**AAESS – Maths Levels – National Curriculum Expectations**

**Step 1:**

**National Curriculum 1C**

Understand maths ideas in everyday situations

Represent my maths work with objects and pictures

Recognize a simple pattern

Read, write, count and order numbers to 10

Recognize one half (e.g. orange)

Know that addition is the combining of two groups of objects and subtraction is taking them away

Add and subtract numbers to 10

Record my work using + and =

Recognize circles, squares, triangles and rectangles

Describe the properties of 2D and 3D shapes

Describe positions (e.g. behind, on top of)

Order the events in the day

Begin to sort objects using one criterion

Begin to discuss how I sorted the objects

**Step 2:**

**National Curriculum 1B**

Count and measure by direct comparison in practical maths activities

Represent my maths work with objects and pictures

Draw simple conclusions from my work

Know one more/less for numbers to 10

Count in 2s to 10

Use the fraction one half (e.g. fold paper in half)

Know that addition is the ‘total’ of two sets

Know that subtraction is ‘taking away’ and finding out how many are left

Add and subtract numbers to 10

Name circles, squares, triangles, rectangle

Sort simple 2D and 3D shapes

Know forwards, backwards and turn

Order the days of the week

Find objects longer/shorter than a metre, lighter/heavier than a kilogram, that hold more/less than a litre

Know o’clock

Explain how I have sorted objects

**Step 3:**

**National Curriculum 1A**

Discuss my maths work

Draw simple conclusions from my work (e.g. Which is the largest set?)

Can read, write, count and order numbers to **at least** 10 (e.g. 15)

Know one more/less for numbers to **at least** 10

Count in 2s to **at least** 10

Count in 5s and 10s

Half an even number of objects to 10

Use the vocabulary related to addition and subtraction (e.g. add, subtract)

Add and subtract to **at least** 10

Recall some addition facts to 10 (e.g. 5 +5)

Add and subtract numbers to **at least** 10

Recall some subtraction facts to 10 (e.g. 10 – 2 = 8)

Recognize a cube, cuboid, cylinder, sphere and cone

Describe positions (e.g. front /first) and movements (e.g. forwards)

Know o’clock and the half hour

Order at least 3 events or objects

Sort objects and represent them in a Venn/Carroll diagram using one criterion.

With support I can create a simple block graph

Draw simple conclusions from the objects I have sorted (e.g. largest set)

**Step 4:**

**National Curriculum 2C**

Listen to explanations and I can record my work

Continue patterns of numbers and shapes (e.g. triangle, circle, square, square or 2,4,6,8…)

Sad, write, count, and order numbers to 100

Count in 2s, 5s, 10s

Shade one half/quarter of a shape

Recognize number statements (e.g. 6 + 8 = 14, 8 + 6 = 14)

Add mentally a one digit number/multiple of 10 to any two digit number (e.g. 18 + 7=, 24 + 20 =)

Recall addition facts to 10

Recognize the multiples of 2, 5, 10

Know the doubles of numbers to 10 + 10

Solve simple addition and subtraction problems

Add /subtract a one digit number to/from a two digit number (e.g. 18 + 7 = , 38 - 7 =)

Add/subtract a multiple of 10 to/from a two digit number (e.g. 24 + 20 =, 38 - 20 =)

Recognize a pentagon, hexagon, octagon, pyramid

Describe the position of objects (e.g. first, second, third)

Use non-standard measures and I am beginning to use standard measures

Know o’clock, half and quarter hours

Sort objects using more than one criterion (e.g. triangle/not triangle, blue/not blue)

Discuss how I sorted the objects

**Step 5:**

**National Curriculum 2B**

Find a starting point and relevant information when problem solving

Use mathematical language to discuss my work

Predict what will come next in a simple spatial pattern/sequence and continue it.

Know the value of the digits

Know odd and even numbers

Find one half/quarter of a set of objects

Make all related number sequences (e.g. 6 + 8 = 14, 8 + 6 = 14, 14 – 6 =8, 14 – 8 =6)

recall addition facts to 20

Add/subtract multiples of 10 (e.g. 30 + 70=)

Work out the halves of numbers to 20

Know the multiplication tables: 2x, 5x, 10x

Solve addition/subtraction problems including money/measures

Solve multiplication/division problems (e.g. repeated addition/subtraction)

Add/ subtract two, two digit numbers (e.g. 34 + 16 =, 45 – 21 = ) using practical/informal methods (e.g. partitioning)

Name a circle, square, triangle, rectangle, pentagon, hexagon, octagon, cube, cylinder, sphere, cuboid, cone and pyramid

