		Analyzing and Comparing soil samples Properties of soil - soil tubes Sorting pebbles, gravel and sand					Science Interactive Notebook: types of soil Clay, Silt, Sand investigation	How Much Air is in Soil? How much water can soil hold? Soil Texture Analysis Particle Investigation Can Plants Grow in Martian Soil?
4.9d Lesson 5 The Importance of Forests and Land			Virginia's Mineral, Land and Forest Resources Notes				Forestry in Virginia Virginia Forest Lesson Plans VDOE: Virginia Forest Educator Guide	
4.9a Lesson 6 Many					Cognitive Content Dictionary		Virginia Natural Resources Worksheets	

Types of Water Features								
Standard	Activator s	FOSS	Technolo gy	Maker Labs	GLAD	Discovery Education	Lesson Plans/Work Sheets	Inquiry Lessons/ Demonstrations
4.9a Lesson 7 Watersheds	Watersheds of Virginia Game		What is a Watershed Interactive	Make a Watershed			Baltimore Aquarium: Watershed Addresses National geographic: What is my place in the Chesapeake Bay watershed?	Watershed Model/ Demonstration in Science Lab Virginia Watershed Jigsaw Puzzle
Standard	Activator s	FOSS	Technolo gy	Maker Labs	GLAD	Discovery Education	Lesson Plans/Work Sheets	Inquiry Lessons/ Demonstrations
2			STEAM					
1			Unit Review/Stations/Science Day					
2			Assessment : WRES 4th Grade 4.9 [34586] Online Passcode: FU2HY2M					

Cognitive Performance Matrix

Standard	Objectives Behavior, Condition, Mastery	Remember Recognize and Recall Facts	Understand (Synthesis) Explain and infer ideas/ relationships among sources	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

Agenda Board

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Date	Objective	Essential Question	Activator	Material s	Direct Instruction	Guided Instruction	Independent Instruction	Closure	Differentiation/ Vocab
			Red Folder		Mystery 4.7	MS - solar system sort	MS Gizmos	Exit ticket	
Date	Objective	Essential Question	Activator	Material s	Direct Instruction	Guided Instruction	Independent Instruction	Closure	Differentiation/ Vocab
Date	Objective	Essential Question	Activator	Material s	Direct Instruction	Guided Instruction	Independent Instruction	Closure	Differentiation/ Vocab
			Unit Review/Science Day						
			Assessment						

