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| Population Pyramids: A Case Study |
| **AUTHOR INFORMATION** |
| **Author: Lisa M. Waligora**  **State: Texas** |
| **GENERAL INFORMATION** |
| **Lesson Grade Span:** Secondary (9-12)  **Targeted Grade Level/Course:** AP Human Geography, World Geography  **Estimated Time to Complete Lesson:** 2 - 50-minute classes |
| **FOCUSED QUESTION** |
| How and why has the population of South Korea changed in the last 60+ years? |
| **STANDARDS (STATE/C3)** |
| **AP Course Description & Articulation:**  Unit II. Population and Migration  Enduring Understanding: (Students will understand that…) A. Knowledge of the geographic patterns and characteristics of human populations facilitates understanding of cultural, political, economic, and urban systems.  Learning Objective: (Students are able to…) Analyze population composition.  Essential Knowledge: (Students will know that…) Population pyramids are used to project population growth and decline and to predict markets for goods and services.  Enduring Understanding: (Students will understand that…) B. Populations grow and decline overtime and space.  Learning Objective: (Students are able to…) Interpret and apply theories of population growth and decline.  Essential Knowledge: (Students will know that…) The demographic transition model may be used to explain population change over time and space.  Essential Knowledge: (Students will know that…) The epidemiological transition explains causes of changing death rates.  **C3:**  D2.Geo.7.9-12. Analyze the reciprocal nature of how historical events and the spatial diffusion of ideas, technologies, and cultural practices have influenced migration patterns and the distribution of human population.  **Texas Essential Knowledge & Skills (TEKS):**  113.43 World Geography Studies  (c) Knowledge and Skills  (7)  Geography. The student understands the growth, distribution, movement, and characteristics of world population. The student is expected to:  (A)  construct and analyze population pyramids and use other data, graphics, and maps to describe the population characteristics of different societies and to predict future population trends; |
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| 1. Students will interpret population pyramids from South Korea. 2. Students will hypothesize how and why different age and sex groups are changing in the overall population of the country. 3. Students will compare the changes in population data to stages in the demographic transition model (DTM). |
| **LESSON OVERVIEW** |
| South Korea experienced a dramatic and sudden shift in economic and demographic standards during and after the Korean War. Students examining population pyramids for this same time period recognize and correlate the data in order to explain how the population of the country changed and how this impacted South Korea’s standing in the DTM. |

