Lesson Plan for Compound Interest

Target Group

Grades K-5 (6 - 11 years old). Tips 💡 are provided for educators looking optimize the lesson for a cohort within this broad age range.

Lesson Plan Audience

Parents and teachers of children in the target group.

Objective

To introduce the concept of compound interest in a simple, engaging and hands-on way. The lesson also reinforces the value of saving.

Duration

A daily exercise for 7 days.The daily commitment varies with the number of students/children involved, but is estimated to be between 10 and 30 mins.

A Note on Interest 💡

Calculating interest based on interest rates requires knowledge of fractions and decimal places. This lesson plan is meant to convey the concept of compounding using simple teaching aids (see Materials section below), and does not delve into detailed math of interest calculation.

The lesson plan simplifies the notion of interest rates to one of two forms, depending on your preference as an educator, the age and capabilities of the student(s):

1. In its simplest form, the bank offers $1 for each $1 saved. While this approach may represent an exaggerated interest rate of 100%, it does simplify the exercise considerably—the worksheet math becomes simple addition and subtraction—and may be more suitable for younger students. If you choose this approach, consider any special instructions prefixed with **A**.
2. For older students, the bank could offer a more reasonable $1 for every $10 saved, with the savings rounded to the nearest 10. The bank would thus issue $1 for $13 saved, $2 for $16 saved, $5 for $50 saved, $6 for $59 saved, etc. This represents an interest rate of ~10% interest which is more reasonable. Indeed, the S&P 500 has delivered an average annual return of around 10% over ~70 years. If you choose this approach, consider any special instructions prefixed with **B** .

Materials

(See https://tendollaradventure.com/teachables/compound-interest/ for some ready-to-use materials)

- Printable play money
- One printed worksheet per child
- Two envelopes per child, labeled "Wallet" and "Bank Account"
- Large poster board
- Printed illustrations of goods for sale (see example marketplace items)
  (print one large one for display in the marketplace, and several small ones to hand to students)
  - Pencil - $1
  - Ruler - $1
  - Pencil Case - $3
  - Toy - $5
  - Bicycle - $90 (or other high-value item priced at $90)
- Marker
- A designated "Bank" location (drawer, box, closet labeled with “Bank”)

Preparation

1. **Create the Marketplace:**
   - Hang the poster board in a visible location.
   - Display the goods for sale labeled with their prices.
   - Locate a “Bank" location and label it.
2. **Prepare the Materials:**
   - A Each student will receive a daily allowance of $1. Print enough $1 play money for each child for one week.
   - B Each student will receive a daily allowance of $10. Print enough $10 play money for each child for one week.
   - Prepare the "Wallet" and "Bank Account" envelopes for each child, clearly labeled with their names.
   - Create "Wallet" and "Bank Account" envelopes for "Saver Sam" and label them.

Procedure

Day 1: Introduction to Spending and Saving

1. **Introduce the Marketplace:**
   - Gather the children and show them the marketplace.

- Explain that the play money can be used to buy the items.
- Discuss the different prices and the concept of value.

2. **Introduce the Envelopes:**
   - Explain the purpose of the "Wallet" and the "Bank Account."
   - Emphasize that the "Wallet" is for money they want to use right away or store for a short time before buying something.
   - Explain that the "Bank Account" is for money they want to save for a longer time and earn more money.
3. **Distribute Daily Allowance:**
   - Give each child **A** $1 or **B** $10 as their first allowance, depending on the interest approach you selected.
   - Explain that they can choose to:
     - Put the allowance in their "Wallet" to buy something from the marketplace.
     - Put the allowance in their "Bank Account" at the "Bank."
   - As the educator, also manage "Saver Sam's" money. "Saver Sam" *always* puts all their money in their "Bank Account." Explain to the children that Saver Sam is a special helper who always saves.
4. **Explain the High Value Item**
   - Draw attention to the bicycle (or other high value item) and its price.
   - Ask the children if they think they can afford it with their daily allowance.
   - Acknowledge that it seems far away, but that saving can help.

