

DESCRIPTION OF MATH-U-SEE LEVELS FROM PRESCHOOL TO UNIVERSITY

FOUNDATION LEVELS:

Primer is preschool maths; it is a fun introduction to maths. We introduce numbers using the hands on manipulatives and learn the basics of telling the time, place value and addition. Games and activities are included throughout the lesson material.

Alpha is a fundamental level that builds strong foundations. Place value, telling the time, addition, subtraction, basic shapes and algebra are taught in the lesson material.

Beta builds on from the previous level (Alpha) and creates strong understanding for more complex equations. Multi-digit addition and subtraction, skip counting, money, telling the time and measurements for shapes are taught in more depth for complete confidence and understanding for mastery.

Gamma focuses on multiplication or “fast-adding” as well as regrouping, prime and composite numbers, rounding numbers and Australian metric measurements (shapes, kms, kgs). These concepts are important as your student steps forward into their understanding of maths.

Delta jumps right into division, short division and long division. Dividing numbers, expanded and standard notation, rounding numbers, shapes (triangles, trapezoids, parallel and perpendicular lines), and volume is all taught in the lesson material.

Epsilon focuses on fractions. Fraction of a number, equivalent fractions, multiplying and dividing fractions, linear measurements, solving for the unknown (algebra), circumference and submersion of numbers is taught in the Epsilon level.

These concepts are taught clearly and concretely using the hands-on manipulative Fraction Overlays. This way of teaching fractions is one of our best kept secrets and one that parents, schools and teachers are raving about!

Zeta explores algebra, decimals and percents in-depth. Indices, area and circumference, dividing decimals and remainders, solving for the unknown (algebra), probability, shapes and angles are taught in-depth throughout the Zeta lesson materials.

These concepts are reinforced by the use of our hands on manipulatives, the Algebra Decimal Inserts which teach decimals and algebra in a way that parents, schools and teachers are surprised and shocked by (its so easy when you use the right tools!)

ADVANCED LEVELS:

Pre-Algebra is the start of our advanced levels and makes sure that key foundational concepts are mastered before proceeding into the Algebras. Exponents, negative numbers, ratios and radicals, solving for the unknown (algebra), surface area and volume of shapes and angles, military time and imperial numbers are explored throughout the Pre-Algebra lessons.

Algebra 1 is the first level of Algebra. At this point, all of the previous knowledge of maths and equations are harnessed to focus on algebraic equations. In these lessons, we teach commutative and associative properties, graphing lines, slope intercept formulas, solving simultaneous equations, shapes, square roots and dividing polynomials, square unit multipliers and fractional exponents.

We've put as much time into developing the Teachers Instruction Manuals as we have the student materials - so that you don't need any prior teaching experience to teach maths at this otherwise complex level. Parents, schools and teachers all love Algebra 1 because of the easy, simple laid out worked out problems in the workbooks!

Geometry focuses on shapes, dimensions, measurements and geometry. In these lessons, we teach angles, planes and sets, transversals, area, circumference and volume of all shapes, radicals, Pythagorean Theorem, axioms and postulates, and trigonometric functions.

Algebra 2 is the final part of high-school maths (you've got the Calculus levels to go to if you want university level mathematics). This means you've got everything you need to engage in maths for school, exams, future study or career options!

In these lessons, we teach exponents, rational expressions, factoring polynomials, binomial theorem, quadratic formula, ratios, graphing lines, parabolas and hyperbolas, vectors and solving equations with three variables.

Instruction Pack

Instruction Manual / Online Videos

The online video lessons and the instruction manual are designed to guide teacher instruction. The manual provides written instructions, examples, and complete solutions for the student text and test booklet. Included are the explanation for the new concept and several examples to illustrate the new concepts.



Student Kit

Student Text / Test Booklet

The student text has six worksheets per lesson. There are three lesson practice sheets focusing on the new concept. These practice sheets may include word problems which are designed to apply the concept being taught in the lesson. There are also three systematic review worksheets covering the new material as well as providing practice of math concepts previously studied. The word problems on these pages reinforce math concepts mastered in previous lessons. The test booklet has one test per lesson, four unit tests, and a final exam. There are slight variations in the numbers of worksheets, lessons, and unit tests in the upper-level materials *Algebra 1* through *Calculus*).



Manipulative Blocks

The manipulative blocks are used in all of the Math ·U ·See levels from *Primer* to *Delta* and *Zeta* to *Algebra 1* . There are 88 pieces in this colorful, base-10 set of stacking blocks used to teach all aspects of arithmetic. The same blocks are used in conjunction with the Algebra/Decimal Inserts to illustrate key algebra and decimal concepts. The set consists of five each of the 2s, 3s, 4s, 6s, 7s, 8s, 9s, and 100s; seven 5s, twenty units, and twenty- one 10s. We recommend two sets of Blocks per 4- 5 students. Teacher Magnetic Block Sets are available for purchase.



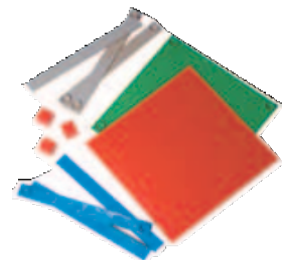
Fraction Overlays

This is a 37- piece set with colored vinyl fraction pieces to represent numerators along with lined clear overlays to illustrate the denominators. The overlays include the $\frac{1}{2}$ s through the $\frac{1}{6}$ s, plus $\frac{1}{4}$ s, $\frac{1}{10}$ s, and $\frac{1}{100}$ s. All of the colored vinyl pieces correspond to the manipulative blocks and are organized in a stepped cloth holder. The overlays are used to teach fractions in *Epsilon*.



Algebra/Decimal Inserts

The algebra inserts are smooth pieces which snap into the backs of the ten and hundred pieces to illustrate X , $-X$, and X^2 . The decimal pieces represent units, $\frac{1}{10}$ s and $\frac{1}{100}$ s. There are 50 pieces in all. Algebra Decimal Inserts are used to present decimals in *Zeta*, and to illustrate polynomials in *Pre-Algebra* and *Algebra 1*.



Skip Count and Addition Facts Audio & Songbook

These are songs to help the student learn the skip-counting facts. The set includes online audio and booklet with the words and music. The lyrics refer to science concepts and children's stories. Songs to be used in conjunction with the addition facts are also included.





MATHS
AUSTRALIA

CONTACT

02 9094 3390 / 08 6311 5998

info@mathsaustralia.com.au

WWW.MATHSAUSTRALIA.COM.AU