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| **PROCEDURES** |
| POWERPOINT: <https://drive.google.com/file/d/1-zquOFE5PnuziKOKXnmI3_MVDaTdBfZf/view?usp=sharing>  Step by Step Instructions for Educators:  Remember the key to these lesson plans is that they be transferable.  Write so that a teacher could pick this up and know exactly what to do.  \*Note to Teacher: This case study is intended to be used as independent practice in order for students to show mastery of the following concepts:   1. Population Pyramids 2. Demographic Transition Model (DTM) 3. Epidemiological Transition (ET)   after students have been given introductory notes or information and have a clear understanding of population pyramids, the DTM and ET. If your curriculum does not include these last two models, you can edit them out of the assignment easily.  Day 1  **5 Minutes**  Engage Activity: **See, Wonder, Think**: Show students two images from the Inchon area (Slide #3). One is from during the war and the image on the right is a current picture of Inchon at night. Ask: What is going on in these two photographs? Students write down and can later share their observations based on these three questions.   1. What are three things you see… 2. 2 things you wonder about… 3. 1 thing this image makes you think...   Enrichment: **Visual Think Strategies**: This strategy is a teacher-facilitated classroom discussion that is designed to get students to make and support a conjecture with evidence from the image. The questions are:   1. What's going on in this picture? 2. What do you see that makes you say (Quote back to students exactly what they tell you they think is going on in the picture)….? 3. What more can we find?   These prompts help students delve deeper as they share their See, Wonder, Think observations.  **7-10 Minutes**  Review Prior Knowledge: Whole Class Discussion. Use this time to review and check for understanding the terms and concepts Population Pyramid, Demographic Transition Model, and Epidemiological Transition introduced in a previous lesson.  **15-20 Minutes**  Guided Practice: Partner activity for up to 15 partner groups. If your classes are larger than that you can use 3 students, groups of no more than 4 or simply add questions to the assignment so that each team can share at least one answer to their Population Pyramid Questions.  Partners will examine and discuss population pyramids for South Korea for the years 1950, 1960, 1970, 1980, and 1990. (Slides # 6-11) Each pyramid has guiding questions for critical thinking about what these data sets tell us about the population of South Korea during these snapshots over time.  1950 = 1. Korean War starts during this year.  2. Noticeable dent in fighting age men.  3. Answers vary but should reflect war and conflict.  4. Triangular shape which is indicative of DTM stages 1 or 2, etc. Korea was a developing country emerging from the shadows of WWII and Japanese occupation and then civil war erupts. Government and economic instability keep development and recovery down as well as social and medical services. Infant and child mortality is high, life expectancy is low.  1960 = 5. Dent in Males of fighting age is becoming less noticeable but there are still fewer males than females in some age groups while the opposite is true for other age groups.  6. Life expectancy is improving, population growth is slowing down however, infant and child mortality is still high.  7. The pyramid is still very triangular but for the first time, 0-5 is not the largest population group.  1970 = 8. The pyramid looks like it is beginning to invert. The base is getting smaller while child bearing ages appear to be healthier and living longer.  9. Oldest population groups are not changing, indicating they are not living any longer. This could be a result of lagging medical care and recovery from war.  10. Possible causes of death during this time are treatable diseases. Medical intervention and pharmaceuticals could reduce number of deaths especially in the elderly age groups. Public health and sanitation is improving but has not reached all areas and those with weaker immune systems are at highest risk.  1980 = 11. Answers will vary. Students need to include explanations and examples in order to prove their points.  12. The birth rate is declining steadily, base of pyramid is still inverting but there is little to no change at the top of the pyramid.  1990 = 13. The pyramid is becoming rounder and is actually narrower in than in previous decades. This could mean that birth rates are low and stable and life expectancy is rising therefore parents do not need to have multiple children to ensure that any of them survive to adulthood. This should also indicate that both the economy and government are become stable and the economy is probably increasing allowing for more social services.  14. The oldest age group is now at 100+ and while the change is minimal, older people are living longer.  15. The pyramid is rounder indicating a stage 3 is emerging. South Korea looks like it is becoming an MDC (more Developed Country).  **10+ Minutes**  Formative Assessment: Partner/Teams share ideas: As partners, share out what you think are your best answers and findings. Each Population Pyramid and all questions must be addressed. If a group shares something similar to what you and your partner wanted to say, take it off your list.  Day 2  **3-5 Minutes**  Engage Activity: Students write and pass up their notes. Students are encouraged to share any of their thoughts…  **30 – 40+ Minutes**  Independent Practice: Go over directions on PowerPoint and turn students loose to complete work today. If necessary, work can be completed for homework and submitted the next class period or electronically to a classroom learning platform.   * Look at the Population Pyramids for 2000-2045 on your own. * Write out your answers to the guiding questions. * Complete the Findings Report in class today as if you, the testifying expert on South Korea’s Population changes, are addressing a World Summit on Population.   2000, 2010, and 2045 Population Pyramids  10 Guiding Questions will help students think critically about the changes in demographics, Age/Sex Pyramids, DTM, and ET. Students should be encouraged to use other demographic vocabulary such as demographic momentum, life expectancy, demographic statistics, etc. in order to give complete and clear answers to the Guiding Questions and the Findings Report.  The last 10 questions are deliberately more open ended to encourage critical thinking and reasoning skills.  It is at the teacher’s discretion if these 10 questions must be submitted for grading.  \*Note: Findings Report is the product of a prior NEH Workshop and is the intellectual property of Lisa M. Waligora. |
| **FORMATIVE ASSESSMENT** |
| List and explain the different formal assessments that will be used to assess  whether or not students achieved the learning goals (target outcomes).  Assessments in Order of Use:  Formative: See, Wonder, Think and VTS, Student Participation and Teacher Observation  Formative: Whole class discussion as review of major concepts and terms previously learned, Student Participation and Teacher Observation  Formative: Partner Activity Share: Student Participation and Teacher observation  Formative: Entrance Ticket, Student Participation and Teacher observation  Summative: Independent Activity Findings Report for World Summit on Population, Rubric  Summative: Enrichment Activity Read & React, Rubric, Extra Credit, etc..  Please attach rubric as a separate file. |

