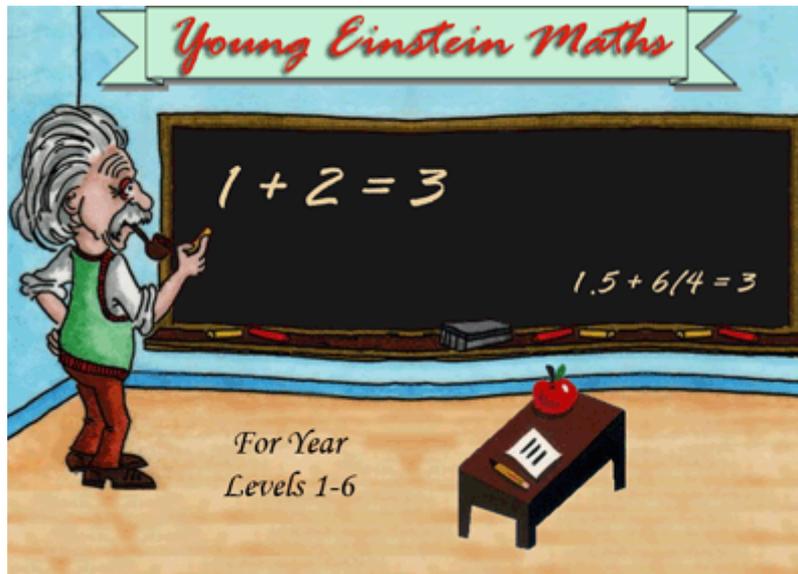


Young Einstein Mathematics



By

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Introduction

This software was developed to provide students with an alternative method of practicing newly learnt mathematics concepts during the primary school years.

It covers a large variety of activities to enable students to practise what has been taught in the classroom.

At 10 – 15 minutes practise twice a day, it is astounding the amount of maths that can be attempted if games and other distractions are avoided. As an example, results have shown that a student just starting to learn his tables can take approx 15 minutes to attempt 150 questions. With a bit of practice, the same student can get this time down to under 8 minutes. This is a tremendous improvement and psychological boost for the student's confidence.

All activities are graded for levels of difficulty, however some allow further modification by allowing only certain number sets to be used. Activities should be chosen where they provide the user with a challenge so that they can build on their existing skill sets and proficiency.

The software can be easily used to lighten the load on teachers. It can keep students amused and busy working on productive material that will reinforce mathematics concepts.

This documentation covers the 'Extended Site License' version of 'Young Einstein Mathematics'. As such if you are using a 'Student Version' or software from the 'Maths Practice Helper' series, some of the enclosed sections may not be relevant or the configuration sections might be amalgamated together.

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System Date 'Clocking'

The software should not be used on systems that require their system dates to be altered for testing or other purposes.

As part of enforcing licensing durations, the software will try to detect if the computer system it is installed on has been 'clocked' backwards. In the event that this activity is detected the software will be disabled. In such cases it might be necessary to re-format the system as reinstallation of the software alone may not rectify the problem.

Evaluation Version Limitations

Evaluation Versions have the following restrictions imposed.

- Changes can not be made to number sets used in modules.
- Printing of results is disabled.
- The number of questions per module is restricted to 3 at a time.
- And the registration form pops up regularly.

Limitation of Responsibility

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License Functionality

Application functionality is based on license type. The following table illustrates what each license type will allow you to do.

Function	School Version		Single License	Helper Series	21 Day Evaluation Without Serial Keys
	Admin User	Student User			
Number of activities	338 (*All levels version)	338 (*All levels version)	257	21 each	338
Pre Keyed Bulk Media	NO	On Request (Min. Orders)	NO	NO	NO
Repeatable Question Sets	YES	YES	NO	YES	YES
Timed Test Options	YES	YES	NO	YES	YES
Change Audio and Feedback options	YES	Based on Admin Setting	YES	YES	NO
Change File Locations	YES	NO	On Install Only	On Install Only	NO
Supports Network Drives	YES	YES	NO	NO	NO
Alter User Configuration	YES	Based on Admin Setting	Limited	Limited	NO
Change Number of Questions per Mod.	YES	Based on Admin Setting	YES	YES	Set To Only 3 At A Time
Module Instructions	YES	YES	YES	YES	NO
Change Number Sets Used	YES	Based on Admin Setting	YES	YES	YES
Alter Answer Handling	YES	Based on Admin Setting	YES	YES	YES
Change Number Entry Direction	YES	Based on Admin Setting	YES	YES	YES
Log History	YES	Based on Admin Setting	YES	YES	NO
View History	YES	Based on Admin Setting	YES	YES	NO
View History Graphs	YES	Based on Admin Setting	YES	YES	NO
Print History Graphs	YES	Based on Admin Setting	YES	YES	NO
Print Session Results	YES	Based on Admin Setting	YES	YES	NO
Print Certificate	YES	Based on Admin Setting	YES	YES	NO
Change User Name	YES	YES	YES	YES	NO
Delete History Files	YES	Based on Admin Setting	YES	YES	NO
Play Games	YES	Based on Admin Setting	YES	YES	Sample
Impose Student Restrictions	YES	N/A	N/A	N/A	N/A

Getting Started

Activity list

The following list provides a quick 1 line description of the activities available, including the activity heading and the year level that it is aimed for.

A more detailed description and breakdown is provided on the software CD in an Excel spreadsheet format.

Young Einstein Mathematics Activity Description	Activity Heading	Year
24Hr Digital to Analogue Time Conversion, includes 24hr notation.	Digital To Analogue Time Conversion	5,6
24Hr Digital to Analogue Time Conversion, includes AM-PM indicators.	Digital To Analogue Time Conversion	5
Add 2 fractions (possibly improper fractions) with random denominators to 12.	Fraction Addition	5,6
Add 2 fractions with denominators being a multiple of each other.	Fraction Addition	4
Add 2 fractions with random denominators up to 12.	Fraction Addition	5,6
Add 2 fractions with the same denominators, no whole numbers involved.	Fraction Addition	4
Add 2 fractions with the same denominators, whole number answers involved.	Fraction Addition	4
Add 2 mixed fractions with random denominators to 12.	Fraction Addition	5,6
Add 2 random decimal numbers.	Decimal Addition	6
Add 2 single decimal numbers.	Decimal Addition	4
Add 2 x 2 decimal numbers.	Decimal Addition	4
Add 3 decimal numbers.	Decimal Addition	5,6
Add a percentage amount greater than 100 to a number.	Percentage Addition	6
Add a percentage amount to a monetary amount.	Percentage Addition	6
Add a percentage amount to a number.	Percentage Addition	5
Adding 2 numbers, each up to 10	Single Digit Addition - Pentagon	2
Adding 2 numbers, totalling a maximum of 20	Adding To 20 (Horiz.)	2
Adding 2 numbers, totalling a maximum of 20	Adding To 20 (Vert.)	2
Adding 2 numbers, totalling a maximum of 20	Adding To 20 - Pentagon	2
Adding 2 single digit numbers, answers up to 10	Adding To 10 (Horiz.)	1,2
Adding 2 single digit numbers, answers up to 10	Adding To 10 (Vert.)	2
Adding numbers (up to 10) in a grid	Adding Numbers to 10	2,3
Adding numbers (up to 20) in a grid	Adding Numbers to 20	2,3
Adding numbers and then adding similar numbers 10x and 100x larger	Addition With Multiple Factors Of 10 & 100	4
Adding numbers and then adding similar numbers 10x larger	Addition With Multiple Factors Of 10	3
Adding numbers by interpreting a picture	Adding Objects	2
Adding three 2 digit numbers	Adding Three 2 Digit Numbers (Horiz.)	3
Adding three 2 digit numbers	Adding Three 2 Digit Numbers (Vert.)	3
Adding three 3 digit numbers	Adding Three 3 Digit Numbers (Vert.)	3,4,5
Adding three 4 digit numbers	Adding Three 4 Digit Numbers (Vert.)	4,5,6
Adding three single digit numbers	Adding Three Single Digit Numbers (Horiz.)	2,3
Adding two 2 digit numbers	Two Digit Addition - Pentagon	2,3,4
Adding two 2 digit numbers with a carry involved	Adding 2 Digit Numbers - With Carry (Horiz.)	2,3
Adding two 2 digit numbers with a carry involved	Adding 2 Digit Numbers - With Carry (Vert.)	2,3
Adding two 2 digit numbers with no carry involved	Adding 2 Digit Numbers - No Carry (Horiz.)	2,3
Adding two 2 digit numbers with no carry involved	Adding 2 Digit Numbers - No Carry (Vert.)	2,3