Know the difference between straight and turning movements

Know left/right

Know clockwise/anticlockwise

Measure length and mass using whole metres and kilograms

Draw and measure lines to the nearest centimetre

Tell the time in 5 minute intervals

Collect data and record it in a simple list, table and pictogram

Draw simple conclusions about the data in a simple list, table and pictogram

**Step 6:**

**National Curriculum 2A**

Represent my maths work with simple diagrams and symbols

Read, write, count, and order numbers to **at least** 100

Continue a number sequence increasing/decreasing in regular steps and find missing numbers in the sequence

Find one half/quarter/three-quarters of a set of objects and shade a shape including those divided into equal regions (e.g. twelfths)

Know that halving/doubling, addition/subtraction are inverse operations

Know the multiplication tables: 2x, 5x, 10x and the corresponding division facts

Know the halves of numbers to 20

Know significant doubles (e.g. 10 + 10, 50+ 50=)

Solve addition /subtraction, multiplication/division problems including money /measures

Work out the value of a missing number (e.g. 30 -  = 24,  - 2 = 6)

Use a more formal written method for addition/subtraction (e.g. column)

Sort 2D shapes (e.g. shapes with right angles) and 3D shapes (e.g. flat/curved faces)

Recognize right angles/quarter turns

Use whole metres and kilograms and I am beginning to use litres

Read scales to the nearest divisions (e.g. 2, 5, 10)

Tell the time in 5 minute intervals and work out time

**Step 7:**

**National Curriculum 3C**

Put a maths problem into my own words and find the important information needed to solve it.

Review my work and ask questions about it

Read, write, order, count, order numbers to 1000

Use fractions such as ½, 1/4, 3/4, 1/5, 1/6, 1/10 etc. in shapes

Know number pairs that total 100 (e.g. 37 + 63 = 100)

Solve more complex one step problems (including money and measures) that involve any of the four operations

Add and subtract two, two digit numbers using a column method, including carrying down and borrowing

Recognize the shapes in different orientations

Draw the reflection of a shape in a vertical/horizontal mirror line which is along the side of the shape

Tell the time to the nearest 5 minutes and calculate time durations that go over the hour

Use m/cm, kg/g, l/ml and I know which measuring tool to use

Gather data to answer a question using a tally chart and frequency (totals) table

**Step 8:**

**National Curriculum 3B**

Solve a one/two-step problem involving numbers, money, measures, time

Round 2 digit and 3 digit numbers to the nearest 10/100

Multiply whole numbers by 10

Find the associated number statements for a given multiplication fact (e.g. 14 x 5 = 70, 70  5 =14, 70  14 = 5)

Know the multiplication tables: 2x, 3x, 4x, 5x, 6x, 10x

Know the complements of number additions to 100 (e.g. 100 – 37 = 63)

Understand that to find a quarter of a number I can half it and half it again

Use the mental recall of addition and subtraction facts to 20 to solve problems

Solve two step problems that involve addition and subtraction

Add and subtract decimals in context (e.g. money)

Multiply a two digit numbers by 2,3,4,5, 6, 10

Name ‘acute’ and ‘obtuse’ angles

Name ‘right angled‘and ‘equilateral’ triangles

Draw the reflection of a shape in a mirror line

Recognize the nets of a cone, cube, cuboid, triangular prism, triangular/square based pyramid

Tell the time to the nearest minute

Understand angle as a measure of turn and know 360 is a whole turn

Extract and interpret information in bar charts, pictograms, Venn/Carroll diagrams

**Step 9:**

**National Curriculum 3A**

Organize my work and check my results

Use and interpret a wider range of maths symbols and diagrams

Know the value of the digits and can partition numbers

Divide whole numbers by 10

Recognize negative numbers and continue positive/negative number sequences and find missing numbers

Recognize some fractions that are equivalent to ½

Use decimal notation in context (e.g. £3.06 = 306p)

Use inverses in number problems (e.g. I think of a number, double it and add 5.The answer is 35. What is the number?)

Understand the = sign in balancing equations (e.g. 7 x 10 = 82 -  )

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Understand the = sign in balancing equations (e.g. 7 x 10 = 82 -  )

Know the multiplication tables: 7x , 8x, 9x

Add/subtract two, two digit numbers mentally (e.g. 39 +19 = 58 , 91 – 35 = 56)

Know the doubles of numbers to 50 (e.g. 32 + 32 =)

Solve two step problems (including money and measures) that involve any of the four operations and remainders

Divide a two digit numbers by 2,3,4,5,10 with whole number answers and remainders

Compare and order angles less than 180

Give directions using 90 /quarter turns

Find the area of shapes by counting squares

Find the perimeter of squares and rectangles

Tell the time, know am/pm and I can calculate time intervals

**Step 10:**

**National Curriculum 4C**

Present my work in a clear and organized way

Read, write, count and order numbers to **10,000** and know the value of the digits

