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**Knowledge Rich Curriculum Plan**

Year 10 Foundation + – Percentages



| **Lesson Objective**  | **Intended Knowledge:***Students will know that…* | **Tiered Vocabulary**  | **Prior Knowledge:***In order to know this, students need to already know that…* | **Assessment**  |
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| **To learn how to solve problems involving percentages using a calculator** | * Students will know how to calculate a percentage of a quantity or measurement with a calculator - they will know how to locate and use the percentage button
* Students will know how to increase and decrease an amount of measurement by a percentage with a calculator
* Students will know how to solve more complex worded problems involving fractions and percentages using a calculator
 |  | * Students will need to know how to find fractions and percentages of amounts
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| **To learn how to express one amount as a percentage of another and calculate percentage change** | * Students will know how to express a given number as a percentage of another number by first writing as a fraction and then converting to a percentage. Students will know how to do this both with and without a calculator.
* Students will know how to calculate percentage change
 |  | * Students will need to know how to convert a fraction into a percentage both with and without a calculator
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| **To learn how to calculate percentage profit and loss** | * Students will know how to calculate the value of a profit or loss and use it to determine percentage profit or loss
* Students will know that $percentage profit=\frac{profit}{expense}×100$
* Students will know that $percentage loss=\frac{loss}{expense}×100$
 | **Profit –** a financial gain, the difference between the amount earned and the amount spent in buying, operating, or producing something**Expense –** the cost incurred in or required for something. | * Students will need to know how to calculate how much profit or loss has been incurred
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| **To learn how to solve problems involving reverse percentages** | * Students will know how to find the original amount given the final amount after a percentage increase or decrease (reverse percentages), including VAT both with and without a calculator (as appropriate)
 | **VAT – Value Added Tax** – a tax that is applied to the purchase price of certain goods, services and other taxable supplies that are bought and sold within the UK. Standard VAT is 20%. | * Students will need to know how to multiply by 100
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| **To learn how to calculate with simple interest and compound interest.** | * Students will know the difference between simple interest and compound interest
* Students will know that the formula for compound interest is

$$New amount=Original×multiplier^{n}$$$$where n is the number of years$$ | **Interest -** a fee paid for borrowing money or other assets or an amount earned by saving money in a bank account that pays it**Compound Interest –** the interest on a loan or deposit that accrues on both the initial principal and the accumulated interest from previous periods.**Depreciation –** a decrease in the value**Accumulated –** built up over time**Accrued –** received**Initial –** starting/original amount **Annum –** year | * Students will need to know how to convert a percentage into a decimal
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| **To learn how to calculate with compound interest and depreciation.** | * Students will know how to calculate compound interest and depreciation.
* Students will know how to solve problems involving compound interest and depreciation
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