

## Lesson Description

The lead article in the spring 2010 issue of *Inside the Vault* discusses the redistribution of wealth through taxation. In this lesson, students use different household scenarios to examine the ability-to-pay principle of taxation. Students analyze the household scenarios using the progressive tax system and then re-examine the same scenarios using a flat tax, to compare the two tax systems.

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## Grade Level

9-12

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## Concepts

Ability-to-pay principle  
Flat tax  
Progressive tax  
Tax deductions  
Taxes  
Transfer payments

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## Objectives

Students will:

- Define flat tax, progressive tax, taxes, tax deduction and transfer payments.
  - Explain the ability-to-pay principle.
  - Identify basic tax laws.
  - Identify examples of transfer payments.
  - Analyze the effects of different tax systems.
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## Content Standards

### National Standards in Economics

- **Standard 16:** There is an economic role for government to play in a market economy whenever the benefits of a government policy outweigh its costs. Governments often provide for national defense, address environmental concerns, define and protect property rights, and attempt to make markets more competitive. Most government policies also redistribute income.
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- Benchmark 7, Grade 12: Governments often redistribute income directly when individuals or interest groups are not satisfied with the income distribution resulting from markets; governments also redistribute income indirectly as side-effects of other government actions that affect prices or output levels for various goods and services.

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### Time Required

90 minutes

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### Materials

- Copies of Handouts 1, 2, 3, 4, 5, 6 and 7 for each student
- A copy of Handout 2–Answer Key
- A copy of Handout 4–Answer Key
- A copy of Handout 5–Answer Key
- A copy of Handout 6–Answer Key
- A copy of Handout 7–Answer Key
- Visual 1
- Visual 2
- A calculator for each student
- Extra sheets of paper for each student

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### Procedures

1. Introduce the topic of taxes to the class by quoting Ben Franklin: "... in this world nothing is certain but death and taxes." Ask the students what this means to them. (*Answers will vary.*) Explain that as adults and American citizens the one thing we can be certain of in life is paying taxes. **Taxes** are required payments to government — mandatory government fees on business and individual income, activities or products. Taxes are used by the government to provide some goods and services and to operate.
2. Distribute a copy of *Handout 1: U.S. Income Inequality: It's Not So Bad* and *Handout 2: Is Inequality So Bad?* to each student. Tell the students to read the article on Handout 1. When the students are finished reading the article, instruct them to answer the questions on Handout 2 (either individually or in small groups). When the students have completed their work on Handout 2, discuss the answers with the class, using Handout 2–Answer Key.

3. Explain to the class that redistribution of wealth comes through taxation, and that the tax system in the United States follows the ability-to-pay principle. Define the **ability-to-pay principle** as the idea that taxes should be levied on a person according to how well that person can shoulder that burden.
4. Tell the students that the U.S. uses a progressive tax system. Define **progressive tax** as a tax in which high-income earners pay a larger fraction of their income in tax than do low-income earners.
5. Distribute a copy of *Handout 3: Tax Brackets* to each student.
6. Explain the tax table in Handout 3 as follows: If an individual or couple earns up to a certain amount of income, they pay a particular percentage of their income in taxes, as indicated on the tax table. Any amount of income that exceeds the highest amount listed for a particular bracket is taxed at the next-higher percentage listed. There are currently six tax brackets for income taxes: 10 percent, 15 percent, 25 percent, 28 percent, 33 percent and 35 percent. Each bracket applies only to the portion of a person's income that is defined by the bracket: The 10 percent rate is applied to the first few thousand dollars of income earned, the 15 percent rate is applied to the next few thousand dollars of income earned, and so on, until a person reaches the level of income he or she earns. The highest tax bracket that applies to a person's income is the one a person uses; this is called the person's marginal tax bracket, and it is what people refer to as their tax bracket.
7. Further discuss the tax table in Handout 3 as follows, using the 2008 federal tax bracket for single people:
  - The first \$8,025 earned is taxed at a rate of 10 percent.
  - Income earned in addition to \$8,025 and up to \$32,550 is taxed at a rate of 15 percent.
  - Income earned in addition to \$32,550 and up to \$78,850 is taxed at a rate of 25 percent.
  - Income earned in addition to \$78,850 and up to \$164,550 is taxed at a rate of 28 percent.
  - Income earned in addition to \$164,550 and up to \$357,700 is taxed at a rate of 33 percent.
  - All income earned in addition to \$357,700 is taxed at a rate of 35 percent.
  - If a single person earned \$100,000, his or her marginal tax bracket would be 28 percent. However, not all of the person's income would be taxed at that rate, only the amount earned over \$78,850.
  - Ask the students if, based on these brackets, they think progressive taxes are fair. (*Answers will vary.*)

