

Instructional Recipe

Do Too Many People Live in the Planet?

High School: World Geography

Step 1 – Ask

Objectives: Students will analyze the growth rate of the world population from 1950 to the present. They will compare and contrast population growth in developing and developed countries. They will make predictions for the year 2050 and take into consideration factors other than birth and death rates (i.e., epidemics, war, famine, migration, life expectancy).

Introduction: Population change is a very important and complex global issue. The global population reached one billion in 1804. In 1927, some 123 years later, it passed two billion. Sixty years later, in 1987, the world population was five billion, and 12 years later, in October 1999, it reached an estimated 6 billion. It is expected to grow by another billion in early 2010 and to 9 billion by 2042. Yet, if the world's people were put together into families of four living on 50' by 100' lots, they could all live in the state of Texas, with more than seven thousand square miles leftover. Some authors and scientists predict a catastrophe in the near future, while others are more optimistic.



Ask:

- ★ How has global population changed in the last 50 years?
- ★ Will the population continue to grow at the same rate indefinitely?
- ★ What factors affect population growth?
- ★ How does population growth compare in developing and developed countries?
- ★ What trends are forecast in the next 25 to 50 years?

Vocabulary:

- ★ population density
- ★ birth rate
- ★ death rate
- ★ fertility rate
- ★ age pyramid
- ★ developed countries
- ★ developing countries

World Geography TEKS:

(7) Geography. (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 growth trends; (B) explain the political, economic, social, and environmental factors that contribute to human migration such as how national and international migrations are shaped by push-and-pull factors and how physical geography affects the routes, flows, and destinations of migration; (C) describe trends in past world population growth and distribution; and (D) develop and defend hypotheses on likely population patterns for the future.

(21) Social studies skills.

(A) use historical, geographic, and statistical information from a variety of sources such as databases, field interviews, media services, and questionnaires to answer geographic questions and infer geographic relationships

(23) Social studies skills. (A) plan, organize, and complete a group research project that involves asking geographic questions; acquiring, organizing, and analyzing geographic information; answering geographic questions; and communicating results; (B) use case studies and geographic information systems to identify contemporary geographic problems and issues and to apply geographic knowledge and skills to answer real-world questions; (C) use a problem-solving process to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution; and (D) use a decision-making process to identify a situation that requires a decision, gather information, identify options, predict consequences, and take action to implement a decision.

English Language Arts (English I, II, III, and IV)

(20) Research/Research Plan.

(B) formulate a plan for engaging in research on a complex, multi-faceted topic.

(21) Research/Gathering Sources.

(A) follow the research plan to compile data from authoritative sources in a manner that identifies the major issues and debates within the field of inquiry;

Step 2 – Investigate

EBSCO Resources:

- ★ National Rankings by Population, Area, Population Density, 2008. World Almanac & Book of Facts, 2009, p1034-1034, 1p, 1 chart; (AN 44743564)
<http://search.ebscohost.com/login.aspx?direct=true&db=voh&AN=44743564&site=src-live>
- ★ The Planet's Lopsided Growth. By: Motavalli, Jim. E Magazine: The Environmental Magazine, Nov/Dec2006, Vol. 17 Issue 6, p29-29, 1p; Reading Level (Lexile): 1040; (AN 23023936)
<<http://search.ebscohost.com/login.aspx?direct=true&db=mih&AN=23023936&site=src-live>>
- ★ The financial perils of world's ageing populations . Irish Times, 02/23/2007; (AN 9FY1605895660)
<<http://search.ebscohost.com/login.aspx?direct=true&db=nfh&AN=9FY1605895660&site=src-live>>
- ★ World population will increase by 2.5 billion by 2050; People over 60 to increase by more than 1 billion. M2PressWIRE, 03/14/2007; (AN 16PU466461479)
<<http://search.ebscohost.com/login.aspx?direct=true&db=nfh&AN=16PU466461479&site=src-live>>

