



The Sutton Academy

Knowledge Rich Curriculum Plan

Year 8 Support – 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 $\frac{21}{100}$, $\frac{3}{10}$ and $\frac{7}{50}$. • 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 $\frac{21}{100}$ and $\frac{3}{50}$. • 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 and 0.03. • 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 and 0.03. • 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%, 7% 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 7%. • 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.</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. 		<ul style="list-style-type: none"> • Students need to know how to express one number as a fraction of another. 	<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 calculate basic percentages of amounts. (without a calculator)	<ul style="list-style-type: none"> • 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%. 		<ul style="list-style-type: none"> • Students need to know how to divide integers. 	Mini-Assessment 4
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%). <p>Opportunity for challenge:</p> <ul style="list-style-type: none"> • Students will know how to find the percentage of an amount using real-life problems. 		<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 by a percentage	<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>Increase – a rise in the size, amount, or degree of something</p> <p>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. 	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 express one number as a percentage of another using a calculator. • 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