

# INDUSTRIAL AND ECONOMIC DEVELOPMENT MODULE OVERVIEW

## SKILL FOCUS

### **Spatial Relationships, Data Analysis, and Source Analysis**

**Spatial Relationships:** Describe spatial patterns and networks, and explain a likely outcome in a geographic scenario using geographic concepts, processes, models, or theories.

**Data Analysis:** Explain patterns and trends in maps and in quantitative and geospatial data to draw conclusions.

**Source Analysis:** Analyze and interpret qualitative geographic information represented in maps, images (e.g., satellite, photographs, cartoons), and landscapes.

## CONTENT

### **Enduring Understanding SPS-7**

Industrialization, past and present, has facilitated improvements in standards of living, but it has also contributed to geographically uneven development.

**Topic 7.1.** The Industrial Revolution

**Topic 7.2.** Economic Sectors and Patterns

**Topic 7.3.** Measures of Development

## What are economic sectors and the factors that affect their development?

### DAY 1

#### CLASS ACTIVITY

##### **Understanding and Identifying Economic Sectors**

Students will work collaboratively to identify and learn the five different economic sectors. Students will then use their new understanding of economic sectors and examine maps and data sets to predict the locations of different economic sectors within South Korea.

#### AP SKILL ALIGNMENT

**Skill Category 2.B.** Explain spatial relationships in a specified context or region of the world, using geographic concepts, processes, models, or theories.

**Skill Category 2.C.** Explain a likely outcome in a geographic scenario using geographic concepts, processes, models, or theories.

**Skill Category 4.D.** Compare patterns and trends in visual sources to draw conclusions.

## What are the key measures of development in a country?

### DAY 2

#### CLASS ACTIVITY

##### **Understanding and Identifying Measures of Development**

Students will work collaboratively to define and learn a variety of measures of development. Students will then analyze data sets to identify changes in several measures of development in South Korea over the past 70 years and speculate as to the reasons for those changes.

#### AP SKILL ALIGNMENT

**Skill Category 3.F.** Explain possible limitations of the data provided.

**Skill Category 4.D.** Compare patterns and trends in visual sources to draw conclusions.

**Skill Category 4.E.** Explain how maps, images, and landscapes illustrate or relate to geographic principles, processes, and outcomes.

## Assessment

### DAY 3

#### CLASS ACTIVITY

##### **Concept Mapping and AP-Aligned Assessment**

Students will connect vocabulary and concepts via a concept-mapping activity and then demonstrate understanding as they answer five Multiple Choice Questions (MCQs) and one Free Response Question (FRQ) with two stimuli.

#### AP-ALIGNED ASSESSMENT

##### **Multiple Choice Questions (MCQs) and Free-Response Question (FRQ)**

# INDUSTRIAL AND ECONOMIC DEVELOPMENT MODULE SOURCES

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# DAY 3

Based on a 60-minute class

## Lesson Focus: Reviewing Industrialization and Economic Development

### AP CURRICULUM FRAMEWORK REFERENCE

#### Enduring Understanding

SPS-7. Industrialization, past and present, has facilitated improvements in standards of living, but it has also contributed to geographically uneven development.

Topic 7.1. The Industrial Revolution

Topic 7.2. Economic Sectors and Patterns

Topic 7.3. Measures of Development

### HUMAN GEOGRAPHY SKILLS

**Spatial Relationships: Describe spatial patterns and networks and explain a likely outcome in a geographic scenario using geographic concepts, processes, models, or theories.**

Skill Category 2.B. Explain spatial relationships in a specified context or region of the world, using geographic concepts, processes, models, or theories.

Skill Category 2.C. Explain a likely outcome in a geographic scenario using geographic concepts, processes, models, or theories.

**Data Analysis: Explain patterns and trends in maps and in quantitative and geospatial data to draw conclusions.**

Skill Category 3.F. Explain possible limitations of the data provided.

**Source Analysis: Analyze and interpret qualitative geographic information represented in maps, images (e.g., satellite, photographs, cartoons), and landscapes.**

Skill Category 4.D. Compare patterns and trends in visual sources to draw conclusions.

Skill Category 4.E. Explain how maps, images, and landscapes illustrate or relate to geographic principles, processes, and outcomes.

