


World Geography Curriculum Bundle #1

Title		Suggested Dates
Introduction to Physical Geography		August 25 – September 11, 2009 (13 days)

Big Idea/Enduring Understanding	Guiding Questions
<ul style="list-style-type: none"> • Physical geography looks for relationships among and patterns within the physical environment 	<ul style="list-style-type: none"> • How do the Earth – Sun relationship and other physical processes create patterns in the physical environment? • How do elevation, latitude, ocean currents, mountains and position on a continent create similar patterns around the world? • What is the relationship between ecosystems and the distribution of plants and animals? • What are the causes and effects of hazardous environmental conditions?

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the district curriculum.

Knowledge & Skills with Student Expectations	Specificities & Examples	Resources
<p>WG.3 Geography. Such as student understands how physical processes shape patterns in the physical environment lithosphere, atmosphere, hydrosphere, and biosphere, including how Earth-Sun relationships affect physical processes and patterns on Earth's surface. The student is expected to:</p> <p>WG.3A attribute occurrences of weather phenomena and climate to annual changes in Earth-Sun relationships; and</p>	<p style="color: red;">Solstice – The two times of year when the sun’s rays shine directly overhead at noon at the furthest points north (Tropic of Cancer) or south (Tropic of Capricorn) and mark the beginning of summer and winter in the Northern Hemisphere. The summer solstice is the longer day of the year and the winter solstice is the shortest day of the year.</p> <p style="color: red;">Equinox – The two days in a year on which day and night are equal in length. This marks the beginning of spring and autumn.</p> <p style="color: red;">The Sun is the source of all energy on Earth. Earth is tilted on its axis 23 ½ degrees and rotates once every 24 hours producing day and night. It revolves around the Sun in a yearly movement. This combination of tilt and revolution produces seasonal variation in the amount of energy different parts of Earth receive. This variation, along with other factors, produces global patterns of temperature and precipitation, the two key components of climate. The Sun's rays are most intense north of the equator (23 ½ degrees N -- the Tropic of Cancer) in</p>	<p>JetStream: Online School for Weather—Weather modules</p> <p>(3A) Ch. 3 in Textbook p. 49—Graphic and explanation of how the earth’s tilt and revolution in relation to the sun’s rays cause seasonal changes that affect weather (Activity p. 68—Chapter 3 Assessment, Main Ideas 1., 2.)</p>

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	<p>June and south of the equator (23 ½ degrees S -- the Tropic of Capricorn) in December. About half of the energy from the sun is distributed away from the equator by wind and ocean currents. The other half is reradiated back into space to maintain an energy balance.</p>	
<p>WG.3 Geography. Such as student understands how physical processes shape patterns in the physical environment lithosphere, atmosphere, hydrosphere, and biosphere, including how Earth-Sun relationships affect physical processes and patterns on Earth's surface. The student is expected to:</p> <p>WG.3B describe physical environment of regions and the physical processes that affect these regions such as weather, tectonic forces, wave action, freezing and thawing, gravity, and soil-building processes.</p>	<p>Weather – the condition of the atmosphere at a particular location and time</p> <p>Tectonic Forces – An enormous moving shelf that forms the earth’s crust</p> <p>Wave Action – The force of a wave against the exposed surfaces of the dock and boats.</p> <p>Freezing and Thawing - The withdrawal of heat to change something from a liquid to a solid and the process whereby heat changes a solid to a liquid</p> <p>Gravity – The natural force that causes objects to move or tend to move toward the center of the earth.</p> <p>Soil Building Processes - Soil is not just dirt. Dirt is an inert mass of weathered rock material. Soil is the material after it has been shaped and altered by the environment around it. Soil is produced by the erosion and decomposition of rock and the addition of minerals and rotted vegetative material. Climate plays a role in the process through the interaction of wind, water, and temperature on parent rock material. Eroded sandstone produces a different type of soil than does eroded granite or limestone. As soil is built, it is also being eroded. The rate of soil formation usually equals or exceeds the rate of soil erosion. The types of vegetation found in a region are the result of the interplay of soil building processes, geology (parent rock), and climate (precipitation and temperature).</p> <p>Physical processes are nature's methods of operation that produce, maintain, or alter Earth's physical systems. Physical processes can be grouped into four categories: those operating in the atmosphere, (climate and meteorology); those operating in the lithosphere, (plate tectonics, erosion, and soil formation); those operating in the hydrosphere, (the circulation of oceans and the</p>	<p>(3B) Ch. 2 in Textbook p. 42-43—Account of sandstorms in several locations and explanations of weathering and erosion processes (Activity p. 29—GeoActivity: Students compare past and present locations of continents based on diagrams of continental drift)</p> <p>USGS This Dynamic Earth: The story of plate tectonics</p>

