

SKILLS	GRADE	NUMBER	ALGEBRA
<p>Grade 3</p> <p>To achieve grade 3, candidates will be able to:</p> <ul style="list-style-type: none"> recall and use notation, terminology, facts, definitions and formulae; perform routine procedures, including some multi-step procedures interpret and communicate basic information; make deductions and use reasoning to obtain results. Access more complex information, interpreting key points. use straight-forward inferences to draw conclusions use reasoning to construct simple arguments solve problems by translating simple mathematical and non-mathematical problems into mathematical processes; identifying straight-forward connections between different parts of mathematics provide a simple evaluation of methods and results interpret results in the context of the given problem competently complete all lower grade methods as well as almost all of those listed in the 1 - 3 content boxes 	<h2 style="writing-mode: vertical-rl; transform: rotate(180deg);">Grades 1 - 3</h2>	<p>Structure and calculation</p> <ul style="list-style-type: none"> order positive and negative integers, decimals and fractions; use the symbols =, ≠, <, >, ≤, ≥ apply the four operations, including formal written methods, to integers, decimals and simple fractions (proper and improper), and mixed numbers – all both positive and negative; understand and use place value (e.g. when working with very large or very small numbers, and when calculating with decimals) recognise and use relationships between operations, including inverse operations (e.g. cancellation to simplify calculations and expressions; use conventional notation for priority of operations, including brackets, powers, roots and reciprocals) use the concepts and vocabulary of prime numbers, factors (divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation theorem apply systematic listing strategies use positive integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5 calculate exactly with fractions calculate with and interpret standard form $A \times 10^n$, where $1 \leq A < 10$ and n is an integer. 	<p>Notation, Vocab & manipulation</p> <ul style="list-style-type: none"> use and interpret algebraic notation, including: <ul style="list-style-type: none"> ab in place of $a \times b$ $3y$ in place of $y + y + y$ and $3 \times y$ a^2 in place of $a \times a$, a^3 in place of $a \times a \times a$, a^2b in place of $a \times a \times b$ a/b in place of $a \div b$ coefficients written as fractions rather than as decimals brackets substitute numerical values into formulae and expressions, including scientific formulae understand and use the concepts and vocabulary of expressions, equations, formulae, inequalities, terms and factors simplify and manipulate algebraic expressions by: <ul style="list-style-type: none"> collecting like terms multiplying a single term over a bracket taking out common factors simplifying expressions involving sums, products and powers, including the laws of indices understand and use standard mathematical formulae; rearrange formulae to change the subject where appropriate, interpret simple expressions as functions with inputs and outputs
<p>Grade 2</p> <p>To achieve grade 2, candidates will be able to:</p> <ul style="list-style-type: none"> recall and use notation, terminology, facts and definitions; perform routine procedures, including some multi-step procedures interpret and communicate basic information; make deductions and use reasoning to obtain results solve problems by translating simple mathematical and non-mathematical problems into mathematical processes provide basic evaluation of methods or results interpret results in the context of the given problem competently complete all lower grade methods as well as at least half of those listed in the 1 - 3 content boxes 		<p>Fractions, decimals & percentages</p> <ul style="list-style-type: none"> work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 and $7/2$ or 0.375 or $3/8$) identify and work with fractions in ratio problems interpret fractions and percentages as operators. 	<p>Graphs</p> <ul style="list-style-type: none"> work with coordinates in all four quadrants plot graphs of equations that correspond to straight-line graphs in the coordinate plane identify and interpret gradients and intercepts of linear functions graphically and algebraically recognise, sketch and interpret graphs of linear functions, quadratic functions plot and interpret graphs and graphs of non-standard functions in real contexts, to find approximate solutions to problems such as simple kinematic problems involving distance, speed and acceleration
<p>Grade 1</p> <p>To achieve grade 1, candidates will be able to:</p> <ul style="list-style-type: none"> recall and use key notation, terminology, facts and definitions; perform one-step procedures confidently interpret and communicate basic information; make some deductions related to the information and attempt to use reasoning to obtain results solve basic problems (that may or may not be led) by translating simple mathematical and non-mathematical problems into mathematical processes demonstrate a clear attempt to evaluate methods or results relate results to the context of the given problem competently complete all lower grade methods as well as some of those listed in the 1 - 3 content boxes 		<p>Measures and accuracy</p> <ul style="list-style-type: none"> use standard units of mass, length, time, money and other measures (including standard compound measures) using decimal quantities where appropriate estimate answers; check calculations using approximation and estimation, including answers obtained using technology round numbers and measures to an appropriate degree of accuracy (e.g. to a specified number of decimal places or significant figures) 	<p>Solving Eqn and inequalities</p> <ul style="list-style-type: none"> solve linear equations in one unknown algebraically find approximate solutions using a graph Sequences: <ul style="list-style-type: none"> generate terms of a sequence from either a term-to-term or a position-to-term rule recognise and use sequences of triangular, square and cube numbers, simple arithmetic progressions deduce expressions to calculate the nth term of linear sequences

