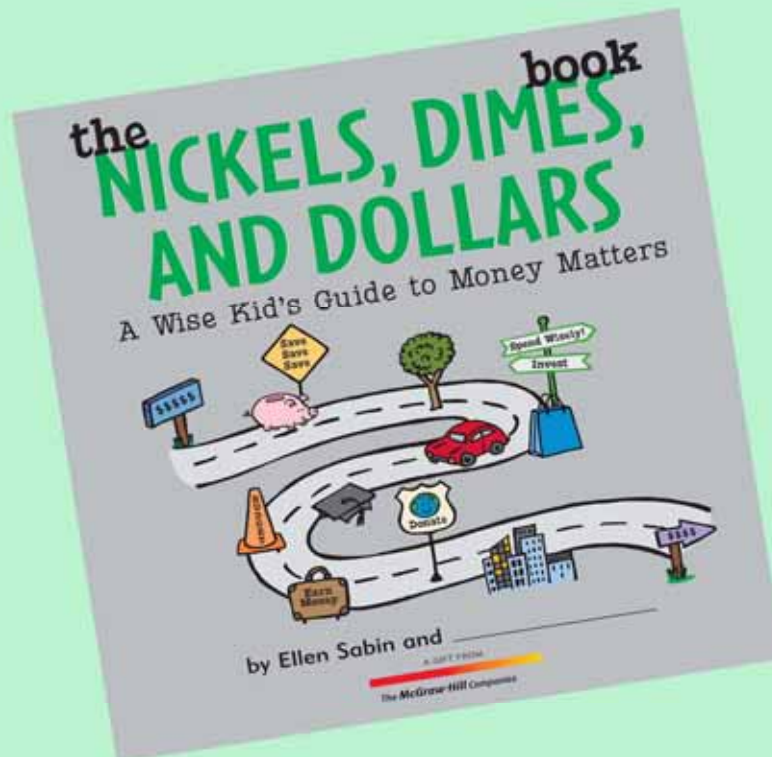


The Nickels, Dimes, and Dollars Book: A Wise Kid's Guide to Money Matters

TEACHER'S GUIDE



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A Guide for Teachers

The Nickels, Dimes, and Dollars Book: A Wise Kid's Guide to Money Matters
by Ellen Sabin, Watering Can Press Lessons written by: Rebecca E. Starr

Introduction

As an integral part of our *Financial Literacy Now* campaign, The McGraw-Hill Companies is proud to share copies of *The Nickels, Dimes and Dollars Book* with third-graders in schools across the U.S., to open their eyes to the importance of money matters, to become ambassadors of financial literacy to their families and friends—and thus join with us in creating a smarter, better world.

The Nickels, Dimes, and Dollars Book: A Wise Kid's Guide to Money Matters lends itself to teaching many lessons and fulfilling numerous National and State Content Standards. Each lesson plan provides creative ideas for using *The Nickels, Dimes, and Dollars Book* in classrooms. The lessons can serve as a basis for accomplishing various curricular and school goals; both formal and informal. Just as the book is geared towards children aged 7-12, some of the lessons are for the younger population and others are more advanced. The lessons can be easily adapted or modified as needed based on student age, ability, and goals.

We hope that these lesson plan ideas encourage and empower educators to invite students to delve into their *Nickels, Dimes, and Dollars Book* journey while learning academic lessons in economics, ethics, history, math, life skills, character education, and language arts. We also hope that *The Nickels, Dimes, and Dollars Book* encourages students to discover more about the world of money and fiscal responsibility.

The standards referenced are drawn from the Mid-Continent Research for Education and Learning's National Standards (which can be viewed at www.mcrel.org).

If you enjoy *The Nickels, Dimes, and Dollars Book* and this Teacher's Guide, please visit the publisher's web site at www.wateringcanpress.com to find additional guides for teachers and other award-winning books in this series that, "grows kids with character".