8. Divide the class into groups of 3-4 students. Distribute a copy of *Handout 4: American Households* to each student. For each of the five scenarios described on Handout 4, instruct the groups to refer to the tax table on Handout 3 and determine what tax bracket applies to each scenario. The students should write their answers on the first blank line for each scenario, next to “% tax bracket.” When the students have filled out the first blank line for each scenario, review the correct answers, using *Handout 4: American Households–Answer Key*.
9. Referring to the tax table in Handout 3, remind the students that people only pay a particular tax rate on that portion of their income that is indicated by the tax table. For example, although the couple in Scenario 1 is in the 33% tax bracket, they pay the 33% tax rate only on the portion of their income above \$164,550, and pay a lower tax rate on their income below that amount. Display *Visual 1: Tax Deductions*.
10. Define **tax deductions** as a fixed amount or percentage permitted by taxation authorities that a taxpayer can subtract from his or her gross income to arrive at a taxable income. Explain that the items listed on Visual 1 are the items people are able to deduct from their income when paying their taxes. Read the following scenario to the class:

*Ms. Rossiter earns \$50,000 a year. She donated \$500 to the Humane Society. The donation is tax-deductible.*

11. Explain that \$50,000 is Ms. Rossiter’s income. The donation is deductible, which means that she can subtract \$500 from her income. The amount that remains is her taxable income. Ask the students what Ms. Rossiter’s taxable income is. (*\$49,500*)
12. Instruct the students to examine each scenario on Handout 4 again and find the deductions for each household. Have the students put a check next to each item that can be deducted from the income earned in each scenario.
13. When the students have finished identifying deductions for each scenario in Handout 4, review the correct answers with the class, referring to the answer key for Handout 4.
14. Display *Visual 2: Calculating Income Tax*. Referring to Visual 2, explain to the students how to calculate the taxable income and the actual amount of taxes paid by the couple in Scenario 1, on Handout 4. After determining the amount of taxes actually paid, explain to the students how to calculate the actual percentage of income that the couple in Scenario 1 paid in taxes. Have the students write those figures in the appropriate spaces on their copies of Handout 4. Leave Visual 2 on display.

15. Give a calculator and several sheets of blank paper to each student. Tell the students to calculate the amount of taxable income, amount owed in taxes, and the percentage of income actually paid, for the remaining four scenarios on Handout 4. Remind the students to: refer to Visual 2 if necessary for an example, that the deduction per child is \$3,200 and that mortgage interest for each month is deducted. When the students have completed Handout 4, review the answers with the class, referring to Handout 4–Answer Key. Ask the students the following questions:
  - How did the permissible deductions affect each taxation scenario? (*Deductions reduced the amount of taxable income.*)
  - What happened to the tax rate for households with deductions? (*The rate decreased. Deductions reduce the amount of taxable income, so the amount paid in taxes decreased; thus the tax rate also decreased.*)
  - Which households' rates did not change dramatically? (*Households 2, 4 and 5*)
  - Do you still agree with your earlier response on whether progressive taxes are fair? (*Answers will vary, depending on original opinions.*)
16. Define **transfer payments** as payments by governments, such as Social Security, veterans' benefits, and welfare, to people who do not supply goods, services or labor in exchange for the payments. Money is transferred from those who pay taxes to those who receive the benefits. Other examples of transfer payments are the Supplemental Nutrition Assistance Program, the Earned-Income Tax Credit, Medicaid, and Medicare.
17. Tell the students to refer to Handout 4, and circle all the items in each scenario that are considered transfer payments. When the students have completed this task, identify the transfer payments in each scenario to the class, referring to Handout 4–Answer Key. (The transfer payments in each scenario are those items that are circled on the Answer Key). Explain that transfer payments actually increase the income available to those who receive them.
18. Distribute a copy of *Handout 5: I Owe How Much?* to each student. Instruct each group to review each of the scenarios in Handout 4 and answer the questions on Handout 5. When all the groups have filled out their answer sheets, discuss the groups' answers to the questions on Handout 5. Refer to *Handout 5: I Owe How Much?–Answer Key* when discussing the answers.
19. Define a **flat tax** as a tax system in which all levels of income are taxed at the same rate.

