

POPULATION MODULE OVERVIEW

SKILL FOCUS

Spatial Relationships, Data Analysis, Scale 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.

Scale Analysis: Identify the scale of analysis presented by maps, quantitative and geospatial data, images, and landscapes

CONTENT

Enduring Understanding SPS-2

Changes in population have long- and short-term effects on a place's economy, culture, and politics.

Topic 2.9. Aging Populations

Topic 2.7. Population Policies

How does scale affect our analysis of geographic trends?

DAY 1

CLASS ACTIVITY

Identify and Analyze Demographic Trends and Scales of Analysis

Students will identify and analyze demographic statistics at different scales of analysis and work collaboratively to predict challenges presented by those trends.

AP SKILL ALIGNMENT

Skill Category 2.A. Describe spatial patterns, networks, and relationships.

Skill Category 3.C. Explain patterns and trends in maps and in quantitative and geospatial data to draw conclusions

Skill Category 5.A. Identify the scales of analysis presented by maps, quantitative and geospatial data, images, and landscapes

What challenges are presented by an aging population?

DAY 2

CLASS ACTIVITY

Analyzing Population Policies in South Korea

Students will identify and analyze antinatalist and pronatalist population policies in South Korea and apply their knowledge to explain why a society may want to promote or discourage population growth.

AP SKILL ALIGNMENT

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

Skill Category 3.E. Explain what maps or data imply or illustrate about 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

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

POPULATION MODULE SOURCES

DAY 1	Stimulus Type	Description	Page
	Population Pyramid	East Asia Population, 2020	28
	Population Pyramid	Projected East Asia Population, 2050	28
	Data Chart	East Asia Demographic Indicators	28
	Population Pyramid	Population of South Korea, 2020	29
	Population Pyramid	Projected Population of South Korea, 2050	29
	Data Chart	South Korea Demographic Indicators	29
	Map	Average Projected Annual Rate of Population Change (%), World Map, 2020-2025	30
	Population Pyramid	World Population, 2020	31
	Population Pyramid	Projected World Population, 2050	31
	Data Chart	World Demographic Indicators	31
	Graph	Fertility Rates, Selected South Korea Provinces, 2017	32
	Map	Ratio of Elderly Population in South Korea by Province, 2010	32
	Population Pyramid	Seoul, 2010	32
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DAY 2	Stimulus Type	Description	Page
	Population Pyramids	South Korea, 1965, 1975, 1995, 2015	39
	Poster	Antinatalist South Korean Government Poster	43
	Poster	Antinatalist South Korean Government Poster	43
	Text Excerpt	South Korea's Child Care Policy	43
	Graph	South Korea's Total Fertility Rate, 1960-2018	44
	Text Excerpt	Field Note About Changing Family Sizes in Korea	44
	Text Excerpt	Korea Endorses Loop for Birth Control	44
	Text Excerpt	Government Support for Housing For Families With 3+ Children	45
	Poster	Antinatalist South Korean Government Poster	45
	Poster	Antinatalist South Korean Government Poster	45
	Graph	Percentage of South Korean Women Using Contraception (Ages 15-49)	46
	Text Excerpt	South Korea's Saero-Maji Pronatalist Plan	46

DAY 3	Stimulus Type	Description	Page
	Population Pyramid	Population of South Korea, 2020	58
	Text Excerpt	"U.S. Homes Problematic for Aging Population"	58
	Graph	Total Fertility Rate of South Korea Since 1984	58
	Map	Average Projected Annual Rate of Population Change (%), World Map, 2020-2025	59
	Population Pyramid	Projected East Asia Population, 2050	59

DAY 3

Based on a 60-minute class

Lesson Focus: Reviewing Population

AP CURRICULUM FRAMEWORK REFERENCE

Enduring Understanding

SPS-2. Changes in population have long- and short-term effects on the economy, culture, and politics of places.

Topic 2.9. Aging Populations

Topic 2.7. Population Policies

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.

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

Scale Analysis: Identify the scales of analysis presented by maps, quantitative and geospatial data, images, and landscapes.