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| **RESOURCE LIST** |
| Battle of Inchon. (2019, January 06). Retrieved from <https://en.wikipedia.org/wiki/Battle_of_Inchon>  Free Photos and images. (n.d.). Retrieved January 8, 2019, from <https://www.goodfreephotos.com/south-korea/incheon/night-cityscape-in-incheon-south-korea.jpg.php>  North Korea Census Reveals Poor Demographic and Health Conditions. (2018, December 20). Retrieved from <https://www.prb.org/northkorea-population/>  Paulson, T. (2008). *Finite Teaching, Infinite Learning FTIL Writing Rubric*[Secondary Writing Rubric].  TPT Resource edited for classroom use by Lisa M. Waligora, 2018  Population Pyramids of the World from 1950 to 2100. (2018, December 20). Retrieved from <https://www.populationpyramid.net/republic-of-korea/2020/>  See, Wonder, Think: A Routine for Exploring Works of Art and Other Interesting Things. (n.d.). Retrieved December 6, 2018, from <http://www.visiblethinkingpz.org/VisibleThinking_html_files/03_ThinkingRoutines/03c_Core_routines/SeeThinkWonder/SeeThinkWonder_Routine.html>  What's going on in this picture? (n.d.). Retrieved December 6, 2018, from <https://vtshome.org/> |
| **MODIFICATIONS & EXTENSIONS (OPTIONAL)** |
| **MODIFICATIONS**  All content maybe modified for length, complexity, course subject, grade level, etc.  **EXTENSIONS**  Option 1:  Similar data for North Korea is understandably difficult to obtain but students who are interested may certainly make inferences and draw conclusions about what the population pyramids for North Korea might look like. With these hypothetical ideas regarding the population of North Korea, students will also be able to address questions and ideas about North Korea and the DTM and perhaps even the epidemiological transition (ET), or why certain population age groups die.  Option 2: Part of PPT  Delving Deeper  What about North Korea?  What kind of and how reliable do you believe data is from North Korea? Why?  Use the linked article to complete a Read & React Assignment: [**North Korea Census Reveals Poor Demographic and Health Conditions**](https://www.prb.org/northkorea-population/)  \*Note: Read & React is the intellectual property of Lisa M. Waligora, edited from an NEH Workshop lesson. |

Read & React

After reading an assigned text or passage complete this assignment with thoughtful sentences giving examples and explanations. Include academic vocabulary studied in this unit.

Heading:

Name

Class Period

Date

Space

Title (Centered)

Space

Begin Report (do not indent paragraphs)

Space between paragraphs

Format:

1 Page, typed, single space, Times New Roman Font, Size 12

Handwritten – approximately 400-450 words.

Grammar Expectations:

Correct capitalization and basic punctuation is expected. Spell check and grammar check should be used. Please use 3rd person only. Avoid the phrases, ‘In my opinion,…” and “Finally,…”

Read & React Requirements:

Paragraph 1: (Introduction)

Summarize the content of the article or passage. Prove that you understand details such as who, what, when, where, why, and how as they apply to the topic.

Paragraph 2: (Based on Reading)

As you read the text, **explain** how the topic relates to Human Geography. Use as many academic vocabulary words as applicable. These terms should be **bolded** and **highlighted** every time you use them in this paper. You may refer to any data, evidence, graphs, quotes, etc. found in the article. You may quote or paraphrase this data with in text citations. **Explain** the facts as you understand them. Avoid drawing conclusions. Remember, you must **prove** to the reader that you **understand** the article and any correlations to Human geography you describe.

Paragraph 3: (Reactions)

What are your thoughts and reactions to what you have read? Potentially, you will be given a series of prompts or sentence starters to help you begin this paragraph. You must also **prove** that you **understand** the **causes**, **effects**, **consequences**, unintended or not. Make **connections** to the units and lenses we have studied in Human Geography. Use your academic vocabulary wisely and **explain** your reactions to your audience. Do not use 1st person. **Prove** you **understand** the topic and the concepts involved.

Page 2: (MLA 8 Citations)

Page 2 should be your MLA 8 Citations properly documented for the article or text(s)/Sources you have been assigned.

Findings Report

As an Expert Witness, explain your testimony with thoughtful sentences giving examples and explanations. Include academic vocabulary studied in this unit.

Heading:

Name

Class Period

Date

Space

Title (Centered)

Space

Begin Report (do not indent paragraphs)

Space between paragraphs

Format:

1 Page, typed, single space, Times New Roman Font, Size 12

Handwritten – approximately 400-450 words.

Grammar Expectations:

Correct capitalization and basic punctuation is expected. Spell check and grammar check should be used. Please use 3rd person only. Avoid the phrases, ‘In my opinion,…” and “Finally,…”

Findings Report Requirements:

Paragraph 1: (Introduction)

State the case. What will you be speaking about? Give background information and details such as who, what, when, where, why, and how as they apply to the topic.

