

Lesson Title: Varied Natural Communities of Stone Mountain Park, Grade 5

Created by Evangeline Anoka, Stone Mountain Elementary School

Program Description: This lesson will address the geology and ecology of Stone Mountain Park. In addition, the park's geographical features include the natural habitat of a variety of plants, animals, trees, and shrubs that live on top of one of the world's largest piece of granite. Furthermore, the following models will be used in the delivery of this lesson: SAMR, SEM, Bloom's HOTS, Blended Learning Instruction, Project-Based Learning, and STEM/STEAM.

Curriculum Standards:

Earth & Life Science

S5E1 and S5L1—The student will obtain, evaluate and communicate information to synthesize how surface features and organisms on Stone Mountain are caused by constructive and/or destructive processes.

Research to Build and Present Knowledge

ELAGSE5W7 and ELAGSE5W8—The student will conduct research projects from primary, secondary, and technological sources through investigation, field experiences and digital tools.

Speaking and Listening

ELAGSE5SL1 – The student will engage in collaborative discussions in small groups to explore others' ideas and expressing their own clearly and effectively.

Presentation of Knowledge and Ideas

ELAGSE5SL4 and ELAGSE5SL5 –The student will articulate descriptive details and facts using multimedia components.

Materials Needed: digital tools (smart phones, IPADS, Laptops, desktops, flash drives, Journals, ink pens, Elmo, Smart Board, Master Gardener Resource Books, microscopes, digital camera and video camera (optional), Technology Lab, headsets, microscopes, binoculars, magnifying glasses,

Teaching Outline:

Introduction: Discuss Norms and Standards daily. Begin the mini-lesson on Vocabulary (See activity sheet 1). Play a game—"I Have, Who Has"? Take a Virtual Field-Trip to Stone Mountain Park (Tech Lab), Science Journal for research findings--www.gpb.org/education/virtual-field-trip

Activity Description/Directions: Scenario—students are scientists commissioned by the Georgia Department of Natural Resources to design a Geology and Ecology Museum of Stone Mountain Park. There are five teams. Each team of scientists/geologists will cover the different and unique natural communities within Stone Mountain. For example: team one will cover birds, team two will cover trees, team three will cover plants, team four will cover varied animals, and team five will cover artifacts. Our young practicing scientists will take an actual Stem-Based Field Trip to Stone Mountain Park and collect/examine

specimens/artifacts, take pictures of trees, shrubs, birds, wildlife, videos, recordings of bird songs, and explore much more of Stone Mountain natural environment.

Through observation and investigation students will create a classroom museum and/or an electronic field-guide.

After the excursion/expedition of Stone Mountain Park and the collection of leaves, rocks, water, and soil, Junior Scientists will examine the specimens under a microscope and hypothesize findings then summarize in Journal.

Wrap-up: Students will host a Junior Natural Communities Symposium with a topographical model or PowerPoint in connection to selected/chosen artifact for each team of scientists.

Resources:

Attracting Wildlife to Your Backyard by the Georgia Department of Natural Resources

Beginner's Guide to Birds in Eastern Region by Donald & Lillian Stokes

Classroom Museums by Pamela Marx

Native Trees of Georgia by Georgia Forestry Commission

The Natural Communities of Georgia by Leslie Edwards, Jonathan Ambrose, and L. Katherine Kirkman

Science Worksheets Don't Grow Dendrites by Marcia Tate and Warren G. Phillips

Teaching STEM in the Early Years by Sally Moomaw

Wildflowers of Stone Mountain a field guide by Larry and Julie Winslett

Websites

<https://epd.georgia.gov/sites>

www.aboutstonemountainpark.org

www.commoncore2012.homestead.com

https://org.elon.edu/geo/stone_mtn.

www.gly.uga.edu/railsback/GAGeology.html

<https://www.geocaching.com>

www.aboutnorthgeorgia.com

www.myprojectscondtime.weebly.com/mechanical-weathering.html

www.gifted.uconn.edu/schoolwide-enrichment-model

<https://sacsteacher.weebly.com>

www.powermylearning.org/educator/activities

Assessment

Audience Reaction

Rating Scales

Journal or Interactive Notebook

Fonts by Janda Closer to Free by Kimberly Geshwein

Vocabulary for Stone Mountain Park

(Activity Sheet #1)

Piedmont --The region with red soil and rolling hills, includes the city of Atlanta and Stone Mountain.

Granite—an igneous rock

Outcrop—a plant community growing out of rock

Weathering—the physical or chemical breakdown of rocks on earth's surface

Topography—a detailed map of surface features of land

Communities—an ecoregion that inhabits animal and plant life

Trees—woody plants with a trunk and branches

Shrub—a small tree

Flowering Plants—plants that produces flowers

Erosion—the movement of soil by water or wind

Exfoliation—loose slabs at the surface of the entire mountain

Pits—rounded holes and depressions in the granite

I Have, Who Has?

