



How to Make a Million Bucks!

EPISODE #406

ACTIVITIES & LESSONS

LESSON LEVEL

Grades 6-8

KEY TOPICS

- Compound Interest
- Saving

TIME NEEDED

Preview & Screening:
45 minutes

Activity #1:
45-60 minutes

Activity #2:
60-90 minutes

EPISODE SYNOPSIS

It is possible! If you start early and save consistently, you'll take advantage of the power of compound interest. You can make a million by working hard, spending less than you earn, and by saving, saving, saving. Meet a 16-year old with a fashion recycling business, and a track star saving his way to college with a button business.

LEARNING OBJECTIVES

1. You don't need to save a million dollars, only enough money so that your savings can grow into a million.
2. You can maximize the power of compound interest.
3. To become a millionaire you need to work, spend less than you make, and save, save, save!

EPISODE ENTREPRENEURS & STORIES

- *D'Anna Dolly's House of Fashion*: Saving half of earnings
- *CD Investor*: moving money to CDs, then index funds
- *IRA Kids Club*: opening Roth IRAs and investing early
- *Buttons By Jordan*: 50/50 savings plan; short & long-term goals
- *The Pavelka Family*: multitasking; 10/10/80 savings plan

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- Lesson Prep & Supplies
- Preview/Screening Notes
- Activity # 1
- Activity #2
- Biz Terms Vocabulary
- Resources



LESSON PREP & SUPPLIES

Getting Started

1. Familiarize yourself with *Biz Kid\$* Episode #406 by watching it ahead of time. The episode will serve as a springboard for student learning, discussions, vocabulary exploration, and related hands-on activities.
2. Determine what equipment is required to show the episode in the classroom and request it if needed.
3. Choose an activity and gather supplies. Have fun exploring “How to Make a Million Bucks!”

Equipment & Supplies for Preview/Screening

Time Needed:
45 minutes

Arrange to borrow a TV/DVD player if one is not readily available. Or, if you have a computer, Internet access, and a projection system, the episode can be streamed online at www.bizkids.com/ey. You will need to enter the password of “ey.”

Items needed for class:

- TV/DVD Player or Computer/Internet Set-Up
- DVD of Episode #406
- Piggy bank
- Scarf or fabric (large enough to cover piggy bank)

Supplies for Activity #1: The Magic of Compound Interest

Time Needed:
45-60 minutes

Items needed for each student:

- Photocopies of instructions/worksheet (pages 5-6)
- Pencil
- Calculator

Supplies for Activity #2: The Snowball Effect

Time Needed:
60-90 minutes

Items needed for class:

- Computer and Internet access

Items needed for each student:

- Photocopies of instructions/worksheet (pages 8-9)
- Pencil
- Calculator



PREVIEW & SCREENING

Introduction

Welcome the students and introduce yourself. Briefly explain what Ernst & Young does and describe your job. Explain that *Biz Kid\$* is a public television series that teaches kids about money and business. Mention that the bizkids.com website has lots of video clips, games, a blog, and other resources to help kids start businesses and learn about money.

Episode Preview Discussion

When you enter the classroom, put the piggy bank in a prominent central location and cover it before the students arrive. Before you show *Biz Kid\$* episode #406, lead your students in a brief discussion using these questions and your piggy bank prop.

Point to the covered piggy bank saying, “under this covering is a financial tool” and then start asking the questions.

- Who wants to share their guess about what kind of item is hidden under this scarf? (After student guesses have been made, remove the scarf with a flourish, revealing the piggy bank.)
- By giving me a show of hands, how many of you have a piggy bank (or some other kind of bank) at home or have used a bank like this in the past when you were younger?
- So for those of you who raised your hands, who can describe how you use your bank at home? (i.e. keep bills for spending money in your wallet and deposit loose change in bank towards savings)
- Is a piggy bank THE BEST place to save your money when you are young? Why or Why Not?
- Has anyone ever been tempted to spend the money in their bank simply because the money is sitting right there at home within easy reach?

