

GDP and Standard of Living

April Higgins

Introduction/Rationale

My school, like schools all over the country, serves a diverse population of students. Skyline Middle School consists of students from Pike Creek and Wilmington in northern Delaware, where I teach four sections of sixth-grade social studies. The students come from diverse backgrounds and cultural groups, including African American, Asian American, Caucasian, Hispanic, and low income. This diversity poses challenges in planning and implementing lessons to meet the needs of each child. It is, therefore, imperative that my lessons are student-centered and employ a variety of teaching strategies, especially since we will be moving to 90-minute block classes this year.

In my school district, as well as far too many others, social studies education is not at the forefront. With standardized testing focused on math and English, the social studies and science curriculums have become secondary in importance. In my conversations with elementary teachers, I learned that most of the instructional time in the elementary classroom is devoted to math and English instruction. This makes sense as the incentives for teaching these subjects are high because school and teacher ratings are based upon the standardized test scores of students in these areas. At my school in particular, the supports for social studies and science have been moved to the math and English departments. As a result, the social studies and science departments face higher class sizes, broader ranges of student abilities, and fewer resources inside and outside the classroom. For these reasons, my aim is to create a unit that illustrates the importance of social studies in the implementation of Common Core English Language Arts Standards and provide an example of social studies instruction supporting the goals of the ELA department.

In Delaware social studies classes, we are required to follow the Delaware Recommended Curriculum. Curricular units have been created for most of the Delaware content standards to ensure the rigor of the classroom discussions, activities, and assessments in achieving the standards. The unit I propose will extend a district-mandated unit of study focusing on economic systems. The mandated unit is based on the three basic economic questions: what to produce, how to produce, and for whom to produce. The unit involves activities that discuss how culture and economic systems impact the economic activities of countries throughout the world. This unit will be an extension to the last lesson of the Delaware Recommended Curriculum unit. Currently, the lesson teaches the students the connection between productivity and standard of living

without having the students analyze any economic data. With this extension to the mandated unit, I hope to make the ideas of productivity, standard of living, and GDP per capita less abstract and more concrete by having the students actually investigate the data and what is behind it.

Essential Questions

What is economic data and how is it used?

How is economic data used to express a country's standard of living?

How do countries increase their standard of living?

What are the costs and benefits to using economic indicators?

Background

Reading Economic Data

Many students, and most people, tend to take statistics at face value; they have a false sense that when information is expressed with numbers it is accurate and authoritative. Numbers give us the feeling that when there is a number attached to a claim, we can take it as truth. For whatever reason, people tend to trust numbers and assume that they are unbiased and objective. But this is a misconception; numbers have problems! It is important to look more critically at numbers to have an understanding of how society really works.¹ The first basic point to consider is that numbers are collected and expressed by people. They are based on numerous decisions all of which impact the final number. The processes by which people construct and express numerical values is social construction. According to Jerome Himmelstein in "How the Mass Media Use Numbers to Tell a Story: The Case of the Crack Scare of 1986," "Studying social construction involves examining how researchers produce numbers and select them for the media, how the media report those numbers, and how the media use them to depict a social problem or discuss an issue."² It is important to remember that people create numbers. So how data are collected and then applied has to do with the culture and perception of people. Data, like history, is constructed knowledge; constructed by people.

The ability to work with data presented numerically is known as quantitative literacy. It involves the various daily uses of numbers in our everyday lives. The context of this type of data is what makes quantitative literacy different from mathematics. To understand data, a learner must look at why the data were collected and what choices went into collecting the data. The students should be encouraged to think about the choices a researcher makes when organizing and expressing the data too. The display and graphic design of the data plays a role in its interpretation. According to Wills and Atkinson in "Table Reading Skills as Quantitative Literacy," "This is the type of quantitative scrutiny an informed person needs to participate in debates about policy, business, or education where decisions are based on numerical outcomes-the results of

which are used to claim success and confirm failure.”³ In short, quantitative literacy helps students in their academic and personal lives.

The ultimate goal of education is to create active citizens who can participate in civic discussions and play active roles in their communities. Economic data is used to make community, state, and federal decisions. In this way politics and economics are deeply connected. Politicians and governments are judged based on the health of the economy. Early economists even used the term “political economy” to describe their work. Many economists believe that the relationship goes back and forth: politics influence the economy and the economy influences politics. The core of economics basically deals with choices and competition where the decision-making is based on social and political goals. Some economists claim that “market forces” determine what ideas and policies predominate. In reality, the market is, according to Jim Stafford in *Economics for Everyone*, “itself a social institution where some people’s interests are enhanced at the expense of others.” When studying economics and using economic indicators, we must keep in mind that this field of study has its flaws. The information expressed by economists reflects bias, opinions, and preconceptions.⁴

When analyzing economic data, we ought to be aware of a few items. One important point to consider when looking at economic data is that what is excluded is as important as what is included. It is essential to look at the implications of combining numbers and categorizing them. Data needs to be located in a larger context.⁵ This context includes the combination of testimonials, narratives, and interviews that surround the issue. Many times the coverage is focused on the most extreme cases and rarely on the average. The focus is on the most extreme or compelling case that can exaggerate the issue.⁶ Second, statistics can be presented in misleading ways by using “impressive formats” like large percentages or proportions and absolute numbers that are usually rounded up. Another misleading method has to do with the sample used to collect the information. For the most part, data is collected on a small sample of people or cases and projected to the larger population. According to Joel Best in his book *Stat-Spotting: A Field Guide for Identifying Dubious Data*, “The key question with sampling is whether the sample is representative of the larger population. Statistical generalizations based on a biased sample won’t be accurate.” Finally, “convenient time frames” can be used to show unusual trends when taken out of the larger context of time. According to Best, “It may be possible, by judiciously choosing their time frame, to make the data seem to support their claims more strongly.”⁷

Standard of Living

The first economic indicator that the students will work with is standard of living. The standard of living is primarily used to track changes over time in an economy and as a basis of comparison between countries. It is a measure of our economic wealth, the materials we buy, use, and consume. It also includes the capital goods we invest in to

allow for further production in the future.⁸ According to Gregory Mankiw in *Principles of Economics*, “The differences in living standards are staggering. In 2006, the average American had an income of \$44,260. In the same year, the average Mexican earned \$11,410, and the average Nigerian earned \$1,050. Not surprisingly, this large variation in average income is reflected in various measures of the quality of life.”⁹ The major difference between countries with a high standard of living and those with a lower standard of living has to do with productivity. With technological improvements, the productivity of many countries has allowed their people to enjoy productivity growth, thus increasing their standard of living. Policy makers interested in increasing the standard of living in a country work to improve productivity. The productivity of workers can be increased through investments in training, healthcare, and education. Productivity can also be increased through investments in capital goods like technology.¹⁰

