



*Teens' version*

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# Instructor guide

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# Budgeting

## Unit Overview

In these lessons, middle-school students (grades 6-8) are introduced to a personal budget. At the end of these lessons, students will be able to explain the purposes of budgeting and basic budgeting strategies. Students will be able to create their own personal budgets.

In the online/CD-ROM version of the *Hands on Banking* program, there are eight lessons that are condensed into two sections, below.

### Section 1: Understanding and Creating Budgets

Individuals use budgets to itemize and manage their income, expenses, and savings. To be financially sound, it's important to spend less than you earn. Students identify fixed, flexible, and discretionary expenses. Students create a personal budget showing income, expenses, and savings.

### Section 2: Using a Budget

Students apply what they know about budgets to make sound financial decisions.

## Learning Objectives

*The financial-literacy objective* of these lessons is for students to recognize that a major factor in being financially solvent is to spend less than one earns and to save the difference. A personal budget is a tool that can assist an individual stay within his or her income.

*The mathematical objective* of these lessons is for students to compute the sum or difference of whole numbers and positive decimals to two places.

## Alignment with Educational Standards

National Council of Economic Education and the National Association of Economics Educators and the Foundation for Teaching Economics, *Voluntary National Content Standards in Economics*, (1997), Grade 8:

- Content Standard 2, "To determine the best level of consumption of a product, people must compare the additional benefits with the additional costs of consuming a little more or a little less."

JumpStart Coalition for Personal Financial Literacy, *National Standards in K-12 Personal Finance Education* (2007), Grade 8 Standards:

- Planning and Money Management

National Council of Teachers of Mathematics *Principles and Standards for School Mathematics*, (2000), Grades 6-8:

- Number and Operations Expectations, "[Students will] work flexibly with fractions, decimals, and percents to solve problems. ... [Students will] select appropriate methods and tools for computing with fractions and decimals from among mental computation, estimation, calculators or computers, and paper and pencil, depending on the situation, and apply the selected methods."
- Problem-Solving Expectations: "Solve problems that arise in mathematics and in other contexts; apply and adapt a variety of appropriate strategies to solve problems."
- Connections Expectations: "Recognize and apply mathematics in contexts outside of mathematics."



## Section 1: Understanding and Creating Budgets

*Individuals use budgets to itemize and manage their income, expenses, and savings. To be financially sound, it's important to spend less than you earn. Students identify fixed, flexible, and discretionary expenses. Students create a personal budget showing income, expenses, and savings.*



### Opening Questions

Use these or similar questions to start students thinking about this concept and how it relates to them:

- Describe a time when you wanted to buy something but didn't have enough money to pay for it.
- Explain ways you could save money for something you wanted to buy.
- What are examples of something you or your family *need* to buy – versus something you'd *like* to have?
- What are some reasons you might want to have a written plan for how you are going to spend your money?



### Key Points

- A personal budget:
  - helps you identify how you spend your money and how much you spend in a given period of time;
  - helps you plan the savings you'll need for unexpected expenses or changes in income; and,
  - helps you make decisions about your money both today and as your situation changes over time.
- Remember, your budget is a general plan. If your expenses change, or if you have an emergency expense, your budget will have to change, too. So try to allow yourself a few dollars left over every month for pocket change – or for the unexpected.
- What information do you need to make a personal budget? You need to know:
  - how much money you have coming in during a given period of time, that is, your **income**;
  - how much money you have going out in a given period of time, that is, your **expenses**; and,
  - how you can adjust your spending habits to save for unexpected events and get the most **value** for your money.
- Types of Expenses
  - **Fixed Expenses:** These expenses occur regularly and don't change from month to month. Examples of fixed expenses are rent and car payments.
  - **Flexible Expenses:** Like fixed expenses, flexible expenses occur on a regular basis. The difference is that with flexible expenses, you have some control over how much you spend. Examples of flexible expenses include food and gasoline.
  - **Discretionary Expenses:** This is money that you *choose* to spend – like money for movies or having pizza with friends. It also includes the money that you save.