(Copy This Game On Cardstock) Activity #2

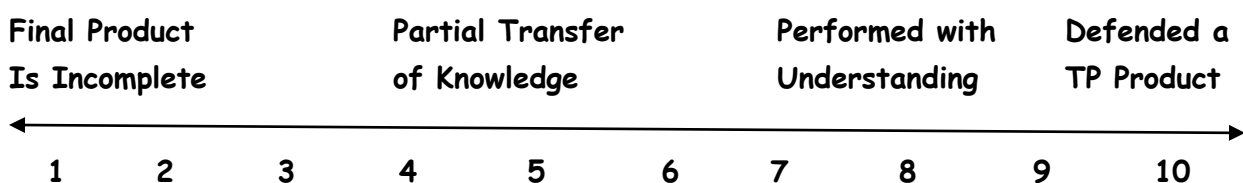
<p>I have the Piedmont.</p> <p>Who has the physical or chemical breakdown of rocks on the earth's surface?</p>	<p>I have weathering.</p> <p>Who has the movement of soil by water or wind?</p>	<p>I have erosion.</p> <p>Who has large loose slabs that are visible at the surface over the entire mountain?</p>
<p>I have exfoliation.</p> <p>Who has rounded holes and depressions in the granite?</p>	<p>I have pits.</p> <p>Who has an ecoregion that inhabits animal plant life?</p>	<p>I have communities.</p> <p>Who has the region where Atlanta and Stone Mountain are located?</p>
<p>I have Piedmont?</p> <p>Who has the igneous rock?</p>	<p>I have granite.</p> <p>Who has plants that grow in between rocks and depressions?</p>	<p>I have outcrops.</p> <p>Who has a detailed map of surface features of land?</p>
<p>I have topography.</p> <p>Who has a woody plant with a trunk and branches?</p>	<p>I have trees.</p> <p>Who has plants that produce flowers?</p>	<p>I have flowering plants.</p> <p>Who has a woody plant that is smaller than a tree?</p>
<p>I have shrubs.</p> <p>Who has a person who studies the earth's surface?</p>	<p>I have geologist.</p>	

Performance Tasks Rating Scale

Name _____ Date _____ Grade _____

Project Description _____

Rating Scale of 1-10 = 10 - 100...On a scale of 1 to 10, 1 = 10 points and 10 = 100 points. 1 = little or no effort, 10 = much effort or show quality in work, project, and oral presentation. TP stands for Thought-Provoking



Comments/Suggestions _____

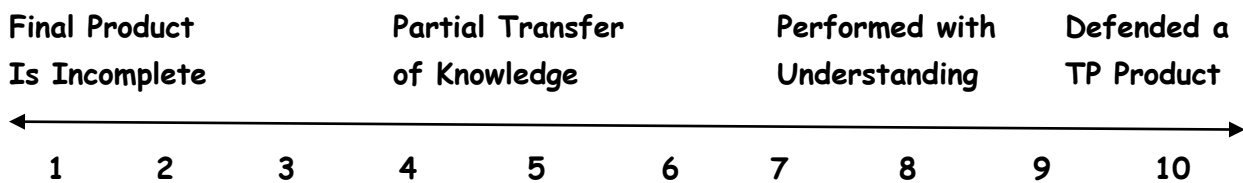
Score _____ Commentary _____

Performance Tasks Rating Scale

Name _____ Date _____ Grade _____

Project Description _____

Rating Scale of 1-10 = 10 - 100...On a scale of 1 to 10, 1 = 10 points and 10 = 100 points. 1 = little or no effort, 10 = much effort or show quality in work, project, and oral presentation. TP stands for Thought-Provoking



Comments/Suggestions _____

Score _____ Commentary _____

Sample Blended Instruction Lesson Plan

Week of:

Gifted/High-Achievers

Teacher: Evangeline Anoka

Thematic Unit Focus	Title	Learning Objective		Participants	Models
“Georgia Natural Communities”	Varied Communities of Stone Mountain Park	After researching/observing Stone Mountain students will create a natural habitat for an exhibit to a Classroom Museum		Junior Scientists	Renzulli SEM=Schoolwide Enrichment Model SAMR-Substitution, Augmentation, Modification, Redefinition
Computer Component Tech Cart Laptops, Desktops, iPads	Station Rotation In the Classroom Tech Cart Student Computer in Classroom	Lab Rotation Computer Lab Media Center	Flipped Classroom Outside of School Verge		
Face –To-Face Classroom Library	Station Rotation In the Classroom Research the Web	Lab Rotation In the Classroom Tech Cart	Flipped Classroom In the Classroom LaunchPad Activities		
Computer-Based Components www.gpb.org/education/virtual-field-trip Internet Activexpressions		In-Person Components FlipCharts/Promethean Planet Classroom Library Graphic Organizer			
Essential Question: Why is it important to understand how Stone Mountain was formed? How can we Design a Classroom Museum?					
Standards: SSE1, S5L1, ELAGSE5W7,8, ELAGSE5SL1,4,5, STEM1					
Vocabulary: Granite, Piedmont, Weathering, Outcrops, Topography, Erosion, Geologist, Trees, Shrubs, Flowering Plants, Exfoliation, Pits					
	Monday	Tuesday	Wednesday	Thursday	Friday
Task Commitments Daily Routines	Complete Task Commitment Form <small>Home-School Communication</small>	Complete Task Commitment Form <small>Home-School Communication</small>	Complete Task Commitment Form <small>Home-School Communication</small>	Complete Task Commitment Form <small>Home-School Communication</small>	Complete Task Commitment Form <small>Home-School Communication</small>
Interaction Strategies	Small Group Investigation Acceleration Design	Small Group Investigation Acceleration Design	Small Group Investigation Acceleration Design	Small Group Investigation Acceleration Design	Small Group Investigation Acceleration Design
HOTS	Construct a Blueprint of a mountain with various	Generate a model representing a	How does it feel to experience high	Compose signs/symbols depicting safety features	What kind of realia do you propose using to