Adding two 3 digit numbers	Adding Two 3 Digit Numbers (Horiz.)	3
Adding two 3 digit numbers	Adding Two 3 Digit Numbers (Vert.)	3,4,5
Adding two 3 digit numbers	Three Digit Addition - Pentagon	3,4,5
Adding two 4 digit numbers	Adding Two 4 Digit Numbers (Vert.)	3,4,5
Adding two 5 digit numbers.	Adding Two 5 Digit Numbers	6
Adding two groups of pictured items, answers up to 10.	Picture Interpretation Addition To 10	1,2
Adding two groups of pictured items, answers up to 20.	Picture Interpretation Addition To 20	2
Adding two numbers, each being multiples of 10	Adding 10s (Horiz.)	3
Adding two numbers, each being multiples of 10	Adding 10s (Vert.)	3,4
Adding two numbers, each being multiples of 10	Tens Addition - Pentagon	3,4
Adjust the clock by the given amount.	Time Addition Or Subtraction	4
Adjust the clock by the given amount. Either hours or minutes only.	Time Addition Or Subtraction	5,6
Analogue to Digital Time Conversion in 5 min intervals	Analogue To Digital Time Conversion	3
Analogue to Digital Time Conversion in half hour intervals	Analogue To Digital Time Conversion	2
Break down the unit values from a cheque amount. Including Cents.	Cheques	2
Break down the unit values from a cheque amount. Including Cents.	Cheques	3
Break down the unit values from a cheque amount. Including Cents.	Cheques	4
Break down the unit values from a cheque amount. No Cents.	Cheques	1,2
Buying 2 items and working out \$ amounts.	Shopping	3
Buying 2 lots of items and working out \$ amounts.	Shopping	3,4
Buying 3 items and working out \$ amounts.	Shopping	3
Buying 4 lots of items and working out \$ amounts.	Shopping	5,6
Continue the ascending patterns using possible number sets	Series - Incrementing Number Patterns	2,3
Continue the decimal number pattern.	Series - Decimal Patterns	5,6
Continue the descending patterns using possible number sets	Series - Decrementing Number Patterns	2,3
Continue the even number pattern	Series - Even Number Patterns	2
Continue the even number pattern	Series - Even Number Patterns	1
Continue the odd number pattern	Series - Odd Number Patterns	2
Continue the prime number pattern.	Series - Prime Number Patterns	5,6
Continue the random pattern	Series - Random 100 Offset Number Patterns	2,3,4
Continue the random pattern	Series - Random 10 Offset Number Patterns	2,3,4
Continue the random pattern with large offsets	Series - Random Large Offset Number Patterns	2,3,4
Continue the random patterns using possible number sets	Series - Random Number Patterns	2,3,4
Convert a number in Roman numerals to Arabic numerals.	Roman Numerals	5,6
Convert a number to its Roman numerals equivalent.	Roman Numerals	5,6
Convert a simple fraction to a base 10 factor and then to a decimal number.	Convert Fractions To Decimals	4
Convert a simple fraction to a decimal number.	Convert Fractions To Decimals	3
Convert a simple fraction to a percentage.	Convert Fractions To A Percentage	4
Converting a 3 unit pole to a number	Place Values With A 3 Unit Pole	2,3
Converting a 4 unit pole to a number	Place Values With A 4 Unit Pole	4
Converting a 5 unit pole to a number	Place Values With A 5 Unit Pole	4
Converting a 6 unit pole to a number	Place Values With A 6 Unit Pole	5,6
Converting a decimal unit pole to a number	Place Values With A Decimal Unit Pole	4,5
Converting a number to its written form in jumbled order.	Digit To Word Conversion	1
Converting a number to its written form.	Digit To Word Conversion	1
Converting a pie chart with denominators to 12 to a fraction.	Pie Chart To Fraction	4
Converting a pie chart with denominators to 24 to a fraction in its simplest form.	Pie Chart To Fraction	6
Converting a pie chart with denominators to 24 to a fraction.	Pie Chart To Fraction	5
Count the number of pictured objects and select the appropriate written number.	Counting Items To Word Conversion	1

Cross Adding 2 numbers, each up to 10.	Across And Down Addition	2
Cross Adding 2 numbers, totalling a maximum of 20.	Across And Down Addition	2
Cross Adding two 2 digit numbers.	Across And Down Addition	2,3
Cross Adding two 3 digit numbers.	Across And Down Addition	3
Cross Adding two numbers, each being multiples of 10.	Across And Down Addition	3
Cross Multiply 2 numbers based on active number sets.	Across And Down Multiplication	3,4,5,6
Describe the position of one object relative to another	Relative Positions	2
Describe the position of one object relative to another, include column/row	Relative Positions	3
Determine the chance of an simple event on a large spinning wheel with 6 to 25 sections.	Spinning Wheel Chance	3
Determine the chance of an simple event on a small spinning wheel with 4 to 12 sections expressed in fractions.	Spinning Wheel Chance	4
Determine the chance of an simple event on a small spinning wheel with 4 to 12 sections.	Spinning Wheel Chance	2
Determine the chance of an simple event on a small spinning wheel with 6 to 25 sections expressed in fractions.	Spinning Wheel Chance	5,6
Determine the chance of an simple event on one die	Single Dice Chance	2
Determine the chance of an simple event on one die, expressed in fractions	Single Dice Chance	4,5
Determine the chance of an simple event on one or two dice	One Or Two Dice Chance	3
Determine the chance of an simple event on one or two dice, expressed in fractions	One Or Two Dice Chance	5,6
Determine the chance of events with 2 coins	Two Coin Chance	2
Determine the chance of events with 3 coins	Three Coin Chance	3
Determine the chance of events with 3 coins, expressed in fractions	Three Coin Chance	4,5
Determine the chance of events with 4 coins, expressed in fractions	Four Coin Chance	5,6
Determine the number of chances in simple random events	Chance Events	2,3
Digital to Analogue Time Conversion in 5 min intervals	Digital To Analogue Time Conversion	3
Digital to Analogue Time Conversion in half hour intervals	Digital To Analogue Time Conversion	2
Divide 2 simple fractions.	Fraction Division	6
Dividing with a picture aid, based on active number sets.	Dividing	3
Division using possible number sets	Dividing Numbers (Horiz.)	3,4
Division with a 2 digit dividend, trade digits supplied, no remainders and using possible number sets.	Division	4
Division with a 2 digit dividend, trade digits supplied, possible remainders and using possible number sets.	Division	4
Division with a 3 digit dividend, possible remainders and using possible number sets.	Division	4
Division with a 3 digit dividend, trade digits supplied, no remainders and using possible number sets.	Division	4
Division with a 4 digit dividend, 2 digit divisor.	Division	5,6
Division with a 4 digit dividend, possible remainders and using possible number sets.	Division	5,6
Division with one number being a multiple of 10 or 100, using possible number sets.	Dividing With Base 10 Multiples	6
Double a number up to 100 or multiples of 10.	Double A Number	4
Double a number up to 12.	Double A Number	2
Double a number up to 50	Double A Number	3
Estimate an answer by using rounding to hundreds to make the sum easier.	Estimating Addition	4
Estimate an answer by using rounding to make the sum easier	Estimating Addition	2,3
Estimate an answer by using rounding to make the sum easier	Estimating Subtraction	3
Fill, empty or transfer the container contents to make an amount.	Measuring With Jugs	
Find a missing multiplier using multiples from possible number sets	Missing Part In Multiplication Sums	4,5
Find the missing number to make the addition equation correct	Missing Part In Single Digit Addition	2
Find the missing number to make the division equation correct using active number sets.	Missing Part In Division Sums	4,5
Find the missing number to make the division equation correct using active number sets.	Missing Part In Fraction Sums	4,5
Find the missing number to make the equation correct using either + or -	Missing Part In Mixed Sums To 20	2
Find the missing number to make the subtraction equation correct	Missing Part In Subtraction To 20	2
Find the missing part in a fraction equation.	Fractions Of Whole Numbers	6

Finding a set of numbers that add up to a given total less than 100.	Crossword Addition	2,3
Finding a set of numbers that add up to a given total. Addition to 20.	Crossword Addition	2,3
Finding a set of numbers that add up to a given total. Numbers up to 20.	Crossword Addition	2,3
Finding a set of numbers that multiply out to a given total.	Crossword Multiplication	3,4,5,6
For up to 10, work out how many groups and the remainder	Small Groups With Remainders	2
For up to 20, work out how many groups and the remainder	Larger Groups With Remainders	3
From a calendar answer questions sometimes with logic or arithmetic involved	Calendar	3,4
From a calendar answer simple questions, minimal arithmetic	Calendar	2
From a picture estimate and then confirm your estimate with a count	Estimate And Count	2,3
From a word number, identify the next number in the series	Series - Next Number (written)	2
From a word number, identify the previous number in the series	Series - Previous Number (written)	2
From the chart work out how many cars were sold	Charting Sales	2,3
From the chart work out how much rain fell, with a bit more maths.	Rainfall Graphs	5,6
From the chart work out how much rain fell.	Rainfall Graphs	3,4
Guess the number in a selected range.	High Low Guessing	
Halve a number up to 100 or multiples of 10.	Half Of A Number	4
Halve a small number up to 24.	Half Of A Number	2,3
Identify how many faces, edges and corners on a shape	Describe Shapes	3,4
Identify how to make an amount using a specific number of coins	Coin Change With Exact Number Of Coins	3
Identify if a fraction is greater, smaller or equal to another.	Comparing Fractions	3,4
Identify the appropriate probability of events	Chance Event Probability	2
Identify the correct name of 2D shapes	Identify 2D Shapes	1,2
Identify the correct name of 3D shapes	Identify 3D Shapes	3,4
Identify the correct name of any angle.	Identify Advanced Angles	5,6
Identify the correct name of basic angles. Acute, Obtuse, Right & Straight Angles.	Identify Basic Angles	3,4
Identify the correct name of different triangles.	Describe Triangles	5
Identify the correct names of different line types.	Identify Line Types	2,3,4,
Identify the grid reference of an object.	Grid Reference	3
Identify the next even number in the series	Series - Next Number (written)	2
Identify the next number in the series	Series - Next Number	2
Identify the next odd number in the series	Series - Next Number	2
Identify the next prime number in the series.	Series - Prime Numbers	5,6
Identify the next square number in the series.	Series - Square Numbers	4,5
Identify the next triangle number in the series.	Series - Triangle Numbers	4,5
Identify the previous number in the series	Series - Previous Number	2
Large grid with optional addition or multiplication (harder) sums.	Concentration Maths	
Magic Square with sums from 18..99 intervals of 3.	Magic Square	4
Magic Square with sums from 6..21 intervals of 3.	Magic Square	3
Magic Square with sums from 99..999 intervals of 3.	Magic Square	4,5
Make a decimal unit pole from a given mixed number.	Place Values With A Decimal Unit Pole	4,5
Make a unit pole from a given 3 digit number	Place Values With A 3 Unit Pole	2,3
Make a unit pole from a given 4 digit number	Place Values With A 4 Unit Pole	4
Make a unit pole from a given 5 digit number	Place Values With A 5 Unit Pole	4
Make a unit pole from a given 6 digit number	Place Values With A 6 Unit Pole	5,6
Make all 3 card spots add up to a number.	Making Numbers From Cards	1,2
Make the card have the right number of spots.	Making Numbers From Cards	1
Making a number out of 2 dice.	Making Numbers From Dice	1
Making a number out of 3 dice.	Making Numbers From Dice	1,2
Making the largest possible number using all 3 digits	Largest Possible Number With 3 Digits	2
Making the largest possible number using all 4 digits	Largest Possible Number With 4 Digits	3,4
Making the largest possible number using all 5 digits	Largest Possible Number With 5 Digits	4
Making the largest possible number using all 6 digits	Largest Possible Number With 6 Digits	5

