

Change For a Dollar

Food For a Dollar

Math and Social Studies

Materials

Play Money

Envelopes with money representing gross income per occupation

Table of % Disposable Income Spent on Food

Job list cut into slips; one job per slip

Copies of Country Comparison Sheet

Copies of Student Worksheets A,B,C &D

Overview

Youth will interpret data from graphs and tables to compare and contrast disposable income spent on food in different countries.

Youth will compare and contrast how many people a U.S. farmer feeds from 1940 to today.

Youth will understand the value of dollars spent on food in relation to net salary from different occupations using paper money.

Objectives

Teach students about disposable income and how to count money using percentages, while also learning about countries around the world and how they spend their money on food.

Background Information can be found in Global Grocery Baskets produced by Food Land and People: pages 531 and 532. While the numbers are old the explanation is still appropriate. https://www.kyfb.com/media/files/fed/kfb.../global_grocery_bags.pdf.

Grade Level: 5-6
Time: 40 minutes

Standards: Math - Number and Operations - Fractions; Number and Operations - Base Ten; Measurement and Data;
Social Studies - Economics & Geography

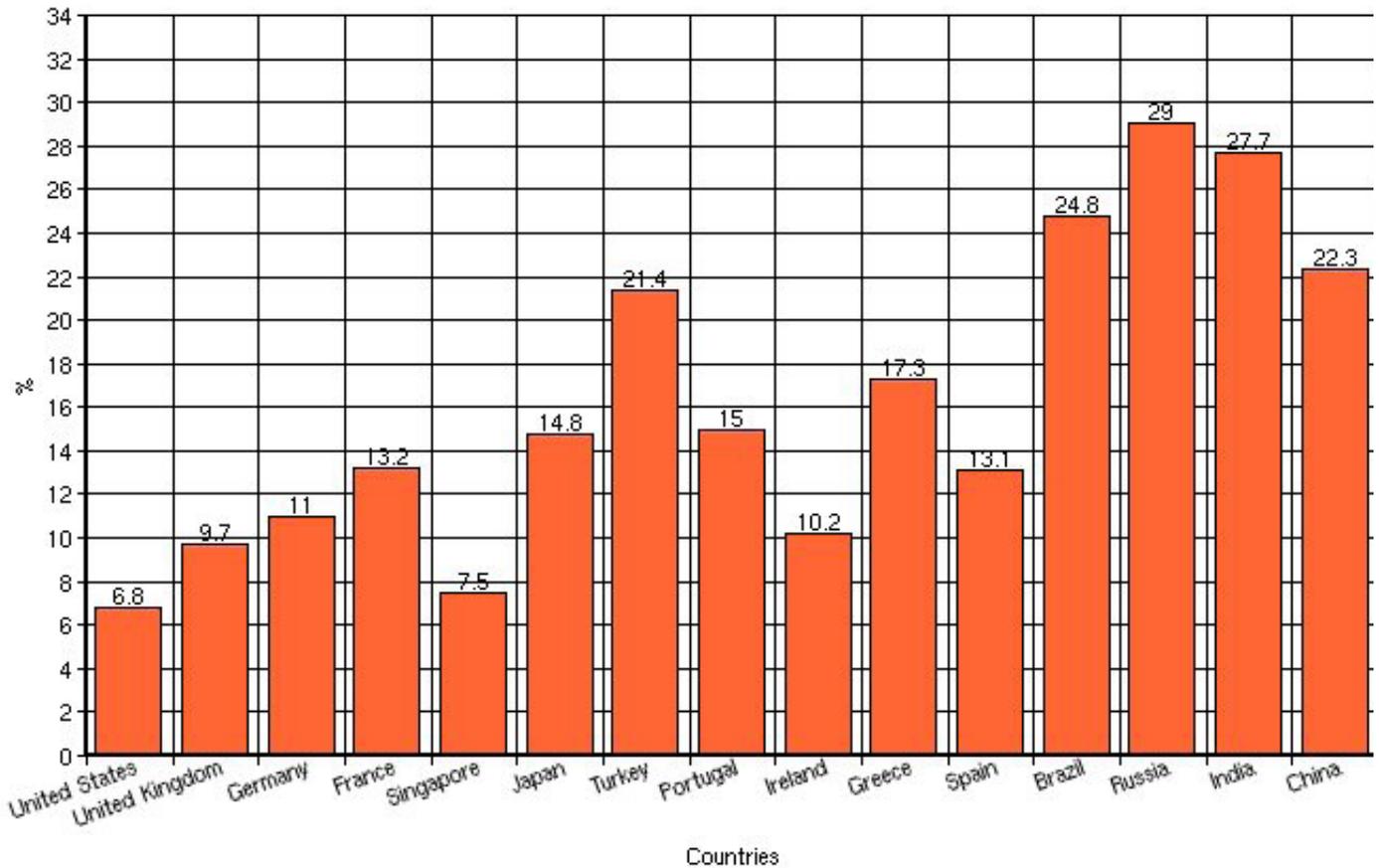
Subjects: Math and Social Studies

For Kansas standards, visit www.ksde.org



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% Income Spent on Food



USDA - Economic Research Service data

The data are computed by Birgit Meade (202-694-5159), ERS/USDA, EU-ROMONITOR data, June 2011.

It takes about 40 days for most Americans to earn enough disposable income to pay for their food consumed at home and away from home for the entire year.

It takes the average American more than 100 days to earn enough income to pay federal, state, and local taxes each year. Since 1930, the number of days to earn enough income to pay for taxes has increased.



Resources

Books:

Food and Farm Facts

USDA, Economic Research Service; Table

Lesson plan Global Grocery Baskets

https://www.kyfb.com/media/files/fed/kfb.../global_grocery_bags.pdf.

Websites:

- <http://theintrinsicvalue.com/research/food-inflation-how-much-percentage-of-income-is-spent-on-food>
- <http://agecoext.tamu.edu/resources/library/newsletters/ag-eco-news-series/2010/iss-18-june-2-2010-agriculture-under-attack-and-should-start-dialogue-with-consumers-about-us-food-production.html>
- <http://www.ers.usda.gov/statefacts/us.htm>

Other Resources

- For information and lesson plans related to U.S. farming and production: Farm Facts available from the American Farm Bureau Foundation for Agriculture
- For information about processing advancements: Science in Your Shopping Cart booklet available from the U.S. Department of Agriculture
- Data on Food Sector available at USDA - Economic Research Service; Table 97 Expenditures spent on Food....by selected countries (2010) http://www.ers.usda.gov/briefing/cpifoodandexpenditures/Data/Table_97/table97_2010.xls.

Adapted from an activity by the American Farm Bureau Foundation (AFBF) and Illinois and Montana Ag in the Classroom Lesson plans.