### Activity

Students use the following worksheet to analyze a personal 4-week budget. The teacher's copy of this activity follows the students' worksheet.



## Personal Budget Worksheet

Name \_\_\_\_\_

<b>Alex's 4-Week Budget</b>			
<b>Description</b>	<b>Income (+)</b>	<b>Expense (-)</b>	<b>\$ Available</b>
Earnings - babysitting and running errands	\$80.00		\$80.00
College fund		\$15.00	\$65.00
Snack money		\$20.00	\$45.00
Savings for a computer		\$15.00	\$30.00
Entertainment/Clothes		\$20.00	\$10.00

1. The budget above was created by Alex to help him plan how he will spend the money she earns. He usually earns \$20 each week by babysitting and running errands for his parents. If Alex is sick one weekend and can't earn the \$20, how much will he earn for that 4-week period (assume there are 4 weekends in the month)?
  
2. Alex wants to buy a pair of shoes. But they cost \$45.99, not including tax. Using Alex's entertainment/clothing budget, how long will it take him to have earned enough money for the shoes?





## Teacher's Copy of Personal Budget Worksheet

<b>Alex's 4-Week Budget</b>			
<b>Description</b>	<b>Income (+)</b>	<b>Expense (-)</b>	<b>\$ Available</b>
Earnings - babysitting and running errands	\$80.00		\$80.00
College fund		\$15.00	\$65.00
Snack money		\$20.00	\$45.00
Savings for a computer		\$15.00	\$30.00
Entertainment/Clothes		\$20.00	\$10.00

1. The budget above was created by Alex to help him plan how he will spend the money she earns. He usually earns \$20 each week by babysitting and running errands for his parents. If Alex is sick one weekend and can't earn the \$20, how much will he earn for that 4-week period (assume there are 4 weekends in the month)?

**(\$60)**

### Hints

- Alex will earn \$20 less than his usual 4-week earnings.
- Calculate Alex's 4-week earnings if he is not sick.

2. Alex wants to buy a pair of shoes. But they cost \$45.99, not including tax. Using Alex's entertainment/clothing budget, how long will it take him to have earned enough money for the shoes?

**(3 months)**

### Hints

- Because the shoes cost \$45.99, not including tax, the estimated cost is around \$50.
- If Alex sticks to his entertainment/clothing budget, he will save \$20 each 4-week period.
- That means Alex needs to save \$20 every 4 weeks for approximately 3 months.

3. Alex has kept within his budget during this 4-week period! He also earned an extra \$12 one week for cleaning his neighbor's garage. If Alex wants to save the \$10 he has left over every 4-week period, how much less time will it take for him to earn enough money for the shoes? Remember, the shoes cost \$45.99 plus tax.  
**(1 month sooner. He can buy the shoes after 2 months instead of 3.)**

**Hints**

- If Alex doesn't use the \$10 left over from his 4-week budget, he will have \$20 to spend on shoes each month, approximately.
- If he saves \$20 each 4-week period, he will save for the shoes in 3 months.
- If he earns an extra \$12 in a 4-week period, he will earn \$32 in this 4-week period.
- $\$20$  (4-week clothing budget) +  $\$32$  (amount budgeted + extra \$12 earned) =  $\$52$

4. Alex saves \$15 every 4 weeks for his College Fund. How much does Alex save in 1 year?  
**(\$195)**

**Hints**

- How many 4-week periods are there in 1 year? Divide 52 by 4.
- Multiply 13, the number of 4-week periods in 1 year, by \$15, the amount Alex saves every 4-week period.

