

Numbers Up! Volcanic Panic

Correlation with the
Curriculum of Ireland

Mathematics

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Eire (Irish Republic) – Infants Classes

| Junior Infants | | |
|----------------|-------------------|--|
| <i>Ages</i> | <i>NUVP Level</i> | <i>Content</i> |
| 4-5 | 1-3 | <p>Early mathematical activities</p> <p><i>Classifying</i></p> <ul style="list-style-type: none"> • Classify objects on the basis of one attribute, such as colour, shape, texture or size • Identify the complement of a set (i.e. the elements not in a set) <p><i>Matching</i></p> <ul style="list-style-type: none"> • Match equivalent and non-equivalent sets using one-to-one correspondence <p><i>Comparing</i></p> <ul style="list-style-type: none"> • Compare objects according to length, width, height, weight, quantity, thickness or size • Compare sets without counting <p><i>Ordering</i></p> <ul style="list-style-type: none"> • Order objects according to length or height • Order sets without counting |
| 5-6 | 3-6 | <p>Number</p> <p><i>Counting</i></p> <ul style="list-style-type: none"> • Count the objects in a set, 1-10 <p><i>Comparing and Ordering</i></p> <ul style="list-style-type: none"> • Compare equivalent and non-equivalent sets 1-5 by matching without using symbols • Order sets of objects by number 1-5 • Use the language of ordinal number: first, last <p>Analysis of Number</p> <p><i>Combining</i></p> <ul style="list-style-type: none"> • Explore the components of number, 1-5 • Combine sets of objects, totals to 5 <p><i>Partitioning</i></p> <ul style="list-style-type: none"> • Partition sets of objects, 1-5 |

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| | | <p><i>Numeration</i></p> <ul style="list-style-type: none">• Develop an understanding of the conservation of number, 1-5• Read, write and order numerals, 1-5• Identify the empty set and the numeral zero• Subitise (tell at a glance) the number of objects in a set, 1-5• Solve simple oral problems, 0-5 |
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Senior Infants

| <i>Ages</i> | <i>NUVP Level</i> | <i>Content</i> |
|-------------|-------------------|--|
| 6-7 | 6-8 | <p>Number</p> <p><i>Counting</i></p> <ul style="list-style-type: none"> • Count the objects in a set, 0-20 <p><i>Comparing and Ordering</i></p> <ul style="list-style-type: none"> • Compare equivalent and non-equivalent sets 0-10 by matching • Order sets of objects by number 0-10 • Use the language of ordinal number: first, second, third, last <p>Analysis of Number</p> <p><i>Combining</i></p> <ul style="list-style-type: none"> • Explore the components of number, 1-10 • Combine sets of objects, totals to 10 <p><i>Partitioning</i></p> <ul style="list-style-type: none"> • Partition sets of objects, 0-10 • Use the symbols + and = to construct word sentences involving addition <p><i>Numeration</i></p> <ul style="list-style-type: none"> • Develop an understanding of the conservation of number, 0-10 • Read, write and order numerals, 0-10 • Identify the empty set and the numeral zero • Subitise (tell at a glance) the number of objects in a set, 2-10 • Solve simple oral and pictorial problems, 0-10 <p><i>Algebra</i></p> <ul style="list-style-type: none"> • Discover different arrays of the same number • Recognise patterns and predict subsequent numbers |

Eire (Irish Republic) – First & Second Classes

| First Class | | |
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| <i>Ages</i> | <i>NUVP Level</i> | <i>Content</i> |
| 7-8 | 9-11 | <p>Number</p> <p><i>Counting and numeration</i></p> <ul style="list-style-type: none"> • Count the objects in a set • Read, write and order numerals, 0-99 <p><i>Comparing and Ordering</i></p> <ul style="list-style-type: none"> • Compare equivalent and non-equivalent sets 0-20 • Order sets of objects by number • Use the language of ordinal number: first to tenth <p><i>Place value</i></p> <ul style="list-style-type: none"> • Explore, identify and record place value 0-99 <p>Operations</p> <p><i>Addition</i></p> <ul style="list-style-type: none"> • Develop an understanding of addition by combining or partitioning sets, using concrete materials 0-20 • Explore, develop and apply the commutative, associative and zero properties of addition • Develop and/or recall mental strategies for addition facts within 20 • Construct number sentences and number stories; solve problems involving addition within 20 • Add numbers with and without renaming within 99 • Explore and discuss repeated addition and group counting <p><i>Subtraction</i></p> <ul style="list-style-type: none"> • Develop an understanding of subtraction as deducting, as complementing and as difference, 0-20 • Develop and/or recall mental strategies for subtraction 0-20 |