## OVERVIEW

Students will work with the important terms and concepts from this module to review the essential content and skills. Working in groups, students will manipulate the important terms and concepts into a concept map that should begin with a central term or concept. Upon completing the task, groups rotate to other group concept maps to reflect on their synthesis, leading to interactive conversations and deeper review of the content as students make meaning individually and collaboratively. Students are then given the opportunity to complete five AP-style multiple choice questions (MCQs) and one AP-style stimulus-based free response question (FRQ).

### MATERIALS NEEDED:

- ▶ Day 3 Handouts
  - ▷ Day 3 Student Handout (1 per student, p. 171)
  - ▷ Day 3 Multiple Choice Question (MCQ) Assessment (p. 172)
  - ▷ Day 3 Free Response Question (FRQ) Assessment (p. 173)
- ▶ Day 3 Free Response Question (FRQ) Assessment Teacher Key (p. 174)

# SEQUENCE OF INSTRUCTION

## CLASS ACTIVITY 1 OF 2: CONCEPT MAPPING

CLASS ACTIVITY (20-30 MINUTES): CONCEPT MAPPING

### ACTIVITY 1

Students will consider the important terms and concepts for this module on Industrialization and Economic Development in order to find relationships and more deeply understand the content. The activity also integrates the geographic skills that run through the module by asking students to explain the connections between terms and concepts. Debriefing the activity and monitoring student progress are two essential elements to this collaborative work.

#### ACTIVITY PROCEDURE

- ▶ Have students sit in groups of four to five to facilitate group work throughout the course of the activity. Mixed-ability groups are recommended to achieve the best results.
- ▶ Explain what a concept map is by showing an example (e.g., from the video below) and/or a brief video overview:
  - ▷ <https://tinyurl.com/geoconcept>.
  - ▷ This video explains how concept maps are visual ways to express the connections between ideas and the steps to create an effective concept map (identifying main topic, organizing main points, creating a map with major points and supporting details, reviewing the map and looking for connections, including details, analyzing and improving the map).
- ▶ Students review the list of terms and concepts in the Day 3 Student Handout (p. 171) and begin to identify relationships as well as consider what the central term or concept might be.
  - ▷ Monitoring group conversations across the room and affirming good insights and/or prompting and redirecting groups that may need support are critical to ensuring student understanding.
  - ▷ Students may need prompting to remain focused on connections and not definitions.
- ▶ Students display concept maps on desks or walls, and groups rotate to see other concept maps.
  - ▷ Leading a discussion on similarities and differences among concept maps can reinforce conceptual knowledge.
  - ▷ Groups may be given sticky notes to challenge connections between concepts with which they disagree. They can write how/why they disagree on the sticky note and place it on the concept map.
  - ▷ Taking pictures of concept maps and uploading all pictures for student access provides another opportunity for reflection and deeper learning.



#### TEACHING TIP

The list of terms and concepts for this activity is drawn from the two days of previous instruction in this module. Teachers might consider adding other terms and concepts to supplement this list depending on the scope of the unit and assessment.



#### TEACHING TIP

If some groups work more efficiently and may seem to finish more quickly than others, having additional words or pictures or documents or even current event articles or excerpts can add a new dimension to the activity when the teacher gives those additional resources to groups. For example, handing out an excerpt from a recent news article on the industrial development of a country can force a group to wrestle with a current issue and make sense of it conceptually in light of its concept map.

## CLASS ACTIVITY 2 OF 2: CHECK FOR UNDERSTANDING

CLASS ACTIVITY (30-40 MINUTES): AP-ALIGNED ASSESSMENT

### FORMATIVE ASSESSMENT

Students could complete the following assessments during class or as assigned homework or as part of another class to monitor student progress.

#### ACTIVITY PROCEDURE

- ▶ Hand out the Multiple Choice Questions (p. 172).
  - ▷ If this is truly formative assessment during class, consider going over the answers during class and having students who answered correctly explain their reasoning and process to the whole class.
  - ▷ Multiple Choice Answer Key: **1. B; 2. C; 3. C; 4. E; 5. A**
- ▶ Distribute the Free Response Question sheet (p. 173), and instruct students to complete all questions, monitoring the time and providing timing updates to simulate some of the time pressure students may feel on the day of the Exam.
  - ▷ Consider discussing answers either in small groups and/or as a class to check understanding or collect student work to provide specific, targeted feedback.
  - ▷ Consult the Teacher Key included in these resources (p. 174) as part of the feedback process.