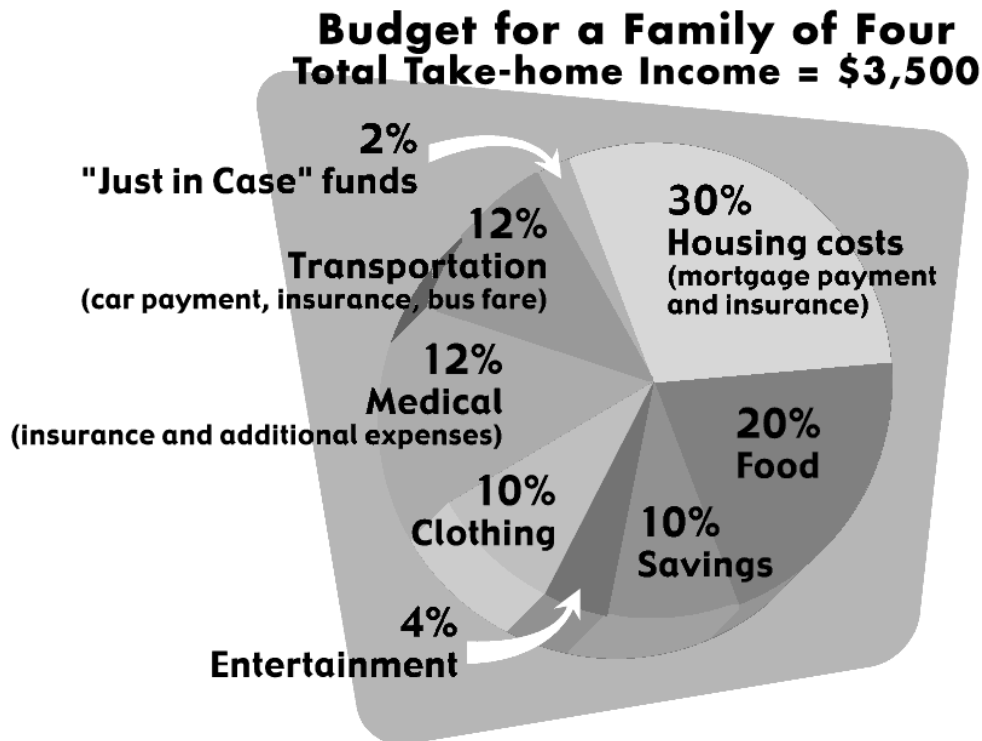
5. If Alex saves \$195 a year in her College Fund, how much will he have saved, without interest, by his senior year in high school in 6 years?  
**(\$1,170)**

**Hint**

- Multiply the amount Alex saves in 1 year (\$195) by 6.

## Monthly Family Budget

Let's look at a household budget for a family of four. In this example, the family takes home \$3500 a month in income. The pie chart and the budget below indicate that the family spends 30% of their income on fixed housing costs, which include the mortgage payment and insurance. That equals \$1,050 a month. The family also budgets 20% of their income for food, a flexible expense. That's another \$700.



Sample Monthly Family Budget

Item	Percentage	Amount (\$)
Monthly income		\$ 3500.00
Housing costs (mortgage payment and insurance)	30%	1050.00
Food	20%	700.00
Clothing	10%	
Transportation (car payment, insurance, bus fare)	12%	
Medical (insurance and additional expenses)	12%	
Savings	10%	
Entertainment	4%	
"Just in Case" funds	2%	



### Activity

Students use the two worksheets on the following page, to analyze a sample family monthly budget and to create their own personal budgets. The teacher's copies of these activities follow the students' worksheets.





