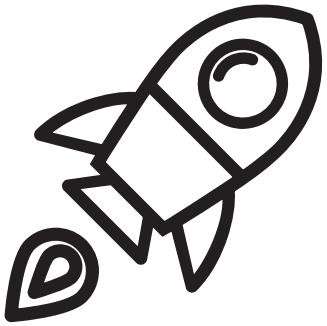


Lesson 4: Boost Your Savings

TOPIC: The Importance of Saving

Time: 50 min

Subject Connections:
- English Language Arts
- Math

Supplies:
- Projector (for teacher presentation slides)
- Access to the Internet (optional)

Preparation:
- Make copies of student handout
- Set up projector with presentation slides

Glossary with key vocabulary 16

OVERVIEW:

Helping young adults and teens see beyond the present is a challenge, especially when there are so many things to spend money on today. This lesson challenges students to think beyond their immediate horizon and explore long-term **savings**. Students analyze how thinking long-term makes a real impact with their money, helping them see the power of saving now for things they may need or want later. Paralleling fundamental principles of saving observed in earlier lessons, students embark on real-world applications of how to increase savings and calculate **compound interest**.

OBJECTIVES:

1. Describe how saving affects financial well-being
2. Explain compound interest
3. Identify and research savings products
4. Explain how interest is computed on savings

INDIVIDUAL HANDOUTS:

- Rainy Days
- Compounding Interest over Time
- Savings Options

GROUP HANDOUTS:

- None

TEACHER PRESENTATION SLIDES:

- Pay Yourself First
- How Money Grows
- Compounding Interest over Time
- Savings Options

ESSENTIAL QUESTIONS:

- Why should I save my money?
- How much should I save?
- Where should I save my money?

ASSESSMENT ACTIVITIES:

Pre-Assessment:
- **Slide:** Pay Yourself First
- **Handout:** Rainy Days

Post-Assessment:
- **Handout:** Compounding Interest over Time
- **Handout:** Savings Options*

***Money Smart Portfolio Handouts**

Instruction Steps

WARM UP

Rainy Day Savings

10 MINUTES

Begin the lesson by displaying the ***Pay Yourself First*** slide.

Ask students to answer what is happening in each of the pictures. Explain that the first image represents spending, whereas the second image represents saving.

Next, **ask students** what they think it means to "pay yourself first." Explain that, like the second image on the slide, paying yourself first is when you receive money (for example: a paycheck or monetary gift) and you put some of that money in a savings account before you buy things that you want or you pay your bills.

Ask students why they think it would be important to pay yourself first before making purchases, acquiring new bills (bills need to be paid to avoid having one's credit damaged), or paying bills.

Catalog students' reasons on the board and emphasize that paying ourselves first helps us to:

1. manage money better because we make an informed decision
2. save for goals and things that we want
3. have extra money for emergencies or special events.

Next, ask students what they think a "rainy day" fund means. Explain that it is special savings set aside in case of financial emergencies, like unexpected costs for vehicle repairs or sudden medical expenses.

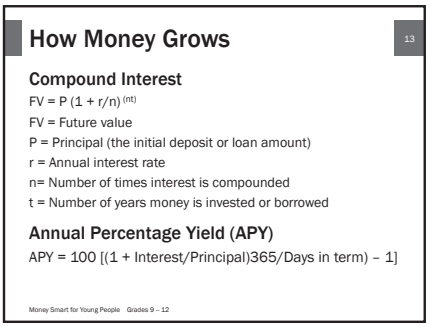
Help students understand that saving for emergencies minimizes financial risk by ensuring you have money when unexpected expenses arise.

Distribute the ***Rainy Days*** handout and have students work in small groups to brainstorm different financial emergencies and the cost implications associated with each.

Invite volunteers to share their reasoning for how paying yourself first can help lessen the financial strain of emergencies.

GUIDED EXPLORATION
Power Of Interest

15 MINUTES



Display the ***How Money Grows*** slide and explain to students the key terms and formulas for compound interest and Annual Percentage Yield (definitions are also available in the glossary).

Ask students why interest is an important element to consider when creating a savings strategy, and invite volunteers to share their thoughts.

