

Theme

B

East Asia: Agriculture & Natural Resources

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PURPOSE

To show the effect that physical geography and climate have upon agriculture and natural resources in the countries of East Asia.

THEME STATEMENT

Technology, Production, Distribution & Consumption (TPDC): Decisions revolving around exchange and economic policies, production, distribution, consumption, and technology (along with well-being) are global in scope.

SUGGESTED TIME

Four or five class periods of forty-five minutes each.

KEY VOCABULARY & CONCEPTS

Natural resources; non-renewable resources; renewable resources; exports; imports; GNP (Gross National Product); GDP (Gross Domestic Product).

MATERIALS NEEDED

- blank maps of East Asia (two copies per group) [see Appendix II]
- atlas containing information about (1) mineral deposits, (2) energy resources, (3) climate, (4) land use, and (5) physical features
- almanac
- colored pencils
- rulers

BACKGROUND INFORMATION

It may be necessary to explain the definition of GDP (Gross Domestic Product). GDP measures the market value of all goods and services produced in a particular economy in a particular year. GDP recently replaced GNP (Gross National Product) as the primary means of measuring net income and production. The two measurements are roughly equal and will be considered as such for this lesson. In addition, to introduce the lesson, pamphlets from local businesses who do business overseas or from local tourist organizations could be used to introduce this lesson and stimulate student interest in the topic. Artifacts from each country could also be used as another method of introducing this lesson. Students should be encouraged to do research on the Internet, if access is available; computer CDs containing up-to-date country information can also serve as valuable reference material.

SUMMARY

Adaptable Levels
Grades 6-10

Related Themes
USGC, PPE

Values
Responsibility, appreciation,
cooperation

Skills
Map reading, comparison,
interpretation, creativity

Integration
Geography, reading, language

INITIATION (Inquiry, Preview, Involvement)

1. Distribute to students any pamphlets from local businesses who do business overseas or from tourist organizations promoting travel to that country. Discuss the idea that tourists bring money into the country which, in turn, stimulates the economy. Connect this idea to foreign investment as a means of improving the economy of the area with the money that is invested. Discuss the idea of Asia as a rising economic power.
2. Divide the class into groups of three or four students.
3. Provide each group with materials (see *Materials* section), handouts (Student Handouts #1-#5), and blank outline maps of East Asia.
4. Review and clarify directions for the project (Student Handout #1).
5. Assign each group one country: China, Japan, North Korea, South Korea, Taiwan.

DEVELOPMENT (Instruction, Data Collection, Organization)

1. Student groups will develop a plan on researching information and transferring it to the maps.
2. Groups will investigate industrial products that can be developed from the natural resources.
3. Groups will investigate the effect that physical geography and climate have upon agriculture and natural resources.
4. Groups will develop charts on the GDP (Student Handout #1).

EXTENSION/ENRICHMENT (Idea Articulation, Ownership, Experimentation)

1. Students will develop a four-page illustrated pamphlet (Student Handout #1).
2. Students will present their pamphlet to the class.

ASSESSMENT OF ACHIEVEMENT

1. The oral presentation of the pamphlet will be assessed.
2. The questions on the handout (Student Handout #1) will be collected and assessed.
3. The finished pamphlet will be collected and assessed.

KEY QUESTIONS

- What possible effects could agriculture or the extraction of natural resources have on the environment?
- What are the factors that countries need to consider when trying to attract foreign investment?

ALTERNATIVES

To make a shorter lesson, development of the pamphlet could be eliminated. In addition, this lesson could be expanded to include other countries in other parts of Asia or the world. Comparable information on other countries is available from the book, *Asia and Oceania* (World Eagle) or online in the CIA (Central Intelligence Agency) World Factbook.

REFERENCES & RECOMMENDED RESOURCES

- *Asia and Oceania*. Littleton: World Eagle, 1995.
- *CIA World Factbook*: <http://www.odci.gov/cia/publications/nsolo/wfb-all.htm>

STUDENT HANDOUT #1:

Instructions: Effect of Physical Features & Climate on Natural Resources & Agriculture

