

GEOGRAPHY GRADE 6 CONTENT EXPECTATIONS – MICHIGAN

Annotated with italicized phrases to suggest some focus or discussion questions for each GLCE.

G1 THE WORLD IN SPATIAL TERMS: GEOGRAPHICAL HABITS OF MIND

Describe relationships between people, places, and environments by using information that is in a geographic (spatial) context. Engage in mapping and analyzing information to explain the patterns and relationships among people, their cultures, and the natural environment. Explain and use key conceptual devices (places and regions, spatial patterns and processes) that geographers use to organize information.

How does the location of XXX help us understand it? This is the key question in “research” or “pure” geography, because the spatial arrangement of something is often a good clue about the processes that “caused” it.

How can I describe the location and/or spatial pattern of something?

What causal processes could produce this location and/or spatial pattern?

Where is the best place to put XXX? This is the key question in “applied” geography, because a) there are advantages to putting something in a favorable location.

What are the features of this location that would reward us for choosing it?

What map skills do I need in order to learn about these conditions and/or connections?

b) there are penalties for putting something in an unfavorable location.

What are the features of this location that would penalize us for choosing it?

What map skills do I need in order to learn about these conditions and/or connections?

[NOTE: These statements and questions are a pretty good description of geographical habits of mind. They are an important part of a geography class, BUT we do not recommend starting a course with an abstract discussion about geographical habits of mind. This kind of discussion may help students who already have a good idea about the nature of inquiry in various disciplines, but it is likely to further confuse those who do not. We recommend starting a course with some concrete examples of geographic inquiry. The goal is to help students share a number of experiences with geographic inquiry before trying to describe the process in this kind of abstract manner. If we choose those inquiries well, they can also help students build a useful framework for their developing mental map of the world.]

G1.1 Spatial Thinking

Use maps and other geographic tools to acquire and process information from a spatial perspective.

Maps made for specific purposes (e.g., population, climate, vegetation) are used to present information so that it can be compared, contrasted, and examined to answer the questions “Where is something located?” and “Why is it located there?” and “What effect does this location have?”

6 – G1.1.1 Use maps, globes, and web based technology to investigate the world at [several] scales.

How do the purposes of a reference map (one that shows spatial relationships among many topics)

differ from those of a thematic map (one that shows the spatial pattern of a limited number of topics)?

How does a local scale (e.g., city) map differ from a global scale (e.g., continent or world) map?

What kinds of distortion on a world map projection might confuse an unwary reader?

6 – G1.1.2 Draw a sketch map or add information to an outline map of the world or a world region.

Where are the main areas of a specific topic (e.g., high population, low precipitation, corn farming) on this blank map of a continent (or state, country, etc.)? (see 6-G2.1.1 and 6-G2.2.1)

What lines can I draw on this map to organize information and help me remember it better?

G1.2 Geographical Inquiry and Analysis

Use skills of geographic inquiry and analysis to answer important questions about relationships between people, their cultures, and their environment, in their community and within the larger world context. Students use information to make reasoned judgments based on the authenticity of the information, their skill at critically analyzing the information, and presenting the results.

6 – G1.2.1 Apply the skills of geographic inquiry (asking geographic questions, acquiring geographic information, organizing geographic information, analyzing geographic information, and answering geographic questions) to analyze a geographic problem or issue. **See 6-G6.1.1**

6 – G1.2.2 Explain why maps of the same place may vary, including the perspectives and purposes of the cartographers.

*Who made this map? Why was it made? For whom was it made? When was it made?
What source(s) of information were used? Do the map symbols fairly represent the information?*

6 – G1.2.3 Use, interpret and create maps and graphs representing population characteristics, natural features, and land-use of the region under study.

*What is the main topic of this thematic map? [Start with the title and key.]
What type of symbolization does the map use to convey its main message?
[dots, symbols of different sizes, positions of arrows or lines, colors, varying darkness of shading]
How do the scale, compass rose, and inset help map readers?
Are features on this map arranged in specific patterns? Do features occur in distinct regions?
What features tend to occur together in the same places? What features seldom occur together?
Do things change quickly or gradually as you go from one place to another?
What are consequences of the patterns, regions, or transitions for human life in this area?*

6 – G1.2.4 Use images as the basis for answering geographic questions about the human and physical characteristics of places and major world regions.