Government policies can influence the productivity of a nation. Allowing economic freedom, encouraging trade and investment, promoting healthcare and wellness, and maintaining national security and stability can all assist in economic growth.¹¹ Economic growth in the modern world has been tremendous. This is explained in “Standards of Living and Modern Economic Growth”, “In the most successful countries, the average citizen now enjoys a material standard of living that would have made the great kings of two hundred years ago turn green with envy.” When comparing the material wealth of the nations of today to their wealth a few decades ago, people today live in places with cleaner water, more advanced medical care, greater access to communication technology, and transportation. Most of this growth can be attributed to the industrial revolution.¹² This movement from an agricultural-based to industrial-based economy improved the availability of goods and services in the United States and countries throughout the world. Our modern post-industrial revolution has led to the introduction of mass production of goods, the development of credit markets, numerous advances in technology related to communication and commerce, increased global consumerism, improved computerization, and the consistent influx of new products due to mechanical and technological advancements.¹³

Improved health and living conditions have led to longer, healthier lives of people throughout the world. Immunizations and improved water sanitation have allowed people to enjoy longer lives. Life expectancy is the average number of years a person is estimated to live based on the region and time period of their birth. Life expectancy is used as a measure of the quality of life in a region. A listing of the life expectancies of the countries of the world can be found using the *CIA World Factbook*.¹⁴

The United States is one of the world’s richest countries. Gregory Mankiw explains, “The average income in the world’s richest countries is more than ten times that in the world’s poorest countries.”¹⁵ In general, the United States has grown in per capita income over the past two centuries. On average, per capita income has increased by almost 2% each year. With increases in per capita income, more goods and services are available

creating improved wellbeing. Improvements include better food quality, water cleanliness, and a decrease in infant mortality.¹⁶ Not only has there been an increase in productivity in producing goods and services, but also the amount and quality of the goods and services have increased tremendously. For example, medications and medical treatments have become more abundant and more affordable. These improvements have led to longer and healthier lives.¹⁷

When looking at data about a nation, it is the social structure and context that give the data meaning. Standard of living is complex; it involves the values, goals, and beliefs of a society. As the goals of the society change, their beliefs about living standards will also change to reflect their values.¹⁸ There are varying views on exactly what comprises a nation's standard of living. According to Clair Brown, in *American Standards of Living*, "Every society's view of its standard of living necessarily reflects an underlying web of social values, which include equity, maintenance of class structure, cohesiveness, well-being of the poorest, individual rights, competitiveness, global power, and growth."¹⁹ According to Amartya Sen, "There are many fundamentally different ways of seeing the quality of living, and quite a few of them have some immediate plausibility. You could be *well off*, without being *well*. You could be *well*, without being able to lead the life you *wanted*. You could have got the life you *wanted*, without being *happy*. You could be *happy*, without having much *freedom*. You could have a great deal of *freedom*, without achieving much."²⁰

Calculating Standard of Living

Standard of living is primarily expressed using GDP per capita. Deborah Figart, in *Living Standards and Social Well-Being*, argues that standard of living can be more accurately measured by looking at five indicators: life expectancy at birth, adult literacy rate, net primary school enrollment rate, under-5 survival rate, and birth attended by skilled health personnel. She believes that when combined with GDP per capita, these indicators would be a clearer method to compare the standard of living of nations across the globe.²¹

GDP Explained

The next economic indicator that the students will explore in this unit is GDP. As mentioned earlier, GDP is used around the globe to estimate the amount earned or spent in a country. GDP is a measure of a country's output or the quantity of goods and services produced, it is a measure of all of the goods and services produced in an economy where money is exchanged. GDP is the most frequently used of the various economic indicators to measure the economy, it gives information on the size and performance of an economy. Governments use the data collected by economists to make policy decisions related to spending, saving, and debt. Year-to-year GDP calculations allow governments to make short term and long term plans.²² The use of GDP is widely debated. According to Mell and Walker in *Rough Guide to Economics*, "For better or

worse, GDP is often used as the litmus test of whether ‘the economy’ is growing or shrinking, and so is also used as the ultimate arbiter of whether the government’s economic policies are successful or not. That GDP should be the arbiter of whether we are better or worse off is not uncontroversial.”²³ The controversy around GDP has to do with its origin, what it does and doesn’t measure, and its uses.

The figure we know as GDP was not designed to be used as it is today. It became widely popular around the time of WWII. GDP had its basis in a wartime economy, measuring the production related to destroying and rebuilding cities. Many question why GDP is still the default measure especially as our cities and economics today have completely different needs and goals than in the 1940s.²⁴ GDP has become such a widely used indicator because it has such a long history that allows for comparisons across longer time frames. GDP estimates similar to what we use today were not prevalent until the 20th century and this was due to wartime governments needing to have accurate calculations of their wealth. After WWII, governments made producing numbers like GDP an important function of their position.²⁵

GDP data are collected and presented by the American Bureau of Economic Analysis using several surveys of companies, retailers, and financial flows. The first estimates are released based on the best data available and revisions are made as more data is collected.²⁶ There are two general ways to calculate GDP: expenditure or income. The expenditure method measures consumption or the amount of money consumers spend on goods and services. The income method measures the value that firms pay to the labor market and the amount that firms pay back to the households (stockholders) for the use of capital machinery.²⁷ These methods both pose a problem as many activities within an economy take place without the exchange of money and are, therefore, not counted towards a country’s GDP.