Engage in a brief discussion about the power of interest and help students understand that, by saving money in a financial institution (versus at home), you are able to make money on your savings through earned interest.

Grade Level Modifications:

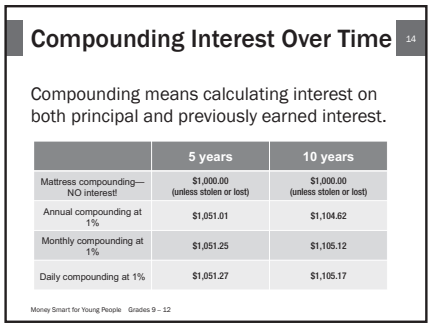
Beginner: Focus the lesson on the concept of money growing through banking versus saving money at home. When students are ready, begin to introduce how banks calculate interest.

Advanced: Review the following formula for calculating Annual Percentage Yield: APY = 100 [(1 + Interest/Principal)365/Days in term) – 1]. Have students calculate and then discuss a sample APY, such as if a bank pays $61.68 in interest for a 365-day year on $1,000 deposited into an account. APY = 100[(1 + 61.68/1,000) (365/365) – 1] APY = 6.17 percent.

MONEY SMART TIP!

Share with your students The Power of 72 (**www.themint.org/kids/power-of-72.html**) and explain that it is a formula that helps you calculate how long it will take for your savings to double in value. Have students practice calculating different scenarios with varying interest rates to determine how long it would take to double their money.

72 ÷ interest rate = number of years



Next, display the ***Compounding Interest Over Time*** slide and distribute the ***Compounding Interest Over Time*** handout.

Review part one of the handout together as a class, using the teacher slide to emphasize the differences between **annual, monthly**, and **daily compounding** ("compounding" refers to calculating interest on both principal and previously earned interest. The full definition is available in the glossary).

Challenge students to complete part two of the ***Compounding Interest Over Time*** handout. For students that choose to use spreadsheet software to complete the handout, provide online tutorial resources to help guide them in setting up the correct formulas, such as a Microsoft Support tutorial **(https://support.microsoft.com/en-us/help/141695/xl-how-to-calculate-compound-interest**) or a video tutorial.

Discuss how you can reach long-term goals, such as buying a home or a vehicle, by saving money in a financial institution where money can earn interest.

MONEY SMART TIP!
Introduce the concept of inflation, a rise in the price of goods and services, to students and discuss how savings are affected by the rate of inflation.

INDEPENDENT EXPLORATION

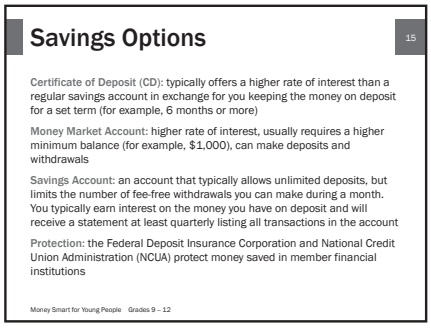
Savings Options

15 MINUTES

Note: These activities are more independent than the Guided Exploration activities and may be used as homework assignments, collaborative group work, or independent study.

Explain to students that, even though banks and financial institutions offer interest on deposited money, not all accounts are equal. Different accounts, such as savings accounts and CDs, compound differently, and researching account options is part of building a strong savings plan.

MONEY SMART TIP!
Introduce students to the concept of investing as another way to grow money. See Lesson 14, ***Increasing the Value of Your Money,*** for more information.



Introduce the ***Savings Options*** slide and distribute the ***Savings Options*** handout. Engage the class in a discussion about the differences between savings accounts, CDs, and money market accounts.

Give students time to complete the research challenge on the ***Savings Options*** handout and discuss their findings.

Guide students in understanding how their money is protected in financial institutions. For example: FDIC insurance covers all deposit accounts, including checking and savings accounts, money market deposit accounts, and CDs. This means that money deposited in insured financial institutions is guaranteed up to the maximum amount allowed by law ($250,000 per depositor, per bank) if the financial institution goes out of business and cannot pay you your money. Likewise, the National Credit Union Administration insures up to $250,000 per depositor at insured credit unions.