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. Then, students are 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 (p. 57)
 - ▷ Day 3 Multiple Choice Question (MCQ) Assessment (p. 58)
 - ▷ Day 3 Free Response Question (FRQ) Assessment (p. 59)
- ▶ Day 3 Free Response Question (FRQ) Assessment Teacher Key (p. 60)

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 Population Module 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 of 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 outlines the steps needed to create an effective concept map (identifying the main topic, organizing the main points, creating a map with the major points and supporting details, reviewing the map and looking for connections, including details, and analyzing and improving the map).
- ▶ Students review the list of terms and concepts 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 ensure 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 materials 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 their 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 Question (MCQ) sets.
 - ▷ If this is a 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.
 - ▷ The answers to the MCQs are: **1. E, 2. D, 3. E, 4. B, 5. B**
- ▶ Distribute the FRQ 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 as part of the feedback process.



TEACHING TIP

If students are not already familiar with common FRQ command verbs, “discuss” and “explain” require 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.

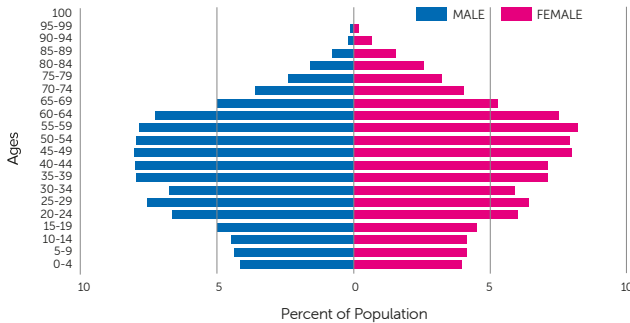
TERMS/CONCEPTS

- ▶ Aging Population
- ▶ Birth Rates
- ▶ Death Rates
- ▶ Dependency Ratio
- ▶ Scale
- ▶ Total Fertility Rate
- ▶ Immigration Policies
- ▶ Replacement Level
- ▶ Migration Rates
- ▶ Life Expectancy
- ▶ Pronatalist Policies
- ▶ Antinatalist Policies
- ▶ Economic Impacts
- ▶ Political Impacts
- ▶ Social Impacts
- ▶ Population Pyramids

DAY 3 MULTIPLE CHOICE QUESTION (MCQ) ASSESSMENT

Name: _____ Period: _____

Population of South Korea, 2020



1. Population pyramids, such as the one above, are a reflection of:

- Unpredictable populations
- Rapidly increasing populations
- Moderately increasing populations
- Slowly increasing populations
- Declining populations

2. Based on the population pyramid above, which statement best predicts the issue this country will likely face in the future:

- Building enough schools to accommodate children
- Furnishing enough housing for the population
- Equipping women with adequate education
- Providing social services for the elderly
- Developing the infrastructure for industrialization

3. Countries with a population pyramid such as the one above, would most likely implement:

- Pro-industrialization policies
- Anti-industrialization policies
- Equality policies
- Anti-natalist policies
- Pro-natalist policies

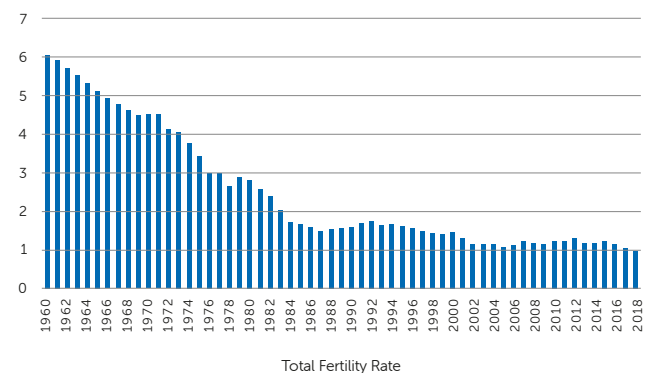
4. A recent article in the *Washington Post* stated:

“U.S. Homes Problematic for Aging Population”
 “Although we seldom think about them this way, most American communities as they exist today were built for the spry and mobile. We’ve constructed millions of multi-story, single-family homes where the master bedroom is on the second floor, where the lawn outside requires weekly upkeep, where the mailbox is a stroll away. We’ve designed neighborhoods where everyday errands require a driver’s license.”

