



The Sutton Academy

Knowledge Rich Curriculum Plan

Year 8 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 convert from fractions to decimal and percentages.</p>	<ul style="list-style-type: none"> • Students will know that a percentage is an amount in each hundred that is used to show a proportion in relation to a whole. • Students will know that a percentage is represented by %. • Students will know that to convert a fraction to a decimal you divide the numerator by the denominator. • Students will know how to convert fractions to decimals with fractions such as $\frac{21}{100}$, $\frac{3}{50}$, $\frac{6}{25}$ and $\frac{7}{10}$. • Students will know how to convert fractions to percentages by using the fact that percentage are per hundred. • Students will know how to convert fractions to percentage with fractions such as $\frac{21}{100}$, $\frac{3}{50}$, $\frac{6}{25}$ and $\frac{7}{10}$. • Students will know that the conversions of $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{3}{4}$. 	<p>Convert – change a value or expression from one form to another</p> <p>Percentage – a rate, number, or amount in each hundred.</p> <p>Fraction – a way of representing the parts of a whole or collection of objects. Fractions have a numerator and denominator.</p> <p>Decimal – a number whose whole number part and the fractional part is separated by a decimal point</p>	<ul style="list-style-type: none"> • Students need to know how to divide by powers of 10. • Students need to know how to find equivalent fractions. 	<p>Mini-Assessment 4</p>
<p>To learn how to convert from decimals to percentages and fractions.</p>	<ul style="list-style-type: none"> • Students will know that to convert a decimal to a percentage you multiply it by 100. • Students will know how to convert decimals to percentages using decimals such as 0.45, 0.03 and 1.5. • Students will know that to convert a decimal to a fraction by multiplying by a power of 10 to get an integer value for the numerator and then using the same power of 10 as the value for the denominator. • Students will know how to convert decimals to fractions with decimals such as 0.45, 0.03 and 1.5. • Students will know how to convert decimals to fractions writing their fractions in their simplest form. 		<ul style="list-style-type: none"> • Students need to know how to multiply by powers of 10. 	<p>Mini-Assessment 4</p>
<p>To learn how to convert from percentage to fractions and decimals.</p>	<ul style="list-style-type: none"> • Students will know how to convert percentages by using the fact that percentage are per hundred. • Students will know how to convert a percentage to a decimal we divide the percentage by 100. • Students will know how to convert percentages to decimals with percentages such as 34%, 127% and 42.3%. • Students will know that to convert a percentage to a fraction we write it over 100 as all percentages are out of 100. • Students will know how to convert percentages to fractions using percentages such as 34% and 127%. • Students will know how to convert percentages to fractions writing their fractions in their simplest form. 		<ul style="list-style-type: none"> • Students need to know how to divide by powers of 10. 	<p>Mini-Assessment 4</p>
<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. 	<p>Cultural Capital – Percentages.</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>

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
	<ul style="list-style-type: none"> 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%. 			
To learn how to calculate percentages of amounts. (without a calculator)	<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. 	Percentage – a rate, number, or amount in each hundred.	<ul style="list-style-type: none"> Students need to know how to find 50%, 25%, 10%, 5% and 1% of a given amount. 	Mini-Assessment 4
To learn how to increase or decrease an amount using percentages.	<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. <p>Opportunity for challenge:</p> <ul style="list-style-type: none"> Students will know how to increase or decrease an amount using percentages in real-life problems. 	Increase – a rise in the size, amount, or degree of something Decrease – a drop in the size, amount, or degree of something	<ul style="list-style-type: none"> Students need to know how to find a percentage of an amount. 	Mini-Assessment 4
To learn how to calculate percentages of amounts using a calculator.	<ul style="list-style-type: none"> Students will know how to use a calculator to express one percentage as a percentage of another. Students will know how to use a calculator to convert fractions to percentages and decimals. Students will know how to use a calculator to convert decimals to percentages and fractions. Students will know how to use a calculator to convert percentages to decimals and fractions. Students will know how to find the percentage of an amount using a calculator. Students will know how to increase an amount by a percentage using a calculator. Students will know how to decrease an amount by a percentage using a calculator. 		<ul style="list-style-type: none"> Students need to know how to convert between fractions, decimals and percentages. Students need to know how to increase and decrease an amount using percentages. 	Mini-Assessment 4
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. <p>Opportunity for challenge:</p> <ul style="list-style-type: none"> Students will know how to solve problems involving simple 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