**The relationship between agriculture and the economy**

**Pillar 6 C. Identify the U.S. as a major global exporter of agricultural products.**

(9th – 12th Grade)

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| **Website**: <http://www.econedlink.org/lesson/400/Coming-Going-Imports-Exports-Throughout-World>  **Hands On**: <http://www.agclassroom.org/teacher/matrix/lessonplan.cfm?lpid=562&grade=9&author_state=0>  **Podcast**: [*Food Names That Are Totally Fake*](http://www.quickanddirtytips.com/education/grammar/food-names-that-are-totally-fake?page=all)  **Video**: [*A Behind the Scenes Look at Starbucks Global Supply Chain*](https://www.youtube.com/watch?v=ElYNhGbOTOQ). |

**Global Trade and Interdependence**

**Purpose**

Students will examine the impacts of the Columbian Exchange and identify the economic and cultural impacts of contemporary global agricultural trade. They will also explore how food choices influence patterns of food production and consumption.

**Materials**

**Interest Approach:**

* [*Food Names That Are Totally Fake*](http://www.quickanddirtytips.com/education/grammar/food-names-that-are-totally-fake?page=all) podcast (4:30 duration)
* [*On the Map: Why Some Foods Are Named After Places*](http://www.delish.com/food/g1579/foods-named-after-places/) slide show

**Activity 1:**

* [World Fabric Map](https://utah.agclassroom.org/cart/Details.cfm?ProdID=368&category=0), 1 per group of 3–4 students (or a large paper map, see template provided)
* *Where in the World Food Cards*, 1 set of laminated cards per group of 3–4 students
* [*The Columbian Exchange: Crash Course World History #23*](https://www.youtube.com/watch?v=HQPA5oNpfM4) video (12:00 duration)
  + Note: This video makes reference to the spread of syphilis from America to Europe. Teachers should use discretion as to the appropriateness of such a discussion with students. An option is to simply provide a background of the Columbian Exchange without using the video.
* *Where in the World Food Cards Answer Key,* 1 per student

**Activity 2:**

* Internet access for each student
* [*A Behind the Scenes Look at Starbucks Global Supply Chain*](https://www.youtube.com/watch?v=ElYNhGbOTOQ) video
* [The Fastest-Growing Trade Routes in the World Map](http://www.businessinsider.com/fastest-growing-trade-routes-2013-12)

**Activity 3:**

* [The Fastest-Growing Trade Routes in the World Map](http://www.businessinsider.com/fastest-growing-trade-routes-2013-12)
* [The New Political Economy of Resources](http://resourcesfutures.org/#!/introduction) website
* [International Trade in Goods](http://comtrade.un.org/labs/BIS-trade-in-goods/?reporter=826&year=2014&flow=2) website

**Essential Files (maps, charts, pictures, or documents)**

* [Commodity Chain Examples](http://naitc-api.usu.edu/media/uploads/2017/03/03/CommodityChainExamples.docx)
* [Where in the World Food Cards](http://naitc-api.usu.edu/media/uploads/2017/02/24/where_in_world_foodcards_1.pdf)
* [Where in the World Food Cards Answer Key](http://naitc-api.usu.edu/media/uploads/2017/02/24/foodcards_answerkey_1.pdf)
* [World Map Template](http://naitc-api.usu.edu/media/uploads/2017/02/24/map_template_1.pdf)

**Vocabulary**

**Columbian Exchange:** period of cultural and biological exchanges—plants, animals, diseases, and technology—between the New and Old Worlds

**New World:** the Americas

**Old World:** Europe, Africa, or Asia

**Absolute advantage:** the ability of a country, individual, company or region to produce a good or service at a lower cost per unit than the cost at which any other entity produces that good or service

**Agricultural commodity chain:** a network of labor and production processes—raw materials, processing/manufacturing, distribution, retailers, consumers—whose end result is a finished commodity

**Comparative advantage:** a situation in which a country, individual, company, or region can produce a good at a lower opportunity cost (production costs, raw materials, taxes, environmental regulations, farmers’ skills, proximity to market) than a competitor

**Fair trade:** a trading partnership, based on dialogue, transparency and respect, that seeks greater equity in international trade and contributes to sustainable development by offering better trading conditions to, and securing the rights of, marginalized producers and workers (World Fair Trade Organization)

**Food miles:** the distance food is transported from the time of its production until it reaches the consumer

**Local food:** there is no generally accepted definition of “local” food; in 2008, the US Congress adopted the definition of “local food” as food marketed less than 400 miles from its origin, or within the state

**Trade route:** a logistical network identified as a series of pathways and stoppages used for the commercial transport of cargo

**Value-added product:** a raw commodity that is changed to produce a high-end quality product to meet the tastes and preferences of consumers

**Did you know? (Ag Facts)**

* The top five agricultural commodities in the United States are cattle and calves, dairy products, chickens, corn, and soybeans.1
* Five hundred million small farms worldwide are the source of food for 80% of the population of the developing world.1
* One in three US farm acres exports to foreign markets.1
* US agricultural business exports about 23% of raw farm products.1
* Around $6 million in US agricultural products will be consigned for export to foreign markets, on average, every hour, 24 hours a day, 365 days a year.1