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SUBJECTS: Life Skills, Character Education

TITLE: **You be the Judge: Ethics and Money**

Grade Level: 2-6

OBJECTIVE: Students will discuss and debate solutions for managing ethical issues and situations related to money.

MATERIALS: *The Nickels, Dimes, and Dollars Book*, pencils, paper, and chalkboard.

ACTIVITY:

- Read pages 19-20 of *The Nickels, Dimes, and Dollars Book* aloud with the class.
- Turn to page 21 and read each of the boxes with the class and discuss each of the scenarios within the boxes. On the chalkboard, write a list of each type of decision outlined. These include: Money Spending Decisions; Money Giving Decisions; Money Saving Decisions; and Money Matters Decisions.
- Explain there is another type of money-related decision that people are often faced with that relates to ethical decisions.
- Hold a discussion with the class about ethics. Ask the students what they think the word ethics means and write their answers on the board.
- Explain that the class is going to play a game to understand more about what it means to make ethical decisions related to money. The game is called, "You be the Judge." Break the class into groups of 5 or 6 students and give each group one of the following scenarios to discuss:
 - A. You go to a store to purchase something and when you receive your change, you realize that the cashier made a mistake and gave you too much money. What would you do?
 - B. You are walking in a parking lot near a group of businesses and you find a \$20 bill on the street. What would you do?
 - C. You and a friend open a small business together selling lemonade. You purchase the lemonade, prepare it, and spend more time at the booth selling the lemonade than your friend. When it comes time to divide the profits, what do you do? What do you say to your friend and how do you divide the money?
 - D. You lend a friend a dollar for lunch one day at school. After a week goes by, your friend has still not paid you back. What do you do?
- Ask the students in each group to discuss the scenario you gave them and come to a group consensus about what they would do in that situation. Each group will then present their resolutions to the situation to the rest of the class. The other groups will act as judges and vote either YES or NO if they think the resolution the group presented is an ethical one.
- Conclude the lesson by explaining that it is sometimes difficult to make ethical decisions related to money and that it is important to spend time thinking carefully about such decisions before making them. Explain that students can be their own judge when they find themselves in ethical dilemmas related to money. Also explain that coming to a conclusion about these decisions is not always easy and the answers are not always obvious, but that what is important is considering what is honest and fair in a given situation.



You be the Judge: Ethics and Money - Continued

STANDARDS:

Life Skills/Character Education:

- Applies basic trouble-shooting and problem-solving techniques
- Applies basic decision making techniques
- Contributes to the overall efforts of a group
- Considers risks

Civics:

- Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities

Human Behavior:

- Understands conflict, cooperation, and interdependence among individuals, groups, and institutions



SUBJECTS: History, Economics, Mathematics

TITLE: **Cool Currency at Home and Around the World**

Grade Level: 1-6

OBJECTIVE: Students will research and explain the history and make-up of American currency and research currency used in other parts of the world. Students will also compare American currency value to foreign currency values.

MATERIALS: Foreign currency samples, updated currency value chart, photos or copies of currency, research materials for student use including encyclopedias and internet access, *The Nickels, Dimes, and Dollars Book*, poster board, and markers.

ACTIVITY:

Note to teacher: Parts 1 and 2 are appropriate for students in earlier as well as upper elementary grades, while part 3 is more complex and appropriate for students in upper elementary.

Part 1: Cool currency at home

- Turn to page 10 in *The Nickels, Dimes, and Dollars Book*. Read the page together as a class and review how currency came into being with the students. Be sure students understand what the word currency means and ask them if they know what type of currency we use in the United States.
- Ask students if they can remember whose faces are on the bills that we use in the United States today. After brainstorming with the students, turn to page 11 and ask the students if they recognize any of the names listed on the bottom of the page.
- Break the class into seven groups and assign each group one of the bills listed on page 11. Ask the members of the group to research their bill and the person on it as well as the picture on the back using the internet, encyclopedia, or school library.
- Ask students to find answers to the following questions:
 - A. What was the person on your bill famous for?
 - B. Why is the picture on the back of your bill an important place or item and where is it located?
 - C. Why do you think the person on your bill was chosen?
- Ask students to create a group poster which explains their bill and illustrates the people and places on the bill. Post each group's project in the classroom and ask each group of students to share what they learned about their bill with the rest of the class.