Economists and policy makers debate over what is and is not calculated and expressed in GDP figures. They basically question whether GDP can be an accurate measure of well being based on how the data is collected. GDP is calculated using a value added system. The measure is based on the market value of all goods and services bought and sold. This includes only finished products to ensure that raw items and supplies are not counted twice. An area of economic activity that should not, and is not, included in GDP are second-hand goods. GDP is used to calculate what is actually produced in an economy in a year so if a used item was sold, this would mean that the same item would have been counted twice.²⁸ With the value added system, community services, donations, volunteer work, and household chores and childcare don’t count toward a country’s GDP unless individuals or businesses are hired to do the work. Caring for children and elders where money is not exchanged is not counted even though it adds to human well-being. Problems with using GDP as a sole economic indicator is that it does not calculate the value of work performed that does not involve a monetary exchange so a country can actually be more productive than the indicator shows. Due to social roles and culture,

many times GDP does not fully take into consideration the contribution of women.²⁹ GDP also does not make any notion of environmental damages and only looks at construction, not destruction of regions.³⁰

In reality, some things counted toward a country's GDP are actually counterproductive, not really adding to its well-being. According to Mell and Walker in *The Rough Guide to Economics*, "A large chunk of GDP is a result of spending either to undo the damage of crime and other social problems or to prevent it from happening (to you) in the first place. These kind of expenditures are called defensive expenditures because they do not actually raise anyone's standard of living, but rather just keep it where it is." So GDP includes spending on locks, security lights, police protection, and alarm systems but not many of the activities performed in our communities that help others. Many economists agree that GDP has its problems and limitations but for the most part, it is the best measure currently available.³¹ According to Jim Stafford in *Economics for Everyone*, "So we must be cautious in our use of GDP statistics, and we must never equate GDP with prosperity or well-being."³²

Multiple Forms of GDP

Knowing the problems that exist with GDP figures, economists have developed various forms of GDP to minimize distortions. But whether people use the proper indicator varies. Mell and Walker explain, "It is actually fairly easy to construct, for GDP, statistics that control for these problems but some less scrupulous people might deliberately compare countries without making the requisite adjustments to GDP, because doing so would get in the way of the point they want to make."³³ So to sensationalize growth or decline, the media may highlight an indicator like real GDP where per capita GDP may have more correctly explained the growth or decline.

When using GDP as a basis of comparison from year to year or country to country, there are a few things to consider. First, GDP can look like it is increasing during periods of inflation. Inflation simply means a general price increase of the goods and services in an economy. This does not mean that more goods and services are actually being produced and used; they just cost more. To correct for inflation, GDP can be defined in two ways: nominal GDP and real GDP. Nominal GDP is expressed using the actual amount where real GDP is adjusted for inflation. (I differentiate between the two by the following- real GDP gives you the "real deal" since it is adjusted for inflation.) Real GDP gives you a better idea of what is actually going on. Economic growth is usually calculated using real GDP as opposed to nominal GDP.

Second, problems arise when people use GDP to compare countries. For example, when comparing well being from one country to another, it is more beneficial to look at GDP per capita. This measure is the result of dividing a country's GDP by its population. This measure shows the amount of people among whom the income must be shared.

When comparing two countries in the area of production efficiency, GDP per worker would give a sense of how efficiently resources are being used. GDP per worker would remove children, the unemployed, and retired individuals from the data. Another problem in comparing countries based on their GDP is the exchange rate. Since countries use differing currencies, it is difficult to compare prices from one economy to another. Instead of using exchange rates, GDP can be translated from one currency to another using purchasing power parity. This measure gives an idea of the true cost of living in an economy. The purchasing power parity (PPP) figure is attained by calculating the value of a “basket of goods” that most people buy and consume.³⁴

It is important for policy makers and global citizens to understand the multiple forms and weaknesses of GDP so that decision-making is not based on false inferences based on what the data might imply. GDP, when combined with other indicators, can be a more accurate picture of a society.³⁵

Alternatives to GDP

Replacing GDP with another measure is not as easy as it sounds. The collection of data to make comparisons across countries and over time poses many problems. A benefit to the use of GDP is that it is calculated using tax records and even in the ancient world, governments tended to keep accurate records of tax transactions.³⁶ Other options do exist, options to look beyond just wealth. According to Nic Marks in his piece, “GDP RIP (1933-2010),” “If we are to propose a new measure of national progress to replace the ailing GDP, then we must first be clear about the sort of society we are seeking to progress towards. This does not have to be a utopian ideal but instead a vision of goals for society that are congruent with the issues that we face today.”³⁷

The Index of Sustainable Economic Welfare is an alternative to GDP that is calculated by subtracting items not regarded as providing economic utility, such as defensive expenditures, from goods and services deemed to provide economic utility.³⁸ Another alternative to GDP is Happiness Economics, according to Mell and Walker, “The policy implication is that in order to make people happy, once a basic threshold level of income has been reached, governments should switch their focus from GDP to the other factors that influence happiness.” Once a family reaches a level of income where their subsistence needs are met and they have the means to support most of their wants and they feel comfortable and secure. More income or money won’t have such a large impact on their overall happiness.³⁹

Teaching Strategies

Vocabulary

To prepare the students for the unit I will conduct a knowledge rating on the major unit vocabulary words and concepts. The vocabulary knowledge rating is a before-reading strategy designed to evaluate students' prior or background knowledge of a topic or concept. Students are given a list of words related to the topic or concept and rate how well they know each term. Rating scales can help students to actively look at and be aware of new vocabulary and help to activate prior knowledge. By identifying terms students do not know well the teacher will be better able to prepare students for reading, viewing, listening and discussing the new topic or text. This will also allow the teacher to assess the students' prior knowledge. For the knowledge rating, the students will be given a graphic organizer listing the vocabulary words for the unit. The categories of the knowledge rating include: "I have never seen this word before," "I've seen this word but I don't really know it," "I think this word means..." and "I know this word and can use it in a sentence."

Before beginning any of the activities, I will pre-teach the unit vocabulary. This ensures that all of the students will understand the conversations taking place in the classroom, especially when we are using new and unfamiliar vocabulary. For the explicit vocabulary instruction the students will use a different graphic organizer to write the term, definition, real-life example, and draw an example or memory trick. The vocabulary chart can be revisited throughout the unit as students refine their understanding of the terms.⁴⁰

Close Reading

To meet the Common Core State Standards, my school district is working to add more close readings to the units currently taught in English and social studies. Close reading is a technique used to teach students to carefully study a piece of writing by reading it several times, each time looking for a different bit of information. The process begins with a hook; usually the teacher asks the class a question or gives some background information. Then the teacher explains the close reading technique to the class. The students complete the first reading of the text independently and fill in a graphic organizer related to vocabulary and their understanding of the content. The second reading is done aloud by the teacher. While the teacher reads, the students are directed to listen and look for the central ideas of the text. Next, the students answer a series of text-dependent questions with a partner. To check for accuracy, the teacher conducts a whole-class discussion of the questions and passage.⁴¹

Exit Ticket

An exit ticket is a teaching strategy used to assess the students' understanding of a concept, determine if the students can transfer the lesson objectives to a new situation, emphasize the key points of the lesson, or extend the lesson's content. Exit tickets are usually brief and collected at the end of the class period. They are most typically used as

a formative assessment, helping the instructor to determine a course of action for the learning activities that are in the near future.⁴²

Activity 1: Preparing for the Unit

Essential Question: What is economic data and how is it used?

