

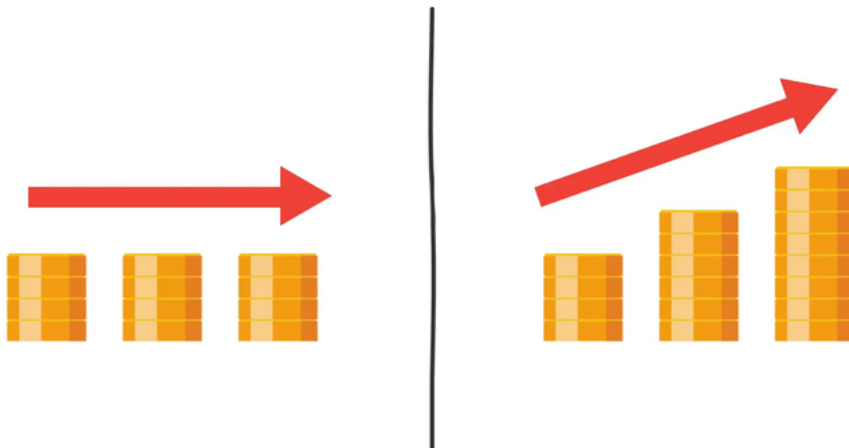


Section 1

Understanding Compound Interest

How is compound interest different from simple interest?
(Think about how the amount grows, and what the interest is calculated on.)

Simple Interest vs Compound Interest



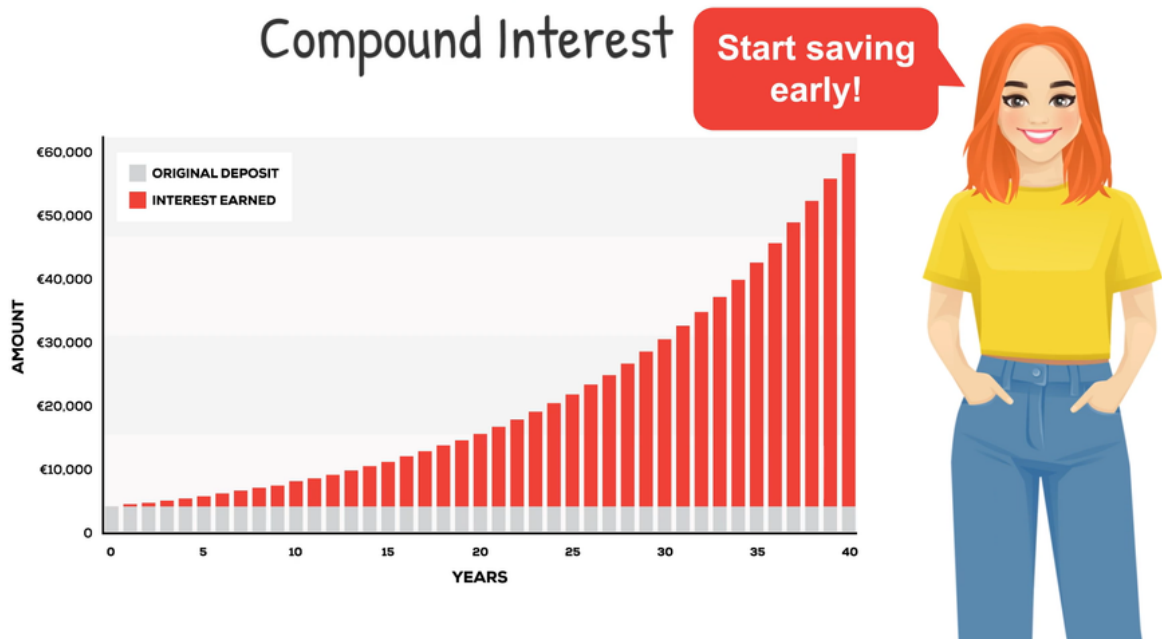




Section 1

Understanding Compound Interest

Why do people say 'start saving early' in reference to compound interest?





Section 2

Worked Examples

Worked Example: Laura's birthday money

Laura has €500 birthday money. After doing some research, she finds a deposit that offers an interest rate of 6% compounded annually. How much will Laura have after 3 years?



Solution:

	Principal	Rate	Interest	Amount at end of year
Year 1	€500	0.06	$500(0.06) = 30$	$€550 + €30 = €580$
Year 2	€580	0.06	$580(0.06) = 34.80$	$€580 + €34.80 = €614.80$
Year 3	€614.80	0.06	$614.80(0.06) = 36.89$	$€614.80 + €36.89 = €651.69$



Section 2

Worked Examples

Worked Example: Saving for a car



Laura has €730 from her part-time job. If she deposits this with a rate of 4.3% compounded annually, how much will she have in 3 years?