	communities.	topographical feature of a mountain.	elevation?	on a mountain.	formulate a real-life mountainous area?
Authentic Assessment	eField Guide Reflection Journal Student Observation	eField Guide Reflection Journal Student Observation	eField Guide Reflection Journal Student Observation	eField Guide Reflection Journal Student Observation	eField Guide Reflection Journal Student Observation
Gifted Features	<input checked="" type="checkbox"/> Rigor Meter/Bloom's <input type="checkbox"/> Creating/Evaluating <input type="checkbox"/> Analyzing/Applying <input type="checkbox"/> Facilitating/Teaching <input type="checkbox"/> Technology-Oriented <input checked="" type="checkbox"/> Small Group/Partner <input type="checkbox"/> Academic Competition <input type="checkbox"/> Flipchart/PowerPoint <input type="checkbox"/> Mentorship/Buddy <input checked="" type="checkbox"/> STEM/STEAM <input type="checkbox"/> Independent Study <input checked="" type="checkbox"/> Vertical Enrichment <input type="checkbox"/> Acceleration <input type="checkbox"/> Activexpressions <input checked="" type="checkbox"/> DOK Level 4 <input checked="" type="checkbox"/> SEM/SAMR	<input checked="" type="checkbox"/> Rigor Meter/Bloom's <input type="checkbox"/> Creating/Evaluating <input type="checkbox"/> Analyzing/Applying <input type="checkbox"/> Facilitating/Teaching <input type="checkbox"/> Technology-Oriented <input checked="" type="checkbox"/> Small Group/Partner <input type="checkbox"/> Academic Competition <input type="checkbox"/> Flipchart/PowerPoint <input type="checkbox"/> Mentorship/Buddy <input checked="" type="checkbox"/> STEM/STEAM <input type="checkbox"/> Independent Study <input checked="" type="checkbox"/> Vertical Enrichment <input type="checkbox"/> Acceleration <input type="checkbox"/> Activexpressions <input checked="" type="checkbox"/> DOK Level 4 <input checked="" type="checkbox"/> SEM/SAMR	<input type="checkbox"/> Rigor Meter/Bloom's <input type="checkbox"/> Creating/Evaluating <input type="checkbox"/> Analyzing/Applying <input type="checkbox"/> Facilitating/Teaching <input type="checkbox"/> Technology-Oriented <input type="checkbox"/> Small Group/Partner <input type="checkbox"/> Academic Competition <input type="checkbox"/> Flipchart/PowerPoint <input type="checkbox"/> Mentorship/Buddy <input checked="" type="checkbox"/> STEM/STEAM <input type="checkbox"/> Independent Study <input type="checkbox"/> Vertical Enrichment <input type="checkbox"/> Acceleration <input type="checkbox"/> Activexpressions <input checked="" type="checkbox"/> DOK Level 4 <input checked="" type="checkbox"/> SEM/SAMR	<input type="checkbox"/> Rigor Meter/Bloom's <input type="checkbox"/> Creating/Evaluating <input type="checkbox"/> Analyzing/Applying <input type="checkbox"/> Facilitating/Teaching <input type="checkbox"/> Technology-Oriented <input type="checkbox"/> Small Group/Partner <input type="checkbox"/> Academic Competition <input type="checkbox"/> Flipchart/PowerPoint <input type="checkbox"/> Mentorship/Buddy <input checked="" type="checkbox"/> STEM/STEAM <input type="checkbox"/> Independent Study <input type="checkbox"/> Vertical Enrichment <input type="checkbox"/> Acceleration <input type="checkbox"/> Activexpressions <input checked="" type="checkbox"/> DOK Level 4 <input checked="" type="checkbox"/> SEM/SAMR	<input type="checkbox"/> Rigor Meter/Bloom's <input type="checkbox"/> Creating/Evaluating <input type="checkbox"/> Analyzing/Applying <input type="checkbox"/> Facilitating/Teaching <input type="checkbox"/> Technology-Oriented <input checked="" type="checkbox"/> Small Group/Partner <input type="checkbox"/> Academic Competition <input type="checkbox"/> Flipchart/PowerPoint <input type="checkbox"/> Mentorship/Buddy <input checked="" type="checkbox"/> STEM/STEAM <input type="checkbox"/> Independent Study <input type="checkbox"/> Vertical Enrichment <input type="checkbox"/> Acceleration <input type="checkbox"/> Activexpressions <input checked="" type="checkbox"/> DOK Level 4 <input checked="" type="checkbox"/> SEM/SAMR