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| | <ul style="list-style-type: none">• Estimate differences within 99• Subtract numbers without renaming within 99• Use the symbols +, -, =• Solve one-step problems involving addition or subtraction <p><i>Fractions</i></p> <ul style="list-style-type: none">• Establish and identify half of sets to 20 <p><i>Algebra</i></p> <ul style="list-style-type: none">• Recognise pattern, including odd and even numbers• Explore and use patterns in addition facts• Understand the use of a frame to show the presence of an unknown number |
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Second Class

| <i>Ages</i> | <i>NUVP Level</i> | <i>Content</i> |
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| 8-9 | 12-14 | <p><i>Counting, Properties of Numbers and Number Sequences</i></p> <ul style="list-style-type: none"> • Describe and extend number sequences • Count on or back in tens or hundreds from any two- or three-digit number • Count on or back in twos starting from any two-digit number, and recognise odd and even numbers to at least 100 • Recognise two-digit and three-digit multiples of 2, 5 or 10, and three-digit multiples of 50 and 100 <p><i>Place Value and Ordering</i></p> <ul style="list-style-type: none"> • Read and write whole numbers to at least 1 000 in figures and words • Know what each digit represents and partition three-digit numbers into a 100 multiples, a 10 multiple and ones (HTU) • Say the number that is 1, 10 or 100 more or less than any given two- or three-digit number • Compare and order numbers to at least 1 000 <p><i>Estimation</i></p> <ul style="list-style-type: none"> • Round any two-digit number to the nearest 10 and any three-digit number to the nearest 100 <p><i>Fractions</i></p> <ul style="list-style-type: none"> • Recognise unit fractions such as one-half, one-third, one-quarter, one-fifth and one-tenth, and use them to find fractions of shapes and numbers • Begin to recognise simple fractions that are several parts of a whole such as three-quarters, two-thirds or three-tenths • Begin to recognise simple equivalent fractions • Compare and order familiar fractions • Estimate a simple fraction <p>Calculations</p> <p><i>Addition and Subtraction</i></p> |

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| | <ul style="list-style-type: none"> • Extend understanding of the operations of addition and subtraction • Add three or four single-digit numbers mentally • Extend understanding that subtraction reverses addition • Add and subtract mentally a near multiple of 10 to or from a two-digit number by adding or subtracting the tens number and adjusting • Use patterns of similar calculations • Say or write a subtraction statement corresponding to a given addition statement and vice versa • Use known number facts and place value to add/subtract mentally <p><i>Multiplication and Division</i></p> <ul style="list-style-type: none"> • Understand multiplication as repeated addition • Understand division as grouping (repeated subtraction) or sharing • Recognise that division is the inverse of multiplication • Begin to find remainders after simple division • Round up or down after division, depending on the context • Know by heart multiplication and division facts for the 2, 5 and 10 times tables • Begin to use the mental strategies related to multiplying by 10 and 100 • Say or write a division statement corresponding to a given multiplication statement • Use known number facts and place value to carry out mental multiplications and divisions • Solve word problems involving real life, money and measurement |
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Eire (Irish Republic) – Third & Fourth Classes

| Third Class | | |
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| <i>Ages</i> | <i>NUVP Level</i> | <i>Content</i> |
| 9-10 | 15-17 | <p>Number</p> <p><i>Place value</i></p> <ul style="list-style-type: none"> • Explore and identify place value in whole numbers, 0-999 • Read, write and order three-digit numbers • Round whole numbers to the nearest ten or hundred • Explore and identify place value in decimal numbers to one place of decimals (Decimals begin at Level 19 of NUVP.) <p>Operations</p> <p><i>Addition and subtraction</i></p> <ul style="list-style-type: none"> • Add and subtract, with and without renaming, within 999 • Know and recall addition and subtraction facts • Solve word problems involving addition and subtraction <p><i>Multiplication</i></p> <ul style="list-style-type: none"> • Develop an understanding of multiplication as repeated addition and vice versa • Explore, understand and apply the zero, commutative and distributive properties of multiplication • Develop or recall multiplication facts within 100 • Multiply a one-digit or two-digit number by 0-10 • Solve and complete practical tasks and problems involving multiplication of whole numbers <p><i>Division</i></p> <ul style="list-style-type: none"> • Develop an understanding of division as sharing and as repeated subtraction, without and with remainders • Develop and/or recall division facts within 100 • Divide a one-digit or two-digit number by a one-digit number, without and with |