## Family Budget Worksheet

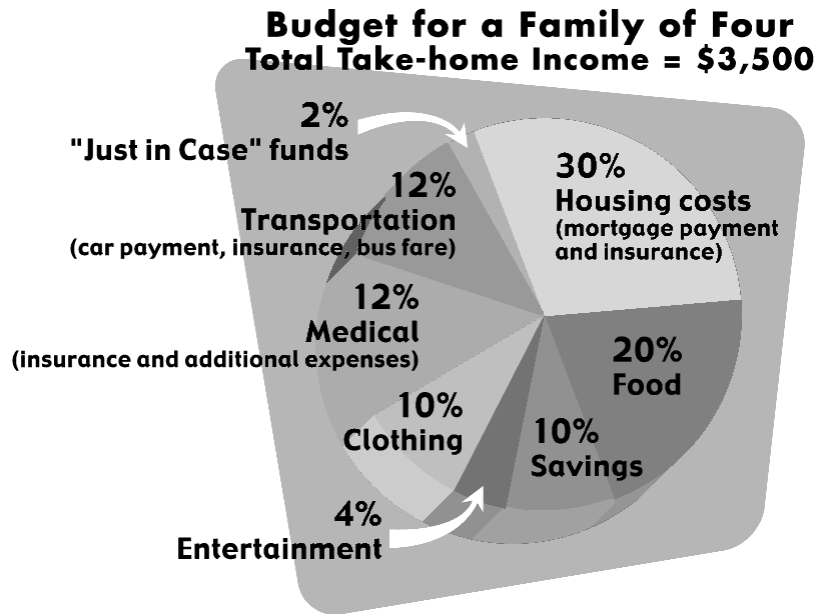
Name \_\_\_\_\_

**Sample Family Monthly Budget**

Item	Percentage	Amount (\$)
Monthly income		\$ 3500.00
Housing costs (mortgage payment and insurance)	30%	1050.00
Food	20%	700.00
Clothing	10%	
Transportation (car payment, insurance, bus fare)	12%	
Medical (insurance and additional expenses)	12%	
Savings	10%	
Entertainment	4%	
"Just in Case" funds	2%	

1. It's a good thing this family has "Just-in-Case" funds because one month their car had a flat tire, and they spent \$97.00 to buy a new tire! What percent of their monthly income was that expense? (Round your answer to the nearest whole percent.)
2. How many months of "Just-in-Case" funds did the family need to pay for the tire? \_
3. The family makes a decision to save their entertainment funds every month so they can take a special trip during the summer. How much money will they save in 12 months?

4. One month the family decides to shop around for “best buys” at different supermarkets. They are able to reduce the amount they spend on food from \$700 that month to \$615. What percent of their monthly income did they save? (Round your answer to the nearest whole percent.)



5. Compare the family’s budget on the pie chart to the printed budget. What information can you see on the printed budget that you cannot see on the pie chart?
6. What does the pie chart illustrate that the printed budget doesn’t?



## Teacher's Copy of Family Budget Worksheet

Sample Family Monthly Budget

Item	Percentage	Amount (\$)
Monthly income		\$ 3500.00
Housing costs (mortgage payment and insurance)	30%	1050.00
Food	20%	700.00
Clothing	10%	
Transportation (car payment, insurance, bus fare)	12%	
Medical (insurance and additional expenses)	12%	
Savings	10%	
Entertainment	4%	
"Just in Case" funds	2%	

1. It's a good thing this family has "Just-in-Case" funds because one month their car had a flat tire, and they spent \$97.00 to buy a new tire! What percent of their monthly income was that expense? (Round your answer to the nearest whole percent.)

(3%)

**Hint**

- To calculate the percentage of the \$3,500 budget, divide 97 by 3,500 x 100.

2. How many months of "Just-in-Case" funds did the family need to pay for the tire?

(2)

**Hints**

- To determine the number of months of just-in-case funds, multiply \$3,500 by .02 (2%) to get \$70 of just-in-case funds per month.
- If the family has \$70 of just-in-case funds for 1 month, it will take almost 2 months or \$140 for them to have enough money to cover the extra \$97 expense.

3. The family makes a decision to save their entertainment funds every month so they can take a special trip during the summer. How much money will they save in 12 months?

(1680)

**Hints**

- Calculate the amount the family puts aside for entertainment every month by multiplying \$3,500 x .04 (4%).
- Multiply the family's entertainment budget of \$140 (4%) every month by 12 (twelve) 12 months.