Step 1: Knowledge Rating

Present the chart, figure 1, to the students without any instruction related to the terms. The students should rate each term based on how comfortable they are with them. Tell the students to be as honest as possible as you will use their answers to determine how much time you will need to spend on each of the vocabulary words. It is important to explain to the students that this is an important step in the learning process, they have to be aware of what they don't know so they can focus their learning.

Concept	I have never seen this word before.	I have seen this word before but I don't know what it means.	I have seen this word before and I think it means:	I know this word and can use it in a sentence:
economic data				
GDP				
GDP per capita				
infant mortality				
life expectancy				
literacy rate				
poverty rate				
productivity				

standard of living				
economic data				

Figure 1

Step 2: Learning Map

Next, before any instruction takes place, share the learning map, figure 2, with the students. This will provide them with an overview of the key unit concepts. Sharing the Learning Map with students can help them to be more active participants in their learning. I always give the students a copy of the document to keep in their binders so we can “check” items off as we go. With the Learning Map you can have conversations with the students on exactly what they are expected to know as the unit progresses. You can also use it to have students self-assess. At the end of the unit, or after particular lessons, you can discuss the essential questions and concepts to see if the students have mastered them.

Curriculum Unit Title		GDP and Standard of Living		Author	April Higgins
KEY LEARNING, ENDURING UNDERSTANDING, ETC.					
Economics Standard 3 (6-8): Students will demonstrate the ways in which the means of production, distribution, and exchange in different economic systems have a relationship to cultural values, resources and technologies.					
ESSENTIAL QUESTION(S) for the UNIT					
What is economic data and how is it used? How is economic data used to express a country's standard of living? How do countries increase their standard of living? What are the costs and benefits to using economic indicators?					
CONCEPT A		CONCEPT B		CONCEPT C	
Looking at Economic Data: What the World Eats		Increasing Productivity		Costs and Benefits of Economic Data	
ESSENTIAL QUESTIONS A		ESSENTIAL QUESTIONS B		ESSENTIAL QUESTIONS C	
How is economic data used to express a country's standard of living?		How do countries increase their standard of living?		What are the costs and benefits to using economic indicators?	
VOCABULARY A		VOCABULARY B		VOCABULARY C	
economic data GDP GDP per capita infant mortality life expectancy		literacy rate poverty rate productivity standard of living		productivity standard of living labor cost benefit GDP	
ADDITIONAL INFORMATION/MATERIAL/TEXT/FILM/RESOURCES					
<i>What the World Eats</i> Photo Gallery http://menzelphoto.photoshelter.com/gallery/Hungry-Planet-Family-Food-Portraits/G0000zmgWvU6SiKM/C0000k7JgEHbEq0w CIA World Factbook database https://www.cia.gov/library/publications/the-world-factbook/ John F. Kennedy Presidential Library http://www.jfklibrary.org/Research/Research-Aids/Ready-Reference/RFK-Speeches/Remarks-of-Robert-F-Kennedy-at-the-University-of-Kansas-March-18-1968.aspx					

Figure 2

Step 3: Direct Vocabulary Instruction

Use the chart below, figure 3, to explicitly teach the unit vocabulary. This helps to ensure that all of the students have the necessary vocabulary to participate fully in the unit activities and classroom discussions; this is especially helpful for struggling learners and English language learners. Have the students use the definitions to complete the graphic organizer, figure 4, which can be used throughout the unit for quick reference.

Term	Definition
economic data	Data used to describe economic activity
GDP	The market value of all final goods and services produced within a country in a year
GDP per capita	GDP divided by the number of people living in an economy
infant mortality	The death of a child less than 1 year old per 1,000 births
life expectancy	The average number of years a human lives
literacy rate	The ability to read and write at a specified age
poverty rate	The percentage of the population whose family income falls below a level set by the federal government
productivity	The quantity of goods and services produced from each worker
standard of living	Level of goods and services available

Figure 3

Word	Definition	Real-Life Example	Drawing
economic data			
GDP			
GDP per capita			
infant mortality			
life expectancy			
literacy rate			
poverty rate			
Productivity			
standard of living			

Figure 4

Activity 2: What the World Eats & Economic Indicators

Essential Question: How is economic data used to express a country's standard of living?

Step 1: Activate Prior Knowledge- Images

To activate prior knowledge, lead a discussion around the following questions, "What can you learn about people by looking at a photo of them? What can you learn about a family by studying the food they eat?" For the first question the students should identify items such as culture, gender, race, income level, and interests. For the second question they might suggest health, amount and types of food consumed, products available, diversity of foods, and traditional foods.

Step 2: Cooperative Learning- Looking at the Families (food and economic indicators)

The book, *What the World Eats*, is a great resource for looking at numerous aspects of life across the globe. It can be used to study health and nutrition, public health, globalization, geography, agriculture, culture, and, what we are using it for, standard of living. The book includes thirty families from twenty-four countries and six hundred meals. Each family has a few pages featuring an image and full list of foods they consume, as well as fast facts about their country and region including population, arable land, life expectancy, healthcare expenditure, unemployment rate, and access to technology. The book also has companion posters that show a large image of a family and the food they typically eat in a week. The posters include families from Bhutan, Bosnia and Herzegovina, Cuba, Ecuador, Greenland, Italy, Japan, Mali, Mexico, Mongolia, Turkey, and the United States of America.

To get the activity started, divide the students into 12 groups. Explain to the students that each group will study one family by analyzing the photo, reading the companion story, and completing a graphic organizer. Have the students begin by carefully analyzing the poster paying close attention to the amount and variety of foods the family eats. Next have the students read the portion of the *What the World Eats* book about their assigned family to learn more about their particular family/country and to gain a context for the economic data. Have the students use the following graphic organizer, figure 5, to collect information:

Family Name	
Country	
The Food: Describe the foods in the image. Are there a wide variety of foods? Are most of the foods fresh or prepackaged?	
Population	

Population living on less than \$2/day	
Poverty rate	
Annual health care expenditure per person	
GDP	
GDP per capita	
Life expectancy	
Literacy rate	
Infant mortality	
Other interesting information	

Figure 5

As the students are researching the families, discuss with them what the different economic indicators are, this should be a review since most were covered in the vocabulary lesson. If some of the indicators can't be found on the poster or in the book, direct the students to the *CIA World Factbook*⁴³ website to collect the additional information. If computer access is problematic, the fact sheets for each country can be printed for quick student reference.