Solution: $F = P (1 + i)^T$

$$F = ?$$

$$P = 730$$

$$i = 4.3\% = 4.3 = 0.043$$

$$T = 3$$

$$1 + 0.043 = 1.043$$

$$1.043^3 = 1.134626507$$

$$730 (1.134626507)$$

$$F = \text{€}828.28$$

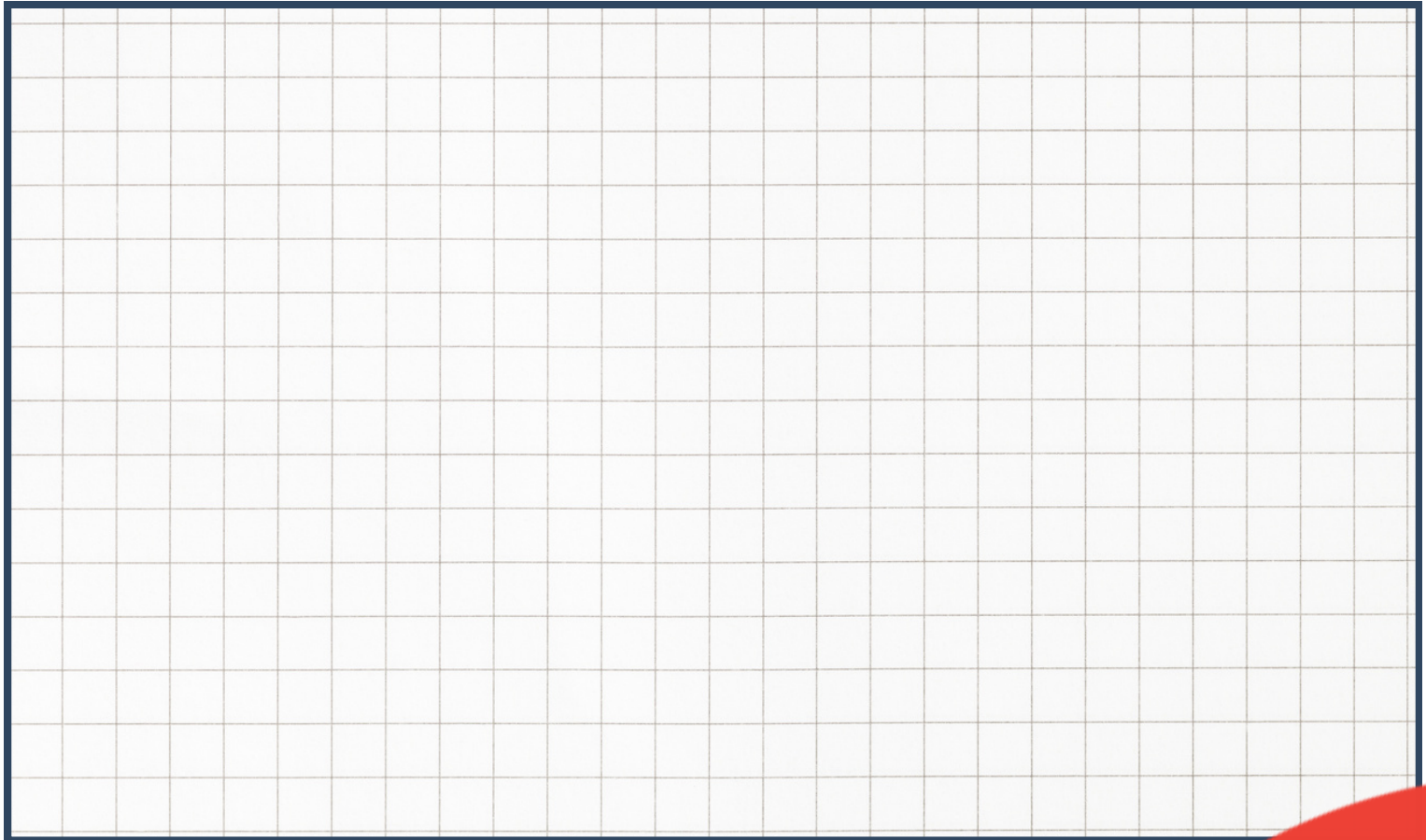


Section 3

Calculating Compound Interest

Q1. €1,600 was invested for 4 years at an interest rate of 4% compounded annually. Complete the table.

	<i>Principal</i>	<i>Rate</i>	<i>Interest</i>	<i>Amount at end of year</i>
<i>Year 1</i>				
<i>Year 2</i>				
<i>Year 3</i>				
<i>Year 4</i>				





A full-page view of a blank sheet of graph paper. The paper features a uniform grid of thin, light gray lines forming small squares across its entire surface. The grid is composed of approximately 20 columns and 20 rows of squares. The background is white, and the grid lines are evenly spaced both horizontally and vertically. There are no margins, text, or other markings on the page.