Paragraph 2: (Findings)

What are your findings? You have a series of questions or a scenario. **Explain** your discoveries in answering these questions. What aspects of Human Geography relate to this topic? Use as many academic vocabulary words as applicable. These terms should be **bolded** and **highlighted** every time you use them in this report. You may refer to any data, evidence, graphs, quotes, etc. that you have been given as part of this assignment. You may quote this data or paraphrase it with in text citations. Stick to the facts as you understand them at this point. Avoid drawing any conclusions in this paragraph. The most important thing to remember is that you must **prove** to the reader that you **understand** the questions or task and the resources you have been given.

Paragraph 3: (Conclusions)

**Analyze** what the information and findings mean. Again you must **prove** you **understand** and can **explain** to someone what your report means to a country, a government, a group of scholars or scientists, school children, a jury, or a journalist, etc. as defined in your assignment. You must know who your audience is and ensure that they will **understand** your report. Use your academic vocabulary wisely and **explain** what your findings mean to your audience. Even though you are **applying** knowledge and drawing a conclusion, do not use 1st person or claim that these findings are your opinion. This is your chance to **prove** to the reader and the grader that you **understand** the topic, the concepts involved, and even the questions asked.

Based on FTIL Writing Rubric © Tara Paulson, 2008

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| Writing Rubric | 9 (96-100) or 8 (90-95) | 7 (87-89) or 6 (84-86) | 5 (80-83) | 4 (76-79) or 3 (70-75) | 2 (66-69) or 1 (60-65) |
| Ideas | 1. Clear Answer  2. Convincing Position  3. Understands Topic, Concepts  4. Evidence  Logical & Supportive | 1. Somewhat Clear Answer  2. States Position  3. General  Understanding  4. Somewhat Logical & Supportive | 1. Partial Answer  2. States Position  3. Limited Understanding  4. Evidence Attempted, Lacks Clarity & Support | 1. Attempts Answer  2.Questionable/Weak Position  3. No Clear Understanding  4. Evidence Random | 1. No Answer  2. Off Topic  3. No Understanding  4. No Evidence |
| Organization | 1. Logical Focus  2. Organized Meaning  3. Flows w/Focus on Content | 1. Focus  2. Organized Meaning for the most part  3. General Flow | 1. Focus Haphazard  2. Organization doesn’t Reinforce Meaning  3. Flow Forces Concentration | 1. Focus Loose  2. Meaning not Reinforced Entirely  3. Flow Inconsistent | 1. No Focus  2. No Organization  3. Lacks Flow |
| Voice | 1. Original & Compelling  2. Purposeful  3. Enthusiastic | 1. Somewhat Compelling  2. Purposeful  3. Interested | 1. Credible  2. Purposeful  3. Moderate Contains contractions, etc. | 1. Lackluster  2. General Purpose  3. Bored (Slang, Contractions, etc.) | 1. Boring/Stale  2. No Purpose  3. No voice (Slang, txt language, etc. |
| Word Choice  & Style | 1. Sophisticated Lang  2. Active Verbs  3. Academic Vocab  4. 3rd Person  5. Complex Sentences  6. Straightforward | 1. Educated Lang  2. Active Verbs  3. Natural Vocab  4. 3rd Person  5. Complex w/ Some Awkwardness  6. Straightforward | 1. General Lang  2. Mixed Verbs  3. Forced Vocab  4. Mostly 3rd Person  5. Complex & Simple Sentences  6. Some Fluff | 1. Sophisticated Lang  2. Passive Verbs  3. Generic Vocab  4. Mixed Person  5. Awkward Sentences  6. Fluff | 1. Sophisticated Lang  2. Active Verbs  3. No Vocab  4. 1st Person  5. Simple Sentences  6. Talking in Circles |
| Conventions | 1. All Mechanics Good  2. No Repetition  3. No Awkward Phrasing | 1. Most Mechanics Good  2. Some Repetition  3. Some Awkward. | 1. Mechanical Errors  2. Repetition  3. Awkward Phrasing | 1. Mechanical Errors  2. Repetition  3. Several Awkward Phrases | 1. All Mechanics Good  2. All Repetitive  3. Awkward |
| Format | 1. Correct Heading  2. Original Title  3. 1 Page Typed  4. Times New Roman  5. Font 12  6. MLA 8 | 1. Correct Heading  2. Original Title  3. 1 Page Typed  4. Times New Roman  5. Font 12  6. MLA 8 | 1. Correct Heading  2. Unoriginal Title  3. Length Off  4. Times New Roman  5. Font 12  6. MLA 8 | 1. Correct Heading  2. Unoriginal Title  3. Length Off  4. Wrong Font or Size  6. Incorrect MLA 8 | 1. Incorrect Heading  2. Unoriginal Title  3. Length Off  4. Not Typed  5. No MLA 8 |