After the students complete the graphic organizer, give them time to plan a presentation to share their family's image and data with the class. The portion of the lesson will allow the students to see the diversity in the economic indicators of each country. Encourage the students to look for similarities and differences among the families.

Step 3: Check for understanding- Exit Ticket

The check for understanding will be used to assess the students' understanding of the lesson. The students should respond to the following, "Describe the economic indicators that tell us about the standard of living in a country. Explain your answer with an example." (Sample response: *GDP per capita, life expectancy, and the poverty rate tell us the standard of living in a country. For example, generally people living in countries with a longer life expectancy have better health care and more nutritious foods.*) Assess this question using the two-point rubric below.

2	The response includes a list of economic indicators that describe the standard of living in a country with an accurate and relevant explanation.
1	The response includes a list of economic indicators that describe the standard of living in a country with an inaccurate or no example.
0	Inaccurate response.

Activity 3: Increasing Standard of Living/GDP per Capita

Essential Question: How do countries increase their standard of living?

Step 1: Activate Prior Knowledge- Being Productive

To activate prior knowledge, lead a discussion around the following question, “What are some ways that a business can increase the amount of goods and services they produce?” The students should say things like more/better technology, employee training, larger or better facility, more resources, and more efficient transportation.

Step 2: Mini Simulation- Increasing Productivity

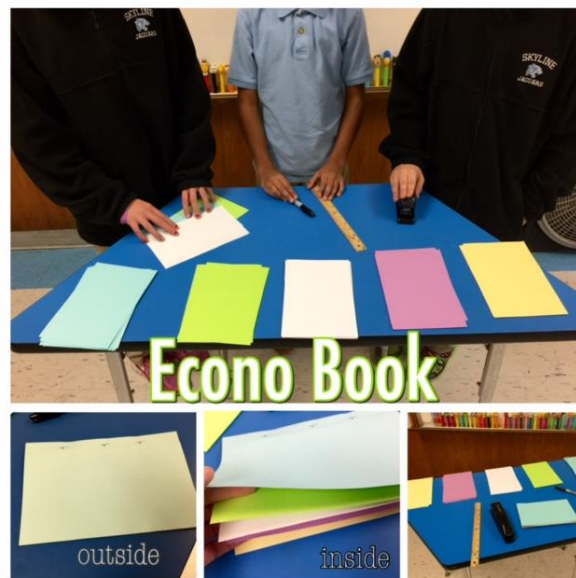


Figure 6

Explain to the students that they will be participating in a mini simulation to visually express the concept of productivity and how technology and specialization can allow for an increase in productivity. To get the simulation started have a long table or row of desks clear and free of obstructions, one ruler, one stapler, and at least 25 sheets of colored paper cut in half. Next, call three volunteers to the table and have them stand in a row, facing the class if possible. Show the volunteers and class a completed “Econo Book,” figure 6. The book must be completed as follows: five half sheets of colored paper in order (blue, green, white, purple, and yellow) and three evenly spaced staples across the top at 2 inches, and 4.25 inches, and 6.25 inches. If the book is not constructed exactly in this way, it should not be considered a true “Econo Book”. For Round 1 instruct the students to make as many “Econo Books” as they can in one minute. After

one minute of production has passed, the students will be stopped and assess their work for accuracy. Use a chart like the one below, figure 7, to organize the results.

Round	Student 1	Student 2	Student 3	Total
1				
2				
3				
4				

Figure 7

For Round 2 the same students will remain at the table and repeat the procedure. This time the students will hopefully produce more due to their experience during the last round. Record their results in the chart, figure 7. Discuss the following with the class, “Why were the students able to produce more “Econo Books” in Round 2? The students should recognize that the students were more experienced due to having already participating in a round of production. They should be able to explain that they were more familiar with the process and had a chance to practice during the first round.

Round 3 and Round 4 will be conducted using division of labor. Student 1 will be the paper sorting specialist, Student 2 will be the measurement specialist, and Student 3 will be the stapling specialist. Explain to the students what their role is and explain that they will work together to produce as many books as they can. Individual scores will not be tallied for these rounds. Start Round 3 allowing for one minute of production ensuring that the students focus on the job they were assigned. After a minute examine the products for accuracy and then tally the results in the chart, figure 7. Discuss the following with the class, “Why do you think the students produced more/less this round?” If they produced more the students should explain that specialization allowed for faster production as the students only had to focus on one task at a time and that they no longer had to pass the materials back and forth. If they produced fewer books the students should infer that it could be due to the students having to get used to the new system or they had trouble working together. Conduct Round 4 in the same way as Round 3. This round should be the most productive and yield the highest number of “Econo Books”. Hopefully this round will show the students the benefits of specialization and experience. Debrief the simulation by emphasizing that productivity can increase with training and division of labor.⁴⁴

Step 3: Extend their Thinking- Productivity and Standard of Living

Display the data chart, “Multiplication of Productivity 1895–2000: Time Needed for an Average Worker to Earn the Purchase Price of Various Commodities”, showing products and labor hour comparisons to illustrate examples of the increases in the standard of living in the United States. The chart shows the prices of general items and the number of

labor hours it takes to earn them in the years 1895 and 2000. This chart will help the students to understand the connection between productivity and standard of living.⁴⁵ Explain to the students that one difficulty in using a bundle of goods, like the ones on the chart, to make price or labor hour comparisons from year to year is that the bundles are not adequately adjusted to reflect the improvements in quality. Comparing a cell phone from 1990 to a cell phone in 2014 is almost impossible when you account for all of the differences and advances in its functionality over time.⁴⁶ Have the students discuss the following questions in small groups, “What does this table show? What does it mean by ‘time needed for an average worker to earn the purchase price of various commodities?’” (Suggested answer: *The table shows the time that it takes a worker to earn each of the goods, it compares how long they had to work to obtain goods in 1895 to 2000. The chart uses the labor hours to describe how long it took to make enough money to afford the goods.*) “Why do you think the labor hours to earn, or cost of, commodities has decreased over time?” (Suggested answer: *The labor hours to earn the commodities have probably decreased over time due to technology. It takes fewer hours to produce many of the goods in the chart due to computer technology and robotics.*)

Step 4: Check for understanding- Exit Ticket

The check for understanding will be used to assess the students’ understanding of the lesson. The students should answer the following question, “How can countries improve their standard of living? Explain your answer with an example.” (Sample response: *Countries can improve their standard of living through the use of technology. For example, the Encyclopedia Britannica can be produced in fewer labor hours due to advances in computer technology making the price lower and allowing more people to have access to it.*) Assess this question using the two-point rubric below.