Section 4

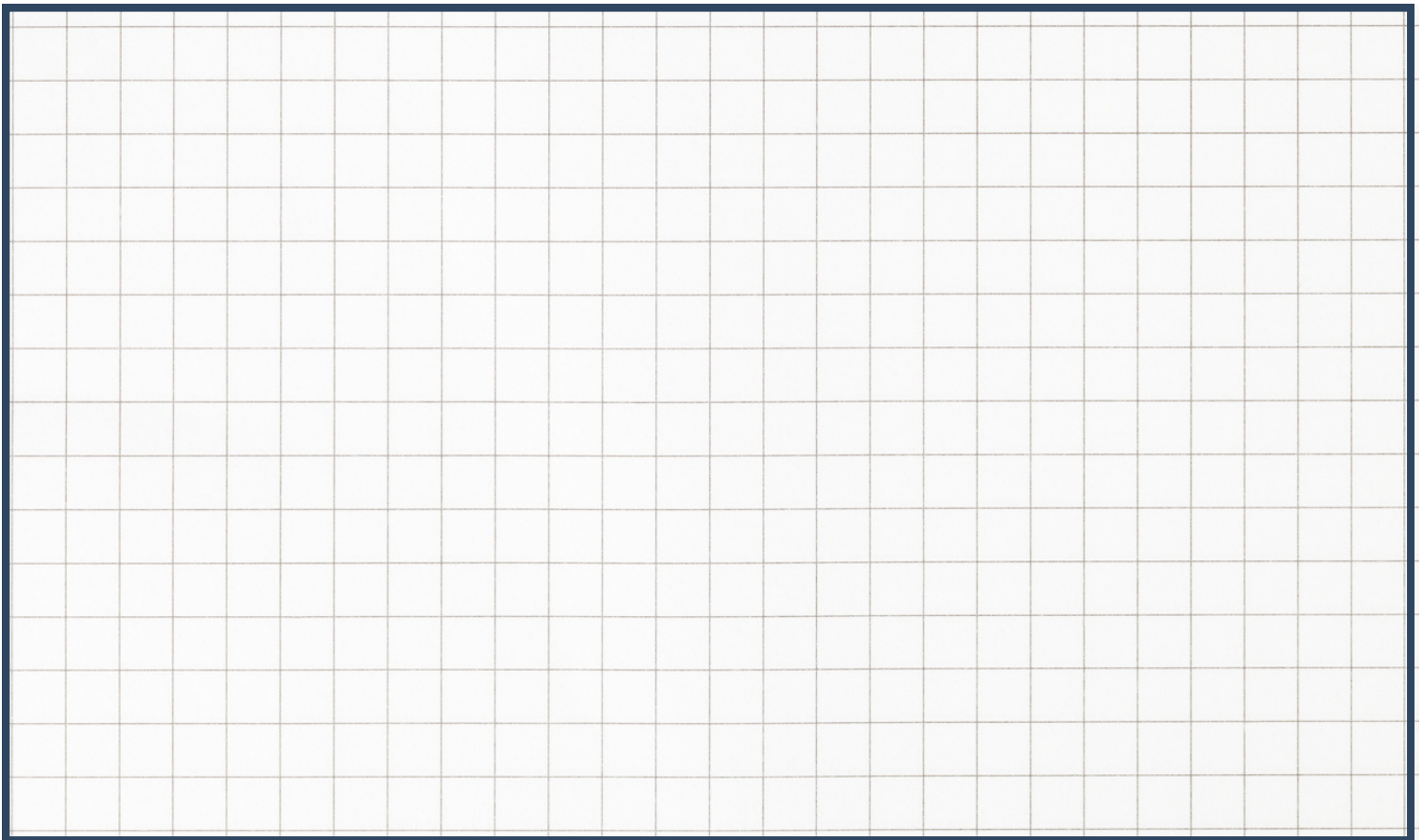
Compound Interest Formula

Q2. Rehaan wants to travel after college. He invests €1,000 for 4 years at an interest rate of 3.8% compounded annually. How much will he have saved at the end of the 4 years?



*This formula can only be used when the interest rate does not change and there are no withdrawals or additional lodgements.

$$F = P (1 + i)^T$$





Section 4

Compound Interest Formula

Q3. Naomi deposited €3,250 into a savings account earning 5% compound interest per year.