The description of homes and neighborhoods in the United States is becoming an issue in many countries in North America, Western Europe, and East Asia due most directly to an increase in the:

- Total Fertility Rate
- Aging Population
- Sex structure
- Rate of Natural Increase
- Crude Birth Rate

Total Fertility Rate of South Korea Since 1984



5. The chart above shows that, since 1984, the Total Fertility Rate of South Korea has been:

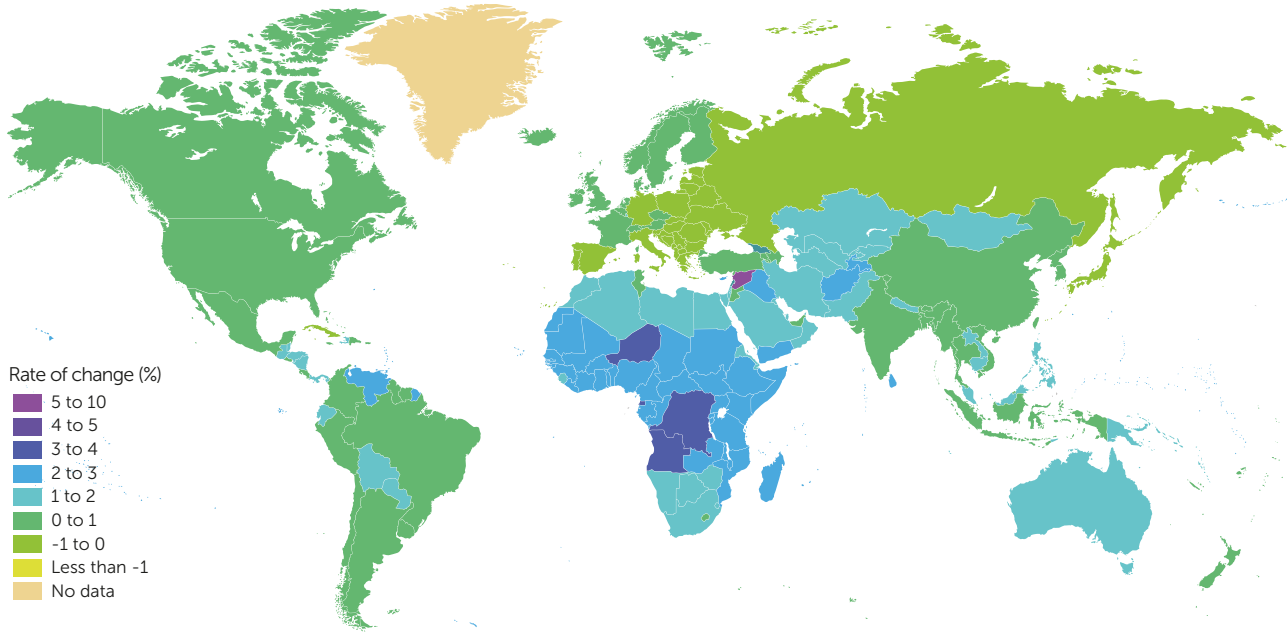
- Experiencing declining migration
- Below replacement level
- At replacement level
- Above replacement level
- Experiencing rapid fluctuations

DAY 3 FREE RESPONSE QUESTION (FRQ) ASSESSMENT

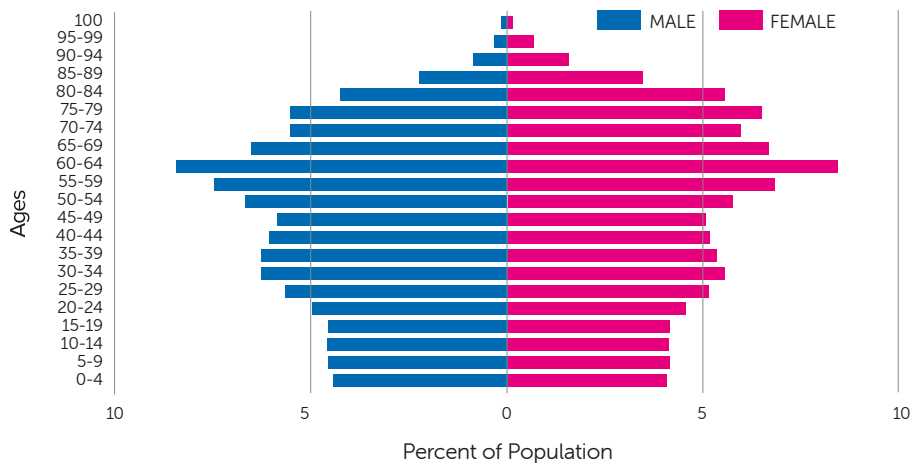
Name: _____ Period: _____

Average Projected Annual Rate of Population Change (%), World Map, 2020–2025

©2019 United Nations, DESA, Population Division. Licensed under Creative Commons license CC BY 3.0 IGO. Data source: United Nations, DESA, Population Division. *World Population Prospects 2019*. <http://population.un.org/wpp/>