2	The response includes an accurate way countries can improve their standard of living with a relevant example.
1	The response includes an accurate way countries can improve their standard of living with an inaccurate or no example.
0	Inaccurate response.

Activity 4: Being Careful with Numbers

Essential Question: What are the costs and benefits to using economic indicators?

Step 1: Prior Knowledge Discussion- Misunderstandings

To activate prior knowledge, have the students discuss the following questions in small groups: “Have you ever been misunderstood?” and “Has anyone ever had the wrong impression of you?” Direct the students to share their answers with the entire class.

Hopefully, the students will explain that they have experienced a misunderstanding related to their intelligence, beliefs, culture, and/or gender. This discussion will make the students more comfortable with the topic, and they will therefore be prepared for reading the text.

Step 2: Close Reading- Problems with GNP

Explain to the students that they will be using the close reading technique; this means that they will be working together and independently to carefully analyze a text by Bobby Kennedy on the gross national product. Explain that they will be reading the text several times and each time they will be focusing on different aspects of it. For the first reading of the text, the students will read and fill a graphic organizer independently. The graphic organizer, figure 8, contains a section for the students to write the words in the text that they are unfamiliar with and another section for questions or thoughts they have about the text. After the students have independently read the text, give them a few minutes to share their graphic organizer with a partner. Finally, have them share any remaining questions through a full class discussion.

Bobby Kennedy’s Speech	Independent Reading Organizer
The words in the text that I do not understand are...	
Some questions or thoughts I have about the text are...	

Figure 8

Excerpt from Bobby Kennedy’s speech at the University of Kansas on March 18, 1968: “Our gross national product...if we should judge America by that – counts air pollution and cigarette advertising, and ambulances to clear our highways of carnage. It counts special locks for our doors and the jails for those who break them. It counts the destruction of our redwoods and the loss of our natural wonder in chaotic sprawl. It counts napalm and the cost of a nuclear warhead, and armored cars for police who fight riots in our streets. It counts Whitman’s rifle and Speck’s knife, and the television programs which glorify violence in order to sell toys to our children.”

“Yet the gross national product does not allow for the health of our children, the quality of their education, or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages; the intelligence of our public debate or the integrity of our public officials. It measures neither our wit nor our courage; neither our wisdom nor our learning; neither our compassion nor our devotion to our country; it measures everything, in short, except that which makes life worthwhile. And it tells us everything about America except why we are proud that we are Americans.”⁴⁷

The second and third readings involve reading with a purpose. For the second reading, the passage should be read aloud to the students. Before reading, tell the students to listen for the central idea of the first and second paragraphs of the text; this sets up a purpose for listening and following along. After reading give the students time to compare what they have identified in the passage as the central idea with what their classmates have identified. Hopefully, the students will conclude that the central idea of the first paragraph is the negative things that count toward GNP. The central idea of the second paragraph is the positive things that are not counted in a nation’s GNP. The third reading involves a series of text-based questions. Model the thought process behind answering the first question by working through it with the class, and then have them complete a couple more questions with a partner. As you work through the first question with the students, model the following process: re-read the section of the text, take notes, discuss the question with a partner, and write your best answer to each question. Use the following questions, figure 9:

In the first paragraph, what does Bobby Kennedy state that Gross National Product uses to “judge” Americans?	Suggested response: <i>GNP includes air pollution, cigarette advertising, ambulances, locks, jails, destruction natural habitat, napalm, nuclear warhead, armored cars, weapons, and violent television programs.</i>
What does Kennedy mean by “chaotic sprawl”?	Suggested response: <i>He is describing the rapid and thoughtless growth of cities.</i>
What does Kennedy believe makes life worthwhile?	Suggested response: <i>Kennedy believes the health, education, and play of children make life worthwhile. He also believes poetry, marriages, public debate, public officials, courage, wisdom, learning, compassion, and devotion make life worthwhile.)</i>

Figure 9

The final step in the close reading process is a short essay. The students will, in two paragraphs, answer a prompt using the Bobby Kennedy speech and their notes. The first paragraph of their essay will discuss the problem that Kennedy introduces in his speech. The second paragraph will be to express the caution that should be used when looking at GNP. (Sample student essay: (Paragraph 1: *In a speech at the University of Kansas in 1968, Bobby Kennedy expressed concern over the items that are and are not counted toward a nation’s GNP. Negative things included in a nation’s GNP include air pollution, cigarettes, security systems, and materials used for violence. Positive things not counted toward a nation’s GNP include intelligence, public debate, the fun of childhood, compassion for one another, and devotion to their country.* Paragraph 2: *Knowing what is and is not counted toward a nation’s GNP should be considered when looking at a nation’s GNP and making comparisons between different countries and their*

GNP. We must keep in mind that cultural differences play a role in the economic activities of nations. We must also understand that GNP is only one measure of a country's standard of living and well-being.)

Step 3: Check for understanding- Exit Ticket

The check for understanding will be used to assess the students' understanding of the lesson. The students should answer the following question, "What is a cost to using economic indicators like GDP or GNP? Explain your answer with at least one cost and an example." (Sample response: *A cost to using economic indicators like GDP is that some of the positive contributions to our country are not counted as part of the indicator. For example, the courage of our soldiers and the quality of our education is not counted in our nation's GDP.*) Use the rubric below to score the student responses.

2	The response includes an accurate cost to using economic indicators like GDP with an accurate and relevant explanation.
1	The response includes accurate cost to using economic indicators like GDP with an inaccurate or no example.
0	Inaccurate response.