*Which of these pictures matches each entry in a map key?
Do these pictures provide an accurate impression of the place? Why or why not?
Arrange these pictures in order (e.g. from the center of a city to the edge, from south to north, etc.)*

6 – G1.2.5 Locate and use information from Geographic Information Systems (GIS) and satellite remote sensing to answer geographic questions.

How do I find relevant maps and images? (e.g. by using Google Earth, ArcGIS, natgeoed's mapmaker, or NASA's Earthobservatory) What does geo-referenced mean? What is a map layer?

6 – G1.2.6 Create or interpret a map of the population distribution of a region and generalize about the factors influencing the distribution of the population.

*See 6-G1.3.2 below - - - this is an important goal, so they said it twice!
GLCE G1.2.6 emphasizes the process of creating a map – which might use dots, scaled circles, or colors to represent population in different ways. “Generalizing about factors influencing distribution,” however, is basically a process of hypothesis formulation until you have access to the other maps that are described in GLCE 6-G1.3.2.*

[NOTE: The GLCEs on this page identify and describe key geographic skills, but we do not recommend starting a course with a unit about map skills, and especially not with maps that represent imaginary places. Research has clearly shown that it is much more effective to teach map skills within the context of guided geographic inquiries about specific real-world places. In this way, students learn geographic concepts, facts about places, and geographic skills at the same time. Each of these “strands” reinforces the others, which makes the skills more relevant and the factual and conceptual memories more durable.]

G1.3 Geographical Understanding

Use geographic themes, knowledge about processes and concepts to study the Earth.

The nature and uses of geography as a discipline and the spatial perspective require that students observe, interpret, assess, and apply geographic information and skills. A spatial perspective enables student to observe, describe, and analyze the organizations of people, places, and environments at different scales.

6 – G1.3.1 Use the fundamental themes of geography (location, place, human environment interaction, movement, region) to describe regions or places on earth.

Not as a checklist of disconnected items, please. Geographical themes work best when they work together: human actions interact with environmental conditions at a place; regions are groups of places with similar conditions; movements are pushed by conditions at one place or pulled to another place, and so forth. The key question is not “How can I use the themes to look at this place?” Rather, the key question is “Which themes best help me understand the characteristics of this place?”

6 – G1.3.2 Use maps of physical features, land-use, and transportation to generalize about the reasons for the distribution of population. [See also G1.2.6, as noted there.]

What do the colors or dots mean [look at the map key]? Where is the highest population density? What is the geographic pattern of population? Is it spread evenly or bunched in particular places?

What features seem to be associated with the areas of high population density?

What is the role of good soil, coastlines, rivers, harbors, roads, etc. as “attractors” of population?

What features are associated with “empty” areas or areas of low population density?

What is the importance of steepness, cold, dryness, diseases, etc. as “limits” on population?

How does the density or pattern of population on this map compare with a place that I already know?

6 – G1.3.3 Explain the different ways in which places are connected and how those connections demonstrate interdependence and accessibility.

Are these places connected by a natural process? [river, wind, ocean current, animal migration, etc.] Which place is upstream? Upwind? Is anything else moving to connect places?

Are these places connected by a manmade structure? [road, canal, railroad, cable, cell tower, etc.]

How strong is the connection? Is the place near the center of a network or near an edge?

Does the connection go through any kind of chokepoint? [strait, mountain pass, other strategic site]

Is this place a breakpoint – a place where loads must be transferred from one mode to another?

[Breakpoints are key places for people to make money – e.g. the port of New York or Hong Kong]

Is this place a chokepoint – a place where flows between places are “funneled” through a narrow area?

[Breakpoints are strategic places during conflicts – e.g. Thermopylae, Gibraltar, or Harpers Ferry]

G2 PLACES AND REGIONS

Describe the cultural groups and diversities among people that are rooted in particular places and in human constructs called regions. Analyze the physical and human characteristics of places and regions.

G2.1 Physical Characteristics of Place

Describe the physical characteristics of places.

6 – G2.1.1 Locate and describe the landforms, ecosystems, and the climate of the region under study.

*Where are the highest mountains on this continent? E, W, N, S, C? Are they in a bunch or in a line?
Where are the major rivers on this continent? The major lakes? In what direction does this river flow?
Was this part of the continent covered by glaciers during the Ice Age?*

[Glaciated land has different landforms and drainage features than unglaciated.]

*What general part of this continent is a desert? Grassland? Needleleaf forest? Broadleaf forest? Etc.
What kind of climate is associated with each of these major biomes (ecoregions)?*

What animals are associated with each major kind of plant cover?

What general part of this continent has been converted to cropland? What part is used as rangeland?

[These conversions are usually based on the natural vegetation that used to be there.]

From what direction does the prevailing wind blow? [Where do people look for tomorrow's weather?]

Where does the 20-inch precipitation line go? [this is roughly the dry edge of human food production]

Where does the 4-month frost-free season line go? [this is roughly the cold edge of food production]

Where does the 7-month frost-free season line go? [the heating/cooling line, cold edge of cotton]

Where does the 12-month rainy-season line go? [this is the edge of many endemic diseases]

What kind of ocean current is offshore? [California's beaches are 15 degrees colder than Carolina's]

6 – G2.1.2 Describe the basic patterns and processes of plate tectonics (e.g., plates, plate boundaries, uplift, earthquakes, volcanos and the ring of fire).

Is this place in an earthquake zone? Is it near a rift area? Near an area of crustal subduction?

Is this place in an old craton (shield), a cordillera (active mountain building), or a sedimentary basin?

Is there a geologic hot spot near this place? If so, in what direction is the crustal plate moving?

Is this place in a rock-forming environment that is likely to create conditions for metal ore deposits?

Is this place in a rock-forming environment that is likely to make deposits of coal, oil, or natural gas?

6 – G2.1.3 Describe the characteristics of major world climates (e.g., tropical wet and wet dry, arid and semi-arid, sub-tropical, continental, and arctic), and ecosystems (e.g., tropical forest, savanna, grassland, desert, temperate forests, tundra, oceans and ice caps).

See 6-G2.1.1 If you do that standard, you have this one covered;

[Caution: This list of terms is obsolete, incomplete, and in some cases incorrect.

Unfortunately, students will encounter a variety of terms as they read different maps and other sources. They can interpret those maps correctly only if they have a good genetic understanding of the causes of climate differences in different places.

Otherwise, this is just an exercise in memorization.]

We therefore focus on causation:

Is this place influenced by the Equatorial Rainy Belt (ITCZ in some books). In which months?

Is this place influenced by Tropical Subsidence? In which months?

Is this place influenced by mid-latitude fronts between contrasting airmasses? In which months?

[See 6G3.1.1 about climographs for an effective way to assess these understandings].

G2.2 Human Characteristics of Place

Describe the human characteristics of places.

- 6 – G2.2.1 Describe the human characteristics of the region under study (including language, religion, economic system, governmental system, cultural traditions).

*What major language family is important in this area? [European, Mandarin, Turkic, Arabic, Bantu, etc.]
 What is the major religion in this area? What minority religions are important here?
 What religions are associated with each major language family?
 What languages and religions spread with important historic empires? With European colonialism?
 What cultural traditions are unique in this part of the world? Shared with people in other regions?
 What ways of making a living are associated with rainforests? Grasslands? Dry-summer climates? Etc.
 [See standards on economics and civics for additional overlaps with this exceptionally broad GLCE.]*

- 6 – G2.2.2 Explain how communities are affected positively or negatively by changes in technology.

*This one is vague and general, until you ask specific questions about local ways of making a living:
 Has the invention of X had a positive or negative impact on this place? Inventions to consider
 range from barbed wire to the internet; gunpowder, automobiles, air conditioners, cell phones.
 “Inventions” can also include cultural ideas, such as Motown music, the Oscars, the Kentucky Derby,
 the Master’s golf tournament, Disneyland, Harry Potter novels, Grand Theft Auto 20X, etc.
 Questions about the effects of technology on environment are covered in standard 6-G5.1.2*

- 6 – G2.2.3 Explain how culture and experience influence people’s perception of places and regions.

*This is another fairly broad and abstract idea. It deals more with attitude than factual information.
 As a result, a lesson “about” this topic may not be as effective as a commitment to include questions
 about this within the context of all lessons in the history or economics of a particular place.
 How would a hunter/gatherer’s perception of this place differ from a farmer’s?
 How would an immigrant’s perception be different from that of a long-term citizen?
 How would a serf have a different idea about defense than a local landowner?
 How might women and men perceive this place differently? Old or young people? Etc.*

- 6 – G2.2.4 Create population pyramids for different regions and interpret the graph discussing birth and death rate, growth rate, and age structure.

*This GLCE, by contrast, is very specific.
 What does this pyramid shape tell you about birth rates in this country? About death rates?
 What inferences can you make? For example, what can you say about life expectancy in this place?
 How do the numbers of children and elderly compare with the number of adults who support them?
 Does this society have a greater need for schools and playgrounds or for retirement homes?
 Can you see evidence for a past war or epidemic in the population pyramid for this country?
 What kind of population pyramid is associated with high-income developed countries? With LDCs?*

G3 PHYSICAL SYSTEMS

Describe the physical processes that shape the Earth's surface which, along with plants and animals, are the basis for both sustaining and modifying ecosystems.

G3.1 Physical Processes

Describe the physical processes that shape the patterns of the Earth's surface. (See also G2.1.2)

6 – G3.1.1 Construct, interpret, and compare climate graphs at different latitudes and locations.

*Does this place have distinct warm and cool seasons? Is it north or south of the equator?
How far from the equator do you think it is? Does this place have distinct rainy and dry seasons?
Is this place high on a mountain? Is it close to a large body of water?
Arrange these climatic graphs in a spatial sequence from equator to pole. From coast to interior.
Which season is likely to require the most energy to make houses comfortable?
Does this place have enough rain for trees? When is the dry season?
Is there a season when this place is likely to experience floods?
Does this place have a long enough frost-free season for wheat? For cotton? For oranges?
Is this place likely to have snowstorms? Droughts? Hurricanes? Tornadoes?*

6 – G3.1.2 Explain the factors which cause different types of climates (e.g., latitude, elevation, marine and continental locations, and rain shadow effect). (See 6-G2.1.3 and 6-G3.1.1 for latitude examples)

*What is the effect of latitude? How much solar energy does this place receive?
What are the seasonal patterns of solar energy, temperature, and precipitation?
What is the effect of elevation? How much does temperature go down for every 1000 feet you go up?
Is this place close to a large body of water or is it far inland?
How do coastal and inland locations affect temperature and precipitation?
Is this place on the windward or leeward side of a mountain range? What is the evidence?*

G3.2 Ecosystems

Describe the characteristics and spatial distribution of ecosystems on the Earth's surface.

6 – G3.2.1 Locate major ecosystems and explain how and why they are similar or different as a consequence of latitude, elevation, landforms, location, and human factors.

*See 6-G2.1.1 for factual questions; emphasize compare-and-contrast to meet this standard.
Re Human Factors. If appropriate in your school, this might be a place to ask about invasive species.
Examples include weeds, mussels, lampreys, West Nile Virus, Emerald Ash borer.
What are some plants or animals that are not native to Michigan and were brought here by people?*

6 – G3.2.2 Identify major ecosystems of the region under study and explain why some provide greater opportunities (fertile soil, length of growing season, precipitation) for humans and how land-use changes with technology.

*This is a kind of glued-together standard. The first part ("identify") overlaps with 6-G2.1.1; the middle part ("explain") overlaps with economics standard E3; see 6-G4.3.1 and 6-G5.1.2 for the last part. The problem, of course, is that important ideas can "fall into the cracks" when standards are written like this.
Emphasize that the choices that people have in a particular location are limited by the conditions in that place and the technology, skills, and cultural ideas of the people.
Is this place suitable for intensive farming? Irrigation? Forestry? Grazing? Hunting and gathering?
Is the soil in this environment likely to be more or less fertile than in environment X?
What natural hazards in a location are likely to have an influence on what people can do there?
Key question: is the population of this place below, near, or above its carrying capacity, in light of the conditions in this environment and the level of technology of the population?*

G4 HUMAN SYSTEMS

Human systems include the way people divide the land, decide where to live, develop communities that are part of the larger cultural mosaic, and engage in the cultural diffusion of ideas and products.

G4.1 Cultural Mosaic

Describe the characteristics, distribution and complexity of Earth's cultural mosaic.

[There is a "flow of logic" problem with this section – the specific GLCEs talk about the spread of culture and the role of women before examining the basic characteristics of culture in different places. Moreover, even though this GLCE is in a section about Human Systems, it simply asks students to "describe" culture, without asking about how a distinctive culture develops in a place. Taken literally, this is a recipe for rote memorization rather than understanding, and it fails to ask what is perhaps the most important "citizenship-geography" question: is this particular cultural idea appropriate in this place?]

6 – G4.1.1 Define culture and describe examples of cultural change through diffusion, including what has diffused, why and where it has spread, and consequences.

How did a cultural idea like farming spread in ancient times? How about something like Walmart today? Trace the spread of Islam from its founding in Arabia. Of the Vikings from their peninsula. Of the industrial revolution. Of the idea of democracy. Of Communism in the 20th century. Trace the spread of the (pick examples that make sense in light of other standards you wish to meet) - Bantu language, Buddhism, Protestant ideas, Communism, McDonalds, Rock music, Facebook.

6 – G4.1.2 Compare the roles of men and women in different societies.

Who owns property in this society? Is it inherited from mothers or fathers? Does a woman leave her home to be with her husband's family, or vice versa? Do women and men have equal access to education? How do literacy rates compare? What roles do men and women have in government? What kind of people become leaders in this place? Do women and men have similar jobs, or does each have their own set of jobs? Do women and men get equal pay for doing the same job? Even more controversial: are the numbers of male and female children similar? What is the life expectancy of males and females in this area? (see 6-G2.2.4)

6 – G4.1.3 Describe cultures of the region being studied including the major languages and religions.

This is a "describe" standard that basically duplicates 6-G2.2.1; if you do that one well, you have this one covered. We might "read between the lines" and ask questions about minority cultures within an area: How is this minority different from the majority culture shown on the map? Minorities can be racial, linguistic, ethnic, religious, economic, political, social

6 – G4.1.4 Explain how cultural patterns influence environments and the daily lives of people.

This general standard may be an attempt to trace how attitudes that are derived from culture can affect behavior that in turn has an observable effect on environment, economy, and polity (I think!) Questions are therefore likely to be either very general or highly specific to individual places. What kinds of behavior are encouraged by the cultural milieu in this place? Discouraged?

NOTE: The idea of cultural differences in land division was highlighted in the general intro to G4 at the top of this page, but it does not appear in the specific standards. It is important.

How do people divide land? Who gets to decide about land use?

How does land pass down from generation to generation? How does it transfer to different uses?

What are some consequences of different ways of dividing land (e.g. feudal, longlots, communal, Public Survey)

G4.2 Technology Patterns and Networks

Describe how technology creates patterns and networks that connect people, products, and ideas.

- 6 – G4.2.1 Identify and describe the advantages, disadvantages and impact of different technologies used to move people, products, and ideas throughout the world.

What are the advantages/disadvantages of canals, railroads, pipelines, airplanes, fiber optics, etc.

What is the least costly way to move heavy products like grain, coal, or sand? Perishable products?

What modes of transportation are basically linear (you can stop anywhere along the way)

or leapfrog (you can stop only at a limited set of places, not along the route between them)?

What impact does this have on the value of places near transport stops? Why is this important for jobs?

See also the questions under 6-G1.3.3, especially about chokepoints and breakpoints.

See also the questions under 6-G4.3.2 about the reasons for settlement in specific places;

many settlements are located where they are because of transportation connections.

G4.3 Patterns of Human Settlement

Describe patterns, processes, and functions of human settlement.

- 6 – G4.3.1 Explain how people have modified the environment and used technology to make places more suitable for humans.

What kind of housing is appropriate in this environment? Igloo; Log house; Adobe brick; etc.

What kinds of places became more desirable with the invention of space heating? Air conditioning?

How does a dam affect life upstream and downstream on a river? How about the risk of floods?

How does forest removal affect the hydrologic cycle in a place? How about irrigation?

What environmental conditions are “improved” by irrigation? Land leveling? Terracing?

Why is irrigation sometimes described as the key to the development of ancient urban civilization?

Also, not explicitly listed in this or any other GLCE, but of great importance in understanding settlement:

What natural or cultural resources encouraged people to settle in a particular place?

What inventions or other cultural ideas were needed to take advantage of those resources?

What are the BIGJobs (Basic Income Generating Jobs) that bring money into a particular place?

- 6 – G4.3.2 Describe patterns of settlement and explain why people settle where they do (e.g., coastal and river towns in the past and present, location of megacities).

What are the distinguishing features of rural areas, towns, cities, suburbs?

What are the characteristics of a good site for house building? Road construction? Other structures?

What are the characteristics of a strategic location for military defense in the past? Today?

What are the advantages of a location near a sheltered harbor? A river mouth? A river junction?

How does the weather in a particular place affect the activities of people there?

What is the effect of automobiles on the pattern of human settlement?