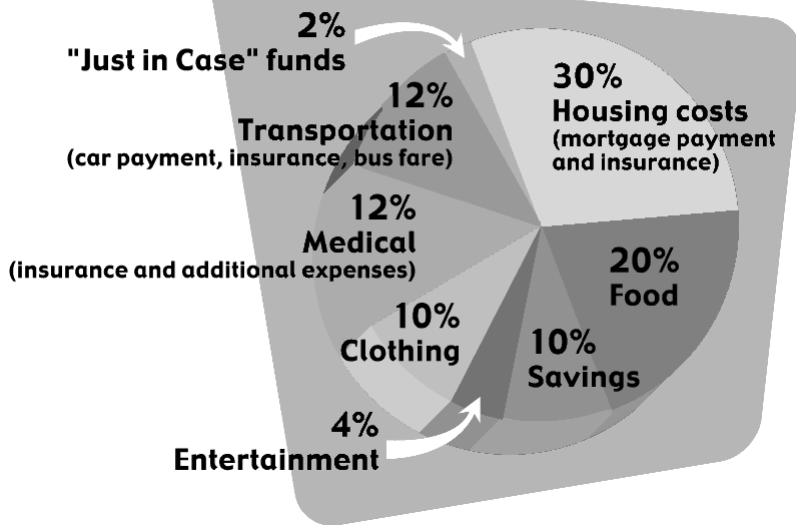
4. One 4-week period the family decides to shop around for "best buys" at different supermarkets. They are able to reduce the amount they spend on food from \$700 that month to \$615. What percent of their monthly income did they save? (Round your answer to the nearest whole percent.)



(2%)

**Hints**

- To determine the amount they saved, subtract \$615 from \$700, which is the amount they usually budget for food.
- To determine what percentage \$85 is of \$3,500, divide 85 by 3,500 x 100, and then round to the nearest whole percent.

## Budget for a Family of Four Total Take-home Income = \$3,500



-  Compare the family's budget on the pie chart to the printed budget. What information can you see on the printed budget that you cannot see on the pie chart?
-  What does the pie chart illustrate that the printed budget doesn't?



## Section 2: Using a Budget

*Students apply what they know about budgets to make sound financial decisions.*



### Opening Questions

Use these or similar questions to start students thinking about this concept and how it relates to them:

- Let's say you're ready to make a budget – a written plan for how you will spend your money. What are some of the kinds of things you would list on your budget? What do you spend your money on now?
- What are some things you never seem to have enough money for? How could your budget help you buy those things?
- What are some ways you can save money when you go shopping?



### Key Points

- Review what makes a good personal budget. A good personal budget:
  - covers basic expenses that occur on a routine basis
  - has money available for unexpected expenses, and
  - includes regular savings for future expenses.
- Tips for sticking to a personal budget:
  - Keep your budget in mind when you shop!
  - Be prepared to make large purchases by saving money over time.
  - Compare prices for similar items at different stores.



### Activity

Students use the following worksheet to practice budgeting. The teacher's copy of this activity follows the students' worksheet.



## Create Your Own Budget Worksheet

Here is a sample personal budget for you to complete.

### Instructions

- First, decide what period of time you are budgeting for.
- Next, estimate your income (from jobs, allowance, gifts, etc.) for that period of time. Write these items in the "Description" column (**A**), and the amounts in the "Income" column (**B**).
- After entering any income, add that amount to the total money you have available (**D**). That is how much money you have available now.
- Identify each of your expenses during that time period.
- For each expense, ask yourself if it's fixed, flexible, or discretionary.
- After entering each expense (**A and C**), subtract that amount from the total money you have available. That is how much money you have available now (**D**).
- Decide how much money you will save during this time period. Enter this as an expense (**C**).
- Consider what you will do with any extra money you have available after you have identified all the items you will buy.
- Decide what you will need to do if you don't have enough money available for all the items you want or need buy.