Part 2: Cool currency around the world

- Before teaching this part of the lesson, encourage students to ask their parents if they have any foreign currency at home from family trips or vacations. Ask students to get permission to bring the foreign currency to school. If the students do not have any foreign currency at home, ask them to download or print a copy of images of currency from the internet or a book.
- Turn to page 12 of *The Nickels, Dimes, and Dollars Book* and ask students if they can match each country with the currency that it uses. Encourage them to research the answers using the internet or other resources.
- Ask the students if anyone brought in currency from any of the countries listed on page 12 and if so, ask them to show it to the class.
- Conclude the lesson by asking all of the students to show the currency that they brought to school. Ask students to consider how the currency is alike or different?



Cool Currency at Home and Around the World - CONTINUED

Part 3: Exchange rates

- Explain that the students will now be researching exchange rates. Help the students define and understand that an exchange rate specifies how much one currency is worth in terms of the other. Explain that if a can of soda in the United States costs \$1, using the exchange rate will help calculate the cost of the same can of soda in another country using that country's currency.
- Explain that the students will be calculating the cost of the same soda in the currency that they brought with them to school. Be sure there are varied currencies being used throughout the classroom.
- Use the website www.x-rates.com to provide the exchange rate for each student for their specific country.
- Ask students to calculate how much a soda would cost using the currency in the country that they are assigned if it costs \$1 in the United States. This will either require multiplication or division. Check student answers before continuing with additional questions. Depending on the age of the students, the teacher may wish to choose a currency and offer a sample solution to the class before asking the students to do the calculations on their own.
- Ask the students to calculate additional exchanges. For example, if a loaf of bread costs \$3 in the United States, how much does it cost in your country's currency?
- Note to teacher: You may wish to explain to the students that in Europe, many countries use the same currency which is called the Euro and that the euro is the official currency of the European Union.

STANDARDS:

History:

- Understands how democratic values came to be, and how they have been exemplified by people, events, and symbols

Economics:

- Understands basic concepts about international economics
- Understands basic features of market structures and exchanges

Mathematics:

- Uses basic and advanced procedures while performing the processes of computation
- Solves real- world problems using number operations



SUBJECTS: Life Skills, Mathematics, Economics

TITLE: **The Price is Right**

Grade Level: K-2

OBJECTIVE: Students will learn about the relationship of money to goods while exploring the costs of different food items. Students will discuss the importance of this knowledge so that they can learn to be financially responsible.

MATERIALS: *The Nickels, Dimes, and Dollars Book*, prepared worksheet with food items listed, grocery store department signs, price tags, 12 or more real or pretend food items.

ACTIVITY:

- Read pages 27-30 in *The Nickels, Dimes, and Dollars Book* with the class. Explain to the students that they are going to play a game together to determine how much some of the food items that they use and need each day cost. Explain that the classroom is no longer a classroom, but is now a grocery store.
- Arrange the classroom so that there are different grocery store sections in different parts of the room. For example, there might be a produce section, a dairy section, a bakery section, and a meat, poultry, and fish section. Place two or three real or pretend food items in each of the sections.
- List all of the foods in each of your sections on a worksheet handout to give to each student. You should have about 12 items listed. You can use more if you wish.
- Next, give each student a set of stickers or post-it notes with specific price amounts listed on them. Each price should correspond with one of the items you displayed in the grocery store.
- Ask each student to walk around the grocery store and guess how much each item costs. Students should place the price tags (stickers) that you gave them next to the item that they think costs that amount on their worksheet.
- After each student has priced each item, ask the class to come back together. Reveal the correct price of each of the items to the students.
- Conclude the lesson by asking the students if they got 5 or more right. Hold a discussion with the students and explain that it is important to be a smart shopper when they go into a store to buy things that they need or want and that having an understanding of what things costs will help them to find the best deals.
- **Extension activity:** If your students are advanced, after completing the lesson, consider giving them a pretend budget of \$30 and tell them that they need to buy groceries from your classroom grocery store to provide lunch for a week. Ask each student to decide which items they will buy for themselves and to then explain why they chose those items. Ask the students if they found it difficult to stick to the \$30 budget.
- Conclude by holding a discussion with the class about why it is important to have a budget in place before going to the store.