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	<p>hydrologic cycle); and those operating in the biosphere, (plant and animal communities and ecosystems). Physical processes shape the physical environment producing landforms and other features of Earth.</p> <p>TEACHER NOTE: You will probably want to use specific examples from different regions so that the students will be able to visualize these forces. Tell the students that they will be learning about these forces in more specific detail as you cover the regions. For example, SOUTH ASIA—Tectonic forces and plate movement created the Himalayas when the India and Asian plates moved together creating uplift. Extreme weather conditions are found in the Himalayas dependant upon elevation. Freezing and thawing in some areas lead to rock weathering and avalanches (gravity). Along the fertile alluvial plains, the soil building process occurs. These fertile alluvial plains have been created by the flooding of the regions major river system of the Ganges, Indus, and Brahmaputra. Erosion of soil along these river systems due to wave actions have also occurred redirecting the rivers themselves.</p>	
<p>WG.4 Geography. The student understands the patterns and characteristics of major landforms, climates, and ecosystems of Earth and the interrelated processes that produce them. The student is expected to:</p> <p>WG.4A explain the distribution of different types of climate in terms of patterns of temperature, wind, and precipitation and the factors that influence climate regions such as elevation, latitude, location near warm and cold ocean currents, position on a continent, and mountain barriers;</p>	<p>Elevation – Describe climate patterns as you go higher and lower in elevation</p> <p>Latitude – Explain the trade winds, doldrums, and westerlies and their effect on ocean currents and land temperature and Compare climates in the low, middle, and high latitude zones</p> <p>Location near warm and cold ocean currents – Identify and compare climate along the Atlantic coast and the Pacific coast of North America, South America, and Europe</p> <p>Position on a continent - Locate and describe the main climate patterns of the world, according to their general geographic distribution, major weather patterns, and native vegetation: humid tropical (tropical rain forest), tropical savanna, desert, steppe, marine west coast, Mediterranean, humid subtropical, humid continental, subarctic, tundra, ice cap, and highland</p> <p>Mountain barriers – Identify climates on either side of a mountain range</p>	<p>(4A) Ch. 3 in Textbook p. 54—Account of El Nino and graphic and text information about wind currents as factors affecting climate (Activity p. 50 in TE—Students are asked to generalize about precipitation patterns in the United States)</p> <p>Internet Geography—Great for climate zones among other topics</p> <p>Biomes of the World—Definitions and maps</p> <p>Introduction to Biomes from Radford Geography Dept.</p>

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<p>WG.4 Geography. The student understands the patterns and characteristics of major landforms, climates, and ecosystems of Earth and the interrelated processes that produce them. The student is expected to:</p> <p>WG.4B relate the physical processes to the development of distinctive land forms; and</p>	<p>TEACHER NOTE: You do not have to teach these TEKS here, although you might want to introduce them at this time and refer back to this introduction when you study various landforms within their respective regions. As a resource, you might want to use p. 34-35 in the book.</p> <p>Mountain Range– When two continental plates collide, they push up against each other and the plates buckle. The fold results in a mountain range.</p> <p>Volcanoes – As plates push together, one plate is forced under the other in a process called subduction. As the bottom plate starts to melt, magma rises and forms volcanoes.</p> <p>Canyons – Weathering of rocks and erosion over time, creates canyons.</p> <p>Delta – A triangular area of land formed from deposits of sediment at the mouth of a river Examples: Mississippi Delta, Nile Delta and Amazon Delta</p>	<p>www.usgs.gov</p> <p>www.nws.gov</p> <p>www.weather.com</p> <p>Weather school</p> <p>Landform Picture Gallery at About.com</p> <p>United Streaming Video: Geography Basics; Landforms and Living patterns (20:00)</p> <p>United Streaming Video: Geographical Features; Landforms (18:00)</p> <p>United Streaming Video: Uplifting and Erosion; how landforms are Formed (1:06)</p> <p>United Streaming Video: How Landforms Affect Human Activities and Living patterns (3:16)</p> <p>(4B) Ch. 2 in Textbook p. 37-39—Map, graphics, and text information about tectonic plates and how interior forces shape landforms (Activity p. 41—Section 3 Assessment: Taking Notes, Main Ideas, and Geographic Thinking)</p> <p>(19B) Ch. 2 in Textbook p. 40—Explanation of the Richter Scale (Activity p. 41—Section 3 Assessment, Places and Terms: Students are asked about the meaning of seismograph)</p>
<p>WG.4 Geography. The student understands the patterns and characteristics of major landforms, climates, and ecosystems of Earth and the interrelated processes that produce them. The student is expected to:</p> <p>WG.4C explain the distribution of plants and animals in different regions of the world using the relationships among climate, vegetation, soil, and geology.</p>	<p>LATIN AMERICA</p> <p>In Colombia, Venezuela, (llanos) and the Amazon River Basin (cerrado) they have expansive, grassy, treeless, plains. Because of the flat terrain and the moderate temperature both of these areas are very good for agriculture.</p> <p>AFRICA</p> <p>Nearly 90% of Africa lies within the Tropic of Cancer and the Tropic of Capricorn. The vegetation consists of</p>	<p>(4C) Ch. 3 in Textbook p. 65-66—Chart of soil characteristics in different climates, map of world vegetation regions, and text information about soil and plants (Activity p. 67—Section 4 Assessment)</p> <p>World Biomes from Kids do Ecology</p> <p>Biomes of the World</p> <p>Introduction to Biomes from Radford Geography Dept.</p>