20. Distribute a copy of *Handout 6: American Households and the Flat Tax* to each student. Tell the students that a flat tax has just been levied on all the households first discussed in Handout 4. The tax rate is 20%. Explain that with a flat tax system, there are no deductions. Instruct the students to calculate the new tax payments using this tax. When the students have finished their calculations, review the correct answers by referring to *Handout 6: American Households and the Flat Tax–Answer Key*.
21. Distribute a copy of *Handout 7: Flat Tax* to each student. Instruct the students to write down answers to the questions on the handout. When the students have completed this task, discuss the answers with the class, referring to *Handout 7: Flat Tax–Answer Key*.

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### Closure

22. Review the key ideas in the lesson by asking the following questions:
  - What are taxes? (*Taxes are required payments to government: mandatory government fees on business and individual income, activities or products. Taxes are used by the government to provide some goods and services and to operate.*)
  - What is a progressive tax? (*A progressive tax is a tax for which high-income earners pay a larger fraction of their income in tax than do low-income earners.*)
  - What is a flat tax? (*A flat tax is a system of taxation in which all levels of income are taxed at the same rate.*)
  - What is a tax deduction? (*A tax deduction is a fixed amount or percentage permitted by taxation authorities that a taxpayer can subtract from his or her gross income to arrive at a taxable income.*)
  - What are transfer payments? (*Transfer payments are payments by government, such as Social Security, veterans' benefits, and welfare, to people who do not supply goods, services or labor in exchange for the payments. Money is transferred from those who pay taxes to those who receive the benefits.*)
  - Explain the ability-to-pay principle. (*The ability-to-pay principle is the idea that taxes should be levied on a person according to how well that person can shoulder that burden.*)
  - Give some examples of tax deductions. (*education, children, interest on a mortgage, day care, 401(k), charitable giving*)
  - Give some examples of transfer payments. (*Social Security, Earned-Income Tax Credit, Supplemental Nutrition Assistance Program, Medicaid, Medicare*)

- If your tax bracket is 33 percent, does that mean that you pay 33 percent on all income you earn? Explain your answer. *(No. If an individual or couple makes up to a certain amount, they pay the tax rate indicated for that amount in the tax table. Only that portion of income that exceeds a particular amount on the tax table is taxed at the next-higher percentage.)*
- What are some differences between a progressive tax and a flat tax? *(Answers may vary but could include the following: A progressive tax rate increases with the earner's income; Income earners can make deductions in a progressive system; A flat tax is the same rate for everyone — it does not depend on an earner's income; There are no deductions in a flat-tax system.)*

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## **Assessment**

23. As a final activity, have each student decide which tax system he or she thinks is fairer and write an argument to support his or her choice. Explain that students must use the facts from the lesson to support their ideas.

## Visual 1: List of Deductions

- Education
- Children—\$3,200 per child
- Interest on your mortgage—the amount of interest paid for the entire year
- Day care
- Charitable giving
- 401(k) (Retirement savings)

## Visual 2: Calculating Income Tax

The following calculation is based on Scenario 1.

### Taxable income = Income – Deductions

$$\text{Taxable income} = \$250,000 - [(\$1,500 \times 12) + \$3,200]$$

$$\text{Taxable income} = \$250,000 - [\$18,000 + \$3,200]$$

$$\text{Taxable income} = \$228,800$$

### For married couple earning \$250,000 per year, according to tax table:

On first \$16,050 of income: \$16,050 x .10 (10% tax rate) =	\$1,605.00
On income between \$16,051 and \$65,100: \$65,100 - \$16,050 = \$49,050 \$49,050 x .15 (15% tax rate) =	\$7,357.50
On income between \$65,101 and \$131,450: \$131,450 - \$65,100 = \$66,350 \$66,350 x .25 (25% tax rate) =	\$16,587.50
On income between \$131,451 and \$200,300: \$200,300 - \$131,450 = \$68,850 \$68,850 x .28 (28% tax rate) =	\$19,278.00
On income above \$200,300: \$228,800 - \$200,300 = \$28,500 \$28,500 x .33 (33% tax rate) =	\$9,405.00
<b>Total tax paid on \$250,000</b>	<b>\$54,233.00</b>

### Actual tax paid as percentage of income

$$(\$54,233.00 \text{ tax paid}) / (\$250,000 \text{ income}) = 22\%$$

## Handout 1: U.S. Income Inequality: It's Not So Bad

**E**ach year, the U.S. Census Bureau releases data on the income levels of America's households. A comparison of the annual data over time reveals that the income of wealthier households has been growing faster than the income of poorer households—the real income of the wealthiest 5 percent of households rose by 14 percent between 1996 and 2006, while the income of the poorest 20 percent of households rose by just 6 percent.

