

Money's Extra Years

How saving amount, interest rate, and time shape a future balance

SS.8.FL.3.6 "Identify the value of a person's savings in the future as determined by the amount saved and the interest rate. Explain why the earlier people begin to save, the more savings they will be able to accumulate, all other things equal..."

NAME _____ DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB In the first paragraph, underline these three phrases exactly: "the amount saved," "interest rate," and "number of compounding periods." In the third paragraph, circle the one sentence that begins "An early starter" to mark why beginning sooner can increase savings.

A Deposit That Keeps Growing

- ① When money stays in a savings account, the bank may pay interest, a percentage of the balance. Compound interest is added to the account, so later interest is calculated on a larger balance. A future balance depends on the amount saved, interest rate, and number of compounding periods. Holding factors steady, more savings or a higher rate raises that balance.
- ② The table follows one deposit of \$500 at 5 percent interest, compounded once each year. No additional money is added or removed. As years pass, the balance grows by more than \$25 in a year because interest is calculated on earlier interest as well as on the original deposit.

\$500 DEPOSIT AT 5% INTEREST, COMPOUNDED ANNUALLY

Years After Deposit	Account Balance
0	\$500.00
5	\$638.14
10	\$814.45
15	\$1,039.46
20	\$1,326.65

- ③ An early starter has more compounding periods before a chosen future date. For example, two people can deposit the same amount at the same rate, but one begins five years sooner. If both leave the money untouched, the earlier deposit has five extra years to earn interest on interest. Starting early does not guarantee a particular future balance, since rates can change.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What three factors does the passage name as determining a future account balance?

2 According to the table, by how much did the \$500 balance increase during its first 5 years?

3 Why can the balance grow by more than \$25 in a later year, even though the original deposit was \$500 at 5 percent interest?

4 Two people save the same amount at the same rate. What does the passage say must be different for one person to have more compounding periods, and what must both people do with the money?

3 YOUR TURN _____ Your own words

Write 2 or 3 sentences comparing two accounts at a date 20 years from today. Choose one deposit amount and one annual interest rate, use both for the accounts compounded annually with no added or withdrawn money, keep both accounts untouched, start Account A today and Account B five years later, then state which will have more at the future date and explain why.

PART 1 • READ AND MARK

In the first paragraph, underline these three phrases exactly: "the amount saved," "interest rate," and "number of compounding periods." In the third paragraph, circle the one sentence that begins "An early starter" to mark why beginning sooner can increase savings. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What three factors does the passage name as determining a future account balance?	The amount saved, the interest rate, and the number of compounding periods.
2	According to the table, by how much did the \$500 balance increase during its first 5 years?	\$138.14.
3	Why can the balance grow by more than \$25 in a later year, even though the original deposit was \$500 at 5 percent interest?	Later interest is calculated on earlier interest as well as on the original deposit.
4	Two people save the same amount at the same rate. What does the passage say must be different for one person to have more compounding periods, and what must both people do with the money?	One person must begin earlier, such as five years sooner. Both people must leave the money untouched.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Both accounts remain untouched after a \$600 deposit at 4 percent interest compounded annually, with no added or withdrawn money. Account A starts today and Account B starts five years later, so at the date 20 years from now Account A will have more because it has five extra compounding periods.

Accept equivalent wording that correctly identifies principal, interest rate, and compounding time as the factors. For the open task, accept any deposit amount and rate if both accounts are otherwise identical, remain untouched, and the student explains that the earlier account has more compounding periods.