WRAP UP

Personal Decisions

10 MINUTES

Close the lesson by asking students to reflect in writing or discussion how personal decisions may influence savings, such as setting aside a Rainy Day Fund. Ask: What actions can we take to maximize savings? Encourage students to think about spending less than what they earn, adding to savings accounts, and creating saving habits.

Extended Exploration

Note: Use the following ideas to extend financial literacy concepts throughout the school year within core content areas through English Language Arts, Math, Social Studies and Economics, and Technology activities, projects, and discussions. Duration of activities will vary.

ENGLISH LANGUAGE ARTS

Writing Prompts:

What is the importance of saving? Explain what you have learned about saving money.

How is money protected when it is deposited in a financial institution or bank versus keeping it with you or at home?

Analyze the pros and cons of increasing the minimum wage and explain how personal savings connects to wages.

MATHEMATICS

Activity/Project Ideas:

Give students different scenarios to calculate Annual Percentage Yield.

SOCIAL STUDIES AND ECONOMICS

Discussion Topics: Discuss in what ways economic issues, such as the reduction of government-funded programs and recessions or downturns in the economy, can impact personal savings.

Activity/Project Ideas:

Have students gather research on inflation over a period of time and analyze how savings accounts are affected.

TECHNOLOGY

Online Resources:

Compound Interest Calculator by Investor.gov: Students can use this calculator to determine how money grows with compound interest.
www.investor.gov/additional-resources/free-financial-planning-tools/compound-interest-calculator

Activity/Project Ideas:

Have students use spreadsheet software to create a compound interest calculator.

Classroom activities from the Consumer Financial Protection Bureau (CFPB)

The CFPB has developed a set of classroom activities to help teachers develop and support the building blocks of financial capability in their students. Each activity is designed to be completed within a single class period and includes a teacher guide and supporting student material. Some specific activities that are relevant to this lesson include:

Saving each payday	Students use a real-world simulation to learn how saving a little money each payday can be a successful strategy for saving. **www.consumerfinance.gov/practitioner-resources/youth-financial-education/teach/activities/saving-each-payday**
Reflecting on needs versus wants	Using the strategies of reflective writing, students create a personal statement sharing their hopes and dreams of things they would like to have or accomplish in the future. **www.consumerfinance.gov/practitioner-resources/youth-financial-education/teach/activities/reflecting-whats-worth-saving/**
Reflecting on what's worth saving for	Using the strategies of reflective writing, students create a personal statement sharing their hopes and dreams of things they would like to have or accomplish in the future. **www.consumerfinance.gov/practitioner-resources/youth-financial-education/teach/activities/reflecting-whats-worth-saving/**
Creating your own savings rules	Students explore how creating personal rules for building and managing savings can help them reach their financial goals. **www.consumerfinance.gov/practitioner-resources/youth-financial-education/teach/activities/creating-your-own-savings-rules/**
Drawing your own savings comic strip	Students identify an important lesson about saving money and create a comic strip reflecting that lesson. **www.consumerfinance.gov/practitioner-resources/youth-financial-education/teach/activities/drawing-savings-comic-strip**

Answer Key

Student Handout 1: ***Rainy Days.***

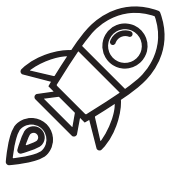
Answers will vary. Students may respond with emergencies such as job loss, car accident, loss of a loved one, or extreme weather emergencies like hurricanes, earthquakes, and tornadoes.

Student Handout 2: ***Compounding Interest Over Time***

	Saving 50 cents a day:		**Saving $1 a day:**	
	No interest	2% Daily Compounding	No interest	2% Daily Compounding
Year 1	***($182.50)***	***($184.34)***	***($365.00)***	***($368.68)***
Year 5	***($912.50)***	***($959.71)***	***($1,825.00)***	***($1,919.42)***
Year 10	***($1,825.00)***	***($2,020.35)***	***($3,650.00)***	***($4,040.70)***
Year 30	***($5,475.00)***	***($7,501.97)***	***($10,950.00)***	***($15,003.94)***

Student Handout 3: ***Savings Options.***

Answers will vary. Use handout to assess student ability to conduct research and evaluate and compare data.