STANDARDS:

Life Skills/Family and Consumer Science

- Understands how knowledge and skills related to consumer and resources management affect the well-being of individuals, families, and society
- Manages money effectively

Mathematics

- Uses basic and advanced procedures while performing the processes of computation

Economics

- Understands the concept of prices and the interaction of supply and demand in a market economy



SUBJECTS: Language Arts, Fine Arts, Character Education

TITLE: **Everyday Giving** (Adapted from *The Giving Book* Teacher's Guide)

Grade Level: 3-6

OBJECTIVE: Students will explain the importance of giving to others and define the terms charity and philanthropy. Students will also explain that giving money is not the only way to be charitable and help others.

MATERIALS: *The Nickels, Dimes, and Dollars Book*, newspapers, magazines, internet articles, pencils, paper, arts and crafts supplies.

ACTIVITY:

- Ask students to turn to page 35 of *The Nickels, Dimes, and Dollars Book*. Read pages 35-39 together.
- Ask students what things they wish for others (see page 36) and list their ideas on the board.
- Now ask the students to define philanthropy, philanthropist, and charity. Write their definitions on the board.
- Explain that there are a lot of people in the world who give money to help others. Ask students if they can think of a recent story where they heard about someone helping someone else by giving money. It may be a news story or a personal story. Ask the students to share their thoughts.
- Read pages 40-41 of *The Nickels, Dimes, and Dollars Book* together. Ask students to think of things and/or actions people can give to others without giving money.
- Explain that there are a lot of people in the world who give their time and their things to help others. Ask students if they can think of a recent story that they heard about someone helping someone else by giving items or time. It may be a news story or a personal story. Ask the students to share their thoughts.
- Place students in groups of 3 or 4 and give each group an internet video clip, news article, or magazine article which highlights either someone giving a gift of money to someone else who is in need or someone giving a gift of time or an item to someone who is in need. Note to teacher: Examples of appropriate news stories to offer to the students might include:
 - a local philanthropist or corporation that are active in your community
 - a walk or run for a specific cause held in your community
 - a group that accomplished something to benefit the community like picking up litter
- Ask one student to relate the story, one to record details from the story, and other students to listen to the story. Give the students 15 to 20 minutes to understand the story you gave them and explain that the students will be creating a short role-play or skit to share the content of their story with the rest of the class. Offer students time and arts and crafts supplies so that they can create props, and allow each group to perform their skit for the rest of the class.
- Conclude the lesson by explaining that giving to others is an important thing to do and that it is good to give money if you can, but it is also good to give things and time to those who are in need as well. Explain that both types of giving are valuable and kind.

STANDARDS:

Language Arts

- Understands the characteristics and components of the media
- Gathers and uses information for research purposes
- Uses the general skills and strategies of the reading process and writing process
- Uses listening and speaking strategies for different purposes

Arts

- Uses acting skills
- Designs and produces formal and informal productions

Life Skills/Character Education

- Demonstrates empathy and caring for others and a desire to be helpful
- Contributes to the overall efforts of a group
- Exhibits positive character traits towards others, including honesty, fairness, dependability, and integrity



SUBJECTS: Economics, Life Skills

TITLE: **How Should I Pay?**

Grade Level: 3-6

OBJECTIVE: Students will explain different methods of paying for goods and outline the pros and cons of using each method.

MATERIALS: *The Nickels, Dimes, and Dollars Book*, sample checks, sample credit cards, toy ATM machine (if available), copies of US bills and coins, pre-made worksheets with questions for four stations.

