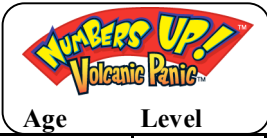


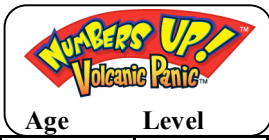
NSW Mathematics K-9 Curriculum Objectives Addressed Within Numbers Up! Volcanic Panic



NSW
Level Fractions, Decimals &
Percentages

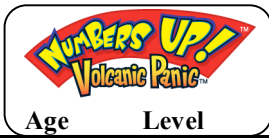
Age	Level	NSW Level	Fractions, Decimals & Percentages		
			<i>Outcomes listed in bold italics are more substantially addressed in alternative Categories and levels of the Numbers Up! programme</i>		
8	8	1	Discuss and describe equal parts Identify division of an object or group of objects into equal parts		
	9	2	Relate one part or parts of a group to the whole		
	9+	3	Name a part of a group and the parts remaining		

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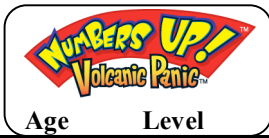
Age	Level	NSW Level	Fractions, Decimals & Percentages		
	17+	4	Name parts of a group using 100 objects Name part of a group using the term <i>hundredths</i>		
	17+	5	Name part of a group using the term <i>hundredths</i>		
	Category 1 Level 19+	6	Compare and order hundredths Count in hundredths, forwards and backwards <i>This portion of the syllabus is covered in the Numeration substrand of the Numbers Up! Programme, Category 1 Level 19 and following</i>		

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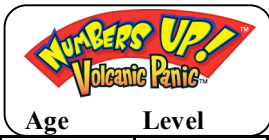
Age	Level	NSW Level	Fractions, Decimals & Percentages		
	17+	7	Record hundredths using the decimal form Record decimal fractions as hundredths		
11+	17+	8	Express fractions in tenths as hundredths and vice versa		
		9	Demonstrate equivalence using hundredths and tenths Compare and order tenths		

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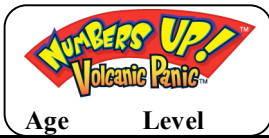
Age	Level	NSW Level	Fractions, Decimals & Percentages		
		10	Record tenths using the decimal form Model whole numbers, tenths and hundredths		
11+	16+	11	Write fractions in the form $\frac{a}{b}$ Write numbers as percentages		
	Category 1 Level 19+	12	Compare, order and count tenths and hundredths Distinguish significant and non-significant zeros <i>(This portion of the syllabus is covered in the Numeration substrand of the Numbers Up! Programme, Category 1 Level 19 and following)</i>		

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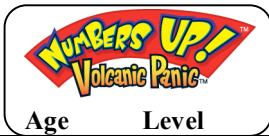
Age	Level	NSW Level	Fractions, Decimals & Percentages		
	<p>Cate gories 2 & 3, Level 19+</p>	13	<p>Add tenths and hundredths in the decimal form Subtract tenths and hundredths in the decimal form <i>(This portion of the syllabus is covered in the Addition and Subtraction substrands of the Numbers Up! Programme, Categories 2 & 3 Level 19 and following)</i></p>		
		14	<p>Multiply tenths and hundredths by whole numbers up to 10 Divide tenths and hundredths by whole numbers up to 10</p>		
	<p>Cate gories 1, 2 & 3, Level 19+ Fracti ons Level s 15 - 26</p>	NS2. 4	<p>Name fractions with denominators of 2, 4 and 8 up to one whole Compare and order fractions with the same denominator Interpret the denominator as the number of parts into which a whole has been divided Interpret the numerator as the</p>		