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| | | <p>remainders</p> <ul style="list-style-type: none"> • Solve and complete practical tasks and problems involving division of whole numbers <p><i>Fractions</i></p> <ul style="list-style-type: none"> • Identify fractions and equivalent forms of fractions with denominators 2,4,8 and 10 • Compare and order fractions with appropriate denominators and position on the number line • Calculate a fraction of a set using concrete materials • Develop an understanding of the relationship between fractions and division • Calculate a unit fraction of a number and calculate a number, given a unit fraction of the number <p><i>Decimals</i> (Decimals begin at Level 19 of NUVP.)</p> <ul style="list-style-type: none"> • Identify tenths and express in decimal form • Order decimals on the number line • Solve problems involving decimals <p><i>Algebra</i></p> <ul style="list-style-type: none"> • Number patterns and sequences • Explore, recognise and record patterns in number, 0-999 • Explore, extend and describe sequences • Use patterns as an aid in the memorisation of number facts <p><i>Number sentences</i></p> <ul style="list-style-type: none"> • Translate an addition or subtraction number sentence with a frame into a word problem (frame not in initial position) • Solve one-step number sentences |
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Fourth Class

| <i>Ages</i> | <i>NUVP Level</i> | <i>Content</i> |
|-------------|-------------------|---|
| 10-11 | 18-20 | <p>Number</p> <p><i>Place value</i></p> <ul style="list-style-type: none"> • Explore and identify place value in whole numbers, 0-9999 • Read, write and order four-digit numbers and solve simple problems • Round whole numbers to the nearest thousand • Explore and identify place value in decimal numbers to two places of decimals (Level 20-21) <p>Operations</p> <p><i>Addition and subtraction</i></p> <ul style="list-style-type: none"> • Add and subtract, with and without renaming, within 9999 • Know and recall addition and subtraction facts • Solve word problems involving addition and subtraction <p><i>Multiplication</i></p> <ul style="list-style-type: none"> • Develop an understanding of multiplication as repeated addition and vice versa • Explore, understand and apply the zero, commutative, distributive and associative properties of multiplication • Develop or recall multiplication facts within 100 • Multiply a two-digit or three-digit number by a one- or two-digit number • Solve and complete practical tasks and problems involving multiplication of whole numbers <p><i>Division</i></p> <ul style="list-style-type: none"> • Develop an understanding of division as sharing and as repeated subtraction, without and with remainders • Develop and/or recall division facts within 100 • Divide a three-digit number by a one-digit number, without and with remainders • Solve and complete practical tasks and problems involving division of whole numbers <p><i>Fractions</i></p> |

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| | <ul style="list-style-type: none"> • Identify fractions and equivalent forms of fractions with denominators 2, 3, 4, 5, 6, 8, 9, 10 and 12 • Compare and order fractions with appropriate denominators and position on the number line • Calculate a fraction of a set using concrete materials • Calculate a number, given a multiple fraction of the number • Express one number as a fraction of another number • Solve and complete practical tasks and problems involving fractions <p><i>Decimals (Level 20-21)</i></p> <ul style="list-style-type: none"> • Express tenths and hundredths as fractions and decimals • Identify place value of whole numbers and decimals to two places and write in expanded form • Order decimals on the number line • Add and subtract whole numbers and decimals up to two places • Multiply and divide a decimal number up to two places by a single-digit whole number • Solve problems involving decimals <p>Algebra</p> <p><i>Number patterns and sequences</i></p> <ul style="list-style-type: none"> • Explore, recognise and record patterns in number, 0-9999 • Explore, extend and describe sequences • Use patterns as an aid in the memorisation of number facts <p><i>Number sentences</i></p> <ul style="list-style-type: none"> • Translate an addition, subtraction, multiplication or division number sentence with a frame into a word problem (frame not in initial position) • Translate a one-step word problem into a number sentence • Solve one-step number sentences |
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Eire (Irish Republic) – Fifth & Sixth Classes

| Fifth Class | | |
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| <i>Ages</i> | <i>NUVP Level</i> | <i>Content</i> |
| 11-12 | 19-22 | <p>Number</p> <p><i>Place value</i></p> <ul style="list-style-type: none"> • Read, write and order whole numbers and decimals • Identify place value in whole numbers and decimals • Round whole numbers and round decimals <p>(Level 20-23)</p> <p><i>Operations</i></p> <ul style="list-style-type: none"> • Estimate sums, differences, products and quotients of whole numbers • Add and subtract whole numbers and decimals (to three decimal places) without and with a calculator • Multiply a decimal (up to three places) by a whole number, without and with a calculator • Divide a three-digit by a two-digit number, without and with a calculator • Divide a decimal number by a whole number, without and with a calculator <p><i>Fractions</i></p> <ul style="list-style-type: none"> • Compare and order fractions and identify equivalent forms of fractions with denominators 2-12 • Express improper fractions as mixed numbers and vice versa and position them on the number line • Add and subtract simple fractions and simple mixed numbers • Multiply a fraction by a whole number • Express tenths, hundredths and thousandths in both fractional and decimal form <p><i>Decimals and percentages</i></p> <ul style="list-style-type: none"> • Develop an understanding of simple percentages and relate them to fractions and decimals |