#### TEACHING TIP

If students are not already familiar with common FRQ command verbs, “discuss” and “explain,” require the development of an answer instead of a simple one- or two-word response.

The following task verbs are commonly used in the free-response questions:

- ▷ *Compare*: Provide a description or explanation of similarities and/or differences.
- ▷ *Define*: Provide a specific meaning for a word or concept.
- ▷ *Describe*: Provide the relevant characteristics of a specified topic.
- ▷ *Explain*: Provide information about how or why a relationship, process, pattern, position, or outcome occurs, using evidence and/or reasoning.
- ▷ *Identify*: Indicate or provide information about a specified topic, without elaboration or explanation.

# DAY 3 STUDENT HANDOUT

Name: \_\_\_\_\_ Period: \_\_\_\_\_

## CONCEPT MAPPING

1. Your group must create a central term for your list of words.
2. Write this term/concept in the middle of your mind map. The concept/term should be something that demonstrates how the words are *connected*.
3. Create a concept map that illustrates how these terms are connected and why they are important. Keep all drawings/visuals specific to understanding the terms. *Fewer words, more visuals!!!*
4. Make sure to use all of the terms below, but you will also need to add in additional words as transitions.

### TERMS/CONCEPTS

- ▶ Measures of development
- ▶ Gross Domestic Product
- ▶ Gross National Income
- ▶ Formal sectoral structures of Economy
- ▶ Informal sectoral structures of the economy
- ▶ Income distribution
- ▶ Fertility rates
- ▶ Infant mortality rates
- ▶ Fossil fuels
- ▶ Renewable energy
- ▶ Literacy rates
- ▶ Gender Inequality Index
- ▶ Energy use
- ▶ Access to health care
- ▶ Industrial Revolution
- ▶ Economic sectors
- ▶ Primary sector
- ▶ Secondary sector
- ▶ Tertiary sector
- ▶ Quaternary and Quinary sectors
- ▶ Market gardening
- ▶ Central Place Theory
- ▶ Core, neo-periphery, and periphery
- ▶ Von Thünen Model

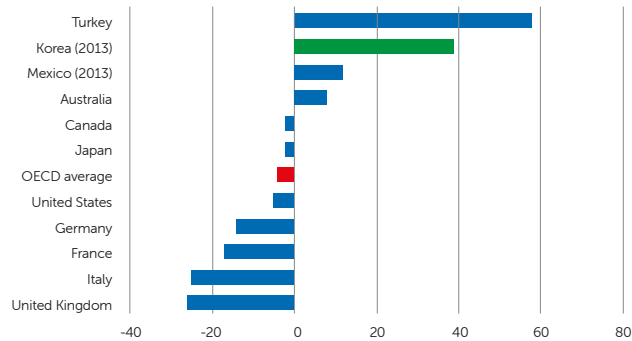
# DAY 3 MULTIPLE CHOICE QUESTION (MCQ) ASSESSMENT

Name: \_\_\_\_\_ Period: \_\_\_\_\_

## Rise in South Korea's Greenhouse Gas Emissions

Percent of change, selected OECD and G20 countries, 2000-2014

Source: OECD (2016) "Greenhouse Gas Emissions by Source," OECD Environment Statistics (Database)



- Which of the following best explains why Korea's greenhouse gas emissions increased so much (see chart above)?
  - The population of South Korea has rapidly increased, resulting in increased emissions.
  - There are an increasing number of both factories and automobiles in Korea.
  - There has been a large increase in the number of cities in the coastal areas of Korea.
  - The increase of service sector jobs experienced in Korea is directly associated with higher emissions.
  - The manufacturing of automobiles is the main economic activity in Korea today.
- Which set of data best describes the overall structure of a highly developed country's workforce? (% of workforce engaged in sector)
  - Primary 75%, secondary 15%, tertiary 10%
  - Primary 25%, secondary 50%, tertiary 25%
  - Primary 10%, secondary 30%, tertiary 60%
  - Primary 50%, secondary 25%, tertiary 25%
  - Primary 20%, secondary 70%, tertiary 10%
- Which of the following is most likely to decrease as a country experiences increased levels of economic development?
  - Life Expectancy
  - Literacy Rate
  - Infant Mortality Rate