As a result of these differences in income growth, the income of the wealthiest 5 percent of households grew from 8.1 times that of the income of the poorest 20 percent of households in 1996 to 8.7 times as great by 2006. Such figures commonly lead to the conclusion that income inequality in the United States has increased. This apparent increase in income inequality has not escaped the attention of policy makers and social activists who support public policies aimed at reducing income inequality. However, the common measures of income inequality that are derived from the census statistics exaggerate the degree of income inequality in the United States in several ways. Furthermore, although many people consider income inequality a social ill, it is important to understand that income inequality has many economic benefits and is the result of—and not a detriment to—a well-functioning economy.

### An Inaccurate Picture

The Census Bureau essentially ranks all households by household income and then divides this distribution of households into quintiles. The highest-ranked household in each quintile provides the upper income limit for each quintile. Comparing changes in these upper income limits over time for different quintiles reveals that the income of wealthier households has been growing faster than the income of poorer households, thus giving the impression of an increasing “income gap” or “shrinking middle class.”

One big problem with inferring income inequality from the census income statistics is that the census statistics provide only a snapshot of income distribution in the U.S., at a single point in time. The statistics do not reflect the reality that income for many households changes over time—i.e., incomes are mobile. For most people, income increases over time as they move from their first, low-paying job in high school to a better-paying job later in their lives. Also, some people lose income over time because of business-cycle contractions, demotions, career changes, retirement, etc. The implication of changing individual

incomes is that individual households do not remain in the same income quintiles over time. Thus, comparing different income quintiles over time is like comparing apples to oranges, because it means comparing incomes of different people at different stages in their earnings profile.

The U.S. Treasury released a study in November 2007 that examined income mobility in the U.S. from 1996 to 2005. Using data from individual tax returns, the study documented the movement of households along the distribution of real income over the 10-year period. As shown in Figure 1A, the study found that nearly 58 percent of the households that were in the lowest income quintile (the lowest 20 percent) in 1996 moved to a higher income quintile by 2005. Similarly, nearly 50 percent of the households in the second-lowest quintile in 1996 moved to a higher income quintile by 2005. Even a significant number of households in the third- and fourth-lowest income quintiles in 1996 moved to a higher quintile in 2005.

The Treasury study also documented falls in household income between 1996 and 2005. This is most interesting when considering the richest households. As shown in Figure 1B, more than 57 percent of the richest 1 percent of households in 1996 fell out of that category by 2005. Similarly, more than 45 percent of the households that ranked in the top 5 percent of income in 1996 fell out of that category by 2005.

Thus it is clear that over time, a significant number of households move to higher positions along the income distribution, and a significant number move to lower positions along the income distribution. Common reference to “classes” of people (e.g., the lowest 20 percent or the richest 10 percent) is quite misleading because income classes do not contain the same households and people over time.

Another problem with drawing inferences from the census statistics is that the statistics do not include the noncash resources received by lower-income households—resources transferred to the households—and the tax payments made by wealthier households to fund these transfers.

Lower-income households annually receive tens of billions of dollars in subsidies for housing, food and medical care. None of these are considered income by the Census Bureau. Thus the resources available to lower-income households are actually greater than is suggested by the income of those households as reported in the census data.

At the same time, these noncash payments to lower-income households are funded with taxpayer dollars—mostly from wealthier households, since they pay a majority of overall taxes. One research report estimates that the share of total income earned by the lowest income quintile increases roughly 50 percent—whereas the share of total income earned by the highest income quintile drops roughly 7 percent—when transfer payments and taxes are considered.

The census statistics also do not account for the fact that the households in each quintile contain different numbers of people; it is differences in income across people, rather than differences in income by household, that provide a clearer measure of inequality. Lower-income households tend to consist of single people with low earnings, whereas higher-income households tend to include married couples with multiple earners. The fact that lower-income households have fewer people than higher-income households skews the income distribution by person. When considering household size along with transfers received and taxes paid, the income share of the lowest quintile nearly triples and the income share of the highest quintile falls by 25 percent.