Additional Websites:

- ★ Gapminder - <http://www.gapminder.org/>. Choose Gapminder World and see population growth over the past centuries.
- ★ U.S. Census Bureau: World Population Information at <http://www.census.gov/ipc/www/idb/>
- ★ World Population Day at <http://www.unfpa.org/wpd/>
- ★ The United Nations Population website at <http://www.un.org/esa/progareas/pop.html>
- ★ Population Dynamics by Country, Religion, or Ethnicity at www.overpopulation.org (includes a link to population pyramids)

Step 3 – Create

Using information from the above resources and EBSCO country reports, students will identify causes and consequences of population growth (or decline) in 10 countries of their choice. The countries listed should be representative of all continents, and should include both developing and developed countries. Information should include:

- ★ Current population
- ★ Growth rate
- ★ Life expectancy
- ★ Main causes of death
- ★ Infant mortality rate
- ★ Literacy rate
- ★ Density of population
- ★ Critical issues (i.e., famine, war, epidemics, immigration)

🔗 **Technology Link** – Students may create a table (i.e. Word or Excel) to compare both groups of countries, and countries within each group.

(B) organize information gathered from multiple sources to create a variety of graphics and forms (e.g., notes, learning logs); and (C) paraphrase, summarize, quote, and accurately cite all researched information according to a standard format (e.g., author, title, page number).

(22) **Research/Synthesizing Information.** (B) evaluate the relevance of information to the topic and determine the reliability, validity, and accuracy of sources (including Internet sources) by examining their authority and objectivity; and (C) critique the research process at each step to implement changes as the need occurs and is identified.

(23) **Research/ Organizing and Presenting Ideas.** (A) marshals evidence in support of a clear thesis statement and related claims; (B) provides an analysis for the audience that reflects a logical progression of ideas and a clearly stated point of view; (C) uses graphics and illustrations to help explain concepts where appropriate; (D) uses a variety of evaluative tools (e.g., self-made rubrics, peer reviews, teacher and expert evaluations) to examine the quality of the research; and (E) uses a style manual (e.g., *Modern Language Association, Chicago Manual of Style*) to document sources and format written materials.

(25) **Listening and Speaking/Speaking.** Students speak clearly and to the point, using the conventions of language. Students will continue to apply earlier standards with greater complexity. Students are expected to advance a coherent argument that incorporates a clear thesis and a logical progression of valid evidence from reliable sources and that employs eye contact, speaking rate (e.g., pauses for effect), volume, enunciation, purposeful gestures, and conventions of language to communicate ideas effectively.

Technology Application TEKS:(4)

Information acquisition (B) apply appropriate electronic search strategies in the acquisition of information including keyword and Boolean search strategies

(6) **Information acquisition** (B) resolve information conflicts and validate information through accessing, researching, and comparing data

(7) **Solving problems** (A) plan, create, and edit documents created with a word processor using readable fonts, alignment, page setup, tabs, and ruler settings. (G) integrate two or more productivity tools into a document including, but not limited to, tables, charts and graphs, graphics from paint or draw programs, and mail merge

(11) **Communication** (A) publish in a variety of ways including, but not limited to, printed copy, monitor display, Internet documents, and video

Step 4 – Discuss

You belong to a panel of experts and have been chosen to present your conclusions regarding world population trends and predictions for the future to the United Nations. Information needs to be based on your own research and data analysis. Present your information and make recommendations on how to improve current conditions.

🔗 **Technology Link** – Students may write a persuasive essay, prepare a speech, or create a video documentary using video editing software (i.e., Windows Movie Maker, iMovie) and images from the EBSCO Image Collection as well as other authoritative websites.

Extensions:

Students may discuss the questions below in the form of a debate, an essay using persuasive writing, or a documentary from a journalist point of view.