Making the smallest possible number using all 3 digits	Smallest Possible Number With 3 Digits	2
Making the smallest possible number using all 4 digits	Smallest Possible Number With 4 Digits	3,4
Making the smallest possible number using all 5 digits	Smallest Possible Number With 5 Digits	4
Making the smallest possible number using all 6 digits	Smallest Possible Number With 6 Digits	5
Mixed sums using any of 4 operators (+ - x ÷) based on active number sets.	Mixed Operators	3,4
Move an object 2 times and find the final grid reference.	Grid Reference	4
Move an object 3 times and find the final grid reference.	Grid Reference	4,5
Move an object 4 times and find the final grid reference.	Grid Reference	5
Move the letters around to get them in the correct order.	Shuffle	
Move the rings to the centre pole.	Tower Of Hanoi	
Multiply 2 numbers using possible number sets	Multiplication Tables - Pentagon	3,4,5,6
Multiply 2 numbers using possible number sets	Multiplying Numbers (Vert.)	3,4,5,6
Multiply 2 numbers using possible number sets	Multiplication Tables	3,4,5,6
Multiply 2 numbers using possible number sets.	Multiplying Numbers (Horiz.)	3,4,5,6
Multiply 2 numbers, one being a multiple of 10 or 100, using possible number sets.	Multiplying Base 10 Multiples	6
Multiply 2 simple fractions, improper fractions can be used.	Improper Fraction Multiplication	6
Multiply 2 simple fractions, whole numbers are not involved.	Simple Fraction Multiplication	6
Multiply a grid of numbers using active number sets.	Multiplication Maths	3,4,5,6
Multiply mixed fractions.	Mixed Fraction Multiplication	6
Multiplying numbers and then multiplying similar numbers 10x and 100x larger	Multiply With Multiple Factors Of 10,100	4
Multiplying numbers and then multiplying similar numbers 10x larger	Multiply With Multiple Factors Of 10	3,4
Multiplying numbers and then multiplying similar numbers 10x larger	Multiply With Multiple Factors Of 10	5
Picture aided addition to 10	Single Digit Addition	1,2
Picture aided addition to 20	Single Digit Addition	2
Point a compass in the correct direction, with some broader geographic knowledge.	Compass	3,4,5
Point a compass in the correct direction.	Compass	2,3
Read a thermometer and work out a difference. Decimals might be used.	Reading Thermometers	5,6
Read a thermometer at full graduation marks.	Reading Thermometers	3
Read a thermometer to between graduation marks.	Reading Thermometers	4
Rounding Include Next and Previous	Varied Rounding	6
Rounding simple numbers to ten	Rounding	2,3
Rounding simple numbers to the nearest 10 or 100	Rounding	2,3
Rounding simple numbers to the nearest 10, 100 or 1000.	Rounding	4,5,6
Select an estimate from a given choice after using rounding to make the sum easier.	Estimating	5
Select an estimate from a given choice after using rounding to make the sum easier.	Estimating	6
Select Half, Third Or Quarter of up to 20 objects	Selecting Half, Third Or Quarter	2,3,4,5
Select the appropriate measurement unit for the described item.	Measurement Units	4,5,6
Selecting objects to show a fraction	Representing Fractions	2,3,4,5
Selecting the right number of objects to make a mixed fraction.	Representing Mixed Fractions	4
Selecting the right number of objects to match a given ratio.	Representing Fractions	3,4,5
Selecting the right number of objects to represent a decimal number.	Selecting A Decimal Portion	4
Simplify and work out the smallest fraction.	Simplifying Fractions	4,5,6
Small grid with optional addition or multiplication (simple) sums.	Concentration Maths	
Solve the Jig Saw puzzle by swapping the picture positions.	Jig Saw Puzzle	
Sort 3 chance events into the appropriate decreasing probability order	Sort Chance Event By Decreasing Probability	2,3,4
Sort 3 chance events into the appropriate increasing probability order	Sort Chance Event By Increasing Probability	2,3,4
Sort 3 digit decimals in ascending order.	Sort 3 Digit Decimals	4
Sort 3 digit decimals in descending order.	Sort 3 Digit Decimals	4
Sort 3 digit numbers in ascending order	Sort 3 Digit Numbers	2,3
Sort 3 digit numbers in descending order	Sort 3 Digit Numbers	2,3

Sort 4 digit decimals in ascending order.	Sort 4 Digit Decimals	4
Sort 4 digit decimals in descending order.	Sort 4 Digit Decimals	4
Sort 4 digit numbers in ascending order	Sort 4 Digit Numbers	3,4
Sort 4 digit numbers in descending order	Sort 4 Digit Numbers	3,4
Sort decimal numbers in ascending order.	Sort Decimal Numbers	4
Sort decimal numbers in ascending order.	Sort Decimal Numbers	3,4
Sort decimal numbers in descending order.	Sort Decimal Numbers	4
Sort decimal numbers in descending order.	Sort Decimal Numbers	3,4
Sort Fraction Eighths in ascending order.	Sort Fractions	3,4
Sort Fraction Eighths in descending order.	Sort Fractions	3,4
Sort Fractions in ascending order.	Sort Fractions	3
Sort Fractions in ascending order.	Sort Fractions	4
Sort Fractions in descending order.	Sort Fractions	3
Sort Fractions in descending order.	Sort Fractions	4
Sort images in ascending size order	Sort Pictures By Size	1,2
Sort images in descending size order	Sort Pictures By Size	1,2
Sort items in ascending quantity order	Sort Pictures By Quantity	1,2
Sort items in descending quantity order	Sort Pictures By Quantity	1,2
Starting negative, add or subtract 3 numbers with negative intermediate or final results.	Negative Numbers	6
Starting positive, add or subtract 3 numbers with negative intermediate or final results.	Negative Numbers	6
Step by Step long multiplication of 2 x 2 digit numbers. Includes a carry.	Long Multiplication	5,6
Step by Step long multiplication with no carry involved.	Long Multiplication	5,6
Subtract 2 decimal numbers.	Decimal Subtraction	4
Subtract 2 decimal numbers.	Decimal Subtraction	5,6
Subtract 2 single decimal numbers.	Decimal Subtraction	4
Subtract a number leaving the resulting number negative.	Negative Numbers	6
Subtract a percentage amount from a monetary amount.	Percentage Subtraction	6
Subtract a percentage amount from a number.	Percentage Subtraction	6
Subtract fractions having similar or directly scaled denominators to 12.	Fraction Subtraction	5,6
Subtracting a 2 digit number with a borrow involved	Subtracting 2 Numbers - With Borrow (Horiz.)	3
Subtracting a 2 digit number with a borrow involved	Subtracting 2 Numbers - With Borrow (Vert.)	3,4
Subtracting a 2 digit number with negative number results.	Subtracting 2 Numbers - Negative Results	6
Subtracting a 2 digit number with no borrow involved	Subtracting 2 Numbers - No Borrow (Horiz.)	2,3
Subtracting a 2 digit number with no borrow involved	Subtracting 2 Numbers - No Borrow (Vert.)	2,3
Subtracting a 3 digit number	Subtracting 3 Digit Numbers (Horiz.)	3
Subtracting a 3 digit number	Subtracting 3 Digit Numbers (Vert.)	3,4,5
Subtracting a 4 digit number	Subtracting 4 Digit Numbers (Vert.)	3,4,5
Subtracting a 5 digit number.	Subtracting 5 Digit Numbers	6
Subtracting numbers and then subtracting similar numbers 10x and 100 x larger	Subtraction With Multiple Factors Of 10 & 100	4
Subtracting numbers and then subtracting similar numbers 10x larger	Subtraction With Multiple Factors Of 10,	3
Subtracting numbers less than 20	Subtraction To 20 (Horiz.)	2,3
Subtracting numbers less than 20	Subtraction To 20 (Vert.)	2,3
Subtracting numbers less than 20	Subtraction To 20 - Pentagon	2,3
Subtracting single digit numbers	Subtraction From 10 - Pentagon	2
Subtracting two 2 digit numbers	Two Digit Subtraction - Pentagon	3,4
Subtracting two 3 digit numbers	Three Digit Subtraction - Pentagon	3,4,5
Subtracting two numbers each being multiples of 10	Subtracting 10s (Horiz.)	3
Subtracting two numbers each being multiples of 10	Subtracting 10s (Vert.)	3,4
Subtracting two numbers, each being multiples of 10	Tens Subtraction - Pentagon	3,4
Toggle a set of lights with dependency on their previous state.	Reverse Lighting	

Use a ruler graduated in cm to measure the length of a pencil.	Pencil Lengths	2,3
Use a ruler graduated in mm to measure the difference in length of 2 pencils.	Pencil Length Difference	5,6
Use a ruler graduated in mm to measure the length of a pencil.	Pencil Lengths	4
Using a legend, from the chart work out how many cars were sold.	Charting Sales	3,4
Using BODMAS rules to solve an equation with 3 elements.	BODMAS Rules	4,5
Using BODMAS rules to solve an equation with 4 elements.	BODMAS Rules	6
Using Long Multiplication, multiply a 2 digit number by a single digit number.	Long Multiplication	4,5
Using Long Multiplication, multiply a 2 digit number by another 2 digit number.	Long Multiplication	5,6
Using Long Multiplication, multiply a 3 digit number by a 2 digit number.	Long Multiplication	5,6
Using Long Multiplication, multiply a 3 digit number by a single digit number.	Long Multiplication	4,5
Using Long Multiplication, multiply a 3 digit number by another 3 digit number.	Long Multiplication	5,6
Work out distances and area around a street block.	Perimeters	6
Work out distances around a street block.	Perimeters	5
Work out equivalent fractions given either a larger denominator or numerator. Larger initial fraction range and larger multiples.	Equivalent Fractions	6
Work out equivalent fractions given either a larger denominator or numerator. Larger initial fraction range and smaller multiples.	Equivalent Fractions	5
Work out equivalent fractions given either a larger denominator or numerator. Smaller initial fraction range and smaller multiples.	Equivalent Fractions	4
Work out how many groups can be made, with some harder questions.	Grouping	3
Work out how many groups can be made.	Grouping	2,3
Work out how many groups, rows, columns, shares or multiples are illustrated.	Small Groups Without Remainders	2
Work out how many groups, rows, columns, shares or multiples are illustrated.	Larger Groups Without Remainders	3,4
Work out how much the coins add up to	Coin Addition	2
Work out how to fill the cans to make the equation correct. Algebra.	Volume Challenge	3,4,5
Work out how to make an amount with the minimum number of coins	Minimum Coins	3
Work out lengths, area and volume of a larger rectangular prism up to 10x10x10m.	Shape Measurements	5,6
Work out lengths, area and volume of a small rectangular prism up to 5x5x5m.	Shape Measurements	4
Work out multiple coordinates of a location on a map.	Map Reference	4,5
Work out the amount of paint in 2 cans.	Volume Addition	2,3
Work out the amount of paint in 3 cans.	Volume Addition	2,3
Work out the amount written on a cheque. Including Cents.	Cheques	2
Work out the amount written on a cheque. Including Cents.	Cheques	3
Work out the amount written on a cheque. Including Cents.	Cheques	4
Work out the amount written on a cheque. No Cents.	Cheques	1,2
Work out the area shaded blue based on randomly chosen unit scales.	Shaded Units	4
Work out the area shaded by tiles. Each tile being 1 square m. Includes half tiles.	Tile Area	3
Work out the area shaded by tiles. Each tile being 2 square m. Includes half tiles.	Tile Area	3,4
Work out the area shaded by tiles. Each tile being 3 square m. Includes half tiles.	Tile Area	4
Work out the area shaded by tiles. Each tile being 4 square m. Includes half tiles.	Tile Area	3,4
Work out the area shaded by tiles. Each tile represents 1 square m. No half tiles.	Tile Area	3
Work out the coordinates of a location on a map.	Map Reference	3,4
Work out the final location on a number line with negative numbers.	Negative Position	5,6
Work out the fraction of a whole number using various numerators in the fraction.	Fractions Of Whole Numbers	5
Work out the percentage amount.	Percentage Amount	5
Work out the percentage amount.	Percentage Amount	6
Work out the perimeter of the tiled area. Each tile being 1 square m.	Tile Perimeter	3,4
Work out the perimeter of the tiled area. Each tile being 2 square m.	Tile Perimeter	4,5
Work out the sequence of moves to get to a destination	Navigating Through Australia	2
Work out the sequence of moves to get to a destination with some decisions and logical thinking	Navigating Through Australia	3