**Is Policy Needed?**

Income inequality will still exist even if the income inequality statistics are adjusted to account for the aforementioned factors. Given the negative attention income inequality receives in the media, it is important to ask whether reducing income inequality is a worthy goal of public policy. It is important to understand that income inequality is a byproduct of a well-functioning capitalist economy. Individuals' earnings are directly related to their productivity. Wealthy people are not wealthy because they have more money; it is because they have greater productivity. Different incomes reflect different productivity levels.

The unconstrained opportunity for individuals to create value for society—and the fact that their income reflects the value they create—encourages innovation and entrepreneurship. Economic research has documented a positive

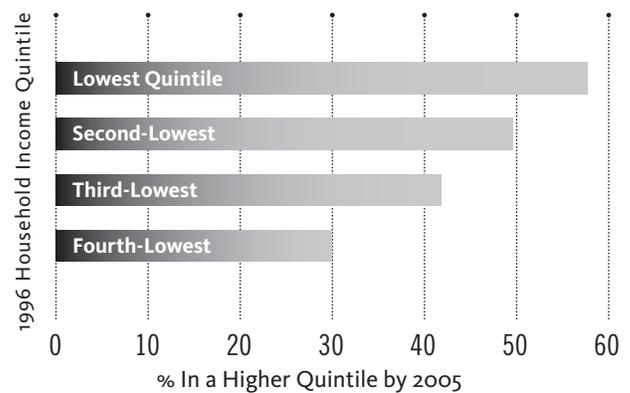
correlation between entrepreneurship/innovation and overall economic growth. A wary eye should be cast on policies that aim to shrink the income distribution by redistributing income from the more productive to the less productive simply for the sake of “fairness.” Redistribution of wealth increases the costs of entrepreneurship and innovation, with the result being lower overall economic growth for everyone.

Poverty and income inequality are related, but only the former deserves a policy-based response. Sound economic policy to reduce poverty would lift people out of poverty (increase their productivity) while not reducing the well-being of wealthier individuals. Tools to implement such a policy include investments in education and job training.

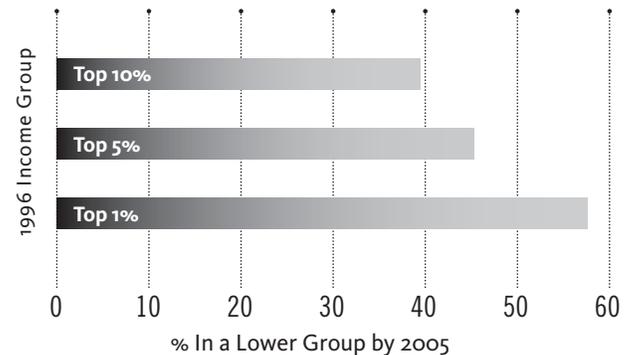
Income inequality should not be vilified, and public policy should encourage people to move up the income distribution and not penalize them for having already done so.

*Thomas Garrett is an assistant vice president and economist at the Federal Reserve Bank of St. Louis.*

**Figure 1A. Movement to Higher Income Quintiles 1996-2005**



**Figure 1B. Movement to Lower Income Group 1996-2005**



Source: Treasury Department

## Handout 2: Is Inequality So Bad?

In the *Inside the Vault* article in Handout 1, what is the author's view on income inequality in the United States?

What are two problems the author explains about the collection of data?

In what way is income redistributed in the U.S.?

What is one concern the author states about income redistribution?

## Handout 2: Is Inequality So Bad?—Answer Key

**In the *Inside the Vault* article in Handout 1, what is the author's view on income inequality in the United States?**

*The author believes that poverty is a problem in the United States, but that income inequality in the U.S. is not as serious a problem – and certainly not a problem the government needs to correct.*

**What are two problems the author explains about the collection of data?**

Answers should include two of the following points:

1. *The income data is a “snapshot” describing income at one point in time, but income changes over time.*
2. *The data do not include transfer payments as income for the lower quintiles, nor consider the taxes paid by the higher quintiles to fund the transfer payments. If transfer payments are added, income for those in the lowest quintile increases roughly 50%, and income for those in the highest quintile decreases.*
3. *The data do not account for the fact that different numbers of people live in each household.*

**In what way is income redistributed in the U.S.?**

*Progressive taxes – those who earn more pay a higher portion of their income in taxes. Tax revenue is used in part to provide transfer payments to lower-income earners.*

**What is one concern the author states about income redistribution?**

*The author is concerned that people will become less productive; there won't be as many entrepreneurs or as much innovation, and overall economic growth will decrease.*