1. China has received a lot of criticism from Western countries regarding its population control law that prohibits women to give birth to more than one child. In your opinion, is this ethical? What might be some alternatives to this type of birth control?
2. Is it preferable to have a large global population and live frugally, or to have a small population and live more comfortably? Are there alternatives to these extremes?
3. Developed countries have smaller growth rates than developing countries. Do developed countries impose their views and way of life on developing countries? How? Could these impositions create hostility toward developed countries?

Step 5 – Reflect

The final student project should be graded according to how well all steps of the Big 6 were followed, quality of the content, and answer to the inquiry question. The accuracy of information is critical. Vocabulary words should be carefully chosen, and grammar rules followed. All sources must have proper citation. The final project must also be aesthetically pleasing.

Make sure that the students are familiar with the rubric *before* they begin creating their project. They should refer to the rubric repeatedly to monitor their progress in creating their project. Allow students to present their projects to the rest of the class.

🔗 **Technology Link:** You can also create your own rubric with your students at <http://rubistar.4teachers.org/index.php>.

Persuasive Writing Rubric

CATEGORY	4	3	2	1
Focus	Position is clear and consistent with well-chosen reasons and/or examples	Position is clear and supported with some relevant reasons and/or examples	Takes a position and provides uneven support	Takes a position, but essay is missing supportive evidence
Organization	Focused and well organized with effective use of transitions	Well organized but may lack some transitions.	Overall organized but has few or no transitions among sections.	Disorganized or unfocused in much of the essay OR is clear, but too brief.
Sentence Fluency and Word Choice	Variety in sentence structure and word choice	Some variety in sentence structure and good word choice; occasionally, words may be used inaccurately	Most sentences are well constructed but have similar structure; word choice lacks variety	Sentence structure is too simple; some word choices are inaccurate
Conventions	No errors in grammar, spelling, and punctuation	Few errors in grammar, spelling, and punctuation, but they do not interfere with understanding.	Errors in grammar, spelling, and punctuation sometimes interfere with understanding.	Errors in grammar, spelling, and punctuation interfere with understanding in much of the essay.

Speech Rubric

CATEGORY	4	3	2	1
Introduction	Grabs the attention of the audience, clearly identifies the topic and previews the rest of the speech	Somewhat grabs the attention of the audience and clearly identifies the topic.	May not grab the attention of the audience, but at least indicates what the speech will be about.	Introduction does not indicate what the speech will be about.
Use of Language	Excellent choice of words that contributes to the effectiveness of the speech; vocalized pauses are not distracting	Good choice of words; vocalized pauses are not distracting	Choice of words is acceptable; vocalized pauses are frequent	Choice of words is poor; vocalized pauses (i.e. uh, um) are frequent and distracting
Eye Contact	Makes eye contact with the audience basically all the time	Makes eye contact with the audience 75% of the time	Makes eye contact with the audience between 50 and 75% of the time	Makes eye contact with the audience less than 50% of the time
Clarity	Speaks clearly all the time, neither too quickly nor too slow	Speaks clearly all of the time except for one or two mispronounced words	Speaks clearly most of the time; no more than one hesitation	Often hesitates or mumbles; difficult to follow
Enthusiasm	Facial expressions and body language convey strong enthusiasm, confidence and knowledge on the topic	Facial expressions and body language Sometimes convey enthusiasm, confidence and knowledge on the topic	Facial expressions and body language sometimes show enthusiasm and other times show hesitance	Facial expressions and body language show lack of self-confidence, hesitance, and lack of knowledge
Voice	Voice is clear and uses appropriate variance in pitch, rate, and volume	Voice is clear and uses much variance in pitch, rate, and volume	Voice is clear and uses some variance in pitch, rate, and volume	Voice is monotonous; memorization of the speech is very evident
Conclusion	Summarizes main points of the speech and brings closure	Cues the audience and brings closure	Brings closure	Closure is not evident and audience is left hanging
Time	Within the allotted time	Within 10% of the allotted time	Within 20% of the allotted time	Did not finish or forgot parts of the speech