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| | <ul style="list-style-type: none"> • Compare and order fractions and decimals • Solve problems involving operations with whole numbers, fractions, decimals and simple percentages <p><i>Number theory</i></p> <ul style="list-style-type: none"> • Identify simple prime and composite numbers • Identify square numbers • Identify factors and multiples <p>Algebra</p> <p><i>Directed numbers</i></p> <ul style="list-style-type: none"> • Identify positive and negative numbers in context <p><i>Rules and properties</i></p> <ul style="list-style-type: none"> • Explore and discuss simple properties and rules about brackets and priorities of operation • Identify relationships and record verbal and simple symbolic rules for number patterns <p><i>Equations</i></p> <ul style="list-style-type: none"> • Translate number sentences with a frame into word problems and vice versa • Solve one-step number sentences and equations |
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Sixth Class

| <i>Ages</i> | <i>NUVP Level</i> | <i>Content</i> |
|-------------|-------------------|---|
| 12-13 | 21-23 | <p>Number</p> <p><i>Place value</i></p> <ul style="list-style-type: none"> • Read, write and order whole numbers and decimals • Identify place value in whole numbers and decimals • Round decimals <p><i>(Level 20)</i></p> <p><i>Operations</i></p> <ul style="list-style-type: none"> • Estimate sums, differences, products and quotients of decimals • Add and subtract whole numbers and decimals (to three decimal places) without and with a calculator • Multiply a decimal (up to three places) by a decimal, without and with a calculator • Divide a four-digit by a two-digit number, without and with a calculator <p><i>Fractions</i></p> <ul style="list-style-type: none"> • Compare and order fractions and identify equivalent forms of fractions $w=$ • Express improper fractions as mixed numbers and vice versa and position them on the number line • Add and subtract simple fractions and simple mixed numbers • Express tenths, hundredths and thousandths in both fractional and decimal form • Divide a whole number by a unit fraction • Understand and use simple ratios <p><i>Decimals and percentages</i></p> <ul style="list-style-type: none"> • Use percentages and relate them to fractions and decimals • Compare and order percentages of numbers • Solve problems related to profit and loss, discount, VAT, interest, increases, decreases <p><i>Number theory</i></p> <ul style="list-style-type: none"> • Identify simple prime and composite numbers |

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| | <ul style="list-style-type: none">• Identify and explore square numbers• Explore and identify simple square roots• Identify common factors and multiples• Write whole numbers in exponential form <p>Algebra</p> <p><i>Directed numbers</i></p> <ul style="list-style-type: none">• Identify positive and negative numbers on the number line <p><i>Rules and properties</i></p> <ul style="list-style-type: none">• Know simple properties and rules about brackets and priorities of operation• Identify relationships and record symbolic rules for number patterns <p><i>Equations</i></p> <ul style="list-style-type: none">• Translate word problems with a variable into number sentences• Solve one-step number sentences and equations |
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Eire (Irish Republic) – Junior Cycle

| Junior Cycle | | |
|--------------|-------------------|--|
| <i>Ages</i> | <i>NUVP Level</i> | <i>Content</i> |
| 13-14+ | 23-26 | <p><i>Number systems</i></p> <p>1. The set N of natural numbers. Order. Place value. Sets of divisors. Pairs of factors. Prime numbers. Sets of multiples. Lowest common multiple. Highest common factor.</p> <p>The operations of addition, subtraction, multiplication and division in N. Estimation leading to approximate answers.</p> <p>2. The set Z of integers. Order.</p> <p>The operations of addition, subtraction, multiplication and division in Z. Use of the number line to illustrate addition, subtraction and multiplication. Estimation leading to approximate answers.</p> <p>3. The set Q of rational numbers. Decimals, fractions, percentages.</p> <p>Rational numbers expressed as decimals.</p> <p>The operations of addition, subtraction, multiplication and division in Q. Rounding off. Significant figures for integer values only. Estimation leading to approximate answers.</p> <p>Ratio and proportion.</p> <p>4. Rules for indices.</p> <p>Square roots, reciprocals. Scientific notation.</p> <p><i>Applied arithmetic and measure</i></p> |

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| | 1. Bills. Profit and loss. Percentage profit. Percentage discount. Tax. Annual interest. |
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Algebra

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| | 4. Formation and interpretation of number sentences leading to the solution of first-degree equations in one variable. |
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