Work out what coins to use to make up an amount	Coins - Making The Correct Amount	2,3
Working out related addition and subtraction sums	Addition And Subtraction Number Facts	2,3
Working out related addition and subtraction sums	Addition And Subtraction Number Facts	2,3
Working out related \times and \div sums using possible number sets:	Multiply And Divide Number Facts	3
Working out simple related addition and subtraction sums	Addition And Subtraction Number Facts	2
Written Time to Analogue Time Conversion in 5 min intervals	Written Time To Analogue Time Conversion	3
Written Time to Analogue Time Conversion in half hour intervals	Written Time To Analogue Time Conversion	2

The Curriculum, (Victoria as an example only!)

The software is based on the Australian educational outcomes for years 1 to 6.

Since there is no Federal Government body that dictates mathematics outcomes for students, the various states have adopted and refined their own outcomes criteria.

As an example:

Prior to the Victorian VELS system, Victorian outcomes were grouped into CSF levels

CSFII Level 2 is years 1 and 2

CSFII Level 3 is years 3 and 4

CSFII Level 4 is years 5 and 6

The CSF will remain an important curriculum resource to help teachers in writing teaching and learning programs. Direct comparisons can be made between the documents because the Standards have retained the six level structure of the CSF.

Whereas New South Wales has adopted Mathematics K-6 groupings

Stage 1 is years 1 and 2

Stage 2 is years 3 and 4

Stage 3 is years 5 and 6

It is our opinion that whilst terminology may vary between states, the actual activities, practices and examples used within the software are fundamental and have not changed.

In practical terms, they are very similar in what they propose. This software was designed to follow the same groupings but concentrate on the practical activities and outcomes they produce rather than the technical definitions and groupings. It is not our intension or role to discuss the merits, benefits or differences in state definitions in this documentation.

The next few pages detail the CSF outcomes as previously used in Victoria. Other states have their own interpretation of these outcomes and further detailed information can be obtained directly from your local state education authority. Guidelines are subject to ongoing change.

The outcomes are broadly broken down into

- Number
- Measurement
- Chance and Data
- Space

The software has similarly broken down its activities into these groupings, with the 'Number' outcomes further broken down into sub sections simply due to the volume of activities that are available in each year level.

In general the educational outcomes breakdown allows 2 school years for a child to attain the desired outcomes for a particular level.

The content and order that topics are covered, as well as the teaching methods may vary between schools. It is therefore not necessary for all the components of each year level to be completed before moving to a higher level.

It is accepted that students can excel in certain topics but might have difficulties in others. Therefore, restrictions should not be imposed on advanced learning modules if the child is capable of that higher level, irrespective if they lag in other areas.

General Info – Exercise Activity Breakdown

Predominantly, exercise difficulty in this software has been graded and increases with each higher year level. However, there are certain exercises that are also repeated over multiple years to reinforce basics and gain proficiency.

As an example of graded difficulty, you could consider adding numbers as an exercise. This software has the following range of variations available:

- Adding 2 numbers with totals up to 10 eg 2+3
- Adding 2 numbers each being up to 10 eg 7+8
- Adding numbers with totals up to 20 eg 12+5
- Adding 2 digit numbers with no carry. Eg 23+34
- Adding 2 digit numbers with a carry involved 27+35

This continues to 3 digit numbers, 4 digit numbers, adding 3 sets of numbers,...etc to finally adding decimal numbers or money amount.

Each of these activities builds on the other and is classified as a different module in the software. There are several hundred different modules available grouped into year levels and categories. Therefore, each distinctive module number has slightly different functionality.

Some additional aspects can be selected in the configuration sections to further breakdown learning components.

CSFII Level 2

Years 1&2

Measurement And Data Learning Outcomes

Measuring and estimating

2.1

MAMDM201

Choose and use the appropriate attribute when responding to measurement questions and select units of measure which relate well to the attribute.

2.2

MAMDM202

Use everyday language to describe and compare distances, mass, capacity and area.

2.3

MAMDM203

Make comparisons of the relative size of two or more objects.

2.4

MAMDM204

Use uniform informal units to estimate, measure, compare and order the sizes of objects.

2.5

MAMDM205

Measure objects by comparing to formal units and standard units of measurement and using simple, common measuring tools.

Time

2.1

MAMDT201

Describe, order and sequence events with respect to the time of day or time of the year they usually occur.

2.2

MAMDT202

Tell the time using analogue and digital clocks and describe time elapsed (duration) in everyday language and common units of time.

Using relationships

2.1

MAMDU201

Describe and represent different attributes of objects and distinguish between these in measurement contexts.

Chance

2.1

MAMDC201

Classify events as certain, possible, impossible, likely or unlikely.

2.2

MAMDC202

Compare two familiar, easily understood events and decide which is more likely to happen.

Data

2.1

MAMDD201

Pose questions of interest arising from familiar situations or from collected information.

2.2

MAMDD202

Collect and classify data in the form of objects, pictures, statements and numbers to answer questions or test conjectures of interest.

2.3

MAMDD203

Record, represent and summarise data in lists and simple graphs.

2.4

MAMDD204

Describe and interpret data in lists and simple graphs.

Number Learning Outcomes

Numbers, counting and numeration

2.1

MANUN201

Count forwards and backwards to and from 1000 and skip-count to 100.

2.2

MANUN202

Model, represent and understand numbers up to 999.

2.3

MANUN203

Use informal fraction language in relation to objects and collections of objects.

2.4

MANUN204

Use a four-function calculator to aid and explore counting and place-value concepts.

Mental computation and estimation

2.1

MANUM201

Calculate mentally with numbers up to approximately 20.

2.2

MANUM202

Use estimation strategies to assist counting and computations when dealing with numbers greater than 20.

Computation and applying number

2.1

MANUC201

Model addition and subtraction operations and use informal written methods based on place-value to solve these problems, checking solutions by estimation and calculator use.

2.2

MANUC202

Create and solve number sentences arising from number stories and situations which involve a single operation of addition, subtraction, multiplication or division.

2.3

MANUC203

Read, write and interpret symbolic number sentences involving one operation.

2.4

MANUC204

Read, record and order money amounts and deal with simple change situations.

Number patterns and relationships

2.1

MANUP201

Recognise patterns in the whole number system.

2.2

MANUP202

Represent, identify, extend and devise whole number patterns.

2.3

MANUP203

Construct and complete simple statements of equality (equations).

Reasoning And Strategies Learning Outcomes

Mathematical reasoning

2.1

MARSR201

Check the truth of number statements and conjectures as well as the consistency of number patterns arising from operations carried out with materials and informal written methods.

2.2

MARSR202

Make and explain judgments based on simple criteria.

Strategies for investigation

2.1

MARSS201

Ask and respond to questions which clarify the essential nature of a story, task or problem and identify key information in familiar situations.

2.2

MARSS202

Use simple strategies to explore tasks and solve problems.

Space Learning Outcomes

Shape and space

2.1

MASPS201

Identify, name and use common terms to describe features of simple shapes and objects.

2.2

MASPS202

Compare and classify shapes and objects using simple spatial criteria.

2.3

MASPS203

Construct recognisable representations of shapes seen or described.

2.4

MASPS204

Make simple spatial pictures, patterns and constructions from verbal and visual instructions.

2.5

MASPS205

Describe and explain the effect of simple flips, slides and turns on shapes.

2.6

MASPS206

Use shape, orientation and symmetry to complete simple pictures or patterns.

Location

2.1

MASPL201

Use and understand everyday location words to follow and give oral directions.

2.2

MASPL202

Use 'left' and 'right' to describe the position of objects in relation to self.

2.3

MASPL203

Locate, follow and orally describe paths on simple maps, models and mazes.

2.4

MASPL204

Locate key features when interpreting or making simple maps or models of familiar locations.

CSFII Level 3

Years 3&4

Chance And Data Learning Outcomes

Chance

3.1

MACDC301

Identify and record outcomes from simple chance experiments.

3.2

MACDC302

Compare and order the likelihood of outcomes of simple chance experiments and of everyday events, and choose appropriate methods for random selection.

Posing questions and collecting data

3.1

MACDP301

Identify information required to answer questions or test conjectures, refining the questions where necessary.

3.2

MACDP302

Determine appropriate procedures to collect information relevant to questions and conjectures of interest.

3.3

MACDP303

Modify the method of data collection and classification to refine a question or investigate a further question.

Summarising and presenting data

3.1

MACDS301

Organise and summarise category and whole number data.

3.2

MACDS302

Use diagrams and two-way tables to summarise and display discrete data.

3.3

MACDS303

Use graphical methods involving scale to display discrete and continuous data.

Interpreting data

3.1

MACDI301

Extract specific information from data summarised in diagrams and tables.

3.2

MACDI302

Describe and interpret data displayed in simple scaled graphs.

Measurement Learning Outcomes

Measuring and estimating

3.1

MAMEM301

Make increasingly accurate estimates of measurements using informal units and standard units.

3.2

MAMEM302

Measure and compare using appropriate informal units.

3.3

MAMEM303

Estimate and accurately measure length, mass, volume and temperature using formal units and standard units.

3.4

MAMEM304

Demonstrate understanding of the concept of angle.