ACTIVITY:

- Turn to page 14 of *The Nickels, Dimes, and Dollars Book* and read it aloud with the class. Show samples of checks and credit cards to the students. Ask students if they have ever noticed someone write a check or use a credit card to pay for something at the store.
- Explain to students that page 14 points out two methods we can use to spend money and that there are also several other ways to pay for items when they go shopping as well. These methods include using cash as well as using debit cards. Also explain to the students that it is possible to use an ATM machine to get cash.
- Now explain to the students that they are going to participate in a round robin activity to learn more about each of the methods we use to pay for the items that we buy.
- Set the classroom up so that there are four stations and label them as follows: checks, cash, debit card, and credit card. Break the students into small groups and ask each group to visit one station at a time and complete the activities at each one. The station activities should be organized and set up as follows:

CASH: Leave a definition of cash at the station for the students. An example is, "Cash is money that is in the form of bills or coins. Cash is made by the government so that people can use it to buy things that they want or need. In order to get cash, people often go to an ATM machine and withdrawal cash from it. The cash comes directly from their bank account. Sometimes, people get checks (as payment for work that they do or as a gift) and they turn that check into cash at the bank as well. If you lose cash or coins, they cannot be replaced."

Copy samples of some bills and coins that we use in the United States for the students to see as examples and leave them at the station. You may also wish to show students how an ATM works if you have access to a toy ATM, which are sold at most toy stores and teacher stores. Give each group a worksheet with the following questions and ask them to provide answers.

- When you have cash, what source or sources does the money come from? Some ideas might include a gift, an allowance, or a job.
- If you get cash from an ATM machine, where does that money come from?
- List the pros and cons of using cash to pay for something that you want to buy?

CREDIT CARD: Copy the box on page 14 of *The Nickels, Dimes, and Dollars Book* for the students and ask them to re-read the box together. Give each group a worksheet and ask them to provide answers to the following questions:

- When you use a credit card, where does the money come from?
- How do you get a credit card?
- Do you need to have money available in a bank account in order to use a credit card?
- What happens if you do not pay the credit card company back on time after using a credit card?
- List the pros and cons of using a credit card to pay for something that you buy?



How Should I Pay? – CONTINUED

DEBIT CARD: Leave a definition of debit cards at the station for the students. An example is, "A debit card, which is also known as a bank card or check card is a plastic card that you can use to buy things. It functions like a check because the money is taken directly from a bank account when you use the card. It is important to have enough money in the bank to make sure that the seller receives the money that is owed and that you have promised to pay." Give the group a worksheet and ask them to provide answers to the following questions:

- When you use a debit card, where does the money come from?
- How do you know that you have enough money in your bank account to use the debit card?
- What happens if you do not have enough money in your bank account and you try and use a debit card to make a purchase?
- List the pros and cons of using a debit card to pay for something that you buy.

CHECKS: Copy the box on page 14 of *The Nickels, Dimes, and Dollars Book* for the students and ask them to re-read the box together. Give each group a worksheet and ask them to provide answers to the following questions:

- How do you get a checkbook?
- When you write a check, where does the money come from?
- How do you know that you have enough money in your bank account to write a check?
- List the pros and cons of using checks to pay for something that you buy.

- Conclude the lesson by asking each group to share the pros and cons that they listed at each station with the rest of the class. List their ideas on the board.
- You may also wish to ask students to conduct some research at home with their families and encourage them to talk to an adult about any advice they have about using checks, cash, debit cards, or credit cards. They can write down what they learn and bring it back to the class to share.

STANDARDS:

Economics:

- Knows that banks play a key role in providing currency and other forms of money to consumers and that banks serve as intermediaries between savers and borrowers.

Life Skills:

- Considers risks
- Manages money effectively



SUBJECTS: Life Skills, Mathematics, Economics

TITLE: **Setting Goals and Setting a Budget**

Grade Level: 1-5

OBJECTIVE: Students will set goals and work as a team to accomplish those goals. They will also explain that advanced planning is required in order to accomplish their goals, which includes budgeting. Students will create and analyze their own budgets.