**Background Agricultural Connections**

The United States produces the most abundant, most affordable, and safest food in the world. Additionally, the US farmer is the most productive in the history of the world. This is not to say that farming is without challenges. However, “U.S. agriculture in uniquely positioned to provide for the food and fiber needs of a growing world community.”2

**Interest Approach – Engagement**

1. Cue the [*Food Names That Are Totally Fake*](http://www.quickanddirtytips.com/education/grammar/food-names-that-are-totally-fake?page=all) podcast to 4:00.
2. Ask your students: “Where do your favorite foods come from? Can you tell the origin of a food by its regional name? For example, do Swedish meatballs come from Sweden?”
3. Play the podcast (until 8:32). Then, ask students if they can think of any other foods with regional names (give them some examples: London broil, Belgian waffles, Buffalo wings).
4. Make a list on the whiteboard and write “yes” if students think these foods are named after their places of origin; write “no” if students think the regional names are not reflective of the foods’ origins.
5. Show students the [*On the Map: Why Some Foods Are Named After Places*](http://www.delish.com/food/g1579/foods-named-after-places/) slide show.
6. Add the foods shown to the list on the whiteboard, and indicate “yes” or “no” based on the criteria noted above.
7. Tell students that in this lesson they will explore the origins of foods commonly eaten today and examine agricultural products that are globally traded. Ask them, “Did venetian blinds come from Venice?”

Procedures

**Activity 1: Columbian Exchange**

1. Divide the class into groups of 4–5 students each. Give one [World Fabric Map](https://utah.agclassroom.org/cart/Details.cfm?ProdID=368&category=0) (or *World Map Template*) and one set of *Where in the World Food Cards* to each group.
2. Instruct students to place each food card on the map in the country or region where they think the food originated (Old World or New World).
3. Once students have placed all cards on the map, give them an answer key and instruct them to move the cards to their correct origins.
4. Watch [*The Columbian Exchange: Crash Course World History #23*](https://www.youtube.com/watch?v=HQPA5oNpfM4) video. Instruct students to take notes on the positive and negative impacts of the Columbian Exchange. *Note: This video makes reference to the spread of syphilis from America to Europe. Teachers should use discretion as to the appropriateness of such a discussion with students. An option is to simply provide a background of the Columbian Exchange without using the video.*
5. Lead a class discussion and ask students the following questions:
   * What foods would students miss most if the Columbian Exchange (and future exploration) had not occurred?
   * What positive impacts resulted from the Columbian Exchange?
   * What negative impacts resulted from the Columbian Exchange?
   * What value-added products do global consumers want today that necessitate global trade?

**Activity 2: Commodity Chains**

1. Show students the video [*A Behind the Scenes Look at Starbucks Global Supply Chain*](https://www.youtube.com/watch?v=ElYNhGbOTOQ).
2. Assign students a commodity chain to research—food, farm, fabric, flower, or forestry product. Instruct them to describe the steps in the commodity’s supply chain, including “production,” “processing,” “distribution,” “retail,” and “consumption” through written descriptions. Also instruct students to identify each step as primary, secondary, or tertiary. Some example commodity chains are listed below; these same examples are included in the *Commodity Chain Examples*Essential File, which can be printed to share with students.
3. Commodity Chain Examples:
   * [Beef](http://www.epa.gov/sites/production/files/2015-07/documents/ag_101_agriculture_us_epa_0.pdf) (select “Beef Production” from menu on left side of page)
   * [Pork](http://www.epa.gov/sites/production/files/2015-07/documents/ag_101_agriculture_us_epa_0.pdf) (select “Pork Production” from menu on left side of page)
   * [Coffee](http://www.ncausa.org/About-Coffee/10-Steps-from-Seed-to-Cup)
   * [Sugar cane](http://www.cuesa.org/learn/how-far-does-your-food-travel-get-your-plate)
   * [Poultry](http://www.epa.gov/sites/production/files/2015-07/documents/ag_101_agriculture_us_epa_0.pdf) (select “Poultry Production” from menu on left side of page)
   * [Tobacco](https://www.youtube.com/watch?v=fO5ZjUmyOR0)
   * [Dairy production](http://www.epa.gov/sites/production/files/2015-07/documents/ag_101_agriculture_us_epa_0.pdf) (select “Dairy Production” from menu on left side of page)
   * [How Chocolate is Made](http://archive.fieldmuseum.org/chocolate/manufacture_interactive/manufacture.html)
   * [T-shirt](http://www.nrdc.org/living/stuff/t-shirt-life-story.asp)
   * [*How It’s Made*](http://www.sciencechannel.com/tv-shows/how-its-made/videos/how-its-made-top-ten-favorite-foods/) food videos (production information—students need to research the other parts of the commodity chain)
4. Instruct students to graphically depict the commodity chain using computer software or hand drawings.
5. Display students’ commodity chains in the classroom and/or conduct a class discussion where student share their findings. Show students [The Fastest-Growing Trade Routes in the World Map](http://www.businessinsider.com/fastest-growing-trade-routes-2013-12). Are any of their commodities traded along these routes? If they are uncertain of the answer, have them research this question.