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	<p>grasslands, rain forests, and a wide variety of plant life. This allows this area of the world to be a habitat for a large variety of animals.</p> <p>Research the different biomes of areas.</p>	
<p>WG.8 Geography. The student understands how people, places, and environments are connected and interdependent. The student is expected to:</p> <p>WG.8C describe the impact of and analyze the reaction of the environment to abnormal and/or hazardous environmental conditions at different scales such as El Niño, floods, droughts, and hurricanes; and</p>	<p>SOUTH ASIA</p> <p>Global Warming over extended time would result in the melting of the polar ice caps. Even slight melting would result in rising sea levels, which would prove disastrous for the lower islands such as the Maldives. A 20-inch rise in the level of the Indian Ocean would place 80% of the island nation under water.</p> <p>LATINA AMERICA</p> <p>The El Nino weather event in the Eastern Pacific Ocean off of the coast of Ecuador and Peru is caused by a change in the atmospheric pressure. The change in wind pattern leads to a change in the patters of ocean currents which in turn leads to change in prevalent weather patterns. Benefits of the changed weather patterns can be warmer weather in the northern parts of North America and a lessening of hurricanes in the Atlantic. El Nino can also cause devastating weather in the form of heavy rains and flooding on the west coast of the Americas and drought in some of the Pacific Islands.</p> <p>EAST AFRICA</p>	<p>(8C) Ch. 2 in Textbook p. 30-31—Map, graphics, and text information about asteroid hits and their effects. (Activity p. 31 in TE—GeoActivities: Students do Internet research about the Tunguska event)</p> <p>(8C) Ch. 3 in Textbook p. 51-52—Accounts of hurricanes (typhoons), tornadoes, and blizzards (Activity p. 51 in TE—Students conduct Internet research to analyze hurricane formation and their effects)</p> <p>El Niño Theme Page from National Oceanic and Atmospheric Administration</p> <p>Hurricane Digital Memory Bank (Collections tab)</p> <p>Hurricanes and Extreme Weather from the National Oceanic and Atmospheric Administration</p> <p>USGS : Natural Hazards Gateway Earthquakes, Floods, Hurricanes, Landslides, Tsunamis, Volcanoes, Wildfires</p>

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	<p>Periods of drought in Sudan and the Horn of Africa have created the loss of vegetation used for grazing. As livestock dies people migrate to other areas so that their animals might graze. Over grazing of these areas lead to the desertification of land.</p> <p>NORTH AMERICA</p> <p>North America specifically the Gulf Coast and the Southern East Coast of the United States is in a cyclical period where there have been a large number of hurricanes during the season. During 2005, Hurricane Katrina and Rita category four and five hurricanes, devastated the coast of Texas, Louisiana, and Mississippi</p>	
<p>WG.9 Geography. The student understands the concept of region as an area of Earth's surface with unifying geographic characteristics. The student is expected to:</p> <p>WG.9A identify physical or human factors that constitute a region such as soils, climate, vegetation, language, trade network, river systems, and religion; and</p>	<p>Five themes Patterns</p> <p>Suggestions: Choose a region and discuss characteristics that identify the region such as: soil type, climate, vegetation patterns, languages, government, economic activity, religion.</p> <p>Central Texas Examples:</p> <ul style="list-style-type: none"> • Soil region – Blackland Prairie (as opposed to Hill Country—soil changes to hard limestone) • Climate region – Humid subtropical v. Semi-arid • Vegetation – (determined by climate) • Language region – English v. Spanish (where is each the dominant language?) • Trade network region – IH-35, NAFTA, etc. • River system region – Colorado river system (Highland Lakes) • Religion region – Protestants and Catholics in Texas 	<p>United Streaming Video: The Five Themes of Geography (17:44)</p> <p>United Streaming Video: American Geography Close-Ups: Maps, Regions, Resources and Climate</p> <p>(9A) Ch. 1 in Textbook p. 7—Explanation of factors related to them of region including example of Sahel in Africa (Activity p. 9—Students answer questions to define region)</p> <p>(9A) Ch. 3 in Textbook p. 52—Featurette about Tornado Alley in the United States and account of 1974 tornadoes in the Ohio and Tennessee Valleys (Activity p. 66— Students interpret map of vegetation regions)</p>
<p>WG.9 Geography. The student understands the concept of region as an area of Earth's surface with unifying geographic characteristics. The student is expected to:</p> <p>WG.9B identify the differences among formal, functional, and perceptual regions.</p>	<p><u>Formal regions</u> are places with similar features. Formal regions can be defined by measures such as population, per capita income, ethnicity, agricultural activity, or even political boundaries.</p> <p><u>Perceptual regions</u> reflect human attitudes and feelings about areas. They are therefore subjective. They are a reflection of a person’s mental map of and area.</p>	<p>United Streaming Video: American Geography Close-Ups: Maps, Regions, Resources and Climate</p> <p>Geography Standards from National Geographic</p> <p>Five Themes of Geography Powerpoints</p>