- Infrastructure Development
  - Gross Domestic Product per capita
- Which of the following is most likely to increase as a country experiences increased levels of economic development?
    - Contagious disease rate
    - Percentage employed in agriculture
    - Total fertility rate
    - Maternal mortality rate
    - Female literacy rate

## Photo of a Scientific Researcher



- Businesses focused on the economic sector reflected in the photo above are typically located in places that have which of the following?
  - Universities that are known for highly educated and creative students
  - Wages that are relatively low and result in a cost savings for the business
  - Minimal environmental and labor regulations to allow businesses more freedom
  - Major transportation networks that can be utilized to distribute finished goods
  - Temperate climates with ideal soil environments and few physical barriers

## DAY 3 FREE RESPONSE QUESTION (FRQ) ASSESSMENT

Name: \_\_\_\_\_ Period: \_\_\_\_\_

### ACTIVITY A



### ACTIVITY B



As industrialization has diffused across much of the world, the focus of the economies of countries has shifted.

- a. Identify the economic sector typified by each activity.
- b. Compare the role of cities in activity A and activity B.
- c. Describe ONE cause of industrialization in semi-peripheral countries.
- d. Explain ONE positive impact of industrialization.
- e. Explain ONE negative impact of industrialization.
- f. Describe how the sectoral structure of an economy changes as it reaches a higher level of economic development.
- g. Explain the limitations of using Gross Domestic Product per capita as the measure of development.



## DAY 3 FRQ ASSESSMENT TEACHER KEY

Teachers can use this Key to guide assessment and student peer assessment.

As industrialization has diffused across much of the world, the focus of the economies of countries has shifted.

a. Identify the economic sector typified by each activity.

- ▷ Activity A: Primary
- ▷ Activity B: Secondary

Students must correctly identify both sectors for 1 point.

b. Compare the role of cities in Activity A and Activity B.

- ▷ Cities are more associated with Activity B because factories are typically located just outside cities (near cities), whereas Activity A is likely to occur in rural areas (far away from cities).

Note: students must have a comparison so they must discuss the role of cities (or lack of) for both Activity A and Activity B.

c. Describe ONE cause of industrialization in semi-peripheral countries.

- ▷ Connections with transportation networks or proximity to markets to allow the shipping out of goods for consumption in the core.
- ▷ Abundant labor supply and/or low cost labor or government policies (tax incentives, business-friendly regulations, etc.) that allow companies to have a higher profit margin.

d. Explain ONE positive impact of industrialization.

- ▷ Improvements in standards of living as reflected in increased
  - Incomes
  - GDP per capita
  - GNI per capita
  - Education (literacy rates in general and/or female literacy rates)
  - Infrastructure development
  - Income equality
  - Access to healthcare (more physicians, lower Infant Mortality Rate, etc.)
  - Life expectancies

e. Explain ONE negative impact of industrialization.

- ▷ Uneven development:
  - Gaps between rural and urban areas
  - Isolated industrial areas
  - Focus on industrial areas
- ▷ Pollution:
  - Factories using fossil fuels
  - Increased use of automobiles

f. Describe how the sectoral structure of an economy changes as it reaches a higher level of economic development.

- ▷ The economy shifts from primary to secondary as industrialization occurs.
- ▷ The economy shifts from secondary to tertiary as deindustrialization occurs.
- ▷ The economy shifts from tertiary to quaternary as services become more advanced.

Note: students must say what the economy shifts **from** and **to** since they are describing a change.

g. Explain the limitations of using Gross Domestic Product per capita as the measure of development.

- ▷ High GDP does not necessarily mean that other measures of development are high (there is a weakness in using a single measure).
- ▷ Looking at GDP ignores social or quality of life measures such as health measures, treatment of women, happiness, etc.
- ▷ GDP per capita looks at total GDP divided by population and implies that the per capita statistic is the typical experience when there may be high degrees of economic inequality.
- ▷ GDP per capita includes everything produced in the country, which could result in overstatement if there are many foreign companies operating within the country, or understatement if the country has many companies producing goods outside the boundaries of the country.