| **Required Course Numbers** | | | | | | | | | | | | | | | |
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| **Test Content Categories** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| I. **Geography Literacy and Tools (20%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **A. Knows map types and their uses** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Knows the uses of reference or location maps (e.g., road maps, topographic maps, maps in an atlas) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Knows the uses of the main types of thematic maps that show distribution of data |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| a. graduated symbol |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| b. dot |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| c. choropleth |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| d. isometric |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| e. cartograms |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **B. Understands distance, direction, and scale** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Can differentiate between absolute distance and relative distance |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Has knowledge of cardinal and intermediate directions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Has knowledge of relative directions that are culturally based (e.g., out west, down east, up north) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Understands the various uses of scale in geography |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| a. Local, regional, and global scales |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| b. map scales |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **C. Understands the use of mental maps as a means of organizing information in a spatial context** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Knows that mental maps are developed by individuals to organize activities |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Understands that sense of place is often influenced by age, gender, location, and socio-economic status |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **D. Understands the difference between absolute location and relative location** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **E. Understands the geographic concepts of spatial distribution and density** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **F. Understands the differences between formal, functional, and perceptual/vernacular regions** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **G. Understands that geographic models are used for organizing spatial information** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Recognizes the uses of urban, agricultural, demographic, and industrial models |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **H. Can apply geographic concepts to current events (e.g., devolution, environmental stress, globalization)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Understands the impact of devolution and/or supranationalism (e.g., former Soviet Union, former Yugoslavia, European Union) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Comprehends the magnitude and rate of global environmental change |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Has knowledge of the increased economic, social, and cultural interactions as related to the process of globalization |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **I. Recognizes how geographic tools can be used for interpreting the past, understanding the present, and planning for the future** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Can use various maps to interpret changes in space and place over time |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Recognizes the uses of geospatial technologies, such as |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| a. Geographic Information System (GIS) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| b. Global Positioning System (GPS) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Can interpret demographic trends by using census data and population pyramids |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **J. Can use statistical information to answer geographic questions and infer geographic relationships** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **II. Physical Geography (20%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **A. Recognizes the natural factors that influence weather** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Temperature |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Humidity |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Pressure |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Wind |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **B. Recognizes the natural factors that influence climate** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Distribution of landmasses and bodies of water |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Latitude |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Altitude and elevation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Ocean and atmospheric currents |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Earth-Sun relationships |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Orographic effect (rain shadow) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **C. Can identify the key terms used for describing weather and climate** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Temperature |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Precipitation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Absolute and relative humidity |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Atmospheric lifting |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Weather fronts, air masses, and pressure systems |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Major climate types |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **D. Can interpret climographs** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Interprets temperature and precipitation of locations using climographs |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **E. Can identify and locate Earth’s biomes or ecosystems** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Forest biomes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| a. tropical |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| b. midlatitude |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| c. coniferous |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Grassland biomes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| a. tropical savanna |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| b. midlatitude |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Desert biomes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Tundra biomes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| a. arctic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| b. alpine |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Marine ecosystems |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **F. Can identify Earth’s primary spheres** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Biosphere |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Lithosphere |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Atmosphere |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Hydrosphere |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **G. Is familiar with geomorphic processes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Internal geomorphic processes: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| a. plate tectonics |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| b. extrusive and intrusive volcanism |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| c. folding and faulting |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. External geomorphic processes: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| a. physical or chemical weathering |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| b. erosion |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| c. glaciation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **H. Is familiar with the ways tectonic processes affect the physical environment** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Volcanoes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Earthquakes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3.Tsunamis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **I. Understands the differences between various landforms** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Can identify and locate major types of landforms on a map |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| a. plains |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| b. tablelands |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| c. hills |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| d. mountains |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| e. valleys |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Can identify the ecoregions of the United States |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| a. midlatitude forests |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| b. midlatitude grasslands |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| c. Mediterranean forests and scrubs |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| d. deserts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| e. mountains |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| f. plains |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| g. lakes and water systems |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| h. tundra |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **J. Is familiar with the processes involved in the hydrologic cycle** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Evaporation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Condensation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Precipitation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Runoff |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **III. Human Geography (25%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **A. Understands spatial patterns and variations in characteristics of human populations** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Can identify source regions for major language families and has knowledge of patterns of language on a global scale |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Can identify source regions for major world religions and has knowledge of patterns and landscapes of religion on a global scale |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Can identify cultural landscape patterns in the United States |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Understands changing ethnic patterns on varying scales |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Can identify changing patterns of economic development on various scales |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **B. Knows the basic demographic indicators (e.g., age, gender, mortality rates)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Recognizes and can apply data and measurements used by demographers |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Recognizes the stages of the demographic transition model |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Recognizes patterns of global population distribution |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **C. Knows how to interpret population pyramids on four scales** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Global |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. National |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Regional |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Local |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **D. Understands patterns of internal and international migration** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Can identify major migration patterns within the United States |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Has knowledge of historical and current international migration streams, particularly as they apply to the United States |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Understands the push-and-pull factors that influence migration |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **E. Can identify the characteristics of urban and rural settlements** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Can distinguish among urban, suburban, and rural settlement patterns |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Can recognize interactions among urban, suburban, and rural settlements |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **F. Understands the development and diffusion of agriculture** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Recognizes the different forms of agriculture |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| a. subsistence |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| b. commercial |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| c. intensive |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| d. extensive |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Can identify hearths of plant and animal domestication |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Recognizes historical patterns and current patterns of agricultural diffusion |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **G. Recognizes how technology affects agricultural production in diverse environments** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Terracing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Irrigation systems |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Mechanization |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **H. Understands the industrialization of agriculture** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Understands the linkages between production, processing, marketing, and consumption of agricultural commodities |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Understands how recent technologies and practices can affect agricultural production in a variety of ways (e.g., Green Revolution, genetically modified organisms [GMOs], agribusiness) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **I. Understands concepts of nation, state, nation-state, stateless nations, multistate nations, and multinational states** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **J. Can identify and locate examples of nation, state, nation-state, stateless nations, multistate nations, and multinational states as recognized by political geographers** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **K. Recognizes recent conflict and cooperation throughout the world** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Recognizes issues that influence conflict and cooperation at various scales throughout the world |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Can identify areas of cooperation and conflict |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| a. European Union |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| b. Arab-Israeli conflict |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| c. oil and water rights |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Recognizes patterns and effects of industrialization, development, and deindustrialization |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Recognizes the relationships between various indicators and the level of a country’s development (e.g., social, economic, demographic) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Understands economic interdependence and can interpret patterns of acquisition and distribution of commodities |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Understands spatial examples of globalization |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. Understands patterns of globalization of human activities |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| a. cultural diffusion |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| b. global transportation networks |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| c. universalizing religions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8. Recognizes changing global economic patterns (e.g., export processing zones, international division of labor, and outsourcing) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9. Recognizes the economic and cultural roles of the World Cities in globalization (e.g., New York City, London, and Tokyo) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **IV. Regional Geography (15%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **A. Understands that regions can be classified according to human or physical characteristics** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Economic activity |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Linguistic divisions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Religious predominance |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Climate |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Topography |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Biomes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **B. Can identify major regions of the world when indicated on a map or described by physical and/or human characteristics (e.g., Southeast Asia, Eastern Europe, Latin America)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **C. Knows and can associate the important human and physical characteristics that define the major world regions (e.g., Polynesia, tropical rainforest biomes in South America, the Sahel in Africa)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **D. Can identify major regions of the United States (e.g., Midwest, New England, Southwest)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **E. Is aware that people’s perceptions of regions differ based on their own culture and experience** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Can recognize differing perceptual frameworks for dividing the United States or other areas of the world into regions based on a variety of factors, such as history, religion, and perceived cultural or ethnic traits |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **V. Environment and Society (20%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **A. Understands how human decisions and activities modify the physical environment** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Agriculture |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Dam construction |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Industrialization |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **B. Understands the interaction between human and physical systems** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Understands the effects of physical systems on human activities, such as how climate and weather affect agriculture |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Understands the effects of human activities on physical systems, such as how deforestation affects biodiversity |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **C. Recognizes that physical systems can have a limiting but not a determining effect on human activities** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Recognizes the effects of climate, seismic processes, and topography on human activities |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Recognizes ways in which humans have sought to mitigate the limiting effects of physical systems and environmental features |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Can differentiate between environmental determinism and possibilism |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **D. Is familiar with ways humans overcome the limitations of the physical environment** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Air-conditioning |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Greenhouses |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Irrigation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **E. Recognizes how the positive and negative features of the physical environment affect patterns of human settlement** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **F. Knows the natural hazards related to settlements near oceans and rivers and recognizes why humans continue to settle in those locations** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **G. Understands the effects of tectonic processes on human settlements** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Earthquakes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Volcanic eruptions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Tsunamis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Nutrient-rich volcanic soil |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **H. Recognizes the long-term environmental impacts of patterns of industrial concentration** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Air pollution |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Water contamination |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Traffic congestion |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **I. Understands the effects of chemicals on the environment** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Industrial |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Agricultural |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Household |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **J. Understands the long-term effects of groundwater pollution and depletion** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **K. Is familiar with the debates concerning global warming and climate change** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **L. Recognizes how climate change affects human settlements and ecosystems** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Prolonged drought |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Excessive precipitation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **M. Understands the differences between renewable and nonrenewable resources** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **N. Knows the factors influencing the search for alternative sources of energy** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Production and transport costs |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Desire to reduce pollution |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Fluctuating prices for fossil fuels |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **O. Recognizes the effects of population and changes of living standards on Earth’s resources** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |