| **HG Unit 4 Economic Development** | |
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| **Unit Overview** | |
| In this unit, students will analyze the interconnections that create and maintain a global economy. Students will study the spatial patterns of more or less developed countries and economic sectors, how development is measured, and discuss the impacts of a global economy, both in human and physical systems. | |
| **Overarching Inquiry Question** | |
| What does it take to create and sustain a global economy?  *All units are created to support the* ***Overarching Inquiry Question****. Inquiry-Based Learning supports the* ***Profile of the South Carolina Graduate*** *where students use skills to explore their inquiries related to the content as indicated in the standards instead of the teacher merely providing the information.* | |
| **Themes** | |
| **Places and Regions (PR)** – The PR theme encourages the study of the experiences of humans organized into geographic regions. Regions describe places that are characterized by similar physical and human conditions.  **Environment and Resources (ER)** – The ER theme encourages the study of Earth’s physical systems (e.g., climate, landform, vegetation) and how human activities modify the environment, bringing both benefits and costs. The distribution of natural resources varies spatially and temporally, resulting in different political and economic relationships.  **Human Systems (HS)** – The HS theme encourages the study of various human activities and characteristics across Earth’s surface. The spatial distribution and movement of populations and the resultant changes form the basis of understanding. Cultural characteristics, economic systems, political systems, and settlement patterns are further examples of how human landscapes vary spatially.  **Applied Geography (AG)** – The AG theme encourages the study of how geographic literacy and geographic skills, such as mapping, are used to solve problems. An understanding of past and present spatial organizations of Earth enables people to better understand and plan for the changes in human and physical phenomena in the future.  *These themes are identified by the two letters at the end of each indicator.* | |
| **Skills Emphasis at a Glance** | |
| **M: Mapping-** Identify, use, interpret, and construct local through global scale maps  **MR: Models and Representation**- Identify, use, interpret, and construct geographic models and other visual representations from local to global scales.  **GE: Gather Evidence and Communicate Findings-** Identify, use, and interpret different forms of evidence, including primary and secondary sources, from local to global scales.  **CC: Conditions, Connections, and Regions-** Identify, compare, and evaluate the development of complex conditions, connections, and regions  **S: Scale-** Identify, compare, and interpret spatial hierarchies.  **DP: Distribution and Patterns-** Identify, analyze, and explain spatial distributions, patterns, and associations. | |
| **Standard(s)** | |
| HG.2.1.PR Identify regions of varying degrees of economic development, and explain the factors that influence the location and spatial distribution of these regions at the local and global scales using maps and geographic models and representations.  HG.2.2.HS Compare and evaluate different measures of development, and analyze patterns and trends in various regions of economic development.  HG.2.3.HS Identify and analyze the spatial distributions and patterns of primary, secondary, and tertiary sectors and activities of production and consumption using maps and geographic models and representations.  HG.2.5.ER Analyze the distribution and patterns of energy production and consumption over time, and evaluate the impacts and sustainability of different energy sources at varying scales.  HG.2.6.AG Gather evidence of economic development, construct a map to explain current or future development issues at different scales, and communicate findings. | |
| **I Can Statements** | |
| I can use data to locate More Developed Countries and Less Developed Countries and identify patterns in those locations.  I can interpret and use data to evaluate if a country is a More Developed Country or a Less Developed Country.  I can identify and provide examples of primary, secondary and tertiary sector jobs.  I can identify and explain how infrastructure connects the world.  I can analyze and evaluate the resources needed to power a global economy.  I can evaluate how economic conflicts between countries can affect that country, and in turn the World. | |
| **Unit Sequence of Teacher Instructional Practices and Actions Students will Take to answer the Overarching Inquiry Question** | **Instructional Guidance and Resources**  *Instructional Guidance and resources listed below are offered as suggestions for educators to assist students in reaching the goals of the proposed sequence.* |
| **I can use data to locate More Developed Countries and Less Developed Countries and identify patterns in those locations.**  Have students, individually or in groups, research a country on the [CIA World Factbook](https://www.cia.gov/library/publications/the-world-factbook/) to identify factors that make a country more or less developed.  Then, have students read about the [Human Development Index on the United Nations website](http://hdr.undp.org/en/content/human-development-index-hdi). Students should be able to identify the three dimensions of development (health, education, and income). Based on this information, have students predict whether or not their country is more or less developed compared to other countries. Do these measurements make sense? Are there other ways to measure how developed a country is? What other characteristics could or should be considered?  Have the class map their countries (as a class or in groups) using paper world maps or comparable digital resources such as [Google Sheets](https://blogs.library.duke.edu/data/2014/06/05/mapping-in-google-spreadsheets/) (see this tutorial from Duke). [Blank outline maps can be found on the South Carolina Geographic Alliance website](http://www.scgeo.org/wp-content/uploads/2016/08/World-Regions.pdf). Have students identify patterns in the distribution of MDCs and LDCs. Are they grouped by continent? Are they close to water or landlocked? Are they in colder or warmer climates? What explanations might there be for these patterns? Have students consider economic, social, political, and environmental factors from throughout history. | This can be a country of the students choosing or assigned as needed. It is recommended that the countries researched represent a variety of regions.  Students should focus on life expectancy, literacy rates, school life expectancy (number of years one is expected to stay in school), and GDP per capita, though Purchasing Power Parity, Median Income, GNP, or other measurements can be used. Students can compare commercialized farming versus subsistence agriculture. Students can construct maps on the data they collected showing More Developed Countries (MDCs) vs. Less Developed Countries (LDCs). |
| **I can interpret and use data to evaluate if a country is a More Developed Country or a Less Developed Country.**  Have students explain, based on their research in the previous indicator, what it means for a country to be “developed” or “developing.” Have students consider other means of measuring development (e.g. “How do we know if a country is an MDC or LDC beyond measures of health, education, and standards of living?” This can take the form of a class discussion, written response, or comparable activity as the teacher sees fit.  Students will go to the [UN’s Sustainable Development Goals](https://www.un.org/sustainabledevelopment/sustainable-development-goals/) and choose 2-3 goals that go beyond the measurements covered previously. For example, students can study [gender equality](https://www.un.org/sustainabledevelopment/gender-equality/), [clean water and sanitation](https://www.un.org/sustainabledevelopment/water-and-sanitation/), and [affordable and clean energy](https://www.un.org/sustainabledevelopment/energy/). Students should define and explain some of the key terms associated with that goal and give some statistics that emphasize why that goal is important. Students should research what these issues look like in different parts of the world. For example, gender inequality is not limited to one region. So what are some of the gender inequality issues faced in the US and how do they compare with those faced in Japan, Nigeria, or Venezuela\*?  Then, students should make one of the following arguments:   1. This factor is a better measure of development 2. This factor is not a better measure of development 3. This factor fits under health, education, or income   The argument is not whether or not the goal is important, but whether or not the goal can or should be met by addressing other issues, and in what order. | For additional lesson plans on the UN Sustainable Development Goals, visit: <https://www.un.org/sustainabledevelopment/student-resources/>  \*Note: These countries were chosen to represent different regions rather than for specific issues. What countries are in the news now over one of the issues covered in the UN Sustainable Development Goals? What countries does the UN highlight? Can CIA World Factbook data give us a more robust picture of the situation in these places?  Extend this lesson by allowing students to brainstorm why these differences exist. |
| **I can identify and provide examples of primary, secondary and tertiary sector jobs.**  Have students identify a job or career they’d like to have and discuss the steps they would need to take to work in that profession: certain degrees or certifications, certain schools, certain cities, etc.  Then, have students read [this ThoughtCo article](https://www.thoughtco.com/sectors-of-the-economy-1435795) on the sectors of the economy: primary, secondary, and tertiary in particular.  Compare agriculture in MDCs and LDCs. Students should be able to identify which sector their desired career falls into and explain why.   Break the world into regions based on dominant economic activities: primary, secondary, and tertiary. Use data from the [CIA World Factbook](https://www.cia.gov/library/publications/the-world-factbook/) to be specific. Students can create world maps that include these regions online or using [blank outline map](http://www.scgeo.org/wp-content/uploads/2016/08/World-Regions.pdf)s. Have students compare their world maps with classmates and look for patterns. | One comparison teachers may choose to emphasize is the difference in agriculture in MDCs and LDCs, specifically looking at [subsistence](https://www.britannica.com/topic/subsistence-farming) and [commercial farming](https://dictionary.cambridge.org/us/dictionary/english/commercial-farming) in these regions. Is commercial farming more common in MDCs or LDCs? Is subsistence farming more common in MDCs or LDCs? What does commercial agriculture look like in LDCs? Are there different forms or examples of commercial/subsistence agriculture in different regions?  For a clearer connection to the overarching question, have students study the world systems theory/core periphery model using resources from [study.com](https://study.com/academy/lesson/world-systems-theory-core-vs-peripheral-societies.html), [MIT](https://web.mit.edu/esd.83/www/notebook/WorldSystem.pdf), and/or [Fordham](https://sourcebooks.fordham.edu/mod/Wallerstein.asp). Discuss how and where primary, secondary, and tertiary sector activities fall into this model. Then discuss or debate whether or not the current global economy needs LDCs as sources of cheap labor and other more easily exploited resources, or if a global economy could exist outside of or beyond the world systems theory. Teachers should modify this discussion to meet the needs of their students. |
| **I can identify and explain how infrastructure connects the world.**  Students will imagine they own and operate an international business. They should identify a product, like coffee, shoes, cell phones, video game consoles, etc. Have them choose a country in which to locate their main factory and explain why they chose that location.  Students should complete [the ESRI GeoInquiry on Globalization](https://www.esri.com/content/dam/esrisites/en-us/media/pdf/geoinquiries/human-geography/2-globalization-aphg-geoinquiry.pdf). End by defining “infrastructure” and discussing whether or not Internet cables qualify as infrastructure. Students can explore [this interactive map of Internet cables](https://maps.esri.com/rc/cable/index.html), also from ESRI.  Students will then research and debate Internet access and/or regulation: Is Internet access a human right? If Internet access is a human right, then what about [electricity](https://www.un.org/sustainabledevelopment/energy/), [clean water](https://www.un.org/sustainabledevelopment/water-and-sanitation/), access to [healthcare](https://www.un.org/sustainabledevelopment/health/), [education](https://www.un.org/sustainabledevelopment/education/), and [income](https://www.un.org/sustainabledevelopment/poverty/)?  Students should identify different forms of transportation (trucks, trains, ships, airplanes, etc.) and the infrastructures necessary to support them (respectively: paved highways, railroads, harbors, paved runways, etc.). Students can compare existing infrastructures by comparing data found in the [CIA World Factbook](https://www.cia.gov/library/publications/the-world-factbook/) on lengths of paved roads, runways, railroads, etc. Compare countries of different sizes and in different regions. Are there any patterns? Do MDCs have better infrastructure? How can we tell from this data?  Return to the initial hypothetical (Where is the best place to build a factory/business?) and have students consider whether or not the country they initially chose was the best place to build a factory. Students should choose to remain in their original country or relocate. They should defend those choices with specific evidence. Students can produce a written reflection, a visual such as a poster or presentation, or participate in a class discussion. | Students will be learning about infrastructure in this section, so while factors like worker training, experience, or pay may come up during this discussion, and those factors are significant site factors, know that they are not the focus at this point. This activity can be modified and/or repeated to focus on such factors.  Note here that students may need to consider different modes of transportation for different products. When thinking about their hypothetical businesses, which mode of transportation is more important? Specifically, will they be shipping their products by air or sea to their market countries? If they are building in their market countries, how will the raw materials arrive? How will the finished products be moved from the factory to stores around the country/world?  For connections to South Carolina, students can compare [these outline maps](http://www.scgeo.org/wp-content/uploads/2016/08/South-Carolina.pdf) from the South Carolina Geographic Alliance to identify which counties might have the highest potential for accessibility issues regarding interstate travel.  Teachers looking for a specific case study can examine the coffee supply chain using [this activity from the SC Geographic Alliance](https://drive.google.com/open?id=1Fl5NzCF1aGqeQ7AcQFfZjizus66DUfRv). |
| **I can analyze and evaluate the resources needed to power a global economy.**  Students should begin by creating a list of items in their house that require electricity. This can be done from memory or as a homework assignment prior to class. This can be more or less specific as needed: number of lamps, number of lightbulbs, number of tvs, etc. vs. number of appliances that require being plugged into a wall outlet. Add up numbers to show cumulatively the number of electronic appliances owned by the class.  Ask students to identify where their electricity comes from? Where is the nearest power plant? Is their power generated by hydropower, nuclear reactors, coal-burning plants, wind, solar power, etc.? Allow students to research - answers may vary by community.  Students will explore energy production on a global scale by going to [NatGeo Mapmaker Interactive](https://mapmaker.nationalgeographic.org/#/) and exploring layers on “energy.” Students should research sources of power they are unfamiliar with like geothermal or wave energy. Be sure to examine the CO2 emissions maps and have students discuss the environmental impacts of such energy production.  Students should make connections between the need for resources, especially for power production, and economic stability. Plants (i.e. *factories*) that make goods around the world need energy, and producers prefer cheap energy for lowering costs and maximizing profits.  Explore [these resources for students regarding the UN sustainable development goal of clean and affordable energy](https://www.un.org/sustainabledevelopment/energy/).  Students can calculate the cost of shipping items across South Carolina (or the US) by researching [gas prices](http://www.eia.gov/petroleum/gasdiesel/) from the US Energy Information Administration and fuel consumption of tractor trailers or other delivery trucks (see IGR). Have students calculate both gallons of gas consumed and the financial cost of shipping something from the port of Charleston to their home, starting by determining the shortest or fastest route for a truck to take, and then calculating how many gallons of gas would be required to move those items from the port to your location. Based on this activity, what are the economic and environmental impacts of shipping goods long distances?  Students will consider the economic, social, political, and environmental costs and benefits of a global economy. Students will work in teams of 3-4 to create T-charts that compare the economic, social, political, and environmental costs and benefits of a global economy. Share these lists as a class and discuss “is a global economy worth the costs?” | Teachers may choose to reference [this Hans Rosling TED Talk video](https://www.ted.com/talks/hans_rosling_global_population_growth_box_by_box?language=en) used previously to explain population growth to describe how transportation is used to illustrate differences in development over time and space.  Students can read [this](https://www.nationalgeographic.org/media/future-now/) infographic on Green Infrastructure from National Geographic as a connection to the previous lesson. What is needed to create a green infrastructure?  The point of this activity is to emphasize the amount of energy consumed by a typical household in your community.  It may be helpful to contrast “litter” and “pollution” when discussing environmental impacts from human activities, such as energy production, especially in terms of scale. Litter may be highly visible on a very large/local scale whereas pollution may be invisible, but impactful at local, regional, and global scales in different ways. Car exhaust is a respiratory irritant at a local scale, contributes to acid precipitation at a regional scale, and contributes to climate change on a global scale.  *Information for figuring transportation cost for national transportation:*  18 wheeler trucks get 5-10 miles per gallon. They can hold 200-300 gallons of gasoline at a time. If we take the maximum numbers for both (300 gallons at 10 miles per gallon), we get 3000 miles on a tank of gasoline.  Gasoline prices can be found at <http://www.eia.gov/petroleum/gasdiesel/>. These are official government figures. Since these trucks move across the country, it is better to use national averages rather than the price at your local gas station. Students can find regional data on that site as well.  For example, on 11 May 2020 highway diesel averaged at $2.394 per gallon. At 300 gallons, that means it cost $718.20 to fill the tank on an 18 wheeler. Interstate 80 runs from the New York City metro area to San Francisco at around 2,900 miles in length. I-95 runs the length of the east coast at around 1,900 miles. In other words, a single tank could take a truck, in theory, across the country. |