MATERIALS: *The Nickels, Dimes, and Dollars Book*, chalkboard, pencils, and additional materials may be required as individual class projects are identified.

ACTIVITY:

Part 1: Setting goals and making plans

- Read pages 22-25 of *The Nickels, Dimes, and Dollars Book* with the class. Explain that there are different types of goals including goals that we set to attain things as well as goals that we set to attain certain achievements.
- Ask the students to share their own personal goals. Ask them if the goals they mentioned are to attain something or to attain a certain achievement or accomplishment.
- Now explain that in addition to having personal goals, people also often have group goals to attain something or achieve something. These are goals set by a group of people (like a family, a business, or a class full of students). Explain that the class is going to set some goals together and work as a team to accomplish those goals.
- Brainstorm with the class and ask them to list some goals that they have for their classroom (i.e. items or materials that they would like to see in the classroom that will enhance the class). For example, they might say that they would like more art supplies or more books for the classroom library. Take a vote and decide which items the class will work to acquire over the next few weeks.
- Explain that in order to accomplish their goals and purchase the items they would like to see in the classroom, the class needs to plan for success. This means that they will have to create a plan to raise money for the items that they would like to have in their class. Reiterate the planning steps found on page 24 of *The Nickels, Dimes, and Dollars Book*, which include: research, setting short-term and long-term goals, writing the steps required to complete the goals, taking action, and analyzing the results.
- Break the students into four groups and assign each group one of the planning tasks. One group will do the research, another writes short-term and long-term goals, another writes the steps required to complete the goals, and the final group will analyze the results when the project is complete.

NOTE: *This means that all the groups cannot work together at one time. After one group finishes its assigned task and presents it to the class, the next group can begin. Remember, that this project will take place over a period of weeks. Provide guidance and resources to each group as needed.*

Part 2: Setting a budget to achieve the goal

- After the class has developed a plan of action to accomplish their desired goals, read page 57 of *The Nickels, Dimes, and Dollars Book* with the class. Explain that the class is going to learn about the budgeting process together and that using a proper budget is a part of a good action plan.
- Ask students to complete pages 58-59 of *The Nickels, Dimes, and Dollars Book*. Students should fill in the pages based on their personal lives first.



Setting Goals and Setting a Budget - CONTINUED

- Next, create a budget on the board dedicated to their classroom project similar to the one on page 58 of *The Nickels, Dimes, and Dollars Book*. Ask students to fill in the total income expected based on their action plan and the sources of income they identified as well as expenses projected in their plans. Finally, ask students to analyze their numbers and decide if they will have enough money to purchase the items they want to buy for their classroom.
- If the budget balances or has extra income, encourage students to continue to move forward and implement their plan of action to accomplish their goals. If the budget has a deficit, encourage the class to consider how they can alter their action plan to make it balance.
- Move forward with the classroom project and implement the action plan to accomplish the goals identified by the class. Conclude the lesson by reiterating the importance of good planning when looking to accomplish a specific goal, especially when the goal will require spending money.

STANDARDS:

Life Skills

- Displays reliability and basic work ethic
- Manages money effectively
- Makes effective use of basic life skills
- Works effectively within groups and organizations

Mathematics

- Uses a variety of strategies in the problem solving process
- Uses basic and advanced procedures while performing the processes of computation
- Understands and applies basic concepts of statistics and data analysis

Economics

- Understands the concepts of balanced budget, budget deficit, and budget surplus
- Understands that scarcity of productive resources requires choices that generate opportunity costs



SUBJECTS: Life Skills, Economics, Mathematics

TITLE: **Can You Risk it?**

Grade Level: 2-6

OBJECTIVE: Students will explain the difference between risky and safe investments and discuss their personal attitudes about risks and rewards around money. They will also explain how the stock market works.