### Handout 3: Tax Brackets

Rate	Single	Married Filing Jointly
10%	Not over \$8,025	Not over \$16,050
15%	\$8,026 – \$32,550	\$16,051 – \$65,100
25%	\$32,551 – \$78,850	\$65,101 – \$131,450
28%	\$78,851 – \$164,550	\$131,451 – \$200,300
33%	\$164,551 – \$357,700	\$200,301 – \$357,700
35%	Over \$357,700	Over \$357,700

**Handout 4: American Households**

Scenario 1	Scenario 2
<p>Married couple                      Combined income: \$250,000 per year                      Mortgage interest: \$1,500 per month                      One child                      _____ % tax bracket                      \$ _____ taxable income                      \$ _____ owed in taxes                      % of income actually paid in taxes:                      _____</p>	<p>Married couple                      Combined income: \$40,000 per year                      Rent: \$800 per month                      Three children                      Reduced lunch at school                      Charitable contributions: \$3,000 per year                      _____ % tax bracket                      \$ _____ taxable income                      \$ _____ owed in taxes                      % of income actually paid in taxes:                      _____</p>
Scenario 3	Scenario 4
<p>Single woman                      Income: \$100,000 per year                      Mortgage interest: \$1,000 per month                      Graduate school tuition: \$6,000 per year                      No children                      Contribution to 401(k): \$10,000 per year                      Charitable contributions: \$500 per year                      _____ % tax bracket                      \$ _____ taxable income                      \$ _____ owed in taxes                      % of income actually paid in taxes:                      _____</p>	<p>Single man                      Income: \$20,000 per year                      Rent: \$350 per month                      Two children                      Nutrition assistance                      Medicaid                      Earned-Income Tax Credit                      _____ % tax bracket                      \$ _____ taxable income                      \$ _____ owed in taxes                      % of income actually paid in taxes:                      _____</p>
Scenario 5	
<p>Married couple                      Combined income: \$100,000 per year                      Mortgage interest: \$1,200 per month                      Two children                      One child in day care: \$1,500                      Contributions to 401(k): \$5,000 per year                      _____ % tax bracket                      \$ _____ taxable income                      \$ _____ owed in taxes                      % of income actually paid in taxes:                      _____</p>	

### Handout 4: American Households—Answer Key

Scenario 1
Married couple Combined income: \$250,000 per year Mortgage interest: \$1,500 per month ✓ One child ✓
$\frac{33\%}{\text{tax bracket}}$
$\$228,800$ taxable income
$[\$250,000 - \{(\$1,500 \times 12) + 3,200\}] = \$228,800$
$\$54,233.00$ owed in taxes
% of income actually paid in taxes: $\frac{22\%}{\text{}}                 $

#### Calculations for Scenario 1

On first \$16,050 of income: $\$16,050 \times .10$ (10% tax rate) =	\$1,605.00
On income between \$16,151 and \$65,100: $\$65,100 - \$16,050 = \$49,050$ $\$49,050 \times .15$ (15% tax rate) =	\$7,357.50
On income between \$65,101 and \$131,450: $\$131,450 - \$65,100 = \$66,350$ $\$66,350 \times .25$ (25% tax rate) =	\$16,587.50
On income between \$131,451 and \$200,300: $\$200,300 - \$131,450 = \$68,850$ $\$68,850 \times .28$ (28% tax rate) =	\$19,278.00
On income between \$200,300 and \$357,700: $\$228,800 - \$200,300 = \$28,500$ $\$28,500 \times .33$ (33% tax rate) =	\$9,405.00
<b>Total tax paid on \$250,000</b>	<b>\$54,233.00</b>

#### Actual tax paid as percentage of income

$(\$54,233.00 \text{ tax paid}) / (\$250,000 \text{ income}) = \mathbf{22\%}$

**Handout 4: American Households—Answer Key (cont.)**

Scenario 2	
Married couple	
Combined income: \$40,000 per year	
Rent: \$800 per month	
Three children ✓	
Reduced lunch at school ✓	
Charitable contributions: \$3,000 per year ✓	
_____ 15% _____	% tax bracket
\$ _____ \$27,400 _____	taxable income
[\$40,000 - (\$9,600 + \$3,000)] = \$27,400	
\$ _____ \$3,307.50 _____	owed in taxes
% of income actually paid in taxes:	
_____ 8.3% _____	

**Calculations for Scenario 2**

On first \$16,050 of income: \$16,050 x .10 (10% tax rate) =	\$1,605.00
On income between \$16,151 and \$65,100: \$27,400 - \$16,050 = \$11,350 \$11,350 x .15 (15% tax rate) =	\$1702.50
<b>Total tax paid on \$40,000</b>	<b>\$3,307.50</b>