SKILLS	GRADE	RATIO, PROPORTION & RATE OF CHANGE	Geometry and Measures		
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<p>Grade 2</p> <p>To achieve grade 2, candidates will be able to:</p> <ul style="list-style-type: none"> recall and use notation, terminology, facts and definitions; perform routine procedures, including some multi-step procedures interpret and communicate basic information; make deductions and use reasoning to obtain results solve problems by translating simple mathematical and non-mathematical problems into mathematical processes provide basic evaluation of methods or results interpret results in the context of the given problem competently complete all lower grade methods as well as at least half of those listed in the 1 - 3 content boxes 					
<p>Grade 1</p> <p>To achieve grade 1, candidates will be able to:</p> <ul style="list-style-type: none"> recall and use key notation, terminology, facts and definitions; perform one-step procedures confidently interpret and communicate basic information; make some deductions related to the information and attempt to use reasoning to obtain results solve basic problems (that may or may not be led) by translating simple mathematical and non-mathematical problems into mathematical processes demonstrate a clear attempt to evaluate methods or results relate results to the context of the given problem competently complete all lower grade methods as well as some of those listed in the 1 - 3 content boxes 					

SKILLS	GRADE	PROBABILITY	STATISTICS
<p>Grade 3</p> <p>To achieve grade 3, candidates will be able to:</p> <ul style="list-style-type: none"> recall and use notation, terminology, facts, definitions and formulae; perform routine procedures, including some multi-step procedures interpret and communicate basic information; make deductions and use reasoning to obtain results. Access more complex information, interpreting key points. use straight-forward inferences to draw conclusions use reasoning to construct simple arguments solve problems by translating simple mathematical and non-mathematical problems into mathematical processes; identifying straight-forward connections between different parts of mathematics provide a simple evaluation of methods and results interpret results in the context of the given problem competently complete all lower grade methods as well as almost all of those listed in the 1 - 3 content boxes 	<p>Grades 1 - 3</p>	<ul style="list-style-type: none"> record describe and analyse the frequency of outcomes of probability experiments using tables and frequency trees apply ideas of randomness, fairness and equally likely events to calculate expected outcomes of multiple future experiments relate relative expected frequencies to theoretical probability, using appropriate language and the 0 - 1 probability scale apply the property that the probabilities of an exhaustive set of outcomes sum to one; apply the property that the probabilities of an exhaustive set of mutually exclusive events sum to one enumerate sets and combinations of sets systematically, using tables, grids, Venn diagrams construct theoretical possibility spaces for single and combined experiments with equally likely outcomes and use these to calculate theoretical probabilities 	<ul style="list-style-type: none"> interpret and construct tables, charts and diagrams, including frequency tables, bar charts, pie charts and pictograms for categorical data, vertical line charts for ungrouped discrete numerical data and know their appropriate use interpret, analyse and compare the distributions of data sets from univariate empirical distributions through: <ul style="list-style-type: none"> appropriate graphical representation involving discrete, continuous and grouped data appropriate measures of central tendency (median, mean, mode and modal class) and spread (range, including consideration of outliers) apply statistics to describe a population use and interpret scatter graphs of bivariate data; recognise correlation
<p>Grade 2</p> <p>To achieve grade 2, candidates will be able to:</p> <ul style="list-style-type: none"> recall and use notation, terminology, facts and definitions; perform routine procedures, including some multi-step procedures interpret and communicate basic information; make deductions and use reasoning to obtain results solve problems by translating simple mathematical and non-mathematical problems into mathematical processes provide basic evaluation of methods or results interpret results in the context of the given problem competently complete all lower grade methods as well as at least half of those listed in the 1 - 3 content boxes 			
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