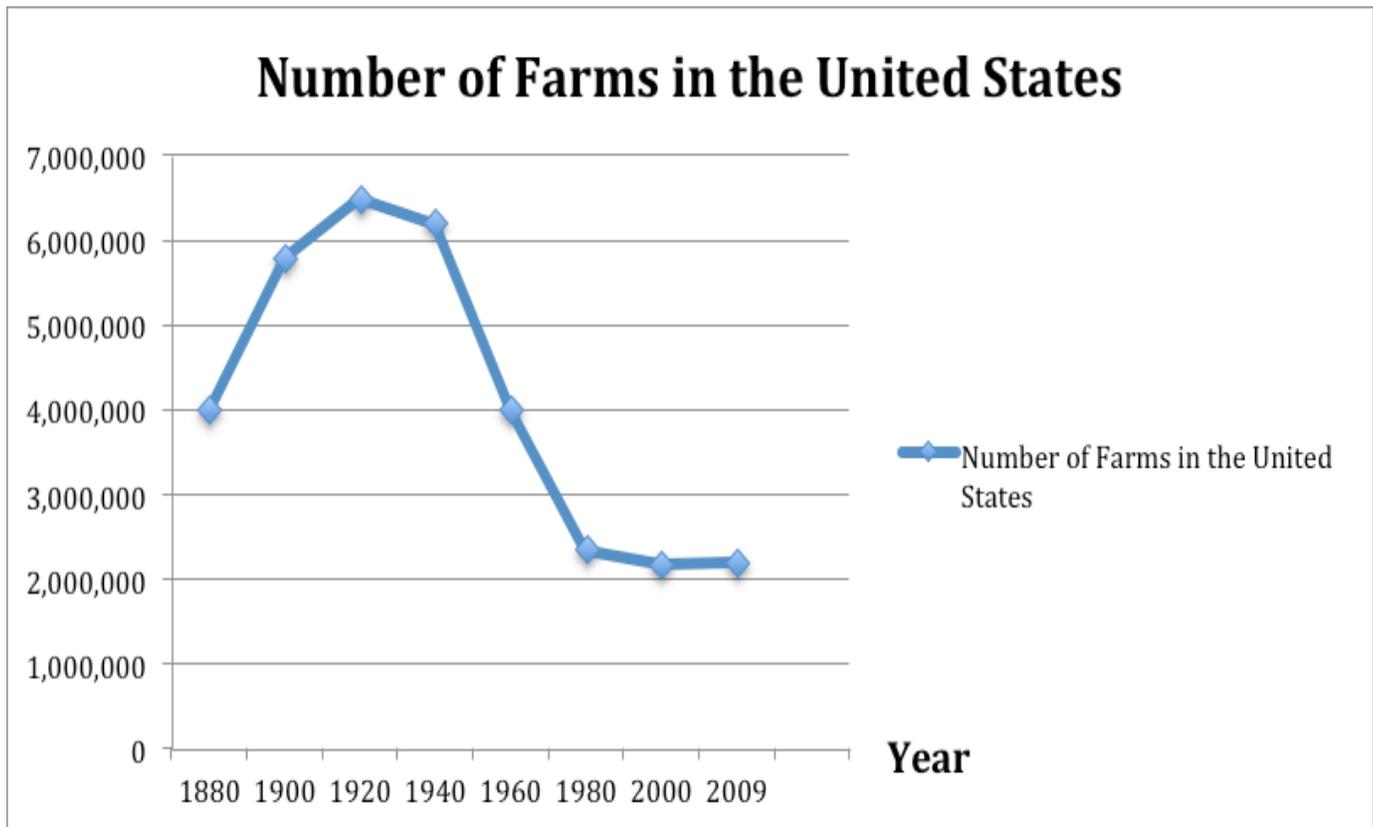