3.5

MAMEM305

Use appropriate instruments to measure physical quantities.

Time

3.1

MAMET301

Estimate short and long periods of time, describe duration of time, and make and use timetables, schedules and calendars.

3.2

MAMET302

Tell the time using digital and analogue clocks.

Using relationships

3.1

MAMEU301

Describe the relationship between attributes.

Number Learning Outcomes

Numbers, counting and numeration

3.1

MANUN301

Recognise the structure of whole numbers up to 5 digits, including place value.

3.2

MANUN302

Skip-count by numbers of increasing size.

3.3

MANUN303

Represent, find, compare and order fractional parts of objects and collections of objects.

3.4

MANUN304

Use decimal notation to represent and compare simple decimal fractions including those resulting from calculator computations.

Mental computation and estimation

3.1

MANUM301

Recall or mentally determine basic multiplication and division facts.

3.2

MANUM302

Use place-value ideas and the properties of numbers and operations to assist mental computation.

3.3

MANUM303

Make estimates to check the reasonableness of the results of written computation and calculator use.

Computation and applying number

3.1

MANUC301

Use knowledge of place-value to solve and record solutions to addition, subtraction, multiplication and division problems.

3.2

MANUC302

Select the appropriate operations and computation methods to solve problems involving whole numbers and money.

3.3

MANUC303

State equivalence statements and addition and subtraction facts involving simple common fractions and carry out calculations involving tenths and hundredths.

Number patterns and relationships

3.1

MANUP301

Use rules involving addition, subtraction and multiplication to devise, describe, extend and test number patterns.

3.2

MANUP302

Detect similarities and differences in the nature of the operations of addition, subtraction and multiplication.

3.3

MANUP303

Construct and complete simple statements of equality involving whole numbers and fractions.

Reasoning And Strategies Learning Outcomes

Mathematical reasoning

3.1

MARSR301

Make and test simple conjectures.

3.2

MARSR302

Make judgments about the accuracy of reasoning and results.

Strategies for investigation

3.1

MARSS301

Generate mathematical questions from presented data and from familiar contexts.

3.2

MARSS302

Clarify the essential nature of a task or problem and identify key information in familiar situations.

3.3

MARSS303

Use familiar representations, processes and concepts to explore unfamiliar tasks and problems.

3.4

MARSS304

Use the guess–check–improve process in appropriate contexts.

Space Learning Outcomes

Shape and space

3.1

MASPS301

Recognise, describe and represent straight, curved, diagonal, horizontal and vertical lines, and angles as rotations of lines.

3.2

MASPS302

Use simple conventional spatial language when describing shapes, parts of shapes, objects, parts of objects and simple cross-sections.

3.3

MASPS303

Explain and compare the spatial properties of shapes and objects.

3.4

MASPS304

Visualise and describe some of ‘what is not seen’ of simple objects.

3.5

MASPS305

Interpret, recognise and name three-dimensional objects from drawings and photographs and make recognisable models and sketches of simple shapes and objects.

3.6

MASPS306

Copy and create simple patterns involving translating, rotating and reflecting multiple copies of a shape and informally describe the transformations used.

3.7

MASPS307

Identify symmetry in regular two-dimensional shapes.

Location

3.1

MASPL301

Use and understand conventional location language to follow and give directions and describe position.

3.2

MASPL302

Visualise, find and compare alternative paths on simple maps, grids and mazes.

3.3

MASPL303

Interpret and describe location and direction using grid references and cardinal compass points.

3.4

MASPL304

Interpret and clearly record features when reading and making formal maps and plans of familiar environments.

CSFII Level 4

Years 5&6

Chance And Data Learning Outcomes

Chance

4.1

MACDC401

Examine the outcomes from simple chance experiments and data on familiar events to order outcomes and events from least to most likely.

4.2

MACDC402

Use and interpret numerical statements which quantify chance.

4.3

MACDC403

Use language of chance in everyday situations.

Posing questions and collecting data

4.1

MACDP401

Design and prepare surveys and experiments to answer questions or test conjectures and predictions.

4.2

MACDP402

Collect and record data systematically.

Summarising and presenting data

4.1

MACDS401

Prepare tabular displays of discrete and continuous data.

4.2

MACDS402

Prepare visual displays of discrete and continuous (measurement) data using a range of graphical methods.

4.3

MACDS403

Compare, order and summarise data sets using simple numerical methods.

Interpreting data

4.1

MACDI401

Extract and interpret numerical information contained in tables, data displays and databases.

4.2

MACDI402

Interpret, discuss and compare data displays, including how well they communicate information.

Measurement Learning Outcomes

Measuring and estimating

4.1

MAMEM401

Choose attributes and standard units appropriate to the task.

4.2

MAMEM402

Make judgments about the relative size of objects based on comparison to known benchmarks or standard units.

4.3

MAMEM403

Draw and construct objects using accurate measurements.

4.4

MAMEM404

Use measuring instruments, reading simple scales and measuring accurately to the nearest marked gradation, taking into account the degree of exactness required.

Time

4.1

MAMET401

Use and construct timetables and use and analyse calendars.

4.2

MAMET402

Estimate, measure and calculate time elapsed (duration).

4.3

MAMET403

Tell the time accurately using analogue clocks and digital clocks.

Using relationships

4.1

MAMEU401

Measure and compare the perimeter and area of regular and irregular polygons.

4.2

MAMEU402

Investigate the relationship between area and perimeter and calculate the area of a polygon.

4.3

MAMEU403

Investigate and compare the volume and mass of objects.

Number Outcomes

Numbers, counting and numeration

4.1

MANUN401

Use place-value knowledge to read, write and order negative whole numbers and decimal numbers from thousandths to millions.

4.2

MANUN402

Compare and order common fractions.

4.3

MANUN403

Rename common fractions as decimals and percentages.

Mental computation and estimation

4.1

MANUN401

Recall automatically basic multiplication and division facts, simple common fraction facts and frequently used common fraction, decimal and percentage equivalences.

4.2

MANUN402

Use knowledge of place-value and number properties to increase the range of computations which can be carried out mentally.

4.3

MANUN403

Use estimation strategies to check the results of written or calculator computations.

Computation and applying number

4.1

MANUC401

Use written methods to add and subtract decimal numbers.

4.2

MANUC402

Use written methods to multiply and divide whole numbers.

4.3

MANUC403

Use models to illustrate the four operations with common fractions, and develop written methods for carrying out these operations.

4.4

MANUC404

Analyse a problem situation which may involve several different operations, decimal numbers, negative whole numbers and common fractions; express the problem symbolically and choose appropriate computational methods to solve it.

Number patterns and relationships

4.1

MANUP401

Generate and investigate number sequences which may involve fractions, decimals and combinations of operations, using a calculator where appropriate.

4.2

MANUP402

Specify multiples and factors of whole numbers.

4.3

MANUP403

Construct, verify and complete number sentences involving the four operations, brackets, decimal numbers and fractions.

Reasoning And Strategies Outcomes

Mathematical reasoning

4.1

MARSR401

Make and test simple conjectures in each mathematics strand.

4.2

MARSR402

Make judgments about the accuracy of reasoning and results and modify working accordingly.

4.3

MARSR403

Use and interpret simple mathematical models.

Strategies for investigation

4.1

MARSS401

Generate mathematical questions from presented data and from familiar contexts.

4.2

MARSS402

Clarify the essential nature of a task or problem and identify key information in the context under consideration.

4.3

MARSS403

Use a range of strategies for inquiry when responding to tasks and problems.

4.4

MARSS404

Communicate own responses to tasks and problems appropriate for this level to others.

Space Outcomes

Shape and space

4.1

MASPS401

Recognise, describe and represent parallel, perpendicular, horizontal and vertical lines, right angles, and angles greater than or less than 90 degrees (multiples of 45 degrees).

4.2

MASPS402

Analyse, explain and compare the spatial properties of lines, angles, polygons, polyhedra and cross-sections using conventional spatial terms.

4.3

MASPS403

Make congruent copies of given three-dimensional objects.

4.4

MASPS404

Draw conventional representations of prisms, pyramids, cylinders and cones.

4.5

MASPS405

Visualise, explain and represent 'what is not seen' of an object.

4.6

MASPS406

Visualise, test and describe transformations of shapes.

4.7

MASPS407

Enlarge (or reduce) two-dimensional shapes and simple three-dimensional objects.

Location

4.1

MASPL401

Use and understand conventional location language including distance and direction.

4.2

MASPL402

Use informal coordinate systems (positive numbers only) and intermediate compass points to specify location or give directions.

4.3

MASPL403

Visualise and find paths to satisfy specifications on maps, grids and mazes.

4.4

MASPL404

Interpret formal maps and make detailed maps and plans.

4.5

MASPL405

Use a simple scale (for example, 1 centimetre for each metre) when making, interpreting and using maps and plans.

Aim Of Sessions

The aim of each session is to improve on past sessions. This can be measured by either the accuracy of the results or the time taken to complete the sessions. Both measures can provide for a competitive and measurable challenge for students.

(Some students just want to see how many different complementary remarks come up, although it will take a while to get through them all.)

The software is not intended to teach students mathematics skills, as these should be provided within a certified learning environment. It is however, a proven mechanism to improve the proficiency of learnt concepts.

The basis of repetition is a fundamental prerequisite for improvement. Therefore special consideration should be given to the duration of sessions and the number of test questions attempted. Obviously too many questions or an extended time period will discourage students, whilst on the other hand some of the games based software available in today's market, presents little maths repetition relative to the length of time dedicated to game play.

Exceptional improvement results have been realised by regular and ongoing sessions rather than concentrated efforts. In a home environment, we recommend 10 minutes prior to school time and a further 10 minutes after school. (Preferably before other entertainment activities)

As a guide the number of questions should be set to levels where students can maintain a high level of concentration for the duration of the session. The values can be changed in the "Configuration Settings" section.

Base Lining Students

As new modules are attempted, it is recommended that the results of the first attempts be printed out. This can be used as a baseline to monitor improvement.

All printouts include accuracy and time, and have the option to include a student name.

Keep in mind that different random numbers are selected for each test and a student could obtain varying results if only a very small test set is used as a base line.

For this purpose it is best to configure the "Random Number Generation" to be repeatable. Refer to the "Configuration Section" for more details.

Note:

This is a great way to provide homework that can be automatically checked and graded.

Configuration Setting

General

To maximise the value of the application, it is important to know how configuration settings work and affect the sessions.

There are 2 fundamental screens used for configuration purposes. The first is for general student usage. Here the students can customise a variety of features as they work through the modules.

