



The Sutton Academy

Knowledge Rich Curriculum Plan

Year 9 Core – Percentages



Lesson/Learning Sequence	Intended Knowledge: <i>Students will know that...</i>	Tiered Vocabulary	Prior Knowledge: <i>In order to know this students, need to already know that...</i>	Assessment
<p>To learn how to express one number as a percentage of another and find simple percentages of amounts.</p>	<ul style="list-style-type: none"> • Students will know how to express one number as a percentage of another by expressing it as a fraction and multiplying by 100, giving an integer answer. • Students will know how to express one number as a percentage of another by expressing it as a fraction and multiplying by 100, giving a decimal answer. • Students will know how to calculate simple percentages of amounts without a calculator. • Students will know that to find 50% we need to half the amount or divide by 2. • Students will know that to find 25% we can divide the amount by 4 or find half of 50%. • Students will know that to find 10% we divide the amount by 10. • Students will know that to find 1% we divide the amount by 100 or divide 10% by 10. • Students will know that to find 5% we can find half of 10% or divide 10% by 2. • Students will know that to find 75% we can add 50% and 25% together. • Students will know how to find percentages that are multiples of 10% and 1%. 	<p>Cultural Capital – Percentages. Percentage – a rate, number, or amount in each hundred.</p>	<ul style="list-style-type: none"> • Students need to know how to express one number as a fraction of another. • Students need to know how to divide integers producing a decimal result. 	<p>Mini-Assessment 4</p>
<p>To learn how to calculate percentages of amounts.</p>	<ul style="list-style-type: none"> • Students will know how to calculate any percentage of an amount. • Students will know that you can find percentages several ways by using a mixture of multiplying, dividing, adding and subtracting the basic percentages (50%, 25%, 10%, 5% and 1%). • Students will know how to find the percentage of an amount using real-life problems. • Students will know how to find percentages of an amount using a calculator. 		<ul style="list-style-type: none"> • Students need to know how to find 50%, 25%, 10%, 5% and 1% of a given amount. 	<p>Mini-Assessment 4</p>
<p>To learn how to increase or decrease an amount using percentages.</p>	<ul style="list-style-type: none"> • Students will know that increasing an amount by a percentage will cause the amount to get bigger. • Students will know that decreasing an amount by a percentage will cause the amount to get smaller. • Students will know that percentage increase is calculated by finding the percentage of the amount and adding it onto the original amount. • Students will know that percentage decrease is calculated by finding the percentage of the amount and subtracting it from the original amount. • Students will know how to increase or decrease an amount using percentages in real-life problems. • Students will know how to express a percentage increase or decrease using a multiplier. • Students will know how to increase an amount by a percentage using a calculator using a multiplier. • Students will know how to decrease an amount by a percentage using a calculator using a multiplier. 	<p>Increase – a rise in the size, amount, or degree of something Decrease – a drop in the size, amount, or degree of something</p>	<ul style="list-style-type: none"> • Students need to know how to find a percentage of an amount. 	<p>Mini-Assessment 4</p>
<p>To learn how to calculate percentage change.</p>	<ul style="list-style-type: none"> • 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 $percentage\ profit = \frac{profit}{expense} \times 100$ • Students will know that $percentage\ loss = \frac{loss}{expense} \times 100$ • Students will know how to calculate percentage change with and without a calculator. 	<p>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.</p>	<ul style="list-style-type: none"> • Students need to know how to calculate how much profit or loss has been incurred. • Students need to know how to convert fractions into percentages. • Students need to know how to multiply fractions by integers. 	<p>Mini-Assessment 4</p>

Lesson/Learning Sequence	Intended Knowledge: <i>Students will know that...</i>	Tiered Vocabulary	Prior Knowledge: <i>In order to know this students, need to already know that...</i>	Assessment
To learn how to use reverse percentages	<ul style="list-style-type: none"> • Students will know how to find the original amount given the final amount after a percentage increase or decrease (reverse percentages). • Students will know how to find the original amount using reverse percentages with and without a calculator. • Students will know how to recognise when they need to use reverse percentages. 		<ul style="list-style-type: none"> • Students need to know how to multiply and divide integers. 	
To learn how to calculate simple interest.	<ul style="list-style-type: none"> • Students will know that interest is an amount money that is added or occurred over time. • Students will know that value added tax, or VAT, is the tax you have to pay when you buy goods or services. • Students will know that the standard rate of VAT in the UK is 20%. • Students will know how to calculate VAT. • Students will know how to find simple interest by finding the value of the increase, multiplying by the amount of years and adding it to the original amount. • Students will know how to calculate simple interest with and without a calculator. • Students will know how to solve problems involving simple interest. 	Cultural Capital -Simple Interest Vs Compound Interest Interest - a fee paid for borrowing money or other assets or an amount earned by saving money in a bank account that pays it 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%.	<ul style="list-style-type: none"> • Students need to know how to increase amounts using percentages. • Students need to know how to use a calculator to find percentages. 	Mini-Assessment 4
To learn how to calculate compound interest.	<ul style="list-style-type: none"> • Students will know the difference between simple of compound interest. • Students will know how to calculate the compound interest of an amount. • Students will know how to calculate the compound depreciation of an amount. • Students will know how to calculate compound interest or depreciation of an amount using a calculator. Opportunity for challenge: <ul style="list-style-type: none"> • Students will know how to solve a problem involving compound interest or depreciation. 	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	<ul style="list-style-type: none"> • Students need to know how to increase amounts using percentages. • Students need to know how to use a calculator to find percentages. • Students need to know how to calculate simple interest. 	Mini-Assessment 4