1. On one map, show (a) agricultural products and (b) natural resources for China, Japan, North Korea, South Korea, and Taiwan. Include title, key, and country names.
2. On the second map, show (a) physical features and (b) climate of China, Japan, North Korea, South Korea, and Taiwan. Include title, key, and country names.
3. Within your group, discuss the effect of climate and physical features on the type of agricultural products produced and the natural resources in each country.
4. On a separate sheet of paper, complete the following: [NOTE: You will need your finished maps and Student Handouts #2-#5. Additional research on the computer or in the library may be necessary. Answers to questions "A" through "H" will be collected.]
 - A. Does the climate of each country limit the agriculture to a few crops or allow a wide variety of crops?
 - B. What severe weather patterns may affect the agriculture of each area? Explain.
 - C. Give the cardinal direction of each country in which the major agricultural area can be found.
 - D. Do the physical features limit the type of agricultural crops in each country? Explain.
 - E. Explain how the physical features limit the availability of natural resources in each country.
 - F. What types of industrial products can be produced from the available natural resources in each country?
 - G. Are there environmental concerns that may limit future production of either natural resources or agriculture? Will natural resources or agriculture contribute to possible environmental concerns?
 - H. Develop a bar graph showing the percent of each country's GDP that (1) agriculture and (2) industrial products constitute.
 - I. Your group has been asked to create a four-page illustrated pamphlet for the country of _____. You will use this pamphlet to encourage foreign investment in your country. Use the information you have compiled to develop the pamphlet.
 - J. Your group will present the pamphlet to the class. The pamphlet is to be turned in after your presentation.

STUDENT HANDOUT #2:

Reference: Major Industries and Exports

[Excerpts from *World Factbook 1996*, Central Intelligence Agency: <http://www.odci.gov/cia/publications/nsolo/wfb-all.htm>]

CHINA:

Industries: iron and steel, coal, machine building, armaments, textiles and apparel, petroleum, cement, chemical fertilizers, consumer durables, food processing, autos, consumer electronics, telecommunications.

Exports: \$148.8 billion (f.o.b., 1995)

- commodities: garments, textiles, footwear, toys, machinery and equipment (1994)
- trading partners: Hong Kong, Japan, U.S., Germany, South Korea, Singapore (1994)

JAPAN:

Industries: among world's largest and technologically advanced producers of steel and non-ferrous metallurgy, heavy electrical equipment, construction and mining equipment, motor vehicles and parts, electronic and telecommunication equipment, machine tools, automated production systems, locomotives and railroad rolling stock, ships, chemicals, textiles, processed foods.

Exports: \$442.84 billion (f.o.b., 1995)

- commodities: manufactures 97% (including machinery 46%, motor vehicles 20%, consumer electronics 10%)
- trading partners: Southeast Asia 38%, U.S. 27%, Western Europe 17%, China 5%

NORTH KOREA:

Industries: military products, machine building, electric power, chemicals, mining (coal, iron ore, magnesite, graphite, copper, zinc, lead, and precious metals), metallurgy, textiles, food processing.

Exports: \$840 million (f.o.b., 1994 est.)

- commodities: minerals, metallurgical products, agricultural and fishery products, manufactures (including armaments)
- trading partners: China, Japan, South Korea, Germany, Hong Kong, Russia

SOUTH KOREA:

Industries: electronics, automobile production, chemicals, shipbuilding, steel, textiles, clothing, footwear, food processing

Exports: \$125.4 billion (f.o.b., 1995)

- commodities: electronic and electrical equipment, machinery, steel, automobiles, ships, textiles, clothing, footwear, fish
- trading partners: U.S. 19%, Japan 14%, European Union 13%

TAIWAN:

Industries: electronics, textiles, chemicals, clothing, food processing, plywood, sugar milling, cement, shipbuilding, petroleum refining

Exports: \$93 billion (f.o.b., 1994)

- commodities: electrical machinery 19.7%, electronic products 19.6%, textiles 10.9%, footwear 3.3%, foodstuffs 1.0%, plywood and wood products 0.9% (1993 est.)
- trading partners: U.S. 27.6%, Hong Kong 21.7%, European Union 15.2%, Japan 10.5% (1994 est.)

STUDENT HANDOUT #3:

Reference: Agriculture and GDP Composition by Sector

[Excerpts from *World Factbook 1996*, Central Intelligence Agency: <http://www.odci.gov/cia/publications/nsolo/wfb-all.htm>]

CHINA:

Agriculture: rice, potatoes, sorghum, peanuts, tea, millet, barley, cotton, other fibers, oilseed; pork and other livestock products; fish

GDP composition by sector :

- agriculture: 19%
- industry: 48%
- services: 33% (1994 est.)