The second screen is designed for 'Administrators' and controls what students can change and some general functionality.

As an example if printing certificates is not allowed or students are not allowed to play games or change the default number of questions in modules, then this privilege should be removed in the Administrators area.

Setup defaults location

When the application is installed all the necessary data and configuration files are loaded into the application directory.

For stand alone installations that is all that is required for the application to work.

Networked environments

In a networked configuration, the stand alone defaults are often not sufficient and additional security is required to protect the file system and application areas.

In a broader education environment, it is often advisable to secure files from students to prevent data loss, unauthorised changes or accidental deletion. The following security considerations are recommended.

The application directory should be in an area where students only have read access. This area contains files that point to the various file location directories that will be used for logging, session defaults and photos.

Therefore in a typical environment Education providers or network administrators who need to change file paths should be the only people with write access to this application directory area.

More information is provided at the end of this documentation about network installation recommendations.

Settings

Number of Questions

The number of tests undertaken in each session is governed by system defaults. It can however be changed in this panel.

The number of questions in any session will be based on the contents of the scroll bar.

Numbers / Number Sets

This refers to the number sets that will be used in various tests. As students become more proficient, additional number sets can be added.

Eg. If only “2” and “5” number sets were selected, then any tables tests would be based on the “2” and “5” tables, and fractions would only be based on “2” and “5” denominator patterns.

Some modules do not use these settings, as they are meaningless. As an example “Digital to Analogue” clocks does not rely on number sets, whereas some fraction equations and multiplication tables do.

History

If the ‘Log all results to file’ checkbox is ticked then the student’s summary results are written to a file.

Refer to ‘Summary Results Logs’ in later chapters for more details.

Screen Size

Select whether you want to have the software take up the complete page or just act as a normal window. The advantage of having full screen is that it will provide larger displays and hide much of the distracting other activities that could be open at the same time.

You can save this setting as a default for next time you start up the application.

Wrong Answers

If ‘**Show Wrong answers**’ is selected, the wrong answer remains in the ‘Answer Box’ and the student needs to edit it.

If ‘**Clear Wrong answers**’ is selected, the Answer box is automatically cleared and ready for the next attempt.

These settings are normally applicable for modules that only have one or two parts to make up the answer. The ‘Show Wrong answers’ default for wrong

answers is maintained in modules like fraction addition where there are several parts to the question.

If wrong answers are entered, then the answers are normally left in the answer boxes and a student can edit them. This helps to visually realise what is not correct to prevent the same wrong answer being re-attempted.

This editing process does however take additional time. When students are practicing tables or other activities against a clock, or timed event, it might be more desirable to clear the incorrect answer for them.

Number Of Wrong Attempts

When a question is answered incorrectly, it is re-asked and the student can attempt to answer it again. If a student keeps getting an incorrect answer then after 3 (*default*) attempts the software will provide the correct answers. The student can then use this provided answer to complete the question.

This setting allows the default number of to be changed.

Entry Direction

For many early learning students, they lean to add columns of ones, tens hundreds etc rather than trying to work with complete numbers. Therefore in trying to add $23 + 64$ they work backwards and add the units “3” & “4” together to get “7” before they add the base ten “2” & “6”.

To help facilitate this early learning, some modules allow for answers to be types in reverse order, in this case the student would enter “7” and the computer cursor would move backwards to the tens column for them to enter the “8” – making 87.

With the ‘Backwards Number Entry’ box checked all input is entered from right to left rather than the conventional left to right.

Once the students are comfortable with handling larger numbers, this check box should be removed.

Refer to the individual ‘Specific Modules’ to determine to see if this functionality is available.

Random Number Generation

The default is set to “0” which means that all questions being generated come from a totally random base.

When working in a classroom environment it might be desirable for all students to be asked the exact same questions. If a “seed” number other than zero is used then the same sequence of random questions can be repeated.

The range of seeds that can be selected is any number to 99,999 – all of which will generate different but repeatable patterns of questions.

This parameter cannot be saved as a default and is valid for all subsequent modules until it is reset or the user exits the application.

However, this is especially useful feature for base lining students and ensuring that everyone gets the same questions.

Test Time Duration

The default is set to “0” which means that no time limit is imposed to finish a set of exercises.

In some situations it might be desirable to have a 10minute test and see how many questions can be completed in that time period.

By setting a time in this area the session will automatically stop when the student has either completed the desired number of questions or the time has elapsed, based on which event comes first.

This parameter cannot be saved as a default and is valid for all subsequent modules until it is reset or the user exits the application.

Sound Feedback

Feedback on answers is provided in multiple ways. Firstly if the student has incorrectly answered the question, a prompt will always appear advising that an incorrect answer was provided.

In addition to the default prompts, audible sounds and ticks can also be used to advise the various outcomes.

If the checkbox is ticked then the corresponding sound or event will occur at the appropriate time.

Tick Duration

If the tick feedback option is active, the tick will be on the screen for the duration 0.4 seconds. This duration time can be changed from 0.1 to 9.9 seconds. Earlier year students might want this setting longer as it provides a greater confirmation message for getting the correct answer.

On the other hand, students attempting time trials or racing through to get best times might want this feature reduced or removed altogether.

Check for Updates

If 'Auto Check at Start up' is ticked, then the software will attempt to check if you have the most current version of the software at each start up. This is the safest way to make sure you know when new features are available or if a patch is available to correct bugs that might have been identified.

The check does not install any additional software but simply advises if a newer version exists.

If automatic checks are active then when the software detects a newer version, it will display a message at the foot of the main screen.

If you wish, you can turn off automatic checking by removing the 'Tick' from the box and manually check for updates by Clicking on the 'Check Now' button. Similarly this will only inform you if updates are available and will not instigate any other action.

Full details about any updates will be on the nominated web pages together with instructions on how to apply the patch upgrades.

The File Locations

There are 3 configurable file locations that need to be set. In stand alone installations these are defaulted to the application directory and no additional configuration work needs to be undertaken.

User List File Location

The User list file contains the names of all the users and is used in the initial user select process.

The directory path selected should be where students have full access and can save new user information or delete existing users.

If students are not permitted to add/delete users then the directory path should be set where they only have access to read the file but not alter it.

Settings File Location

The settings file contains the information in the Tests, Numbers and History options as described earlier. If the location is changed, the application will attempt to create the necessary file in the directory provided.

The directory path selected should be where students have full access and can save back their preferences.

History Results Log File location

Under 'History' if the 'Log all results to file' check box is selected, then each session's results will be logged to a file in this directory. If the location is changed, the application will attempt to create the necessary file in the new directory provided.

The '**Delete History**' button will delete or purge this file. You will be given a choice of how many records to retain prior to deletion.

Important !

This file is the only one on the system that can grow in size.

The directory path selected should be where students have full access.

Country Region Settings

There are a few items that should be changed for usage outside of Australia to make the software more relevant with local parameters. Australian settings are used as the default values on initial installation.

1. **Bill/Note denominations**, this is used in some modules and asks for the lowest possible note to use for a specific purchase.
2. **Coin denominations**, this information is used in determining the appropriate coins to use when making up a specified amount of money.
3. **Map** references of specified locations can be selected from Australian Cities or American States.
4. **Hemisphere** nomination is vital for correct compass exercises and rainfall graphs which include seasons of the year.

In the “Administrator Settings” section, select the appropriate settings for your region and ‘**Save as Defaults**’ for future use.

Admin Area Password

Passwords can be enforced to restrict changes to the “Administrator Settings” section. In a network environment, this is not usually necessary if appropriate network rights are imposed as per the recommended “Network Server Installation” guidelines.

By default passwords are inactive to the “Administration Settings” section. If you wish to secure this area by use of passwords, then go to the “Administration Settings” section, enter and confirm the new passwords and finally save the defaults and exit.

Next time you attempt to enter the “Administration Settings” screen, you will be prompted for a password first.

Important !

Passwords are not case sensitive.

If you enforce passwords and forget the password, you will not be able to make any further administrative changes without losing all the configuration settings.

Save As Defaults

Important !

Any changes made to the “Configuration Student Setting” section are only valid for the duration of the session, unless the ‘**Save as Defaults**’ button is pressed.

This will ensure that the new settings are saved to disk for the next start up of the application.

If changing directory paths, you must have ‘write access’ to the application directory.

Similarly, in the “Administrator Settings” section, ‘**Save as Defaults**’ must be pressed to save settings. The Administrator settings are stored in the same directory as the application and as such only administrators should have write access to this area.

Main Menu

Year And Activity Type Selection

The main menu provides an easy way to navigate to the various year level activities. These are broadly broken down in line with the standard educational outcomes for each year level.

A sub menu containing activities exists under each section.

Setup Options

This provides commonly used functionality, including:

- Changes to User settings and profiles
- Changes to Administrator settings
- Report generation
- Changing current users
- About and registration details.

Change User Name

Since all sessions are recorded and can be printed, it is important to make sure the current student's name is being used. This section allows you to:

Add new users

Delete existing users

Change current user

It is good practice to get the students to make sure their name is on the system as one of the first activities undertaken when starting the application.

Common Components

Look And Feel

All modules have a similar look and feel. This initial functionality section describes common usage components.

When you first enter any activity screen you will be provided with one completed activity as an example. Press the start button to proceed from there.

Session Status Bar

The most common item to familiarise yourself with is the status bar. The session status bar appears in all modules and is used to provide progress feedback to the student.



The above example illustrates from left to right -

“**Start**” button is used to initiate the session. This is greyed out during the course of the test.

“**Progress**” counter. In this case the student has made 3 mistakes and got the last answer wrong, requiring to repeat it.

“**Correct**” counter. This displays the number of correct answers in the session.

“**Stop Watch**” counter. This increments in seconds while the test is underway.

“**Description**” A guide to what is being tested.

“**Wording**” options. Some activities allow the question to be written in words rather than as a mathematical sum.

“**Entry**” settings. This displays any of three different option settings that can apply in this module. This includes the direction of the data entry, if wrong answers are displayed or deleted from the answer boxes and if number sets selection is supported in this module.

“**View Results**” button. Used to preview the complete list of all questions and answers undertaken in this session. Printing is available from within this area.

“**Help**” button provide a quick guide on how to work through the problem or how the keys behave.

“**Exit**” button used to stop the session and return to the main menu.

Progress Counters

Counters are shown that display the number of correctly answered questions. They also display the total number of questions already attempted out of the preset number for the module.

In most cases the counters are updated after each attempt. Since responses are retried till a correct answer is provided, it is possible to exceed the “Questions in Test” quota and obtain progress figures like 34/30.