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	<p><u>Functional regions</u> are characterized by a hub or central place such as a city and its suburbs.</p> <p>Suggestions for discussion: THE UNITED STATES-Texas-Some people perceive Texas to be part of the South due to the part it played in the Civil War and some of the culture traits shared with other southern states. Others are likely to see Texas as a part of the Southwest due to other culture traits, similar climates and topography that are found in other southwestern states</p>	
<p>Social Studies Skills TEKS—The TEKS below are processing TEKS: They are designed to be used to help students process the social studies content TEKS above. In reality, teaching and learning involves using all of the Social Studies Skills TEKS many times throughout the school year, but these TEKS have been written explicitly into the curriculum only a couple of times each to make sure that they are each taught in depth.</p>		
<p>WG.21 Social studies skills. The student applies critical-thinking skills to organize and use information acquired from a variety of sources including electronic technology. The student is expected to:</p> <p>WG.21A use historical, geographic, and statistical information from a variety of sources such as databases, field interviews, media services, and questionnaires to answer geographic questions and infer geographic relationships;</p>		<p>(21A) Ch. 2 in Textbook p. 41—Students find information on the Internet about volcanoes in history (Activity p. 45—GeoActivity: Students research examples of erosion and write captions for their sketches or photographs)</p>
<p>WG.21 Social studies skills. The student applies critical-thinking skills to organize and use information acquired from a variety of sources including electronic technology. The student is expected to:</p> <p>WG.21C construct and interpret maps to answer geographic questions, infer geographic relationships, and analyze geographic change;</p>		<p>(21C) Ch. 1 in Textbook p. 15-16—Maps and text information about elements of a map (Activity p. 23—Students practice interpreting maps, and construct one political map and one physical map)</p> <p>(21C) Ch. 2 in Textbook p. 37—Map of tectonic plates and text to aid interpretation (Activity p. 36—Students make a relief map of landforms)</p>
<p>WG.21 Social studies skills. The student applies critical-thinking skills to organize and use information acquired from a variety of sources including electronic technology. The student is expected to:</p> <p>WG.21E use a series of maps, including a computer-</p>		<p>(21E) Ch. 1 in Textbook p. 12-13—Graphic and text information about geographic information systems (Activity p. 25—Students do Internet research and create a multimedia presentation about geographic information systems)</p>

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<p>based geographic information system, to obtain and analyze data needed to solve geographic and locational problems.</p>		<p>www.maps101.com Google Earth</p>
<p>WG.22 Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:</p> <p>WG.22B apply appropriate vocabulary, geographic models, generalizations, theories, and skills to present geographic information;</p>		<p>(22B) Ch. 1 in Textbook p. 17-18—Graphics and explanation of terms used for making a geographic grid and for making planar and conical projections. (Activity p. 25—Students are paired and asked to choose five locations and record latitudes and longitudes)</p>
<p>WG.22 Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:</p> <p>WG.22C use geographic terminology correctly; and</p>		<p>(22C) Textbook p. 6—Graphic and text information about geographic terms related to the theme of location. (Activity p. 24—Chapter Assessment, Reviewing Places and Terms, A. and B.)</p> <p>(22C) Ch. 2 in Textbook p. 28—Graphic and explanations of terms related to the earth’s structure (Activity p. 36—Section 2 Assessment Places and Terms)</p> <p>(22C) Ch. 3 in Textbook p. 50—Graphics showing types of precipitation and text information about weather terms (Activity p. 53—Section 1 Assessment, Places and Terms and Main Ideas, b.)</p>