Resources for Teachers and Students

Resource	Description
<i>What the World Eats</i> Photo Gallery	This website includes all of the families and their food so that it can be displayed digitally for full class discussions. http://menzelphoto.photoshelter.com/gallery/Hungry-Planet-Family-Food-Portraits/G0000zmgWvU6SiKM/C0000k7JgEHhEq0w
CIA World Factbook database	This database provides a wealth of information on the countries of the world, included many economic indicators. https://www.cia.gov/library/publications/the-world-factbook/
Economic Analysis data tool	This tool allows you to customize a data set to be displayed on a map. http://www.bea.gov/itable/
John F. Kennedy Presidential Library and Museum Website	This site provides transcripts of Kennedy's speeches included the full transcript of the excerpt used in this unit. http://www.jfklibrary.org/Research/Research-Aids/Ready-Reference/RFK-Speeches/Remarks-of-Robert-F-Kennedy-at-the-University-of-Kansas-March-18-1968.aspx

Appendix 1: Standards

This unit is based on a Delaware Social Studies Content Standard and a Common Core English standard. The Delaware content standard states, "Students will demonstrate the ways in which the means of production, distribution, and exchange in different economic systems have a relationship to cultural values, resources and technologies." The Common Core standard provided guidance and structure to the classroom activities. The Kennedy speech analyzed in this unit provided an opportunity to incorporate CCSS.ELA-Literacy.RH.6-8.1 that states, "Cite specific textual evidence to support analysis of primary and secondary sources." This standard was addressed through the close reading of the speech and the check for understanding questions requiring students to use examples and evidence from the texts and discussions that conclude each lesson.

Notes

¹ Jerome Himmelstein, "How the Mass Media Use Numbers to Tell a Story: The Case of the Crack Scare of 1986." *Numeracy* 7, no. 1 (2014): 1-5, 2.

² *Ibid.*, 5.

³ , J. B. Wills and M. P. Atkinson. "Table Reading Skills As Quantitative Literacy." *Teaching Sociology* 35, no. 3 (2007): 255-263, 256.

⁴ Jim Stanford and Tony Biddle. *Economics for everyone: A short guide to the economics of capitalism*. London: Pluto Press, 2008, 24-25.

⁵ Jerome Himmelstein, "How the Mass Media Use Numbers to Tell a Story: The Case of the Crack Scare of 1986.", 1.

⁶ *Ibid.*, 3.

⁷ Joel Best, *Stat-spotting: A field guide to identifying dubious data*. Berkeley: University of California Press, 2008. (p. 64)

⁸ "Living Standards and Economic Growth." New England Economic Adventure. <http://www.economicadventure.org/pdfs/primer.pdf> (accessed October 24, 2014).

⁹ Gregory Mankiw, *Principles of economics*. Second ed. Fort Worth [etc.: Harcourt College, 2001, 12.

¹⁰ *Ibid.*, 13.

¹¹ *Ibid.*, 573.

¹² "Standards of Living and Modern Economic Growth." *The Concise Encyclopedia of Economics*.

<http://www.econlib.org/library/Enc/StandardsofLivingandModernEconomicGrowth.html> (accessed October 16, 2014).

¹³ Clair Brown, *American standards of living, 1918-1988*. Oxford, Blackwell, 1994, 1.

¹⁴ "Country Comparisons." Central Intelligence Agency. January 1, 2007. Accessed December 6, 2014. <https://www.cia.gov/library/publications/the-world-factbook/>.

¹⁵ Gregory Mankiw, *Principles of economics*, 573.

¹⁶ "Standards of Living and Modern Economic Growth."

¹⁷ *Ibid.*

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- ¹⁸ Clair Brown, *American standards of living*, 23.
- ¹⁹ *Ibid.*, 1.
- ²⁰ Amartya Sen, John Muellbauer, and Geoffrey Hawthorn. *The standard of living*. Cambridge [Cambridgeshire: Cambridge University Press, 1987], 1.
- ²¹ Deborah M Figart, *Living standards and social well-being*. London: Routledge, 2011.
- ²² *The Economist*. "How countries calculate their GDP." *The Economist*.
<http://www.economist.com/blogs/economist-explains/2014/03/economist-explains-26>
(accessed October 16, 2014).
- ²³ Andrew Mell and Oliver Walker. *The rough guide to economics*. New York: DK Publishing, 2014, 188.
- ²⁴ Nic Marks, "GDP RIP (1933-2010)." *Significance* 7, no. 1 (2010): 27-30, 27.
- ²⁵ The Economist Newspaper.
- ²⁶ *Ibid.*
- ²⁷ Andrew Mell and Oliver Walker. *The rough guide to economics*, 191.
- ²⁸ *Ibid.*, 198
- ²⁹ Jim Stanford and Tony Biddle. *Economics for everyone: A short guide to the economics of capitalism*, 27.
- ³⁰ Marks, Nic. "GDP RIP (1933-2010)." *Significance* 7, no. 1 (2010): 27-30. 27.
- ³¹ Jim Stanford and Tony Biddle. *Economics for everyone a short guide to the economics of capitalism*, 28.
- ³² *Ibid.*
- ³³ Andrew Mell and Oliver Walker. *The rough guide to economics*, 193.
- ³⁴ *Ibid.*, 196.
- ³⁵ Jim Stanford and Tony Biddle. *Economics for everyone: short guide to the economics of capitalism*, 28.
- ³⁶ Andrew Mell and Oliver Walker. *The rough guide to economics*.
- ³⁷ Nic Marks, "GDP RIP (1933-2010).", 28.
- ³⁸ Andrew Mell and Oliver Walker. *The rough guide to economics*.
- ³⁹ *Ibid.*, 203
- ⁴⁰ NBSS. "Vocabulary/Knowledge Rating." National Behavior Support Service.
http://education.ky.gov/curriculum/lit/Documents/kclm/vocabulary_rating_comprehension_strategy_teaching%20tools.pdf (accessed October 17, 2014).
- ⁴¹ Maureen McLaughlin. *The common core: teaching students in grades 6-12 to meet the reading standards*, 53.
- ⁴² "Exit Ticket." The Teacher Toolkit.
<http://www.theteachertoolkit.com/index.php/tool/exit-ticket> (accessed December 9, 2013).
- ⁴³ "Country Comparisons." Central Intelligence Agency. January 1, 2007. Accessed December 6, 2014. <https://www.cia.gov/library/publications/the-world-factbook/>.
- ⁴⁴ Virtual Economics, *Choices and Changes in life, school, and work: grades 9-10*. "Changing Productivity."
- ⁴⁵ "Standards of Living and Modern Economic Growth."

⁴⁶ Ibid.

