



The Sutton Academy

# Knowledge Rich Curriculum Plan

Year 7 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><b>To learn how to convert from fractions to decimal and percentages.</b></p>	<ul style="list-style-type: none"> <li>• Students will know that a percentage is an amount in each hundred that is used to show a proportion in relation to a whole.</li> <li>• Students will know that a percentage is represented by %.</li> <li>• Students will know that to convert a fraction to a decimal you divide the numerator by the denominator.</li> <li>• Students will know how to convert fractions to decimals with fractions such as <math>\frac{21}{100}</math>, <math>\frac{3}{10}</math> and <math>\frac{7}{50}</math>.</li> <li>• Students will know how to convert fractions to percentages by using the fact that percentage are per hundred.</li> <li>• Students will know how to convert fractions to percentage with fractions such as <math>\frac{21}{100}</math> and <math>\frac{3}{50}</math>.</li> <li>• Students will know that the conversions of <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math> and <math>\frac{3}{4}</math>.</li> </ul>	<p><b>Convert</b> – change a value or expression from one form to another</p> <p><b>Percentage</b> – a rate, number, or amount in each hundred.</p> <p><b>Fraction</b> – a way of representing the parts of a whole or collection of objects. Fractions have a numerator and denominator.</p> <p><b>Decimal</b> – a number whose whole number part and the fractional part is separated by a decimal point</p>	<ul style="list-style-type: none"> <li>• Students need to know how to divide by powers of 10.</li> <li>• Students need to know how to find equivalent fractions.</li> </ul>	<p>Mini-Assessment 4</p>
<p><b>To learn how to convert from decimals to percentages and fractions.</b></p>	<ul style="list-style-type: none"> <li>• Students will know that to convert a decimal to a percentage you multiply it by 100.</li> <li>• Students will know how to convert decimals to percentages using decimals such as 0.45 and 0.03.</li> <li>• 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.</li> <li>• Students will know how to convert decimals to fractions with decimals such as 0.45 and 0.03.</li> <li>• Students will know how to convert decimals to fractions writing their fractions in their simplest form.</li> </ul>		<ul style="list-style-type: none"> <li>• Students need to know how to multiply by powers of 10.</li> </ul>	<p>Mini-Assessment 4</p>
<p><b>To learn how to convert from percentage to fractions and decimals.</b></p>	<ul style="list-style-type: none"> <li>• Students will know how to convert percentages by using the fact that percentage are per hundred.</li> <li>• Students will know how to convert a percentage to a decimal we divide the percentage by 100.</li> <li>• Students will know how to convert percentages to decimals with percentages such as 34%, 7% and 42.3%.</li> <li>• Students will know that to convert a percentage to a fraction we write it over 100 as all percentages are out of 100.</li> <li>• Students will know how to convert percentages to fractions using percentages such as 34% and 7%.</li> <li>• Students will know how to convert percentages to fractions writing their fractions in their simplest form.</li> </ul>		<ul style="list-style-type: none"> <li>• Students need to know how to divide by powers of 10.</li> </ul>	<p>Mini-Assessment 4</p>
<p><b>To learn how to express one number as a percentage of another.</b></p>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>		<ul style="list-style-type: none"> <li>• Students need to know how to express one number as a fraction of another.</li> </ul>	<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
<b>To learn how to calculate basic percentages of amounts. (without a calculator)</b>	<ul style="list-style-type: none"> <li>• Students will know how to calculate simple percentages of amounts without a calculator.</li> <li>• Students will know that to find 50% we need to half the amount or divide by 2.</li> <li>• Students will know that to find 25% we can divide the amount by 4 or find half of 50%.</li> <li>• Students will know that to find 10% we divide the amount by 10.</li> <li>• Students will know that to find 1% we divide the amount by 100 or divide 10% by 10.</li> <li>• Students will know that to find 5% we can find half of 10% or divide 10% by 2.</li> <li>• Students will know that to find 75% we can add 50% and 25% together.</li> <li>• Students will know how to find percentages that are multiples of 10% and 1%.</li> </ul>		<ul style="list-style-type: none"> <li>• Students need to know how to divide integers.</li> </ul>	Mini-Assessment 4
<b>To learn how to calculate percentages of amounts. (without a calculator)</b>	<ul style="list-style-type: none"> <li>• Students will know how to calculate any percentage of an amount.</li> <li>• 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%).</li> </ul> <p><b>Opportunity for challenge:</b></p> <ul style="list-style-type: none"> <li>• Students will know how to find the percentage of an amount using real-life problems.</li> </ul>		<ul style="list-style-type: none"> <li>• Students need to know how to find 50%, 25%, 10%, 5% and 1% of a given amount.</li> </ul>	Mini-Assessment 4
<b>To learn how to increase or decrease an amount by a percentage</b>	<ul style="list-style-type: none"> <li>• Students will know that increasing an amount by a percentage will cause the amount to get bigger.</li> <li>• Students will know that decreasing an amount by a percentage will cause the amount to get smaller.</li> <li>• Students will know that percentage increase is calculated by finding the percentage of the amount and adding it onto the original amount.</li> <li>• Students will know that percentage decrease is calculated by finding the percentage of the amount and subtracting it from the original amount.</li> </ul>	<p><b>Increase</b> – a rise in the size, amount, or degree of something</p> <p><b>Decrease</b> – a drop in the size, amount, or degree of something</p>	<ul style="list-style-type: none"> <li>• Students need to know how to find a percentage of an amount.</li> </ul>	Mini-Assessment 4
<b>To learn how to calculate percentages of amounts using a calculator.</b>	<ul style="list-style-type: none"> <li>• Students will know how to express one number as a percentage of another using a calculator.</li> <li>• Students will know how to use a calculator to convert fractions to percentages and decimals.</li> <li>• Students will know how to use a calculator to convert decimals to percentages and fractions.</li> <li>• Students will know how to use a calculator to convert percentages to decimals and fractions.</li> <li>• Students will know how to find the percentage of an amount using a calculator.</li> <li>• Students will know how to increase an amount by a percentage using a calculator.</li> <li>• Students will know how to decrease an amount by a percentage using a calculator.</li> </ul>		<ul style="list-style-type: none"> <li>• Students need to know how to convert between fractions, decimals and percentages.</li> <li>• Students need to know how to increase and decrease an amount using percentages.</li> </ul>	Mini-Assessment 4