| **I can evaluate how economic conflicts between countries can affect that country, and in turn the World.**  Students will read this National Geographic [article](https://www.nationalgeographic.org/article/effects-economic-globalization/) on the benefits and downsides to economic globalization. Students should identify those benefits and downsides and  Supranational Organization - Students can research the purposes of supranational organizations and how they affect social and economic policies. (OPEC, USMCA, EU, etc.)  Direct students to explore the breakup of the EU with Brexit using various sources to examine the European impact as well as the impact on the United States, Mexico, Canada Agreement as a replacement for NAFTA. Depending on time, the teacher could bring in use of pop culture technology during the Brexit vote, SnapChat was fully engaged that day with young people’s voices. Have students report on specifics of the deal and predict what trade will look like in a certain amount of time, at the discretion of the teacher.  Transnational Corporations - Students will identify transnational corporations and evaluate their importance in a global economy. This is a chance to look specifically at South Carolina and why businesses decided to locate here (Volvo, BMW, Boeing, etc.). Possibilities to explore government incentives, college/universities, infrastructure. At a global level brain drain could be explored via Apple. This is a chance to circle back to the concept of brain drain from Unit 3, as well as evaluate outsourcing. Create a platform for students to discuss why Chinese citizens leave for the United States to work in Silicon Valley where the conceptual ideas for Apple happen; while production happens in their home country China.  Teacher could go in depth with other topics and discuss how current events   * Hong Kong Protests, and the impending reintegration in 2047 with China is causing political and economic tension. Mainland China’s government system limits their ability to trade with the world, and therefore uses Hong Kong as their main source of trade with the world. Additionally, how Hong Kong is tied to the US through the Hong Kong dollar being pegged by the US dollar, and how this is causing tension and fueling the protests. * Recent Bangladesh textile factory fires and collapse versus the Industrial Revolution in terms of regulations and responsibility. One of the collapses was producing for Wal-Mart, who is responsible for the Bangladesh factory or American corporation. * COVID 19 impact looking at various scales the global economy with China hit first, country Italy, United States and finally local town/city. Ask students to discuss how human or natural disasters impact global, regional, and local economies. For example, predict how Black Friday will be impacted by COVID 19. See COVID-19 case study in additional resources for more.   Students can do a research project on other economic issues and Students can demonstrate their learning in many ways including but not limited to: making a presentation, argumentative writing, infographic, etc. Potential topics include but are not limited to sweatshops, child labor, human trafficking, women in the workforce, the role of technology in the economic development of a country. | Note that “current events” are inherently relative. This list may be irrelevant by the time this document is used. Use sources like [NPR](https://www.npr.org/), [BBC](https://www.bbc.com/news), [Reuters](https://www.reuters.com/), or other comparable credible journalism sources and make connections to issues happening in the news, both in the US and abroad. |
| **Connections to COVID-19 case study:**  Students will explore how COVID-19 has impacted global and local economies.   1. Students can explore the relationships between the pandemic and the economic crisis    1. [The Great Lockdown: The worst economic downturn since the Great Depression](https://blogs.imf.org/2020/04/14/the-great-lockdown-worst-economic-downturn-since-the-great-depression/)    2. [COVID and new US recession](https://www.forbes.com/sites/lizfrazierpeck/2020/04/21/how-covid-19-is-leading-the-us-into-a-new-type-of-recession-and-what-it-means-for-our-future/#30df1360618c) 2. Students can explore how different governments are handling economic stimulus packages.    1. Track stimuluses around the world with this map from [EY](https://www.ey.com/en_gl/tax/how-covid-19-is-causing-governments-to-adopt-economic-stimulus--)    2. Small businesses in [India](https://www.bbc.com/news/world-asia-india-52640807) | This case study is a suggested way to connect the inquiry questions in each unit to authentic, on-going issues. This should allow for further inquiry on the part of the student, the application of geographic skills and concepts, and relevance to a current or contemporary crisis. Each unit includes resources for potential connections to this case study.  [The COVID-19 Dashboard](https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6) is a powerful tool for observing data on the geography of the pandemic. |

**References**

**Additional Resources**

COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University. (n.d.). Retrieved from <https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6>

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