## Teacher's Copy of Create Your Own Budget Worksheet

*As you introduce this worksheet to your students, review with them the key points about personal budgets.*  
Here is a sample personal budget for you to complete.

### Instructions

- First, decide what period of time you are budgeting for.
- Next, estimate your income (from jobs, allowance, gifts, etc.) for that period of time. Write these items in the "Description" column **(A)**, and the amounts in the "Income" column **(B)**.
- After entering any income, add that amount to the total money you have available **(D)**. That is how much money you have available now.
- Identify each of your expenses during that time period.
- For each expense, ask yourself if it's fixed, flexible, or discretionary.
- After entering each expense **(A and C)**, subtract that amount from the total money you have available. That is how much money you have available now **(D)**.
- Decide how much money you will save during this time period. Enter this as an expense **(C)**.
- Consider what you will do with any extra money you have available after you have identified all the items you will buy.
- Decide what you will need to do if you don't have enough money available for all the items you want or need buy.







## Activity

Students use the following activities to plan their own party budget. The teacher's copy of this activity follows the students' worksheets.



## Budget Practice Worksheet

Name \_\_\_\_\_

You and a friend have a budget of \$50 for a party. Use the list below to help plan.

### Party Shopping List

<input type="checkbox"/>	<b>2 deli trays</b>	<b>\$45.00</b>
<input type="checkbox"/>	<b>2 bags bulk candy</b>	<b>\$10.00</b>
<input type="checkbox"/>	<b>1 case soda</b>	<b>\$4.75</b>
<input type="checkbox"/>	<b>1 jumbo bag chips</b>	<b>\$3.45</b>
<input type="checkbox"/>	<b>Paper products</b>	<b>\$8.50</b>
<input type="checkbox"/>	<b>Used video game</b>	<b>\$12.99</b>
<input type="checkbox"/>	<b>Batteries for game</b>	<b>\$5.75</b>
<input type="checkbox"/>	<b>Decorations</b>	<b>\$14.95</b>
<input type="checkbox"/>	<b>Movie rentals</b>	<b>\$6.00</b>

1. If you spent \$12.95 on food for this party, what did you buy?
  - A. 2 cases of soda and 1 jumbo bag of chips
  - B. 1 paper product and 1 movie rental
  - C. 2 bags of bulk candy
  - D. 2 cases of soda and movie rentals
2. If you spent \$45.24 on food for this party, what did you buy?
  - A. 3 sets of decorations and 1 paper product
  - B. 2 deli trays
  - C. 1 deli tray, 1 used video game, 1 bag of bulk candy, 1 case of soda
  - D. 1 bag of bulk candy
3. Can you find two different combinations of purchases that total *exactly* \$50?
  - A. 10 bags bulk candy
  - B. 6 bags of bulk candy, 3 cases of soda, and 1 battery
  - C. 1 deli tray, 1 set of decorations, and movie rentals
  - D. 4 paper products, 1 jumbo bag of chips, and 2 cases of soda



## Teacher's Copy of Budget Practice Worksheet

Name \_\_\_\_\_

You and a friend have a budget of \$50 for a party. Use the list below to help plan.

### Party Shopping List

<input type="checkbox"/>	2 deli trays	\$45.00
<input type="checkbox"/>	2 bags bulk candy	\$10.00
<input type="checkbox"/>	1 case soda	\$4.75
<input type="checkbox"/>	1 jumbo bag chips	\$3.45
<input type="checkbox"/>	Paper products	\$8.50
<input type="checkbox"/>	Used video game	\$12.99
<input type="checkbox"/>	Batteries for game	\$5.75
<input type="checkbox"/>	Decorations	\$14.95
<input type="checkbox"/>	Movie rentals	\$6.00

1. If you spent \$12.95 on food for this party, what did you buy?
- A. 2 cases of soda and 1 jumbo bag of chips
  - B. 1 paper product and 1 movie rental
  - C. 2 bags of bulk candy
  - D. 2 cases of soda and movie rentals

(A)

#### Hints

- Are there any of the above answers you can eliminate right away? How much would 2 bags of candy cost?
- How much do 2 cases of soda cost?
- If 2 cases of soda cost \$9.50, how much more can you spend to equal \$12.95? Do you see any items in the above list that cost \$3.45?