⁴⁷ Andrew Mell and Oliver Walker. *The rough guide to economics*, 199-200.

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Best, Joel. *Stat-spotting: A Field Guide to Identifying Dubious Data*. Berkeley: University of California Press, 2008.

This book assists in putting data into perspective while alerting the reader as to ways to spot bad data.

Brown, Clair. *American Standards of Living, 1918-1988*. Oxford, UK: Blackwell, 1994. This book provides insight into the living standards and consumption patterns of Americans in the 1900s.

"Country Comparisons." Central Intelligence Agency. January 1, 2007. Accessed December 6, 2014. <https://www.cia.gov/library/publications/the-world-factbook/>.

This database provides a wealth of up-to-date economic data.

Coyle, Diane. *GDP: A Brief but Affectionate History*. Princeton, NJ: Princeton University Press, 2014.

This book describes the history and modern uses of GDP.

Figart, Deborah M. *Living Standards and Social Well-being*. London: Routledge, 2011. This book expresses the ways in which technological advancements have impacted the living standards of people across the globe.

Himmelstein, Jerome. "How the Mass Media Use Numbers to Tell a Story: The Case of the Crack Scare of 1986." *Numeracy* 7, no. 1 (2014): 1-5.

This article explains the media's role in the collection and expression of data to the public.

"How Countries Calculate Their GDP." *The Economist*. March 26, 2014. Accessed October 16, 2014. <http://www.economist.com/blogs/economist-explains/2014/03/economist-explains-26>.

This article explains the process for collecting GDP.

Layard, P. R. G. *Happiness: Lessons from a New Science*. New York: Penguin Press, 2005.

This book poses alternatives to using GDP.

"Living Standards and Economic Growth." New England Economic Adventure. Accessed October 24, 2014. <http://www.economicadventure.org/pdfs/primer.pdf>.

This article provides background information on economic growth and its impact on the standard of living of a region.

Mankiw, N. Gregory. *Principles of Economics*. Second ed. Fort Worth [etc.]: Harcourt College, 2001.

This textbook provides an overview of micro and macroeconomic concepts.

Marks, Nic. "GDP RIP (1933-2010)." *Significance* 7, no. 1 (2010): 27-30.

This article expresses the need for using a different economic indicator to compare countries.

Mell, Andrew, and Oliver Walker. *The Rough Guide to Economics*. New York: DK Publishing, 2014.

This book provides an overview of micro and macroeconomic concepts in simple and easy to understand language.

Menzel, Peter, and Faith Aluisio. *What the World Eats*. Berkeley, Calif.: Tricycle Press, 2008.

This book is a visual representation of the economic indicators of peoples around the world.

"Robert F. Kennedy - University of Kansas Address." YouTube. Accessed August 12, 2014. https://www.youtube.com/watch?v=z7-G3PC_868.

Bobby Kennedy's speech that includes a bit on GNP.

Sen, Amartya, John Muellbauer, and Geoffrey Hawthorn. *The Standard of Living*. Cambridge [Cambridgeshire: Cambridge University Press, 1987.

This book provides a lengthy description of standard of living and the means for increasing consumption.

"Standards of Living and Modern Economic Growth." : The Concise Encyclopedia of Economics. Accessed October 16, 2014. <http://www.econlib.org/library/Enc/StandardsofLivingandModernEconomicGrowth.html>.

This article presented technological changes that have allowed humans to enjoy an abundance of goods and services.

Stanford, Jim, and Tony Biddle. *Economics for Everyone: A Short Guide to the Economics of Capitalism*. London: Pluto Press, 2008.

This book provides an introduction to economic concepts in simple and easy to understand language.

The John F. Kennedy Presidential Library and Museum. "Robert F. Kennedy Speeches."
- John F. Kennedy Presidential Library & Museum. Accessed August 12, 2014.
<http://www.jfklibrary.org/Research/Research-Aids/Ready-Reference/RFK-Speeches/Remarks-of-Robert-F-Kennedy-at-the-University-of-Kansas-March-18-1968.aspx>.

Bobby Kennedy's speech that includes a part on the limitations of GNP.

"Vocabulary/Knowledge Rating." National Behavior Support Service. Accessed October 17, 2014.
http://education.ky.gov/curriculum/lit/Documents/kclm/vocabulary_rating_comp_rehension_strategy_teaching_tools.pdf.

This website explains the importance of supporting vocabulary instruction in context.

Wills, J. B., and M. P. Atkinson. "Table Reading Skills As Quantitative Literacy."
Teaching Sociology 35, no. 3 (2007): 255-63.

This article provided a method for carefully analyzing data tables.

Curriculum Unit
Title

GDP and Standard of Living

Author

April Higgins

KEY LEARNING, ENDURING UNDERSTANDING, ETC.

Economics Standard 3 (6-8): Students will demonstrate the ways in which the means of production, distribution, and exchange in different economic systems have a relationship to cultural values, resources and technologies.

ESSENTIAL QUESTION(S) for the UNIT

What is economic data and how is it used?
How is economic data used to express a country's standard of living?
How do countries increase their standard of living?
What are the costs and benefits to using economic indicators?

CONCEPT A

CONCEPT B

CONCEPT C

Looking at Economic Data: What the World Eats

Increasing Productivity

Costs and Benefits of Economic Data

ESSENTIAL QUESTIONS A

ESSENTIAL QUESTIONS B

ESSENTIAL QUESTIONS C

How is economic data used to express a country's standard of living?

How do countries increase their standard of living?

What are the costs and benefits to using economic indicators?

VOCABULARY A

VOCABULARY B

VOCABULARY C

economic data
GDP
GDP per capita
infant mortality
life expectancy
literacy rate
poverty rate
productivity
standard of living

productivity
standard of living
labor

cost
benefit
GDP

ADDITIONAL INFORMATION/MATERIAL/TEXT/FILM/RESOURCES

What the World Eats Photo Gallery <http://menzelphoto.photoshelter.com/gallery/Hungry-Planet-Family-Food-Portraits/G0000zmgWvU6SiKM/C0000k7JgEHhEq0w>
CIA World Factbook database <https://www.cia.gov/library/publications/the-world-factbook/>
John F. Kennedy Presidential Library <http://www.jfklibrary.org/Research/Research-Aids/Ready-Reference/RFK-Speeches/Remarks-of-Robert-F-Kennedy-at-the-University-of-Kansas-March-18-1968.aspx>