Compound Interest

Grade: 7-12

Procedure:

1. Begin the lesson with the PowerPoint. Point out Einstein's quote on the cover slide. Ask students what they think Einstein meant when he said, "**Compound interest** is the eighth wonder of the world. He who understands it, earns it; he who doesn't, pays it." - Albert Einstein. Allow for a brief class discussion.
2. On slide 2 students choose between $.01 that doubles daily for a month OR $750,000. It's fun to have students make their choice silently so one person's opinion doesn't influence the whole class (occasionally there is a student in class who has already seen this example so it's good to ask them not to influence others if they already know the outcome). To do this have students silently write their choice down on a scratch piece of paper.
3. After students make their choice play the video that reveals which was the better choice. https://youtu.be/mdUUtBi3Uw0
4. After the video click to slide 4 which shows the day by day progression of each choice. Either discuss as a whole class or pair share what this example has to do with compound interest. Slide 5 explains the connection to compound interest.
5. Continue through the slides stopping at each "Stop and Discuss" slide. You may choose to do a pair share at each "Stop and Discuss" or discuss as a class.
6. Compound Interest Calculator Slide: When you reach this slide decide which of the options to use below depending on the classroom resources available to you:
    a. Students individually or in pairs work through each of the equations on a computer.
    b. Students access the Compound Interest Calculator on their phones (if school rules allow for it).
    c. Use the corresponding handout below to send the compound interest problems home with students as homework.
    d. Work through each problem with your students on the projector rather than having them fill it in individually if technology resources are not available.
7. Slide 18 asks students to get creative with the knowledge they've gained by writing a letter to fictitious a niece or nephew about investing. This could be a quick in class assignment or a more formal writing assignment that students complete outside of class time.
8. Optional additional work with is available with the Compound Interest Scenarios worksheet.

For additional compound interest practice visit our math-based Compound interest work in Module 9.

Compound Interest Scenarios

Use the compound interest calculator found at https://www.investor.gov/financial-tools-calculators/calculators/compound-interest-calculator to complete the compound interest practice problems.

1. 2 parents decide they want to invest for college for their children.
    Investor Number 1: Faye starts when investing her child is born. She puts $10,000 in as an initial investment and never contributes again. She gifts the investment to her child on her 18th birthday.
    Investor Number 2: Dierdre puts off opening the account until her child is 7. She initially puts in $10,000 and also contributes $50 a month until her child is 18. Both parents earn **8% interest.**

    1a. Will Dierdre's investment catch up to Faye's investment by the time their children are 18?

    1b. How long would it take for Dierdre's investment to grow larger than Faye's with the additional $50 a month?

    1c. How much more will Dierdre have invested over the life of the investment when her investment surpasses Faye's?

2. 2 people invest $5,000 into 2 different funds. The first investor makes 8% on his investment. The second investor makes 6% on his investment. After 30 years, if neither of them contributes any more to the fund, how much more money will the first investor have made?

3. Name 2 important factors when investing. Tell why each factor is important.