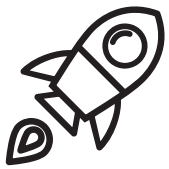
Lesson 4: Boost Your Savings

RAINY DAYS

Name: _____

What are different emergencies that can happen in life, and how much might they cost? Brainstorm a list of possible emergencies below, assess different cost implications, and then reflect on how a rainy day fund can help.

Emergency	What might be some of the unexpected costs?	How might a rainy day fund help?
Example: illness leading to hospitalization	▪ Ambulance-ride fees ▪ Hospital admittance fees ▪ Surgery fees	If you don't have health insurance or your insurance doesn't cover all medical expenses, a rainy day fund can help you avoid having to take out loans or go into debt to pay for the unexpected fees.



Lesson 4: Boost Your Savings

COMPOUNDING INTEREST OVER TIME

Name: _____

What would happen if you saved $1,000 under your mattress for a year? Assuming that it hasn't been lost or stolen, it will still be $1,000 at the end of the year. Your mattress is not paying you interest to keep your money.

But banks and financial institutions do pay interest on your deposited money, helping a $1,000 deposit grow over time. Compounding means calculating interest on both principal and previously earned interest.

Interest can be compounded daily, monthly, or annually. Review the chart below and determine which method of compounding yields the greatest return.

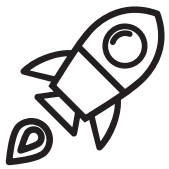
	5 years	**10 years**
Mattress compounding — NO interest!	$1,000.00 *(unless stolen or lost)*	$1,000.00 *(unless stolen or lost)*
Annual compounding at 1%	$1,051.01	$1,104.62
Monthly compounding at 1%	$1,051.25	$1,105.12
Daily compounding at 1%	$1,051.27	$1,105.17

Complete the chart below by calculating how much savings grows with no interest versus 2% daily compounding interest.

To complete the calculations, use an online calculator (For example: **https://financialmentor.com/calculator/compound-interest-calculator**) or spreadsheet software using the following formula: **FV (rate, nper, pmt, [pv], [type])**

FV (rate, nper, pmt, [pv], [type])
Rate = interest rate per period
Nper = total number of payment periods
Pmt = payment made each period
Pv = present value, or the lump-sum amount that a series of future payments is worth right now
Type = indicates when payments are made (0 means at the end of the period and 1 is at the beginning of the period)

	Saving 50 cents a day:		**Saving $1 a day:**	
	No interest	2% Daily Compounding	No interest	2% Daily Compounding
Year 1				
Year 5				
Year 10				
Year 30				



Lesson 4: Boost Your Savings

SAVINGS OPTIONS

Name: _____

Certificate of Deposit (CD): An account that typically offers a higher rate of interest than a regular savings account in exchange for you keeping the money on deposit for a set term (for example: 6 months or more).

Money Market Account: An account that usually pays a higher rate of interest, and it usually requires a higher minimum balance (for example: $1,000) to earn interest than is earned on a regular savings account. You can make deposits and limited withdrawals.

Savings Account: An account that typically allows unlimited deposits, but limits the number of fee-free withdraws you can make during a month. You typically earn interest on the money you have on deposit and will receive a statement at least quarterly listing all transactions in the account.

Protection: FDIC insurance protects all deposit accounts, including checking and savings accounts, money market deposit accounts, and CDs. This means that money you have deposited in insured financial institutions is guaranteed up to the maximum amount allowed by law ($250,000 per depositor, per insured bank, for each account ownership category) if the financial institution goes out of business and cannot pay you your money. Depositors may qualify for coverage over $250,000 if they have funds in different ownership categories and all FDIC requirements are met. Likewise, the National Credit Union Administration (NCUA) insures your money up to $250,000 per depositor at insured credit unions.

	Financial Institution	
	1:	2:
Minimum Deposits (How much money is needed to open the account?)		
Interest Rates (What interest rate, expressed as APY, does the account earn?)		
Protection (Is the account protected by the FDIC or NCUA?)		
Fees/Penalties (Are there withdrawal penalties or fees for maintaining the account?)		