About the Episode

In this episode, you’ll learn about the importance of having a saving strategy for your short-term and long-term financial goals. Several young entrepreneurs will demonstrate how important interest rates can be when letting your money work for you.

Next Steps

Summarize the discussion and play the *Biz Kid\$* episode.



Activity #1:

THE MAGIC OF COMPOUND INTEREST

Activity Learning Objectives

- Play a game to determine how interest can grow over time by doubling pennies each day for 31 days.
- Learn how to calculate compound interest.
- Evaluate the outcome of both financial scenarios and choose the scenario with the best outcome

About the Segment: IRA Kids Club

With the encouragement of her grandfather, Biz Kid Hannah learned the importance of investing in her retirement at a young age. With the salary she earns as a bank teller, Hannah invests her earnings into a Roth IRA. Financial contributions to a Roth IRA are not tax deductible. However, the benefit to Hannah is that her withdrawals from the Roth IRA will not be taxed when she is ready to retire. Hannah recognized the value in allowing her money to accumulate interest. Over time, Hannah will earn compound interest on her investments and will be on her way to making a million dollars.

Biz Terms

- Retirement
- Roth IRA
- Tax-deductible
- Interest
- Compound interest

Supplies

Items needed for each student:

- Photocopies of instructions/worksheet (pages 5-6)
- Pencil
- Calculator

Biz Terms & Segment Review

1. At her grandfather's urging, Hannah invested in a "Roth Individual Retirement Account" (IRA). What is one of the major benefits of this particular kind of investment?
2. With a Roth IRA, financial contributions are not "tax deductible." What does this mean?
3. What is the difference between earning "interest" and earning "compound interest"?
4. Hannah's grandfather is retired. How might this impact his suggestions for Hannah to start an IRA Kids Club?



THE MAGIC OF COMPOUND INTEREST

INSTRUCTIONS FOR STUDENTS

Introduction

When discussing savings strategies, many people refer to the “magic” of compound interest. Let’s see if earning compound interest is really “magical,” or if it comes down to cold, hard mathematical facts.

About the Game

Imagine while walking home from school one day, you see a golden glint coming from the side of the road. Tangled in the tall grass, you find a magic lamp! With great anticipation, you rub the side of the lamp, hoping to release a genie and have your top three wishes granted.

However, much to your surprise, this lamp includes the *Biz Genie!* He informs you that the special “magic” inside his lamp concerns the magic of compound interest. The genie tells you: “Biz Kid, you have a very important choice to make. You may take this \$1 million check from me right now and deposit it into your savings account. Or, you may take one penny from me today. Starting tomorrow, the pennies in your savings account will double every day for the next 31 days. Which shall you choose?”

Directions

Before answering the genie’s question, fill in the tables below to see how much money one penny will turn into at the end of the month.

DAY	MATH CALCULATION	TOTAL AMOUNT IN SAVINGS ACCOUNT
1		\$.01
2	$1 \times 2 = 2$	\$.02
3	$2 \times 2 = 4$	\$.04
4	$4 \times 2 = 8$	\$.08
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		

DAY	MATH CALCULATION	TOTAL AMOUNT IN SAVINGS ACCOUNT
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		



THE MAGIC OF COMPOUND INTEREST

Questions

1. Well Biz Kid, which shall it be? Will you take a check for one millions dollars up front? Or will you take the amount in pennies, after compound interest has worked its magic?

2. Explain your choice.

3. How is a Roth IRA like a magic lamp?

Did You Know?

Albert Einstein is rumored to have once said, "The most powerful force in the universe is compound interest."

Activity Wrap-Up

Remember to use the power of compound interest so your money works for you. Since time is on your side, you will maximize the power of compound interest when you start early. Your savings will grow exponentially over time.



Activity #2:

THE SNOWBALL EFFECT

Activity Learning Objectives

- Learn how to calculate compound interest by completing a multi-step problem.
- Determine how compound interest can grow over the period of several years.