2. If you spent \$45.24 on food for this party, what did you buy?
- A. 3 sets of decorations and 1 paper product
  - B. 2 deli trays
  - C. 1 deli tray, 1 used video game, 1 bag of bulk candy, 1 case of soda
  - D. 1 bag of bulk candy

**(C)**

**Hints**

- Are there any answers that you can eliminate right away? How much does 1 bag of bulk candy cost?
- Remember that just because something is advertised at "2 for (a price)," you may choose to buy only 1 of the items for half that price.
- How much would 1 deli tray cost? Divide \$45 by 2.

3. Can you find two different combinations of purchases that total *exactly* \$50?
- A. 10 bags bulk candy
  - B. 6 bags of bulk candy, 3 cases of soda, and 1 battery
  - C. 1 deli tray, 1 set of decorations, and movie rentals
  - D. 4 paper products, 1 jumbo bag of chips, and 2 cases of soda

**(A and B)**

**Hints**

- How much does 1 bag of candy cost? Remember, if 2 bags cost \$10, then 1 bag costs \$5.00.
- How much will 1 deli tray cost if 2 trays cost \$45? (Divide \$45 by 2.)
- If 5 movie rentals cost \$30 (5 x \$6), will you have enough left to buy a deli tray?



## Teaching Tips



Use these additional activities to extend or modify the unit objectives to best meet the needs of your students.

1. Ask students to complete this sample family budget.

Sample Family Monthly Budget

Item	Percentage	Amount (\$)
Monthly income		\$ 3500.00
Housing costs (mortgage payment and insurance)	30%	1050.00
Food	20%	700.00
Clothing	10%	350.00
Transportation (car payment, insurance, bus fare)	12%	420.00
Medical (insurance and additional expenses)	12%	420.00
Savings	10%	350.00
Entertainment	4%	140.00
"Just in Case" funds	2%	70.00

2. Have students create new budgets using the blank budget worksheet in Section 1 of this guide. Have students use the want ads to find jobs and then use those salaries as weekly or monthly income. What expenses must they budget for?
3. After students have created their own budgets, have students calculate the percentages of their total budget that each item on their budget represents. Students can then create pie charts to show the percentages represented by each item on their budget.
4. Have students identify items in their budgets as Fixed, Flexible, or Discretionary Expenses.
5. Provide students with ads from the newspaper or catalogs. Using a fixed amount (such as \$50), have students come up with as many combinations as they can to buy 3 items without going over \$50. Vary the fixed amount and number of items to adapt the activity to meet the needs of individual students.
6. Have students repeat activity #5, above, this time using the sales tax in your local area. What adjustments must they make in their purchases to stay within their \$50 budget?
7. Discuss which way students would prefer the sales tax on several items to be calculated: on the total purchase or on each individual item? (It actually doesn't matter to the consumer, but this relates to two important properties of multiplication, the associative and commutative properties. Have students investigate their results to "discover" these properties for themselves.)
8. Using what students have discovered in problems such as #7 above, extend students' thinking with problems such as the following. (Be sure to have students explain their rationale for their answers!)  
A computer is on sale for 25% off, and the sales tax is  $6\frac{3}{4}\%$ . If you were the store owner, which way would you prefer to compute the total price? Which way would you prefer to compute the price if you were the taxman? Which way would you prefer to have the price computed if you were the customer?

The store owner would prefer to take off the 25% and then compute the tax on the discounted price.

The taxman would prefer to compute the tax on the original price, add the tax to the original price and then take the 25% off.

The customer doesn't care!

9. Have students use mental arithmetic and estimation to total the cost of the party goods listed on the Budget Practice Worksheet in Section 2.

