

MICRO-LESSON: Costa Rica

TITLE: Discovering Costa Rica: New Places, New Ideas, New Experiences

CURRICULUM FOCUS: Social Studies, Science GRADE LEVEL: 6-8; 9-12

VIDEO SEGMENTS:

- ▶ The Mangrove Swamp
- ▶ Tracking the Fer-de-Lance
- ▶ Capuchin Monkey Survival

PROGRAM DESCRIPTION:

These video chapters take you into the ecosystems of Costa Rica where you encounter indigenous animals as well as a natural ecosystem. Adaptation and the importance of ecosystems are the foci of these video chapters.

LEARNING OBJECTIVES:

After viewing this video students will be able to:

- Compare and analyze societal patterns for preserving and transmitting culture while adapting to environmental or social change
- Explain how language, art, music, belief systems, and other cultural elements can facilitate global understanding or cause misunderstanding
- Understand how an organism's behavior evolves through adaptation to its environment
- Understand that populations of organisms can be categorized by the function they serve in an ecosystem

CLASSROOM CONNECTIONS:

- A.** One idea that permeates all of the video chapters on Costa Rica is adaptation. The Capuchin monkey, the Fer-de-Lance, and elephants have all adapted to their environment and ecosystem for maximum survival. The Capuchin monkey, for example, chews the leaves of piper plants to harness the leaves' chemical properties, creating a bug repellent they rub into their fur. The Fer-de-Lance, a bothrops asper, one of the most feared snakes in South America, relies on the rain forest for its camouflage. And as we learn from Jeff Corwin, the mother elephants will sacrifice their lives in order to save their babies; in fact, Corwin and the Masai guide call these animals, "extraordinary mothers," comparing their reactions and responses to human mothers.

In light of what you have learned here, explore the ways you and your classmates adapt to your environment(s). Explore any similarities of adapting to an environment you see between the animals in the video chapters and yourselves.

- B.** The Mangrove Swamp is awash with life. Corwin describes this area as "the most pristine and unique ecosystem in the world, hosting a number of types of life."

Using the Internet and your library, determine where the closest ecosystems are in your area. Research what makes them good ecosystems. Search for what kinds of life exist

there, like the Pygmy Anteater Corwin discovers. Be sure to record the traits and habitats of the different life forms. For example, Corwin tells us that the Pygmy Anteater is arboreal and is a didactylus. Report your findings to your class. You may use images or video segments in your presentations.

INTERACTIVE TARGET VOCABULARY:

As you begin your exploration and research into Costa Rica, create in your Digital Adventure Journal a section for Vocabulary. This compilation of vocabulary will not be the traditional seek and find definitions. You will collect images, parts of articles, video images, brochures, or any other helpful resources that define each of these terms not only to you but also to your classmates.

Ecosystem: the complex of a community of organisms and its environment functioning as an ecological unit

Abductor Muscle: to draw or spread away (as a limb or the fingers) from a position near or parallel to the median axis of the body or from the axis of a limb

Masai: a member of a pastoral and hunting people of Kenya and Tanzania

Pachyderm: any of various nonruminant mammals (as an elephant, a rhinoceros, or a hippopotamus) of a former group (Pachydermata) that have hooves or nails resembling hooves and usually thick skin; especially: ELEPHANT

Didactylus:** a small, fast-moving sloth with two claws

Arboreal: inhabiting or frequenting trees <arboreal monkeys>

Bothrops asper: the venomous pit viper found in South America

All definitions from Merriam Webster Dictionary Online

** Definitions are from video

ASSESSMENT RUBRIC:

This rubric is on a four-point scale and uses as references The Skillful Teacher by Jon Saphier and Robert Gower and Thinking Like a Historian: Rethinking History and Instruction by Nikki Mandell and Bobbie Malone.

	4	3	2	1
QUESTIONS	<ol style="list-style-type: none"> 1. Consistent use of multiple historical facts, perspectives, evidence 2. Uses variety of methods for supporting evidence 3. Relies on identification, evaluation, and comparison/contrast 4. Relies on historical context & change 	<ol style="list-style-type: none"> 1. Relies on multiple historical facts, perspectives, evidence 2. Use of supporting evidence 3. Use of differentiation between and among statements 	<ol style="list-style-type: none"> 1. Uses one historical fact or evidence 2. Limited support 3. Limited use of the historical context 	<ol style="list-style-type: none"> 1. States facts w/no support 2. Little or no use of the historical context
EVIDENCE	<ol style="list-style-type: none"> 1. Relies heavily on primary and secondary sources from a variety of resources 2. Uses deftly research skills in documenting authorities and their impact on work/project 3. Uses analysis, evaluation, synthesis throughout the work/project 4. Uses comparison/contrast to weigh impact of sources on work/project 	<ol style="list-style-type: none"> 1. Uses some primary/secondary sources 2. Uses limited number of other resources 3. Uses research skills on work/project with limited assessment of evaluation of source 4. Uses identification and explanation from the sources on work/project 	<ol style="list-style-type: none"> 1. Uses very limited secondary sources—one or two 2. Uses very limited or no primary sources 3. No attention to research skills evaluating authorities and their impact on work/project 	<ol style="list-style-type: none"> 1. If secondary sources are used, they are traditional: encyclopedia, for example, and very limited use 2. One or no primary sources 3. No evaluation of credibility of sources
INTERPRETATION	<ol style="list-style-type: none"> 1. Uses analysis and synthesis of evidence completely supported from variety of sources and resources 2. Relies on explication of context for historical changes 3. Provides rationale for using multiple sources and resources to accomplish work/project 4. Evaluates and explains intricate connections between people, events, and ideas—both past and present 	<ol style="list-style-type: none"> 1. Addresses the essential questions: who, what, why, when, where <ol style="list-style-type: none"> 1. Will present one or two historical perspectives or historical events/timelines that are different to chart similarities 2. Uses limited multiple sources and resources to accomplish work/project 3. Does not evaluate and explain intricate connections between people, events, and ideas—both past and present 4. Presents in generalities, thereby avoiding any specificity or proof of thesis for work/project 	<ol style="list-style-type: none"> 1. Addresses in limited and cursory fashion the essential questions: who, what, why, when, where <ol style="list-style-type: none"> 2. Uses only identification and description 3. Little to no use of supporting evidence 	<ol style="list-style-type: none"> 1. No addressing of the essential questions: who, what, why, when, where 2. No use of supporting evidence

