

# GCSE Maths – Ratio, Proportion, and Rates of Change

## Simple Interest

Notes

WORKSHEET



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## Simple Percentage Interest

**Simple Interest** is an easier and faster approach when calculating an interest charge. Simple interest is calculated on a **fixed** amount of money, which is then added onto the total sum of money.

### Simple Interest

Interest is money paid at a **fixed rate regularly** when money is lent or borrowed. A bank may charge interest when people loan money or a bank may offer interest as a reward for saving money with the bank. The interest rate is a **percentage set** by banks. The amount of interest paid is calculated by multiplying the percentage and the principal amount (**percentage of amounts**).

**Example:** A bank gives 3% simple interest in a savings account. Tom has £2000 in his savings account; how much interest is added onto the total sum of money?

1. Convert percentage to decimal

$$3\% = 0.03$$

2. Multiply the decimal by the amount

$$0.03 \times 2000 = 60$$

*Therefore, Tom has earned £60 interest.*

Simple interest is calculated by **multiplying** the percentage amount by the number of periods during which the money will be invested.

**Example:** Calculate the interest of borrowing £4800 for 3 years if the simple interest rate is 4% per year.

1. Convert the percentage to decimal

$$4\% = 0.04$$

2. Multiply the decimal by the amount

$$0.04 \times 4800 = 192$$

*This means that there is £192 per year.*

3. Multiply the amount of interest by the time period.

$$192 \times 3 = 576$$

*The interest of borrowing for 3 years is £576*



## Total Amount Payable

Interest is known as the “extra” sum of money. The total interest must be **added** to the starting sum of money in order to calculate the total amount payable.

**Example:** The bank offers 3.5% simple interest per annum. Tina invests £5000 at this bank. Calculate the total sum of amount in her account after 7 years.

1. Convert the percentage to decimal.

$$3.5\% = 0.035$$

2. Multiply the decimal by the amount.

$$0.035 \times 5000 = 175$$

*This means that there is £175 per year.*

3. Multiply the amount of interest by the given time period.

$$175 \times 7 = 1225$$

*The interest for saving for 7 years is £1225.*

4. To calculate the total sum of money, add the interest to the starting sum.

$$1225 + 5000 = 6225$$

*After 7 years, there will be £6225 in Tina's bank account.*



## Simple Interest - Practice Questions

1. Ethan loans £700 from a bank where the cost of borrowing is 5% per year. Calculate the amount of simple interest Ethan pays in 2 years.
2. Rhea deposits £1150 in a bank that pays 4% simple interest a year. Work out the interest paid by the bank in 3 years.
3. Katy deposits £7070 in a bank that pays 3.4% simple interest a year. Calculate the total sum of amount in Katy's account after 3 years.
4. The bank offers 2.5% simple interest per annum. Ian invests £11000 at this bank. Calculate the total sum of amount in his account after 5 years.

*Worked solutions for the practice questions can be found amongst the worked solutions for the corresponding worksheet file.*