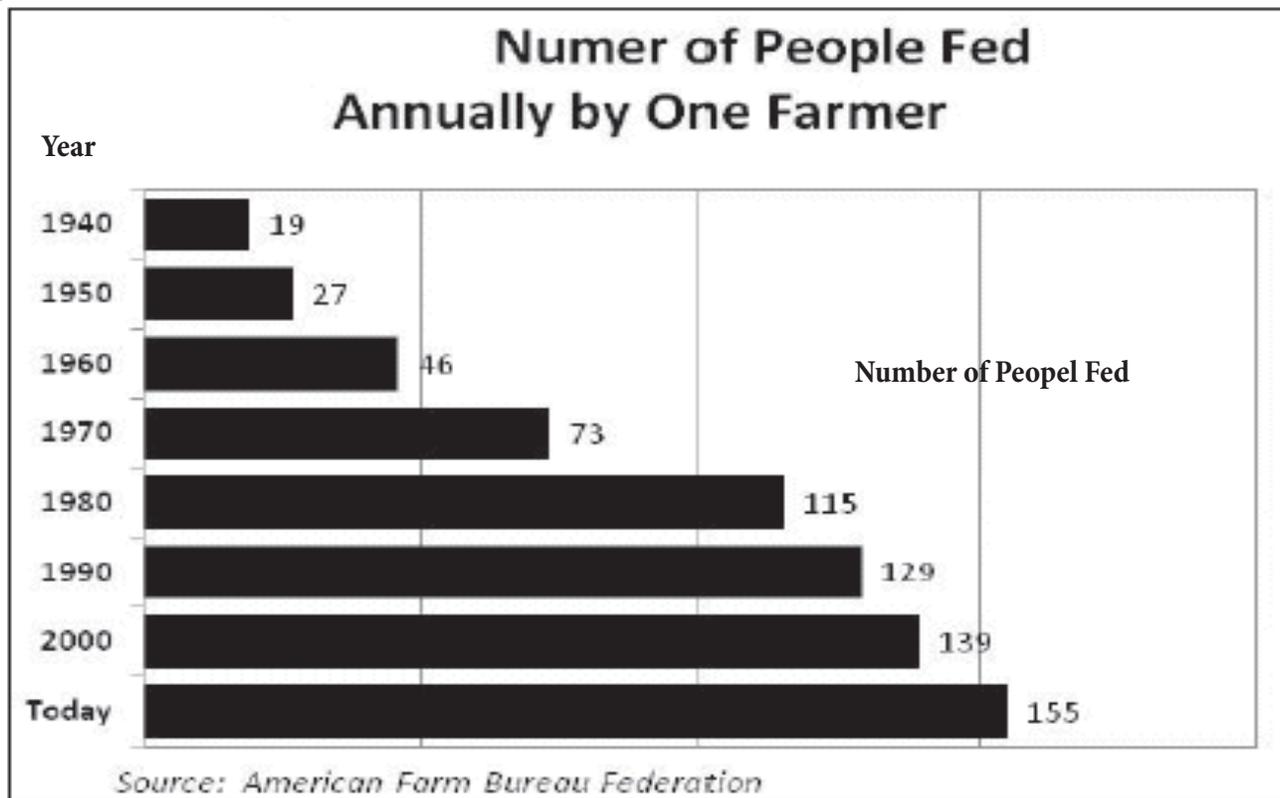
Another great resource from