CAUSE & EFFECT	<ol style="list-style-type: none"> 1. Identifies, evaluates, and analyzes multiple causes/effects—both stated and inferred—intended/unintended—short term/long term 2. Differentiates and evaluates how different groups act differently and why 	<ol style="list-style-type: none"> 1. Identifies multiple causes/effects—both stated and inferred—intended/unintended—short term/long term 2. Identifies how different groups act differently and why 	<ol style="list-style-type: none"> 1. Addresses multiple causes/effects 2. Addresses only short term/long term causes/effects 	<ol style="list-style-type: none"> 1. Addresses only one or two causes and/or effects 2. Addresses only short term causes/effects that are obvious or intended
CHANGE & CONTINUITY	<ol style="list-style-type: none"> 1. Understands that change and continuity are inextricably linked to specific events and/or developments 2. Evaluates change and continuity from variety of perspectives, including but not limited to social, political, economic, cultural levels 3. Includes in the analysis trends, movement, patterns 	<ol style="list-style-type: none"> 1. Understands that change and continuity are inextricably linked to specific events and/or developments 2. Addresses change and continuity in terms of trends and patterns 3. May address one of the following perspectives: social, political, economic, cultural levels 	<ol style="list-style-type: none"> 1. Links change and continuity to one event or series of developments 2. Limited discussion and exploration of one of the following: social, political, economic, cultural levels 	<ol style="list-style-type: none"> 1. Addresses change or continuity but not both 2. Relationship between change or continuity to an event or series of developments not clearly developed or supported
USING THE PAST	<ol style="list-style-type: none"> 1. Distinguishes, analyzes, synthesizes elements and patterns in historical periods that compare and contrast to the present 2. Uses knowledge of a past event or period to infer and thereby draw conclusions about a modern event or period 	<ol style="list-style-type: none"> 1. Chronicles the developmental relationship throughout time and space between patterns and contemporary events 2. Identifies which factors contributed to historical changes over time 	<ol style="list-style-type: none"> 1. Makes linear connections between past event and modern issues 2. May see similarities and/or differences 3. Will not address the import of these connections or intervening developments 	<ol style="list-style-type: none"> 1. Sees and therefore cannot make any connections between the past and the present

ACADEMIC STANDARDS

The following standards are from Washington State Learning Standards:

http://www.k12.wa.us/CurriculumInstruct/EALR_GLE.aspx

In addition, this Micro-Lesson includes national standards from The National Council for the Social Studies (NCSS), the National Council of Teachers of English (NCTE), and National Science Teachers Association (NSTA). NCSS and NCTE have developed national standards to provide guidance for teaching social studies and English/Language Arts. The National Research Council created the standards for NSTA:

<http://www.nsta.org/publications/nses.aspx>

- Understands and applies knowledge of historical thinking, chronology, eras, turning points, major ideas, individuals, and themes in local, Washington State, tribal, United States, and world history in order to evaluate how history shapes the present and future —(middle school)
- Understands and applies knowledge of historical thinking, chronology, eras, turning points, major ideas, individuals, and themes in local, Washington State, tribal, United States, and world history in order to evaluate how history shapes the present and future —(high school)
- Understands and applies reasoning skills to conduct research, deliberate, form, and evaluate positions through the processes of reading, writing, and communicating— (middle school /high school)
- Uses listening and observation skills and strategies to gain understanding. —(middle school)
- The student uses communication skills and strategies to interact/work effectively with others. —(middle school/ high school)
- Uses communication skills and strategies to effectively present ideas and one's self in a variety of situations. —(middle school/ high school)

- Understands and applies reasoning skills to conduct research, deliberate, form, and evaluate positions through the processes of reading, writing, and communicating —(middle school/high school)

NCSS

- Understand and experience the study of culture and cultural diversity
- Explain the origins and continuing influence of key ideals of the democratic republican form of government, such as individual human dignity, liberty, justice, equality, and the rule of law
- Understand how people create and change structure of power, authority, and governance
- Describe and compare how people create places that reflect culture, human needs, government policy, and current values and ideals as they design and build specialized buildings, neighborhoods, shopping centers, urban centers, industrial parks, and the like

NCTE:

- Students read and view a wider range of print and nonprint texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.
- Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features.
- Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g. print and nonprint texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.
- Students participate as knowledgeable, reflective, creative, and critical members of a variety of literacy communities

NSTA:

- Appreciate that for some needs, the cultural backgrounds and beliefs of different groups can affect the criteria for a suitable group
- Understand that scientific investigations require the contributions of individuals from different disciplines, including engineering
- Understand that science and technology are pursued for different purposes—scientific inquiry driven by the desire to understand the natural world and technology design driven by the need to meet human needs and solve human problems. Technology, by its nature, has a more direct effect on society than science because its purpose is to solve human problems, help humans