**Activity 3: Global Trade**

1. Use the [The Fastest-Growing Trade Routes in the World Map](http://www.businessinsider.com/fastest-growing-trade-routes-2013-12) to assign each student or pairs of students a trade route to research. Following is a list of the routes:
   * Norway – Sweden
   * United Kingdom – Canada
   * Russia – Korea
   * Netherlands – United States
   * Germany – Slovakia
   * Kazakhstan – China
   * India – China
   * South Africa – China
   * Thailand – China
   * Indonesia – China
   * Vietnam – China
   * Indonesia – Japan
   * Indonesia – Korea
   * Australia – China
   * Australia – United States
   * Mexico – China
   * Brazil – China
   * Chile – China
   * Chile – United States
   * Columbia – United States
2. Students will research their trade routes using the following instructions. You can have students take notes and write a summary of their research, or have students draw a map of their assigned routes and graphically depict their research findings.
3. Using the website [The New Political Economy of Resources](http://resourcesfutures.org/#!/introduction), use the arrow button on the bottom of the first page (“More, more and more”) to identify what factors, if any, contribute to the trade of each resource along your assigned route. *Note: Hovering the computer mouse over the map provides interactive information on each page of this site.*
4. Scroll down to the next page, “New interdependencies” and identify any of the interdependencies of resources between your countries.
5. Scroll down to the next page, “Policy choices matter.” Are either of your countries affected by this scenario?
6. Scroll down to the next page, “Production is concentrated.” Which commodities, if any, are concentrated in your countries?
7. Scroll to the page “The next wave of consumers.” What commodities are in demand of the consumers in your countries?”
8. Scroll to the page, “Short term flashpoints.” What disruptions might impact the imports/exports of your countries?
9. Scroll to the page, “Long term instabilities.” What long term instabilities are impacting your countries?
10. Using the website [International Trade in Goods](http://comtrade.un.org/labs/BIS-trade-in-goods/?reporter=826&year=2014&flow=2), identify the agricultural goods imported and exported between your countries. If data is not available for one of your countries, identify the goods exported by the country with available data.

**Concept Elaboration and Evaluation**

After conducting these activities, review and summarize the following key concepts:

* Production and distribution of food is affected by geography, politics, and economics.
* Geographic location largely determines what plants and animals will grow in a particular region, and as a result distinct diets developed for people living in different parts of the world.
* Today agricultural products are traded globally and often travel thousands of miles from where they were produced to where they are consumed.
* Although agricultural producers may be very distant from consumers, regions of food production and consumption are highly interdependent.

Enriching Activities

* Conduct the [*Chocolate Taste-Testing*](http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=754)activity with your students.
* Use the websites [The Globe of Economic Complexity](http://globe.cid.harvard.edu/) and/or [The Atlas of Economic Complexity](http://atlas.cid.harvard.edu/) for in-depth studies regarding global trade and interdependence. These sites provide excellent data, but they are very complex; the guided “tour” instructions are helpful. You may wish to assign each student or pair of students a research question to investigate using these websites and have students share their research in a report. Alternatively, you may wish to lead a class discussion using these resources.
* Find additional, related activities in the lesson [*The Columbian Exchange of Old and New World Foods*](http://www.agclassroom.org/teacher/matrix/lessonplan.cfm?lpid=384&author_state=0&search_term_lp=columbian)*.*

Suggested Companion Resources

* [Chocolate Taste-Testing](http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=754) (Activity)
* [How Chocolate Is Made](http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=430) (Multimedia)
* [Planet Food Online Game](http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=736) (Multimedia)
* [Popped Secret: The Mysterious Origin of Corn](http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=568) (Multimedia)
* [Population, Sustainability, and Malthus: Crash Course World History video](http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=760) (Multimedia)
* [Trading Around the World](http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=573) (Multimedia)
* [10 Global Gleanings](http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=535) (Website)

Sources/Credits

1. <https://www.noble.org/globalassets/images/news/legacy/2015/spring/ag-by-the-numbers.pdf>
2. [http://www.epa.gov/sites/production/files/2015-07/documents/ ag\_101\_agriculture\_us\_epa\_0.pdf](http://www.epa.gov/sites/production/files/2015-07/documents/ag_101_agriculture_us_epa_0.pdf)
3. <http://blogs.usda.gov/2015/03/10/china-emerging-as-a-key-market-for-agricultural-products/>
4. <http://www.rd.usda.gov/files/RR221.pdf>
5. <http://fairtradeusa.org/products-partners>
6. <http://fapc.biz/valueadded>
7. The Samuel Roberts Noble Foundation. (2015, Spring). *Legacy, (9)*1, pp. 7-8.
8. <https://afsic.nal.usda.gov/alternative-marketing-and-business-practices/farm-enterprises-and-value-added-products>

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