About the Segment: IRA Kids Club

With the encouragement of her grandfather, Biz Kid Hannah learned the importance of investing in her retirement at a young age. With the salary she earns as a bank teller, Hannah invests her earnings into a Roth IRA. Financial contributions to a Roth IRA are not tax deductible. However, the benefit to Hannah is that her withdrawals from the Roth IRA will not be taxed when she is ready to retire. Hannah recognized the value in allowing her money to accumulate interest. Over time, Hannah will earn compound interest on her investments and will be on her way to making a million dollars.

Biz Terms

- Retirement
- Roth IRA
- Tax-deductible
- Interest
- Compound interest

Supplies

Items needed for class:

- Computer and Internet access

Items needed for each student:

- Photocopies of instructions/worksheet (pages 8-9)
- Pencil
- Calculator

Biz Terms & Segment Review

1. At her grandfather's urging, Hannah invested in a "Roth Individual Retirement Account" (IRA). What is one of the major benefits of this particular kind of investment?
2. With a Roth IRA, financial contributions are not "tax deductible." What does this mean?
3. What is the difference between earning "interest" and earning "compound interest"?
4. Hannah's grandfather is retired. How might this impact his suggestions to Hannah to start an IRA Kids Club?



THE SNOWBALL EFFECT

INSTRUCTIONS FOR STUDENTS

Introduction

Warren Buffet, a famous financial expert and a multi-millionaire, uses a snowball analogy to explain the power of compound interest. By investing and saving at an early age, time (or the “really long hill”) will work on your side and help your money grow with the power of compound interest.

*Life is like a snowball.
The important thing
is finding
wet snow and
a really long hill.”*

— Warren Buffet —

Directions—Part One

- Watch a brief YouTube segment in which a teacher demonstrates how to solve a three-step compound interest problem using an interactive white board:
<http://www.youtube.com/user/jnukes16#p/a/u/2/WHNZFEZiUdM>
- Using the technique and math calculations shown in the segment, solve this multi-step math problem, entering your amounts in the lines below. Hannah invests \$100 into a savings bond that will pay her 5% compound interest over three years. How much will she have at the end?

YEAR 1: Change 5% into a decimal: _____

Calculation:	_____	X	_____	=	_____
	<i>Principal Investment Amount</i>		<i>Decimal</i>		<i>Year 1 Interest</i>

Calculation:	_____	+	_____	=	_____
	<i>Principal Investment Amount</i>		<i>Year 1 Interest</i>		<i>Total Amount, Year 1</i>

YEAR 2: Calculation:	_____	X	_____	=	_____
	<i>Total Amount, Year 1</i>		<i>Decimal</i>		<i>Year 2 Interest</i>

Calculation:	_____	+	_____	=	_____
	<i>Total Amount, Year 1</i>		<i>Year 2 Interest</i>		<i>Total Amount, Year 2</i>

YEAR 3: Calculation:	_____	X	_____	=	_____
	<i>Total Amount, Year 2</i>		<i>Decimal</i>		<i>Year 3 Interest</i>

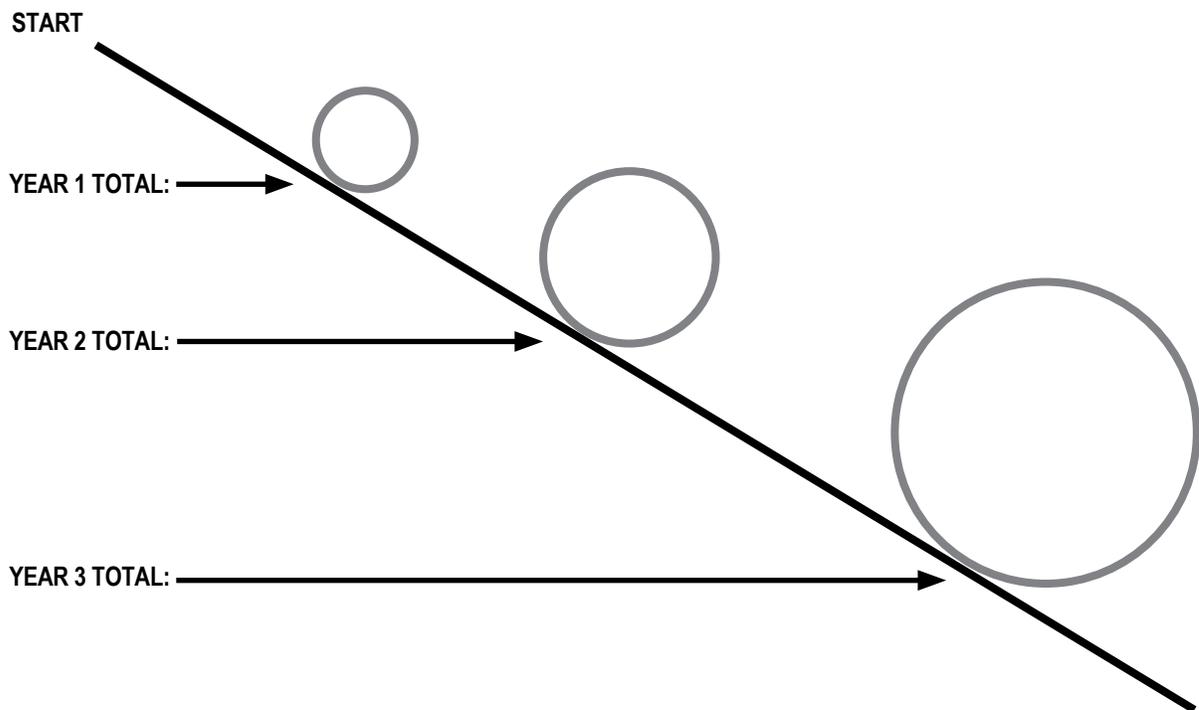
Calculation:	_____	+	_____	=	_____
	<i>Total Amount, Year 2</i>		<i>Year 3 Interest</i>		<i>Total Amount, Year 3</i>

(Round to the nearest 10 cents)

THE SNOWBALL EFFECT

Directions—Part Two

- Check your work via the Coolmath.com website using the site’s Compound Interest Calculator 1: <http://www.coolmath.com/calculators/calculator-compound-interest-1.html>.
- For the question “How many times a year do you want the interest to be compounded?” — enter: 1.
- To show how your investment has grown over time, enter the three amounts in the snowballs below.



Challenge!

Do the math! How much compound interest would Hannah earn after ten years?

Activity Wrap-Up

Remember to use the power of compound interest so your money works for you. Since time is on your side, you will maximize the power of compound interest when you start early. Your savings will grow exponentially over time.



BIZ TERMS VOCABULARY

- *Compound interest*: Interest earned on the principal *and* on the interest already earned
- *Interest*: money paid regularly at a specified rate for the use of borrowed money
- *Roth IRA*: a type of Individual Retirement Account (IRA) where investments are made with taxable dollars, but earnings are tax-free and withdrawals are tax-free after the age of 59 ½ years old
- *Retirement*: when someone stops working for pay, often in an office or business; sometimes due to reaching a certain chronological age
- *Tax-deductible*: the value or cost of something which may be deductible from total or gross income



RESOURCES

Buttons By Jordan

<http://www.buttonsbyjordan.com/>

The D'Anna Tillis Experience

<http://dannatillis.weebly.com/>

IRA Kids

<http://irakids.com/>

James Langford & Financial Education Solutions

<http://www.feslearning.com/>

The Pavelka Family

<http://www.4realkids.com/>

Cool Math Website

<http://www.coolmath.com/>

The Money Game: Simple Versus Compound Interest Activity

<http://www.winthemoneygame.com/money-game/simple-vs-compound-interest-activity-lesson/>

NCTM Compound Interest Simulator

<http://illuminations.nctm.org/ActivityDetail.aspx?id=172>



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