Timer

A timer is provided to measure the length of the practice session. The timer is reset at the start of each session. The timer stops at the completion of the session and is available to be viewed or printed with the results.

Description

Provides a one line description of the activity type sometimes including numbers are being used to generate the questions.

In some modules, numbers used are derived from number sets selected in the “Configuration Settings” section. As an example if students are just learning their tables, the “Configuration Settings” section can be restricted to just the “2” and “5” number sets. Accordingly, when generating random numbers for the questions in the practice session, only factors/multiples of “2” and “5” would be used. In this example you would not get a question like 3×7 as neither the 3 or 7 patterns were selected, however you might get 3×5 or 7×2 as both these last two examples use one of the selected number sets.

Refer to the “Configuration Section” for more details.

Wording

Some activities allow the sum to be represented in written word format. This requires the student to read a question and work out the underlying sum from the sentence.

Click on the ‘Wording’ checkbox to have the sum displayed in a sentence.

Viewing And Printing Results

During the practice session a record is kept of all questions attempted together with the answers provided. At the end of a practice session, when the required number of questions has been answered, the student can view the results by pressing the “**View Results**” button.

This button is disabled during the process of practice and is only enabled at the end of each practice session.

If a student needs to print out the session results, they can do this after selecting the “**View Results**” option.

Prior to printing, the student is provided an opportunity to input their name so that it can appear on the printed results report.

Great for homework and proof of completion.

Viewing History

This feature is only available if 'Logging' has been enabled in the "Configuration Settings" section. A log summary is provided of all the recorded results.

Results can be filtered to include or exclude certain parameters by simply 'checking' or 'un-checking' the fields.

A browser is provided to view other Results History files and is activated as soon as the file path entry box is selected or changed. This is a simple way for teachers to view individual student results if they are stored in different locations on the network.

If further analysis is required then the source data file can be loaded into an application like Excel in a pipe-delimited manner to sort or slice and dice the results further.

The default log files are prefixed with "ERESULTS"

History Graphs

Four sets of graphs are provided to view existing history data. These are:

1. % Correct

If a module number filter is imposed then only figures for that module will be displayed. The graph lists the percentage correct figures for the last 21 exercises (excluding games)

2. Avg Time

If a module number filter is imposed then only figures for that module will be displayed. The graph lists the average time to answer each questing or response time for the last 21 exercises (excluding games)

3. Compare Modules

This provides a cumulative percentage correct figure for the most recent 20 module types attempted. The percentage correct figure is based on all entries of that module type in the history file

4. Summary

This chart provides a snapshot for all modules available and includes a) the number of times the module has been attempted, b) the cumulative percentage correct and c) the cumulative number of questions completed.

General filtering only alters the display window and does not alter the graph data. Module filtering does however alter the contents of the % Correct and Avg Time graphs.

If further graphing is required then the file 'ERESULTS' can be viewed and analysed by other programs like Microsoft Excel. The data is pipe delimited text file.

Editing History Data

No provision is available for editing data in the history file, however "Microsoft Excel" or "Notepad" can be used to remove, edit or purge data. Care should be exercised if data is being edited as it is possible to corrupt the file.

Instructions

The sessions are very straightforward, however Instructions are provided for every section. This should enable the student to navigate through the exercise, especially if it has multiple components, which need to be attempted in specific order.

Stopping The Practice Session

The practice session will stop automatically when the required number of questions has been completed and the last one attempted is answered correctly.

The practice session can also be stopped at any point by simply pressing the "**Exit**" button. If the practice session is stopped in this manner, no results are stored and no reports can be viewed or printed.

The "**Exit**" button will terminate the practice session and return you to the main menu.

Standard Usage

Before starting the practice session make sure the number of questions in the test series, and other configurable items are set and selected appropriately.

To start the practice session the student needs to press the "**Start**" button. Where available, graphics displays the sum to assist the student in visualising the problem. The student is required to type in the answer to the sum in the highlighted 'Answer Box', or click on the appropriate button.

After typing in the answer you need to press the [Enter] key on the keyboard.

If the student was successful in solving the problem then the next question in the series is displayed.

If a wrong answer is given, the user is advised by a prompt as illustrated. They must acknowledge by clicking “OK”. The same question is repeated until the correct answer is given or the user has made the maximum number of allowed attempts, at which point the answer is provided and the user should finish the question with the values provided.



The process is repeated for subsequent questions until the student answers the set number of questions for the practice session. Due to the student being required to provide the correct answer it is possible that multiple tries are attempted and the set number of questions is exceeded.

Each attempt is recorded and the lower panel shows the progressive scores.

Response Messages

At the completion of each session the student is greeted with a complementary response. These are graded based on the accuracy of the test results. These messages are also random generated to maintain interest and curiosity.

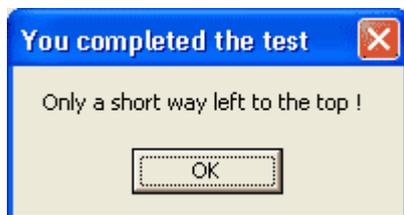
The following groupings are used and messages are selected relative to the performance obtained:

100 % correct

90% - 99 % correct

50% - 89% correct

Below 50% correct



Summary Results Logs

If the logging option is activated in the “Configuration Section” section, each completed session also writes the results summary into a CSV file for future interrogation. This file contains a one-line entry with the following information for each session undertaken:

Student name

Date of test
Time of test
Description of module
Number Sets that were used
Number of questions correctly answered
Number of questions attempted
Time taken to complete the test.

The file separators used are the pipe delimitator "|". This allows for simple input and processing in Excel to cut and dice the data in any manner, eg, best scores, quickest times, progress etc...

Warning: In heavily used environments, this file can grow considerably in size. If logging is selected in the "Configuration Settings" section, it is advisable to periodically remove unwanted or obsolete results.

In multi user environments, care should be taken with file locations and network rights, so that students don't accidentally delete other people's history files.

Repeating Practice Sessions

At the end of each session the "Start" button is reactivated. A practice session can be repeated as many times as you require without going back to the main menu unless you want to change items in the "Configuration Settings" section.

Answer Boxes

In general, there are 4 ways that questions can be answered.

1. Where the user just needs to select an item by clicking on an object, then the mouse click will be sufficient to finish that question and move on.
2. Where there is one number or entry that needs to be made, an 'Answer Box' is provided and the user can type the answer into the box. Pressing the 'Enter' key on the keyboard will be sufficient to finish that question and move on.
3. Where there are multiple numbers or entries that need to be made, several 'Answer Boxes' are provided and the user can type the relevant answers into the corresponding box. Pressing the 'Enter' key will move to the next 'Answer Box' or 'tab' position.
When all the 'Answer Boxes' are completed the user should click on the 'OK' button, at which point all the answers will be evaluated to finish that question and move on.
4. When there are multiple mouse movements or clicks required to change items on the screen, then a final 'OK' button is provided to finish that question and move on.

Installation

Installation Sub Index

I have confidence, just give me the basics.

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Common Problems and solutions

Before you start: [Do you have network permission to install software on your school LAN ?](#)

Almost all problems reported so far have been linked to network security restrictions imposed on the school servers and PCs. Please check with your network administrator if in doubt. Still need assistance - then contact our support team.

I have confidence, just give me the basics.

- Map a drive on the application server
- From a workstation, install the software into the network mapped drive
- Create the workstation shortcuts
- Start the application and complete the registration process
- In the application Admin area, configure the student settings including file paths
- Set the appropriate network rights
- Clone the workstation to the other PCs to load the appropriate windows background files or perform simulated installations on each workstation PC
- When all else fails read the detailed version.

System Requirements

Minimum system requirements:

Pentium II 200 MHz or better

90 Mb Hard disc space minimum installation

32 Mb RAM

Monitor with a minimum resolution set to 800x600.

Colour quality should be set to a minimum of 16 bit colour.

Additional disk space is required if user history and results logging is enabled.

Compatibility

The software has been developed on Windows XP and backward tested on previous platforms. The software is certified for:

Windows XP

Windows ME

Windows 2000

Windows 98



Microsoft Windows® version certified.



MAC® users can run Maths Practice software if they have an emulator like VIRTUAL PC. Due to the number of different MAC operating system versions and variety of emulators on the market, the user should confirm their own compatibility beforehand.

What You Should Have

To install the software you will require 3 files – **SETUP . EXE ,**
EINSTEIN . CAB and **SETUP . LST**

These files are available from the original CD or can be downloaded from the internet web site. If you have obtained the software from the web site, it will first need to be unzipped in order to extract these files.

You should also have the relevant license and registration serial keys that were provided, as this will be required to unlock the software and perform certain customisation.

Stand Alone or Single PC Installation Process

Do your homework and study the documentation provided to make the installation process simple.

Prior to installation, make sure that any previous versions of the software are removed. To do this, use the 'Add/Remove Programs' section in the Windows Control Panel.

Installation is started by running the **SETUP . EXE** application on the installation CD or the downloaded files from the WEB.

1. Insert the installation CD or download the compressed files from the Web and extract the files to your PC.
2. Open windows explorer and select the CD drive or file location where you unzipped the files
3. If your CD does not have 'AutoRun' enabled then Double click the **SETUP . EXE** application

Setup starts copying files necessary for the installation

4. Make sure other applications are closed and press "OK"
5. Change the required destination directory if required and press "OK"
6. Press the "Install" button to commence installation
7. Select the program groups that you want the application to appear under and press "OK"

Due to operating systems being regularly patched or upgraded, some of the files on your computer may be newer than the shipped versions. It is recommended that the most up to date copy be retained.

The installation process will load 4 types of files

1. Windows system specific files to support the application
2. The executable (**Einstein . EXE**)
3. Data Files, settings and preferences
4. Documentation

The software has been loaded and installed and is now ready for use. By default, the installation will create an entry in the 'Start/Programs' section and a desktop shortcut.

After installation, start the software before you remove the CD. This will enable the remaining sound and instruction files to be copied to your PC.

On first usage you will be prompted to enter the registration details. Refer to the section on '**Registration and Serial Key entry**'

Multiple Single installations

- How to install from CDs

Follow the procedures outlined in the 'Stand Alone or Single PC Installation Process'. Each installation will work independently from the rest.

- How to install from Networks

Copy the contents of the CD onto a network drive that is accessible by all PCs. From each PC navigate to the network area and run **SETUP . EXE**

Follow the procedures outlined in the 'Stand Alone or Single PC Installation Process'. Each installation will work independently from the rest.