**Actual tax paid as percentage of income**

$(\$3,307.50 \text{ tax paid}) / (\$40,000 \text{ income}) = \mathbf{8.3\%}$

**Handout 4: American Households—Answer Key (cont.)**

Scenario 3	
Single woman	
Income: \$100,000 per year	
Mortgage interest: \$1,000 per month	✓
Graduate school tuition: \$6,000 per year	✓
No children	
Contribution to 401(k): \$10,000 per year	✓
Charitable contributions: \$500 per year	✓
<u>28%</u> % tax bracket	
<u>\$71,500</u> taxable income	
$[\$100,000 - \{(\$1,000 \times 12) + \$6,000 + \$10,000 + \$500\}] = \$71,500$	
<u>\$14,218.75</u> owed in taxes	
% of income actually paid in taxes:	
<u>14.2%</u>	

**Calculations for Scenario 3**

On first \$8,025 of income: \$8,025 x .10 (10% tax rate) =	\$802.50
On income between \$8,026 and \$32,550: \$32,550 - \$8,025 = \$24,525 \$24,525 x .15 (15% tax rate) =	\$3,678.75
On income between \$32,551 and \$78,850: \$71,500 - \$32,550 = \$38,950 \$38,950 x .25 (25% tax rate) =	\$9,737.50
<b>Total tax paid on \$100,000</b>	<b>\$14,218.75</b>

**Actual tax paid as percentage of income**

$(\$14,218.75 \text{ tax paid}) / (\$100,000 \text{ income}) = \mathbf{14.2\%}$

**Handout 4: American Households—Answer Key (cont.)**

Scenario 4	
Single man	
Income: \$20,000 per year	
Rent: \$350 per month	
Two children ✓	
Nutrition assistance	
Medicaid	
Earned Income Tax Credit	
_____ 15%	% tax bracket
\$ _____ \$13,600	taxable income
(\$20,000 - \$6,400) = \$13,600	
_____ \$1,638.75	owed in taxes
% of income actually paid in taxes:	
_____ 8.2%	

**Calculations for Scenario 4**

On first \$8,025 of income: \$8,025 x .10 (10% tax rate) =	\$802.50
On income between \$8,026 and \$32,550: \$13,600 - \$8,025 = \$5,575 \$5,575 x .15 (15% tax rate) =	\$836.25
<b>Total tax paid on \$20,000</b>	<b>\$1,638.75</b>

**Actual tax paid as percentage of income**

(\$1,638.75 tax paid)/(\$20,000 income) = **8.2%**

**Handout 4: American Households—Answer Key (cont.)**

Scenario 5	
Married couple	
Combined income: \$100,000 per year	
Mortgage interest: \$1,200 per month	✓
Two children	✓
One child in day care: \$1,500	✓
Contributions to 401(k): \$5,000 per year	✓
_____ 25% _____ % tax bracket	
\$ _____ \$72,700 _____ taxable income	
$[\$100,000 - [(\$1,200 \times 12) + \$6,400 + \$1,500 + \$5,000]] = \$72,700$	
_____ \$10,862.50 _____ owed in taxes	
% of income actually paid in taxes:	
_____ 10.9% _____	

**Calculations for Scenario 5**

On first \$16,050 of income: \$16,050 x .10 (10% tax rate) =	\$1,605.00
On income between \$16,151 and \$65,100: \$65,100 - \$16,050 = \$49,050 \$49,050 x .15 (15% tax rate) =	\$7,357.50
On income between \$65,101 and \$131,450: \$72,700 - \$65,100 = \$7,600 \$7,600 x .25 (25% tax rate) =	\$1,900.00
<b>Total tax paid on \$100,000</b>	<b>\$10,862.50</b>

**Actual tax paid as percentage of income**

$(\$10,862.50 \text{ tax paid}) / (\$100,000 \text{ income}) = \mathbf{10.9\%}$

## Handout 5: I Owe How Much?

Do all the scenarios listed in Handout 4 fit the ability-to-pay principle?

What do you notice about the bracket percentage and actual percentage of household income each household pays?

Which household actually pays the highest rate of taxes? Which pays the largest dollar amount?

How do households benefit from a progressive tax?  
Explain your answer.

Do you think this system is fair? Explain your response using information you have received from this lesson.