Kansas Foundation
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in the **Classroom**

www.ksagclassroom.org

Change For a Dollar - Food For a Dollar



Change For a Dollar - Food For a Dollar

1. What is disposable income? Disposable income is the amount of personal income after all taxes have been paid. The remaining amount is available for saving and spending.
2. What country spends the greatest percentage of their disposable income on food?
Russia
3. What country spends the smallest percentage of their disposable income on food? United States
4. What countries spend more than one-quarter of their disposable income on food?
Russia, India
5. Which countries spend less than one-quarter of their disposable income on food?
United States, United Kingdom, Germany, France, Singapore, Japan, Portugal, Ireland, Greece, Spain, Brazil, China and Turkey
6. What could account for the vast difference in disposable income spent on food in the United States as compared to China? Answers may vary, and may include the following reasons: More direct food sources in the United States, which results in a lower cost. Food is imported to China, which results in higher food costs.
7. How many days does it take the average American to pay for their taxes? How many days does it take the average American to pay for their food for an entire year? Approximately 100 days; Approximately 40 days
8. How does agriculture play a role in United States' affordable food supply? Answers may vary, but may include the following reasons: United States farmers produce many agricultural commodities, which are then processed into everyday products. Scientists have discovered ways to ensure that food products have a longer shelf life and better nutrition, leaving the United States with the most abundant and affordable food supply. Transportation and marketing may also play a role.



More People, Less Farms - Think About It!

1. Using the graphs, answer the following questions:

- In 1940, one United States farmer produced enough food to feed **19** people.
- In 1990, one United States farmer produced enough food to feed **129** people.
- How many more people did one farmer feed in 1950 as compared to Today?

128

- In 1880, there were **4 million** farms in the United States.
- In 1980. there were **2.4 million** farms in the United States.
- From 1920 to 2009, the amount of farms has decreased by **4.3 million**.

2. Look at the graph titled “Number of Farms in the United States.” Label the graph with significant events in the U.S. history as well as the agricultural legislation and events mentioned in this booklet. What connections exist between these events and the number of U.S. farms? **Answers will vary, but may include the following conclusions: Increased number of farms from 1914-1918: During World War I, President Wilson pushed for increased food production as vital to Allies’ success. Decreased number of farms from 1935 would be a result of the Dust Bowl as farmers left their land in search of jobs; Significant decrease in the number of farms from 1937 to 1945: Individuals left rural areas to help out with the war effort or enlist in the Armed Forces. As well, there were significant technological and agricultural advancements in the 1960s.**

3. The amount of U.S. farm land is decreasing, while the amount of people fed by one farmer is increasing. What conclusions can you draw about agricultural practices within the United States? **Answers will vary, but may include the following conclusions: Overall, technology has allowed farmers and ranchers to do more with less land. Improved production practices: more advanced machinery and increased use of technology.**

4. Challenge Question: Research different agricultural advancements in the areas of food production and processing. How do these advancements relate to affordable food costs in the United States? How do these advancements relate to the trend of feeding more people on less land? **Answers will vary but will include comments such as: advancements in processing led to longer shelf life for food, new products, and improved nutrition.**



Food For a Dollar - Think About It!

1. What is disposable income?
2. What country spends the greatest percentage of their disposable income on food?
3. What country spends the smallest percentage of their disposable income on food?
4. What countries spend more than one quarter of their disposable income on food?
5. Which countries spend less than a quarter of their disposable income on food? What do these countries have in common?
6. What could account for the vast difference in disposable income spent on food in the United States compared to China?
7. How many days does it take the average American to pay for their taxes? How many days does it take the average American to pay for their food for an entire year?
8. How does agriculture play a role in United States' affordable food supply?



More People, Less Farms - Think About It!

1. Using the graphs, answer the following questions:

- In 1940, one United States farmer produced enough food to feed _____ people.