Pyramid A



- Using the map shown, identify a country that would most likely have a population pyramid similar to Pyramid A.
- Describe the Rate of Natural Increase (RNI) based on the population pyramid shown.
- Explain one social or political challenge for a country with a population pyramid similar to the one shown.
- Explain one economic challenge for a country with a population pyramid similar to the one shown.
- Describe a population policy that could address a possible issue related to the shape of the population pyramid shown.
- Explain the degree to which the scale of the map above may be a disadvantage or advantage in terms of understanding population issues.
- Explain how migration could impact the population pyramid shown.

DAY 3 FRQ ASSESSMENT TEACHER KEY

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

a. Using the map shown, identify a country that would have a population pyramid similar to Pyramid A.

Possible answers include any of the following countries:

- | | | |
|------------|-------------------|------------|
| ▶ Albania | ▶ Japan | ▶ Poland |
| ▶ Belarus | ▶ Kosovo | ▶ Portugal |
| ▶ Bulgaria | ▶ Latvia | ▶ Romania |
| ▶ Croatia | ▶ Lithuania | ▶ Russia |
| ▶ Estonia | ▶ Moldova | ▶ Serbia |
| ▶ Germany | ▶ Montenegro | ▶ Slovenia |
| ▶ Greece | ▶ North Macedonia | ▶ Spain |
| ▶ Italy | | ▶ Ukraine |

b. Describe the Rate of Natural Increase (RNI) based on the population pyramid shown.

- ▶ The RNI shows no growth or negative growth (accept either), since the bottom cohorts are small compared to the middle and elderly population.

Note: The command term is “describe,” so a student must do more than identify (i.e., “negative growth”) and instead must describe how/why the RNI shows no or negative growth.

c. Explain one social or political challenge for a country with a population pyramid similar to the one shown.

POLITICAL:

- ▶ Shifting demographics cause voters to have different priorities (social safety net vs. schools, etc.)
- ▶ Politicians focus more on the elderly because they are the largest demographic

SOCIAL:

- ▶ The challenge of providing for an aging population (social programs)
- ▶ Closing and/or consolidating schools due to the lack of younger population, which then creates issues with access to schools
- ▶ Closing colleges due to the lack of younger population, which then makes access more challenging
- ▶ Focusing on elderly concerns (i.e., assisted care facilities instead of preschools, etc.)

d. Explain one economic challenge for a country with a population pyramid similar to the one shown.

- ▶ Shrinking workforce
- ▶ Shrinking consumer base
- ▶ Shrinking economy
- ▶ Costs of providing elder services (i.e., Increased health care burdens)

Note: For all challenges, the explanation should include a phrase similar to “because there are many younger and older people, but not many between 16–64 (high dependency ratio).” It is not enough simply to state the challenges; students must explain them.

e. Describe a population policy that could address a possible issue related to the shape of the population pyramid shown.

A pronatalist policy (students may also say “a policy aimed at increasing birth rates” or something similar) such as one that:

- ▶ Provides tax credits for children
- ▶ Pays for childcare
- ▶ Offers flexible work hours
- ▶ Offers maternity leave
- ▶ Has a nationalistic appeal
- ▶ Makes social claims of a happier life with more children
- ▶ Reduces access to contraceptives

Note: Students must describe a policy, not just identify one, to earn credit.

f. Explain the degree to which the scale of the map above may be a disadvantage or advantage in terms of understanding population issues.

- ▶ The country scale can be beneficial because, in contrast to a map at the regional scale (e.g., East Asia), each country typically controls its own policies (population and migration) and those policies will apply to the entire unit.
- ▶ The country scale is a hindrance to understanding population concerns because the country scale does not show variations within the country; for example, urban areas tend to have fewer young children than rural areas (or a lower TFR, RNI, etc.).

Note: An answer that talks about the global scale is not automatically wrong, but since the scale of analysis is at the country level the student must get to that idea for credit.

g. Explain how migration could impact the population pyramid shown.

- ▶ Guest workers or permanent migrants are often of working age, which can then alter the dependency ratio, easing the economic burden, etc.
- ▶ A population pyramid of this shape is typically associated with countries that are NICs (Newly Industrialized Countries) or MEDCs (More Economically Developed Countries), so there will likely be positive net migration, resulting in more people who are of working age.