Complete the registration process. Refer to the section on '**Registration and Serial Key entry**'

Adjust the user preferences, settings and any file locations. Refer to the section on '**Settings and Preferences Configuration**'

If all single installations will have the same drive and path settings then the registration and preferences section does not need to be duplicated on each PC. A simpler process is to perform the registration and configuration process on one PC, and once completed, copy the files containing this information to all the other PCs.

There are two files that need to be transferred to each PC, these are: **ESettings** and **EConfiguration**. They can be found in installation directory '**C:\ProgramFiles\Einstein**' unless you have stipulated a different setup path during installation.

- How to install Using Images or Clones

Follow the procedures outlined in the 'Stand Alone or Single PC Installation Process' for the first PC.

Take an image of the PC and replicate it to other PCs using whatever software is available. One of the more popular applications is 'Ghost' which will completely duplicate an entire configuration of one PC onto another. The school network administrators might have other similar tools to replicate complete installations.

Network Server Installation

By far the best and recommended setup for school environments is to have a server based setup. This will simplify administration and make future upgrades easier.

A network server installation does rely on the local PC having some default windows files present and will require certain network rights or privileges to operate correctly.

Application processing order summary

1. Shortcut executes Einstein.Exe in the application installed area.
(normally server P:/Einstein/Einstein.exe).
2. Software reads the Configuration file to ascertain: *(normally server P:/Einstein/EConfiguration).*
 - License Registration Details *(input by administrator).*
 - Location of Student Files *(input by administrator, student H: drive or other).*
3. Software opens 'UserList' file and prompts students for identification *(H:/Einstein/EUserList).*
4. Software loads the students preference files *(H:/Einstein/ESettingsxxx).*
5. History and work results stored in *(H:/Einstein/EResultsxxx).*

If any files are missing, empty defaults are regenerated.

- Student Home Drives

If each student has a dedicated personal mapped area:

The file 'UserList' should be configured to reside in this area. The list will only have 1 user, being the owner of the drive.

If each student does not have a dedicated personal mapped area:

Eg All Students use a shared area or common folder.

The 'UserList' will control users with each student on the list having their own history and preference settings stored separately in this area. Therefore set all 3 file options to point to this area (UserList, Results & Preferences).

- Network Initial Installation

This process should only be attempted by someone who has appropriate network access to create and delete items on the network servers.

On your network application server, create a directory called "Einstein" and make sure there is a valid path pointing to it. Eg

P:\Applications\Einstein

Follow the procedures outlined in the ‘**Stand Alone or Single PC Installation Process**’, however, in step 5 ‘Change the required destination directory if required and press “OK”, make sure you select the network drive and path that you want the application to be installed under.

Complete the registration process. Refer to the section on ‘**Registration and Serial Key entry**’

Adjust the user preferences, settings and any file locations. Refer to the section on ‘**Settings and Preferences Configuration**’

- Network Permissions

On the network application server, create a directory called ‘**Einstein**’
Set the permissions/rights for this directory to:

Option a)

Students = Read Only
Teachers = Read & Write

Option b)

If there is a third layer of security at the school, and some teachers are also not permitted to change application data, then this directory should be set as follows:

Students = Read Only
Teachers = Read Only
Administrator = Read & Write

Within this directory exists a file called ‘**EConfiguration**’. This file also needs to be set as follows:

Teachers = Read & Write

Data files require the following access and privileges to work correctly. These files are normally installed in that application directory and include:

“**EConfiguration**”. Initially supplied as part of the CD setup, however this file can be regenerated by the application on the first usage. It is created in the application directory and contains configuration setting and file location paths.

This file needs to have read access to students and write access to administrators or teachers wanting to change file paths. This is a mandatory file and required by the application.

“**EStatements**”, installed in the application directory, contains common congratulatory responses for students who complete a test. It is not editable as the application assumes specific record lengths and locations.

“**ESettingsxxx.**”, initially installed in the application directory and contains default settings for exercises. This file can be relocated to a position where the student has write access in order to change their preferences. The application will attempt to regenerate the file if it is deleted.

Each separate user has a separate 'ESettings' file numbered consecutively 'ESettings1'..'ESettingsxxx.'

"**EUserList**", initially installed in the application directory and contains the list of users on the system. This file resides in the same directory as 'ESettingsxxx.'

Adding and deleting users can be set up as either an Administrator or User function. If it is a user function then the location of the file will require 'Read' and 'Write' access.

"**EResultsxxx**", initially not installed but generated by the application if 'History Logging' is selected in the "Configuration Settings" section. This file can be relocated to a position where the student has write access in order to log results. The student might require 'delete' access. The application will attempt to regenerate the file if it is deleted. This file is the only one that can grow in size. It is pipe delimited.

- Server Files

In a networked environment, the following files will be stored on the server: (*substitute your install destination for 'P:\Applications\Einstein'*)
P:\Applications\Einstein\Einstein.EXE being the executable file that the desktop shortcuts point to.

P:\Applications\Einstein\EConfiguration being the admin setup parameters and file pointers to the student directories.

P:\Applications\Einstein\Sound*.mp3 being the associated audio files used in the application.

P:\Applications\Einstein\Sound2*.mp3 being the associated audio files used in the application.

P:\Applications\Einstein\Instructions*.rtf being the associated help files used in the application.

P:\Applications\Einstein\EStatements being the application response comments.

(*substitute your students home drive for 'H:\Einstein'*)

H:\Einstein\ESettingsxxx being the students own profile and personal settings.

H:\Einstein\EResultsxxx being the students log and results file.

H:\Einstein\EUserList being the list of users working from this area.

- Workstation Files

Each workstation requires a set of windows specific files in order to operate properly. These are automatically installed during the workstation installation process. All workstations will require these files in order to run the software. Various methods are used to do this and it really depends on the school process and policy as to how multiple PC updates are done.

Common processes include Ghosting or cloning of PCs and various server based distribution tools. Obviously individual installations will also work, however larger schools that have multiple PCs often have automated processes for this.

The files listed below are mainly for reference and can be found in the SUPPORT folder on the installation CD.

Local Windows files in the **WINDOWS\SYSTEM32** directory:

AnimationGIF.ocx
ASYCFILT.DLL
COMCAT.DLL
COMDLG32.OCX
Einstein.exe
MCI32.OCX
MSCOMCTL.OCX
MSSTDFMT.DLL
msvbvm60.dll
OLEAUT32.DLL
OLEPRO32.DLL
RICHED32.DLL
RICHTX32.OCX
SETUP.EXE
SETUP1.EXE
ST6UNST.EXE
STDOLE2.TLB
VB6STKIT.DLL

Registration and Serial Key Entry

Read the license agreement and if you agree select the proceed option. On first usage, the software will prompt for a valid 'User Name' and 'Serial Key' combination. This would have been provided to the school beforehand. It is important that the key entry matches exactly with what was provided. Punctuation is important and so are spaces. The user name and Serial key is not case sensitive.

If you fail to get the correct combination you will be prompted to repeat the process until you are successful.

If you fail to get it correct, you can still continue by deferring this process until a later date. If you bypass the registration process, you will have restrictions on software functionality and will need to complete the registration process within 21 days otherwise the software will be fully disabled until a valid registration process is completed.

Amongst other items, you cannot save settings or print unless the registration process has been completed successfully.

Settings and Preference Configuration

Both students and administrators can set application specific functionality. To get full details of the options, please refer to the documentation provided on the CD. In general there are 2 types of settings:

1 Student Settings.

This comprises of parameters for number of questions, number set to use, entry direction and a few other parameters. These can be set and saved so that they are used as the defaults on subsequent attempts.

2. Admin Settings.

These comprise of file locations, region settings and functionality that is allowed to be changed by students. These can be set and saved so that they are used as the defaults on subsequent attempts.

These 2 settings categories are stored in separate files to allow for independent network security options.

Running the software from the CD

You cannot run Maths Practice software directly from the CD. Maths Practice software needs to be able to save preferences and settings back to the application directory and this is not possible with CDs.

File Corruption

In the event that files become corrupt, the system will attempt to regenerate certain files. If this fails, the administrator should manually delete the following files “**ECONFIGURATION**”, “**ESETTINGS**” or “**ERESULTS**” before restarting the application.

Remember that “**ERESULTS**” contains the students history so try not delete this is possible.

In the event “**ESTATEMENTS**” becomes corrupt, it should be replaced from the installation disk.

Audio files and windows system files will need to be replaced from the installation disk.

Uninstall Process

The standard uninstall functionality can be activated in the ‘Control Panel’ using ‘Add/Remove Programs’. This will remove all installed files, however if file locations were changed from the default, then these new locations and their content is unknown to the uninstaller. These files can be removed by manual deletion of the files.

Similarly, if Results Logging has been activated, then the file ‘**ERESULTSxx**’ will be generated when required. This file and its directory are unknown to the uninstaller and needs to be removed manually.

Care should always be taken if removing shared files as they may be required by other applications. If in doubt, it is best to not remove files that you are uncertain about.

Troubleshooting - Registration Process

Unlike most applications that either have no registration or are limited to just a Serial Code key, Maths Practice software requires both a 'User Name' and corresponding 'Serial Key' to unlock the application.

The 'Serial Key' also enforces that the 'User Name' cannot be changed. This ensures that any freely distributed student copies always retain the name of the initial owner.

The 'User Name' and 'Serial Key' is unique and cannot be exchanged with other versions of the software. Any alteration to license dates, user names or versions will require issuing of a new name and key combination.

The following table lists common problems encountered with registrations:

1. *Unsuccessful registration attempt*

Problem	Solution
Forgot to provide User Name	Need to type in 'User Name' provided
To many or too few spaces	Check typing
Comma's and full stops incorrectly used	
Incorrect typing or use of abbreviations	
The character 'o' rather than a zero used in Serial Keys	No hyphens should be used, only numbers 0-9 and letters A-F
'User Name' and 'Serial Key' used with incorrect version of the software	Check that the keys provided are for the version you are using

2. *Successful registration but application remains locked*

Problem	Solution
Usage is outside the licensed date range	Need to obtain a new 'Serial Key'
	Check for correct system date.
PC has had its system date altered or 'clocked backwards'	Remove all files that are newer than the system date
User does not have network permission to write back to configuration files	Network or PC rights need to be granted during registration process.

3. *Read and Write errors, can not access or change details*

Problem	Solution
Network rights and privileges are set incorrectly	Check the network rights and adjust as necessary.
Student has functionality disabled in software Admin Settings	Change settings in Administration section and resave defaults.