JAPAN:

Agriculture: rice, sugar, beets, vegetables, fruit; pork, poultry, dairy products, eggs; world's largest fish catch of 10 million metric tons in 1991

GDP composition by sector :

- agriculture: 2.1%
- industry: 40.2%
- services: 57.7% (1994)

NORTH KOREA:

Agriculture: rice, corn, potatoes, soybeans, pulses; cattle, pigs, pork, eggs

GDP composition by sector :

- agriculture: 25%
- industry: 60%
- services: 15% (1995 est.)

SOUTH KOREA:

Agriculture: rice, root crops, barley, vegetables, fruit; cattle, pigs, chickens, milk, eggs; fish catch of 2.9 million metric tons, seventh largest in world

GDP composition by sector :

- agriculture: 8%
- industry: 45%
- services: 47% (1991 est.)

TAIWAN:

Agriculture: rice, wheat, corn, soybeans, vegetables, fruit, tea; pigs, poultry, beef, milk; fish catch increasing, reached 1.4 million metric tons in 1988

GDP composition by sector :

- agriculture: 3.6%
- industry: 37.3%
- services: 59.1% (1994 est.)

STUDENT HANDOUT #4:

Reference: Major Natural Resources

[Excerpts from *World Factbook 1996*, Central Intelligence Agency: <http://www.odci.gov/cia/publications/nsolo/wfb-all.htm>]

CHINA:

Coal, iron ore, petroleum, mercury, tin, tungsten, antimony, manganese, molybdenum, vanadium, magnetite, aluminum, lead, zinc, uranium, hydropower potential (world's largest).

JAPAN:

Negligible mineral resources, fish.

NORTH KOREA:

Coal, lead, tungsten, zinc, graphite, magnesite, iron ore, copper, gold, pyrites, salt, fluorspar, hydropower.

SOUTH KOREA:

Coal, tungsten, graphite, molybdenum, lead, hydropower.

TAIWAN:

Small deposits of coal, natural gas, limestone, marble, and asbestos.

STUDENT HANDOUT #5:

Reference: Physical Geography & Environment

[Excerpts from *World Factbook 1996*, Central Intelligence Agency: <http://www.odci.gov/cia/publications/nsolo/wfb-all.htm>]

CHINA:

Climate: extremely diverse; tropical in south to subarctic in north

Terrain: mostly mountains, high plateaus, deserts in west; plains, deltas, and hills in east

Environment:

- *current issues:* air pollution from the overwhelming use of high-sulfur coal as a fuel, produces acid rain which is damaging forests; water shortages experienced throughout the country, particularly in urban areas; future growth in water usage threatens to outpace supplies; water pollution from industrial effluents; much of the population does not have access to potable water; less than 10% of sewage receives treatment; deforestation; estimated loss of one-fifth of agricultural land since 1957 to soil erosion and economic development; desertification; trade in endangered species
- *natural hazards:* frequent typhoons (about five per year along southern and eastern coasts); damaging floods; tsunamis; earthquakes; droughts

JAPAN:

Climate: varies from tropical in south to cool temperate in north

Terrain: mostly rugged and mountainous

Environment:

- *current issues:* air pollution from power plant emissions results in acid rain; acidification of lakes and reservoirs degrading water quality and threatening aquatic life; Japan's appetite for fish and tropical timber is contributing to the depletion of these resources in Asia and elsewhere
- *natural hazards:* many dormant and some active volcanoes; about 1,500 seismic [earthquake] occurrences (mostly tremors) every year; tsunamis

NORTH KOREA:

Climate: temperate with rainfall concentrated in summer

Terrain: mostly hills and mountains separated by deep, narrow valleys; coastal plains wide in west, discontinuous in east

Environment:

- *current issues:* localized air pollution attributable to inadequate industrial controls; water pollution; inadequate supplies of potable water
- *natural hazards:* late spring droughts often followed by severe flooding; occasional typhoons during the early fall

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SOUTH KOREA:

Climate: temperate, with rainfall heavier in summer than winter

Terrain: mostly hills and mountains; wide coastal plains in west and south

Environment:

- *current issues:* air pollution in large cities; water pollution from the discharge of sewage and industrial effluents; drift net fishing
- *natural hazards:* occasional typhoons bring high winds and floods; earthquakes in southwest

TAIWAN:

Climate: tropical; marine; rainy season during southwest monsoon (June to August); cloudiness is persistent and extensive all year

Terrain: eastern two-thirds mostly rugged mountains; flat to gently rolling plains in west

Environment:

- *current issues:* water pollution from industrial emissions, raw sewage; air pollution; contamination of drinking water supplies; trade in endangered species
- *natural hazards:* earthquakes and typhoons