-In 1990, one United States farmer produced enough food to feed _____ people.

-How many more people did one farmer feed in 1950 as compared to Today? _____

-In 1880, there were _____ farms in the United States.

-In 1980, there were _____ farms in the United States.

-From 1920 to 2009, the amount of farms has decreased by _____.

2. Look at the graph titled "Number of Farms in the United States." Label the graph with significant events in the U.S. history as well as the agricultural legislation and events mentioned in this booklet. What connection exist between these events and the number of U.S. farms?

3. The amount of U.S. farm land is decreasing, while the amount of people fed by one farmer is increasing. What conclusions can you draw about agricultural practices within the United States?

4. Challenge Question: Research different agricultural advancements in the areas of food production and processing. How do these advancements relate to affordable food costs in the United States? How do these advancements relate to the trend of feeding more people on less land?

Adapted from an activity by the American Farm Bureau Foundation (AFBF)

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Job List - Show Me The Money

Farm Bureau of Labor Statistics Table - National Compensation Survey

Dec. 2009-Jan. 2011

Occupation	Weekly Income
Manager	1,484
Food Service Manager	995
Natural Science Manager	1,643
Landscape Architect	1,068
Environmental Engineer	1,371
Agriculture and Food Scientists	816
Zoologist	1,441
Conservation Scientist	973
Forester	1,141
Ag and Food Science Technician	729
Farm Worker (Animals)	655
Baker	490
Truck Driver	453
Railroad Conductor	1,040
Welder	680
Meat Processing	590
Tree Trimmer and Pruner	769
Chef	713
Fish and Game Warden	1,022
Veterinarian	1,662
Conservation Scientist	1,063

Worksheet C- Show Me The Money

From your teacher, take your slip of paper with your "job" assignment.

I have the occupation of _____

My gross weekly salary is \$_____

Multiply gross salary _____ x 30% or ._____ (decimal) = _____
amount taken out for taxes.

Gross Salary minus amount taken out for taxes = \$ dollars left to spend on what I want and need, also known as disposable income.

Gross salary _____ - _____ for taxes = \$ _____ left to spend on other essential and non essential items.

I have \$ _____ left to spend on other items I really need and items I really want including food.

Multiply disposable income _____ x % of disposable income spent on food in U.S. (look at chart).
= \$ _____ dollars spent on food for your salary level.

Discuss factors that may determine percentage of disposable income spent on food. Why do some countries have much higher percentages than others? Determine what people in some countries need to live without in order to buy food.

Table Comparing Countries

Country	Flag	Type of money	❖ Gross Nat'l Income per capita	* % Taxes (2 wage earners + 2 children)	% Disposable Income spent on food
U.S.		dollar	47,140	25%	6.8%
United Kingdom		pounds	38,540	29%	9.7%
Germany		euro	43,330	41%	11%
France		euro	42,390	44%	13.2%
Singapore		rand	39,520	10%	7.5%
Japan		yen	42,150	25%	14.8%
Turkey		lira	9,500	38%	21.4%
Portugal		euro	21,860	33%	15%
Ireland		euro	40,990	21%	10.2%
Greece		euro	27,240	36%	17.3%
Spain		euro	31,650	36%	13.1%
Brazil		real	9,390	25%	24.8%
Russia		ruble	9,910	13%	29%
India		rupee	1,340	30%	27.7%
China		renminbi	3,029	0%	22.3%

- OECD (Office of Economic Community Development)
http://www.oecd.org/document/0/0,3746,en_2649_34533_47409344_1_1_1_1,00.html.
- ❖ World Development Indicators database, World Bank, 1 July 2011

Worksheet D - Show Me the Money

Pick a country you would like to live in OR take a country assignment from your teacher.....

I live in the country of:_____.

My gross annual salary is _____. (look at the chart with flags)

My **weekly** gross salary is _____. (Divide annual salary by 52 weeks)

Multiply weekly gross salary _____x _____% taxes (see country comparison table) = _____ taxes taken out of gross salary.

Gross take home salary - amount taken out for taxes in your country = Disposable income or weekly take home salary.

Gross salary _____ - _____ for taxes = \$ _____ left to spend on other essential and non essential items including food.

Multiply amount of disposable income by % disposable income spent on food in your country to see how much you will spend weekly for food in your country.

Disposable income _____ x % disposable income spent in my country _____ = _____ how much I spend on food per week in my country for a family of four.

How does this compare with the dollars earned and spent by people from other countries? Why is this?