MATERIALS: *The Nickels, Dimes, and Dollars Book*, chalkboard, financial section of the newspaper.

ACTIVITY:

Part 1: Defining safe, risk, and reward:

- Create three columns on the board. Write the words SAFE, RISKY, and REWARD. Ask the students to define these words and write their definitions in the columns.
- Point out that people choose to take risks when they think the rewards will be good.
- Ask the students to think of some risks they have taken in their own lives and ask them to share their experiences. Some examples to offer to the students as ideas to start their thinking might be:
 - "I was playing Monopoly with my sister and I decided to buy every piece of property that I landed on even if it meant I didn't have a lot of money left over to buy houses or hotels for my properties."
 - "I was preparing for a soccer tournament and decided to spend some extra time practicing the night before even though the practice may have made me more tired for the tournament the next day."
- For each example shared, ask students to articulate the 'safe' course of action, the 'risk' taken, and the 'rewards' anticipated in their action and write their answers in each column.
- Explain that everyone is different and some people feel more comfortable making decisions that feel safer while others are comfortable making decisions that appear to be more risky.

Part 2: Personal tolerance for safe/risky investing:

- Explain that when people invest their money they need to consider their feelings and attitudes about risks and rewards around money.
- Turn to page 54 of *The Nickels, Dimes, and Dollars Book* and read the explanations of Certificate of Deposit (CD) and Stocks with the students. Ask students to decide if a CD is a safe way to grow money or a risky way and list it in the appropriate column. Do the same for stocks. Explain that the students will be learning more about how the stock market works so that they can better understand why it is a more risky way to grow money. Also explain that investing in a CD is a safe investment because the bank that is holding your money promises to give a set amount of interest back to you after a certain amount of time.
- Ask the students to consider the following scenario:

"You have \$100 to invest. If you put it in a CD, you are guaranteed to make an additional \$5 if you leave it in the bank for 1 year and do not take it out of the bank before the year is over. You could also invest the \$100 in a company in the stock market. You've done the research and learned that this company is performing well and you have the potential to make an additional \$20 if you invest your \$100 with that company for 1 year. The additional \$20 is not guaranteed, but it seems likely based on how the company is doing. You could also lose part or all of your original \$100 investment. What would you do? Are you more comfortable with a safe investment or a risky one even though it means you could make more money in the same amount of time?"

Ask the students to write their answer down on a piece of paper and then share their thoughts and ideas with the class.



Can You Risk it? - CONTINUED

Part 3: Understanding the stock market:

- Explain to the students that people who buy stocks in a certain company are called investors and that when they buy those stock, they are buying small pieces of the company. This means that if the company does well, the investors will make a profit, but if the company does not do well, the investors will lose money in the stock market.
- Show the students the financial section of the newspaper, which lists all of the companies that they can invest in by buying stocks. Explain that when you invest in a stock, you can keep track of how much it rises and falls each day to know how your original investment is doing. Give each student a worksheet with the following scenario and questions:

“Our class is going to invest in the stock market and we are going to buy one share in a pretend company called *School Rocks*. We are investing \$20 to buy a single share in the company.”

 1. In the first week, *School Rocks* sells a record number of pencils and stock prices rise by \$4.50. What is the stock worth now?
 2. In the second week, *School Rocks* picks up a number of new students and the stock rises again by \$2.75. What is the stock worth now?
 3. In the third week, *School Rocks* gives away a free book to each student and loses \$2.00. What is the stock worth now?
 4. In the fourth week, *School Rocks* has to close its doors for two days because of a flood and the stock loses \$1.00. What is the stock worth now?
- If the students are advanced and you would like to add more challenge to the lesson, ask the class to pick a real company to follow in the newspaper each day and keep track of its gain and loss over the course of a month. Calculate the daily gain and loss and at the end of the month, evaluate the success or failure of the company in that time period.