## Handout 5: I Owe How Much?—Answer Key

**Do all the scenarios listed in Handout 4 fit the ability-to-pay principle?**

*(Yes, the higher-income earners are paying a higher tax rate.)*

**What do you notice about the bracket percentage and actual percentage of household income each household pays?**

*(The bracket percentage is higher than the percentage each household pays. Or, each household pays less than the bracket percentage.)*

**Which household actually pays the highest rate of taxes? Which pays the largest dollar amount?**

*(Household 1 pays the highest rate. Household 1 also pays the highest dollar amount.)*

**How do households benefit from a progressive tax? Explain your answer.**

*(Households 1, 3 and 5 pay higher tax rates but also have the most deductions. Households 2 and 4 pay the lowest tax rate.)*

**Do you think this system is fair? Explain your response using information you have received from this lesson.**

*(Answers may vary, but may include some of the answers provided below:*

*Yes, it is fair. According to the ability-to-pay principle, the higher-income earners can shoulder the burden of the higher tax rate.*

*Yes, the higher-income earners are paying a higher tax rate but also have the most deductions.*

*Yes, the higher-income earners should pay more than the lower-income earners.*

*No, the lower-income earners are paying a lower rate and receiving all the transfer payments.*

*No, the higher-income earners are paying for the lower-income earners' transfer payments.*

*No, it is not fair that successful people should pay more of their income or be punished for making money.*

**Handout 6: American Households, Flat Tax**

Scenario 1	Scenario 2
<p>Married couple Combined income: \$250,000 per year</p> <p>\$ _____ owed in taxes</p>	<p>Married couple Combined income: \$40,000 per year Three children (reduced lunch at school)</p> <p>\$ _____ owed in taxes</p>
Scenario 3	Scenario 4
<p>Single woman Income: \$100,000 per year</p> <p>\$ _____ owed in taxes</p>	<p>Single man Income: \$20,000 per year Two children (nutrition assistance) Medicaid</p> <p>\$ _____ owed in taxes</p>
Scenario 5	
<p>Married couple Combined income: \$100,000 per year</p> <p>\$ _____ owed in taxes</p>	

**Handout 6: American Households, Flat Tax—Answer Key**

Scenario 1	Scenario 2
<p>Married couple                      Combined income: \$250,000 per year                       \$ <u>50,000</u> owed in taxes</p>	<p>Married couple                      Combined income: \$40,000 per year                      Three children (reduced lunch at school)                       \$ <u>8,000</u> owed in taxes</p>
Scenario 3	Scenario 4
<p>Single woman                      Income: \$100,000 per year                       \$ <u>20,000</u> owed in taxes</p>	<p>Single man                      Income: \$20,000 per year                      Two children (nutrition assistance)                      Medicaid                       \$ <u>4,000</u> owed in taxes</p>
<b>Scenario 5</b>	
<p>Married couple                      Combined income: \$100,000 per year                       \$ <u>20,000</u> owed in taxes</p>	

## Handout 7: Flat Tax

Is the flat tax fairer than the ability-to-pay tax? Explain your answer.

How are households affected by the flat tax?

Since there are no deductions when using a flat tax, explain how a flat tax could affect the following:

Home purchases:

Average number of children per household:

Charitable giving:

## Handout 7: Flat Tax—Answer Key

### **Is the flat tax fairer than the ability-to-pay tax? Explain your answer.**

*Answers may vary but could include the following: Yes, because everyone pays the same rate – no one is punished for making a higher income; No, because higher-income earners should pay a higher rate in taxes.*

### **How are households affected by the flat tax?**

*The higher-income earners don't have to pay as high a rate. Instead of having to pay 25-35 percent, they only pay 20 percent. The lower-income earners have to pay a higher rate. However, they still receive transfer payments.*

### **Since there are no deductions when using a flat tax, explain how a flat tax could affect the following:**

#### **Home purchases:**

*Answers may vary but could include the following: Fewer people will buy a house, because they are not able to deduct the mortgage interest; House purchases will remain constant, because people have other reasons besides tax deductions – such as building home equity – for buying a house.*

#### **Average number of children per household:**

*Answers may vary but could include the following: The average number of children per family will decrease, because raising children becomes more expensive if tax deductions are eliminated; the average number of children per family will remain constant, because people decide to have children even though it is expensive.*

#### **Charitable giving:**

*Charitable giving will decrease. Although many people may not consider tax deductions as a reason for donating to charity – many people donate to charity out of kindness – statistics demonstrate that charitable giving decreases when tax deductions are reduced or eliminated.*