WEEKLY MIDDLE SCHOOL LESSON

#KEEPLEARNING

Junior Achievement® of Oregon & SW Washington

Week Three: Money Doubles by the Rule of 72!

Overview: This lesson is designed to introduce students to the idea of saving as early as they can. They will learn about the rule of 72 and compound interest and how it pays to save.

Preparation: Review the activity and session materials. Make sure your students have all the needed materials to complete the lesson.

Recommended Time: 30-45 mins

Materials: Computer/Tablet with Internet
Printer
Calculator
Paperclip
Writing Utensil

1) Presentation: Begin the lesson by telling this story: Jack and Jill are twins. When he was 10 years old, Jack started to save $20 a month. After 20 years, he stopped adding to his savings. Jill didn't start to save until she was 20. Then, she saved $20 a month and kept adding to her savings until she retired 45 years later. They each earned 6% interest on their savings. Who had more money at the retirement age of 65? Even though Jill saved for 45 years and Jack saved for only 20, at age 65 Jack had $66,000 in his account compared to Jill's $54,000. How is that possible?

The answer is something called compound interest. When you save money in a savings account - a certificate of deposit, a money market fund or other savings plan - you earn interest on the principal. The principal is the amount you already have in your account.

When interest is compounded, you begin to earn interest not only on the principal, but on the earned interest as well. Look at **this table** and notice how the interest amount increases each year, even though no additional deposits are made. That's because the interest is based on an increasing principal amount. As interest compounds, your money grows faster and faster.

Ask your students if they have ever heard of the Rule of 72?

2) **Watch:** Have your students watch the video of **The Rule of 72!**

3) Discussion: After the video, ask your students if they can explain what the rule of 72 means in their own words?

Answer: The Rule of 72 is a simple way to determine how long an investment will take to double given a fixed annual rate of interest. If you divide 72 by the percent of interest your savings are earning, the answer is the number of years it will take to double your money.

Give your students the following example, if you earn 6% interest, how many years will it take for your money to double. The answer is 12 years (72 ÷ 6 = 12). What If you earn 10% interest? Your money will double in 7.2 years (72 ÷ 10 = 7.2).

When you save, there are three important components to consider:

1. The amount you deposit (principal)
2. The interest rate you earn
3. The length of time you save

If you add to any of these, you'll earn a greater return. If you increase all three of them, you'll really increase your wealth. Principal x Interest Rate x Time = Total Amount. If you have $100 and put it into a Money Market account with a 6% interest rate for two years, the formula works like this: $100 x 6% x 2 years = $112.36. Now, increase the principal, the interest rate, and the time. The total nearly triples: $200 x 10% x 5 years = $322.10.

4) Activity:

Here's a game that demonstrates how money grows as a function of principal, interest rate, and time. Use a calculator to play the game with a friend.

Directions:

1. Print out the Principal, Time and Interest Rate Sheets. You can either print the score sheet or fill it out on your computer/tablet.
2. Place the paper clip in the center of the Principal circle and the point of the pencil through the paper clip pointing to the center of the paper to make a spinner.
3. Flick the paper clip with your finger to make it spin. The space that you land on is your Principal amount.
4. Repeat with the Interest Rate and Time circles.
5. Multiply the three numbers to calculate your Total Amount. (Total Amount = Principal x Interest x Time).
6. Then put your answer in the score sheet below. Play five rounds. The winner has the most money at the end of the game.

Principal Sheet **Time Sheet**

Interest Rate Sheet **Score Sheet**

5) Discussion: To summarize compound interest, ask students, " Would you rather have $1,000,000 or start with a penny and double your money every day for 30 days?" Have students fill out this worksheet to figure it out.

Answer Key

Remind students know they should should save as much as they can, as early as they can, at the best interest rate they can get. That way, they'll be on their way to greater financial security soone**r**

The Money JAR -The hosts give producer Alex a financial literacy quiz developed by the FINRA Investor Education Foundation that you can use to test your knowledge as well! Mixing fun and financial concepts, the discussion explains some basics about interest rates, inflation, bond prices and risk, among other topics. **Click here** to listen to this week's episode - **What's Your Financial IQ?**

Bonus Activity: Test Your Financial Literacy Skills

Extended Activity: 15-30 mins

Materials: Computer/Tablet with Internet

Overview: Findings from the National Financial Capability Study (NFCS) reveal that many Americans demonstrate relatively low levels of financial literacy and have difficulty applying financial decision-making skills to real-life situations.

To evaluate financial knowledge, NFCS study respondents were asked a series of questions covering fundamental concepts of economics and finance they may encounter in everyday life, such as calculations involving interest rates and inflation and principles relating to risk and diversification.

Take this quiz to see how you fare