What effects could inventions like the internet and satellite television have on the pattern of settlement?

- 6 – G4.3.3 Explain the patterns, causes, and consequences of major human migrations.

What social, political, and economic “push factors” can persuade people to move away from a place?

What social, political, and economic “pull factors” can induce people to move toward a place?

What major groups of people migrated to the United States before the 1700s? in the early 1800s? late 1800s? at other times in history? Where did these different groups settle?

Where are important movements of refugees in the world today? Why are these people moving?

G4.4 Forces of Cooperation and Conflict

Explain how forces of conflict and cooperation among people influence the division of the Earth's surface and its resources.

6 – G4.4.1 Identify factors that contribute to conflict and cooperation between and among cultural groups (e.g., control/use of natural resources, power, wealth, and cultural diversity).

[This is an exceptionally broad GLCE, which overlaps history, economics, and civics. It may be helpful to split it into lessons about past conflicts and others that deal with current events.]

What resources attracted invaders, explorers, and colonizers?

Where are resources that countries fight about?

Water. Farmland. Iron. Good ports. Strategic locations (see below). Oil. Diamonds. Etc.

Trace the spread of empires. What territories, resources, or groups did rulers want to claim?

Identify several important genocides in history. Why did they happen where they did?

Where are resources that countries fight about today?

Describe interstate or international agreements about the use of resources (e.g., Great Lakes).

Describe international agreements about trade (e.g., NAFTA) or migration (e.g., European Union).

What conditions or connections make particular countries "natural allies" in conflicts?

How have these conditions changed over time?

Also, the idea of strategic location is implicit in the GLCE but not explicitly mentioned.

What straits, portages, mountain gaps, and other chokepoints or breakpoints were important during particular conflicts in past history? Why were those particular locations important?

What locations are strategically important today?

6 – G4.4.2 Evaluate from different perspectives, examples of cooperation and conflict within a region.

Describe a particular example of conflict as viewed from different perspectives (this can be linked to either history or current events – it is a good approach for reading about, say, Syria or Ukraine).

Describe reasons for or against a resource issue – e.g. should Michigan subsidize wind energy?

Should wolves be hunted? Fracking be allowed? Fishing limited?

Michigan has many resources that are possible topics of controversy.

For curricular ideas, see MEECS units about Energy, Water, Land Use, Climate Change.

This standard has a close link with 6-G6.1.1. Issue analysis

G5 ENVIRONMENT AND SOCIETY

Explain that the physical environment is modified by human activities, which are influenced by the ways in which human societies value and use Earth's natural resources, and by Earth's physical features and processes. Explain how human action modifies the physical environment and how physical systems affect human systems.

G5.1 Humans and the Environment

Describe how human actions modify the environment.

6 – G5.1.1 Describe examples of how humans have impacted and are continuing to impact the environment in different places as a consequence of population size, level of consumption, and technology.

How does population growth or expansion of agriculture or industry put stress on water resources?

How can food production be increased without adversely affecting the environment?

How do patterns of land use affect the energy, hydrologic, and mineral cycles in an area?

How do the environmental impacts of wealthy communities differ from poor communities?

What technologies can people use to reduce their impact on the environment?

How can we tell if a culture is well adapted to its environment?

6 – G5.1.2 Explain how different technologies can have positive and negative impacts on the environment.

Describe some cause-and-effect processes that go from human activity to environmental effect.

What are some effects of dams on animal life? On river flow or the water table?

What are some effects of deforestation on climate? The hydrologic cycle? Animal life?

What are some effects of road-building on the environment?

What are some effects of large projects, like malls, stadiums, military bases?

Etc. See also 6-G4.2.1, 6-G5.1.1, 6-G6.1.1.

6 – G5.1.3 Identify ways in which human-induced changes in the physical environment in one place can cause changes in other places.

What are some things that people put into a river or do near a river that can affect people downstream?

In what direction does the prevailing wind carry air pollution away from a source in a particular place?

How far away from a particular activity are its major effects likely to be felt?

How can we identify the at-risk population for a specific activity, such as deforestation, fracking, etc.?

How does the release of carbon dioxide alter the natural processes that regulate temperature?

What are some effects of the disposal of long-lasting materials like treated wood or plastic?

G5.2 Physical and Human Systems

Describe how physical and human systems shape patterns on the Earth's surface.