Days 2-5: The Power of Compound Interest

1. **Daily Distribution and Interest:**
   - Each day, give each child an allowance of **A** $1 or **B** $10
   - *Before* they decide what to do with today's allowance, have them visit the "Bank."
   - **A** The "Bank" (you) will give them $1 for *every* $1 they have in their "Bank Account."
     - For example: If a child has $3 in their "Bank Account," give them $3 (the "interest").
   - **B** The "Bank" (you) will give them $1 for *every* $10 they have in their "Bank Account." *rounded to the nearest 10*.
     - For example: If a child has $35 in their "Bank Account," give them $4 (the "interest").
   - The child can choose to put the "interest" money into their "Wallet" to spend, or they can put it back into their "Bank Account" to earn even more interest tomorrow.
   - The child then decides what to do with the allowance (from you): spend it or save it in their bank account.
   - Emphasize how the amount in their "Bank Account" grows, and how the "Bank" gives them more money each day because of it.

    - Also, deposit "Saver Sam's" daily allowance into their "Bank Account" and pay them interest.
2. **Track Savings using Worksheet:**
    - Have the child update the Worksheet for the day
3. **Reinforce the Concept:**
    - After distributing the money, gather the children.
    - Ask questions like:
        - "Who has the most money in their Bank Account? Why?"
        - "Who got more money from the Bank today? Why?"
        - "How is the money in your Bank Account different from the money in your Wallet?"
    - Use simple terms to explain that the "Bank" is paying them for keeping their money there, and that they earn money on the money they already have.
    - Specifically, ask: "How much money does Saver Sam have in their bank account? Why do they have so much?" Encourage the children to compare their own savings to Saver Sam's.

Day 6-7: Reaching Goals

1. **Continue the Process:**
    - Continue the process of distributing daily allowance and interest, including for "Saver Sam", and filling out the worksheet.
2. **Discuss the High-Value Item Again:**
    - On Day 5 or 6, revisit the bicycle (or high-value item).
    - Ask the children:
        - "Who is closer to being able to buy the bicycle?"
        - "How did saving in the Bank Account help?"
        - "How much money does Saver Sam have? How close are they to buying the bicycle? What did Saver Sam do differently than you?"
    - Help them calculate how much more they need, and how many days it might take.

Day 7: Reflection and Wrap-up

1. **Calculate Final Savings:**
    - Help each child count the money in their "Wallet" and "Bank Account."
    - Discuss how much they earned in interest.
    - Calculate "Saver Sam's" total savings and interest.
2. **Discussion:**
    - Ask the children:
        - "What did you learn about saving money?"
        - "How did the money in your Bank Account grow?"
        - "What would you do if you had $90?"
        - "Was it easier to get the bicycle by saving, or spending?"
        - "How much did Saver Sam save? Why did they save more than most of

you?"
    - Connect the activity to real-life situations:
        - "Where do people keep their money to save it?" (Banks)
        - "Why do people save money?" (For things they want, for the future)
3. **Reinforce the Concept of Compound Interest**
    - Explain that compound interest is like a snowball rolling downhill - it starts small but gets bigger and bigger as it picks up more snow as it travels down the mountain.
    - The money in their bank account earns interest, and then that interest also earns interest.
    - Emphasize that "Saver Sam" earned a lot of money because they saved consistently to receive the most interest.

Extension Activities 💡

- **Older Children (Grades 3-5):**
    - Discuss how overall earnings grow with time - The longer the money stays in the bank account, the larger the final amount.
    - Introduce the concept of exact interest rates (e.g., "The bank gives you 10% of what you save each day.").
    - Discuss that interest rates of 0-10% are more common.
    - Repeat the Worksheet exercise with 0% interest. How do the two outcomes compare?
- **Younger Children (Grades K-2):**
    - Focus on the basic concept of saving and earning.
    - Repeat the Worksheet exercise without any interest - If the money was just left in the wallet the whole time.
    - Use visual aids (like stacking blocks) to represent how savings grow over time.
    - Read stories like *Ten Dollar Adventure* about the value of money.

Assessment

- Observe children's participation in the activities and discussions.
- Review their "Bank Account" balances to see how they applied the concept of saving.
- Ask them to explain in their own words how the money in their "Bank Account" grew.
- Compare their results to "Saver Sam's" results and discuss why they are different.