STANDARDS:

Life Skills:

- Considers risks
- Manages money effectively
- Uses various information sources, including those of a technical nature, to accomplish specific tasks

Economics:

- Understands basic concepts of market structures and exchanges
- Understands that scarcity of productive resources requires choices that generate opportunity costs

Mathematics:

- Uses basic and advanced procedures while performing the process of computation
- Understands and applies basic and advanced properties of the concepts of numbers



SUBJECTS: Mathematics, Economics

TITLE: Interest in Interest: Calculating the Growth of Money

Grade Level: 4-7

OBJECTIVE: Students will explain the concept of interest and will be able to calculate the growth of money using various interest rates.

MATERIALS: Interest rates from a variety of banks, *The Nickels, Dimes, and Dollars Book*, paper, pencils, two glass jars, and marbles.

ACTIVITY:

Part 1: An example of interest

- Turn to page 53 of *The Nickels, Dimes, and Dollars Book* and read together with the class. Be sure students understand the concept of interest and that when they save money in the bank in a savings account, their money will grow over time.
- Illustrate the concept of interest with the students by placing two jars in the classroom. Each jar should be filled with an equal number of marbles, leaving space in each of the jars to add more marbles later. Label one jar as "interest from bank" and the other jar as "no interest." Add one or two marbles to the jar that is labeled "interest from bank" every three or four minutes as you are conducting other lessons or classroom activities. At the end of one hour, point out the jars to the students again. Ask them if they notice that one of the jars has more marbles while the other jar has the same number with which it started. Explain that the jar with more marbles received interest from the bank, while the other jar did not and that this is what happens with our money when we put it in a savings account and leave it there over a period of time.
- Pointing to the marbles in the jars as an example, conclude and ask the students if they think it makes sense to leave money in the bank and collect interest or not. Ask them to explain their answers.

Part 2: Calculating interest

- Explain that the class is going to learn how to use current interest rates offered by real banks when a person opens a basic savings account and that they will learn how to determine how much their money can grow over time.
- Provide students with interest rates for basic savings accounts from a sampling of banks. Note to teacher: research these interest rates in advance using local and national banks.
- Provide students with the formula for calculating simple interest, which is $I=Prt$. Explain that interest (I) is calculated by multiplying principal (p) times the rate (r) times the number of time (t) periods.
For example, if I invest \$100 (the Principal) at a 5% annual rate for 1 year the simple interest calculation is:
 $\$100 \times 5\% \times 1 \text{ year} = \5 .
- Give students a set of exercises to complete with a variety of interest rates, principal, and time periods for investment and ask each student to do the calculations.

Part 3: Calculating compound interest

- If the students are in the upper grades and the teacher feels that they are able to comprehend the concept, continue the lesson by explaining that there is another type of interest known as compound interest (APY – annual percentage yield) and that calculating interest in this way is actually more exact because it takes compounding into account. In other words, compounding means making earnings *on* your earnings. This means that the quoted APY is telling you how much you're *really* making on your money. Other ways of quoting a rate don't necessarily show you the whole picture. If the students are very advanced, you can offer them the formula for calculating compound interest, which is as follows:



Interest in Interest: Calculating the Growth of Money - CONTINUED

$$M = P(1 + i)^n$$

M is the final amount including the principal.

P is the principal amount.

i is the rate of interest per year.

n is the number of years invested.

Applying the Formula

Let's say that I have \$1000.00 to invest for 3 years at rate of 5% compound interest.

$$M = 1000 (1 + 0.05)^3 = \$1157.62.$$

You can see that my \$1000.00 is worth \$1157.62.

Part 4: Concluding the Lesson

- The lesson can also be concluded by asking students to write about what they would do with any interest they earned on their own personal savings accounts. Ask them if they would buy something with it or if they would keep it in the bank so that it could continue to grow. Ask them to write and explain why they came to that decision.

STANDARDS:

Mathematics:

- Uses basic and advanced procedures while performing the processes of computation
- Solves real- world problems using number operations

Economics:

- Understands savings, investment, and interest rates

Life Work

- Manages money effectively
- Makes effective use of basic life skills