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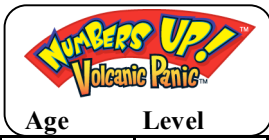
Age	Level	NSW Level	Fractions, Decimals & Percentages		
			<p>number of equal fractional parts</p> <p>Compare unit fractions by comparing the denominator</p> <p>Rename $\frac{2}{2}$, $\frac{3}{3}$, $\frac{4}{4}$, etc as 1</p> <p>Compare fractions with denominators 5, 10 and 100</p> <p>Apply and understanding of place value to express whole numbers, tenths and hundredths as decimals</p> <p>Interpret decimal notation for tenths and hundredths i.e. $0.1 = \frac{1}{10}$</p> <p>Add and subtract decimals with the same number of decimal places</p> <p><i>(This portion of the syllabus is covered in the Addition and Subtraction substrands of the Numbers Up! Programme, Categories 2 & 3 Level 19 and following)</i></p> <p>Interpret the everyday use of fractions and decimals e.g. in advertisements</p> <p>Apply decimal knowledge to</p>		

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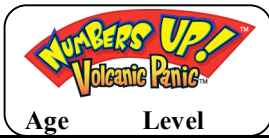
Age	Level	NSW Level	Fractions, Decimals & Percentages		
			measurements and money Explain the relationship between fractions and decimals Find equivalence between halves, quarters and eighths Model mixed numerals Order decimal numbers up to 2 decimal places Recognise that the symbol % means <i>percent</i> Relate equivalent common percentages, fractions and decimals Recognise the patterns formed when decimal numbers are multiplied or divided by 10 or 100		
12	Categories 1, 2 & 3, Level 19+ Fractions 15 - 26	NS3.4	Express mixed numerals as improper fractions and vice versa Compare and order decimal numbers to three decimal places Add and subtract decimal numbers with a different number of decimal places		

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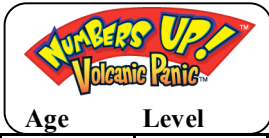
Age	Level	NSW Level	Fractions, Decimals & Percentages		
			<p>Multiply and divide decimal numbers by single digit numbers and by 10, 100 and 1000</p> <p>Interpret and explain the use of fractions, decimals and percentages in everyday contexts</p> <p>Solve problems involving simple proportions</p> <p>Develop mental strategies for finding equivalent fractions</p> <p>Reduce a fraction to its lowest equivalent form</p> <p>Compare and order fractions greater than one</p> <p>Calculate unit fractions of a collection</p> <p>Represent simple fractions as a decimal and a percentage</p> <p>Calculate simple percentages</p> <p>Calculate prices following percentage discounts</p> <p>Convert between fractions and percentages to estimate comparative amounts</p>		

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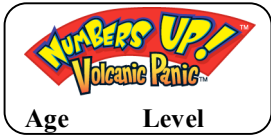
Age	Level	NSW Level	Fractions, Decimals & Percentages		
	Fractions 15-26	NS4. 3	<p>Find highest common factors and lowest common multiples Find equivalent fractions Reduce a fraction to its lowest equivalent form Add, subtract, multiply and divide fractions Add, subtract, multiply and divide decimals Round decimals to a given number of places Convert fractions to decimals and percentages Convert percentages to fractions and decimals Calculate fractions, decimals and percentages of quantities Increase or decrease a quantity by a given percentage Interpret and calculate percentages greater than 100% Express profit or loss as a percentage of cost price and/or selling price Order fractions,</p>		

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Age	Level	NSW Level	Fractions, Decimals & Percentages		
	Ratio & Proportion Category 7 Levels 15 - 26	NS4.3	<p>decimals and percentages</p> <p>Express one quantity as a fraction or percentage of another</p> <p>Ratio & Rates</p> <p>Use ratio to compare quantities of the same type</p> <p>Write ratios in various forms</p> <p>Simplify ratios</p> <p>Apply the unitary method to ratio problems</p> <p>Divide a quantity in a given ratio</p> <p>Interpret and calculate ratios that involve more than two numbers</p> <p>Calculate rates from given information</p> <p>Solve a variety of real-life problems involving ratios e.g. scales on maps, fuel mixes</p> <p>Solve a variety of real-life problems involving rates e.g. batting rates, speed, fuel consumption</p>		

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NSW
Level

Fractions, Decimals &
Percentages