- 6– G5.2.1 Describe the effects that a change in the physical environment could have on human activities and the choices people would have to make in adjusting to the change.

This is a vague standard that can be discussed both broadly and with very specific local examples.

The MEECS units on Air, Water, Land Use, and Climate Change have a number of activities, questions, and resources that deal with environmental changes and their effects in Michigan.

What is the process of identifying the at-risk population for a specific kind of change, e.g., construction of an airport, highway, or dam, global warming?

- 6– G5.2.2 Describe how combinations of human decisions and natural forces can lead to (or help people avoid) a natural disaster.

What natural hazards are common in each region of the world?

What natural hazards are associated with each major climate region? (link to GLCE G2.1.3)

What natural hazards are associated with specific geologic structures or processes? (link to G2.1.2)

How can we identify the at-risk population for a specific hazard, such as flooding? Hurricanes?

Drought? Frost? Earthquakes? Volcanoes? Landslides? Tsunamis?

What strategies can reduce the risk of a hazard? Zoning? Building codes? Floodproofing?

What strategies can people use to rebuild after a hazard? Self-pay? Insurance? Government aid?

Very specifically: What should we do in this classroom during a tornado warning?

G6.1 Global Topic Investigation and Issue Analysis (P2)

- 6 – G6.1.1 Contemporary Investigations - Investigate a contemporary global issue by applying the skills of geographic inquiry (asking geographic questions, acquiring geographic information, organizing geographic information, analyzing geographic information, answering geographic questions), and, when practical, develop a plan for action.

Specific questions depend on the topic. Selecting a topic early and starting the investigation, however, can be a powerful motivator for acquiring specific skills while addressing the other GLCEs listed above.

MICHIGAN GRADE-6 GEOGRAPHIC EXPECTATIONS IN OTHER DISCIPLINES

Annotated with italicized phrases to indicate possible focus or discussion questions for each GLCE.

- 6 – C1.1.1 Compare and contrast competing ideas about the purposes of government in different countries.
What regions of the world have monarchs? democratic governments? Planned economies? .
- 6 – C4.3.1 Explain how governments address national and international issues and form policies and how the policies may not be consistent with those of other countries.
How might monarchies, democracies, or communist governments deal with an issue like migration? Refugees? Overfishing? Water pollution? Austistic children? Etc.
- 6 – C4.3.2 Explain the challenges to governments and the cooperation needed to address international issues (e.g., migration and human rights). [and we thought the geography GLCEs were broad . . .]
How do governments in different regions deal with refugees?
- 6 – C4.3.3 Analyze the impact of treaties, agreements, and international organizations on global issues.
What is the purpose of NATO, NAFTA, the Law of the Sea, an agreement about climate change?
- 6 – E1.1.1 Explain how incentives in different economic systems can change the decision-making process (e.g. acquiring money, profit, goods, wanting to avoid loss in position in society, job placement).
How do feudal systems, free markets, or centrally planned economies allocate resources?
- 6 – E2.3.1 Describe the impact of governmental policy (e.g., sanctions, tariffs, treaties) on that country and on other countries that use its resources. [and we thought the geography GLCEs were broad . . .]
What are some effects of NATO, NAFTA, the Law of the Sea, an agreement about climate change.
- 6 – E 3 Analyze reasons for individuals and businesses to specialize and trade, why individuals and businesses trade across international borders, and the comparisons of the benefits and costs of specialization and the resulting trade for consumers, producers, and governments.
What are the BIGJobs (Basic Income Generating Jobs) in specific parts of the world? What is comparative advantage? What are some geographic avenues for trade or barriers to trade?
- 6 – E3.1.1 Use charts and graphs to compare imports and exports of different countries in the world and propose generalizations about patterns of economic interdependence.
What are the BIGJobs (Basic Income Generating Jobs) in specific parts of the world? What local resources support those jobs?
- 6 – E3.1.3 Explain how communication innovations have affected where and how people work (e.g., internet-based home offices, international work teams, international companies).
What are some geographic effects of companies like Amazon.com or Uber?.
- 6 – E3.3.2 Explain the economic and ecological costs and benefits of different kinds of energy production (e.g., oil, coal, natural gas, nuclear, biomass, solar, and wind).
Like most in this document, this is a very broad goal; it can hardly be “covered” completely in 6th grade. It overlaps with history, science, literacy, even mathematics. The MEECS units on Energy and Climate Change have a lot of activities that address this topic.