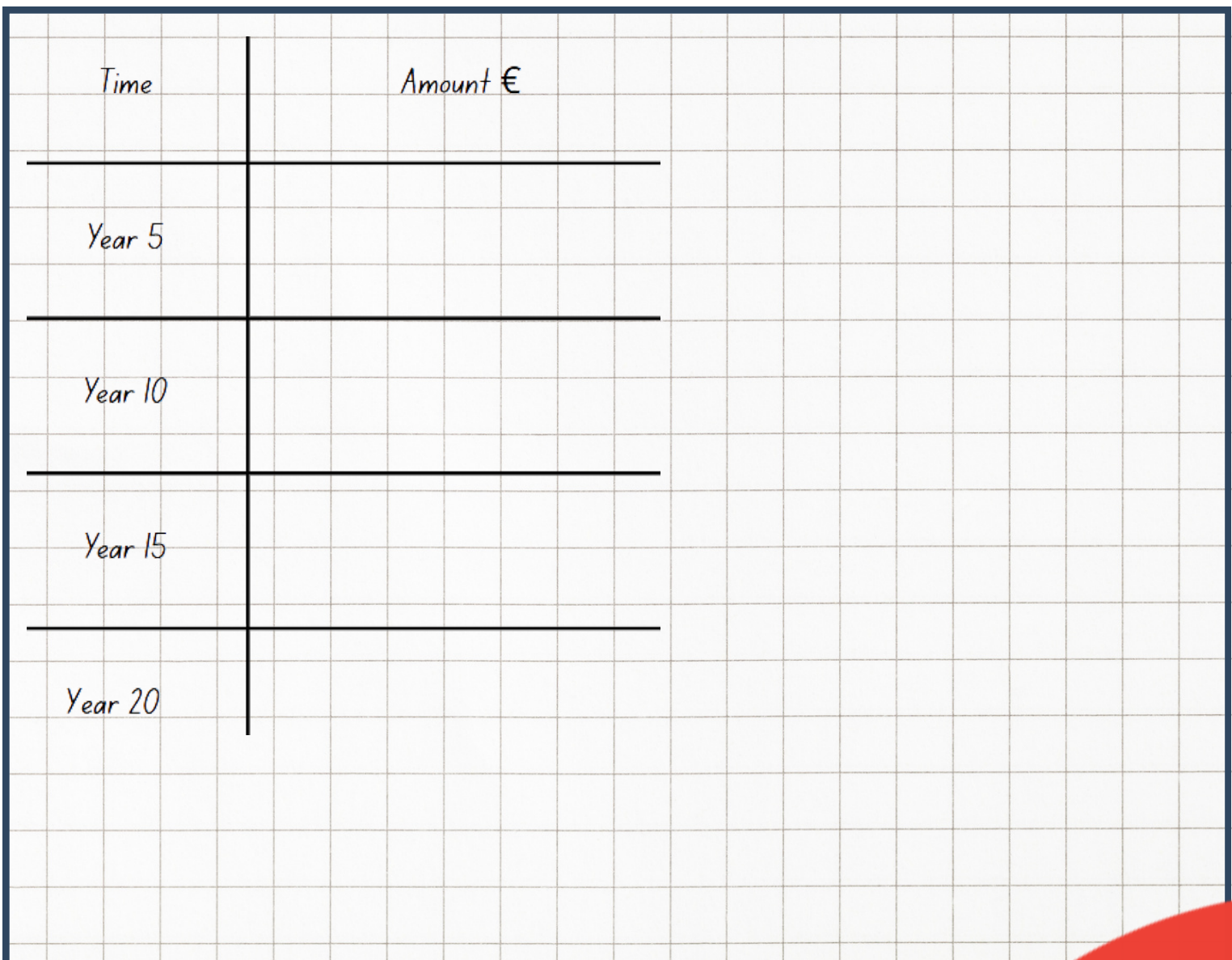
(i) Complete the table

(ii) Plot the graph

x-axis: Years

y-axis: Amount (€)

$$F = P (1 + i)^T$$





Section 4

Compound Interest Formula

Q3. Naomi deposited €3,250 into a savings account earning 5% compound interest per year.

(i) Complete the table

(ii) Plot the graph

x-axis: Years

y-axis: Amount (€)

$$F = P (1 + i)^T$$





Section 5

Extension Activity

Q1. €1,200 was invested into a savings account earning a compound interest annually. After 3 years the value of the investment was €1,381.23. Calculate the rate of interest.

$$F = P (1 + i)^T$$



Section 5

Extension Activity

Q2. What sum of money invested for 5 years at 6% per annum compound interest would total €13,382.26? Give your answer to the nearest whole number.

*Hint change the subject of the compound interest formula

$$F = P (1 + i)^T$$



Section 6

Discussion Questions

Where can you find the current interest rates on savings and investments? How can you compare them?

The CCPC provides a Money Tools section where you can compare available options on saving accounts.

As a customer is simple interest or compound interest better for saving? What about for the bank?

Compound interest is better for savers because you earn interest on both your original money and the interest already earned, so your savings grow faster over time. Simple interest only pays interest on the original amount, so growth is slower. For banks, the opposite applies: compound interest costs them more because they pay interest on accumulated interest, while simple interest is cheaper and more predictable.