Round four digit numbers to the nearest 10/100/1000

Multiply/divide integers by 10/100/1000

Use inequalities (e.g. –3 > -5)

Recognize equivalent fractions in diagrams (e.g. ¾ = 6 /8)

Understand mixed numbers and position them on a number line

Know pairs of fractions that total 1

Use and order decimals to 1dp and continue a decimal number sequence inc. negative numbers

Understand and know simple percentages (e.g. 10%, 25%, 50%, 75%, 100%) and know their fraction equivalents

Find fractions of shapes /numbers (e.g. 3/8 of a 6 x4 rectangle, 1/5 of 30)

Know the multiplication tables : 2x to 12x

Halve whole numbers (e.g. 126,23)

Use a calculator when appropriate and know that for example 4.50 is £4.50 in the context of money

Use addition and subtraction facts for pairs of multiples to 1000(e.g. 300 + 700 = 1000)

Add/subtract four/five digit numbers

Multiply/divide a four/five digit number by a single digit (with no remainders)

Do simple calculations using negative numbers

Read and plot coordinates

Name and draw polygons from 3 to 12 sides and can describe their properties

Draw the nets of the 3D shapes

Draw polygons in different orientations on a grid

Reflect a shape in a diagonal mirror line where the line does not touch the shape

Know and can use the units of measure in length, mass, capacity. I can use decimal notation (e.g. 3.06m =3m 6cm)

Use timetables and calendars

Find the perimeter of simple shapes (e.g. squares/rectangles)

Use the 24 hour clock

Plan an investigation and know what data to collect

Calculate the median of a set of data

Understand ‘certain’, ‘impossible’, ’more likely’, ’equally likely’, fair’, ’unfair’ in probability.

**Step 11:**

**National Curriculum 4B**

Know multiples, factors, square numbers, prime number

Convert mixed numbers to improper fractions and vice versa.

Use and order decimals to 2dp and continue a decimal number sequence inc. negative numbers

Find simple percentages (e.g. 10%, 25%, 50%, 75%) of quantities.

Complete balancing equations with all four operations (e.g. 7 x 10 = 82 - P )

Know the division facts for the multiplication tables: 2x to 12x

Use my multiplication tables knowledge to calculate with multiples of 10 (e.g. 30 x 7, 180 􀁹6)

Complements of 1000 (e.g. 1000 - 350 =650)

Add/subtract four/five digit numbers including decimals

Divide a four/five digit number by a single digit where there is a remainder

Halve decimals

Recognize quadrilaterals 􀍴 square, rectangle, trapezium, parallelogram, rhombus, kite and describe their properties

Recognize right angled, isosceles, equilateral and scalene triangles and describe their properties

Know vertical, horizontal and congruent

Translate a shape horizontally and vertically

Draw and measure acute angles

Calculate angles along a straight line

Collect discrete data (e.g. record how many scores of 6 in fifty throws of the dice) and record in a frequency table

**Step 12:**

**National Curriculum 4A**

Use my own strategies for solving problems including decimals and using a calculator

Search for a solution by trying my own ideas.

Read, write, count and order numbers to **1 million** and know the value of the digits

Round six digit numbers to the nearest 10/100/1000

Use and order decimals to 3dp and continue a decimal number sequence inc. negative numbers

Solve problems involving proportions of quantities (eg increase the quantities in a recipe for 2 people to feed 6 people)

Find percentages (e.g. 30%, 60%,) of quantities (multiples of ten)

Use brackets in simple calculations

Use a range of efficient mental methods of computations with the four operations

Multiply a decimal to 1 dp by a single digit (e.g. 36.2 x 8 =)

Multiply a two digit number by a two digit number (TU x TU)

Check the reasonableness of my answer

Draw an oblique line of symmetry in a shape

Rotate a shape about its centre or vertex

Measure accurately in mm

Draw and measure acute/obtuse angles

Find the area of a shape that can be divided into small squares (e.g. centimetre squares) by counting the squares/ part squares.

Draw and interpret a line graph

**Step 13:**

**National Curriculum 5C**

Solve multistage problems by breaking down them down into simpler steps and applying a range of strategies

Check my answers to make sure they are reasonable

Explain using maths language how I solved a problem

Multiply/divide whole numbers and decimals by 10/100/1000

Round decimals to 3dp and position them on a number line

Reduce a fraction to its simplest form

Convert fractions, decimals, percentages and place in order

Express one quantity as a percentage of another (e.g. £400 as a percentage of £600)

Calculate simple fractions/percentages of quantities (e.g. 3/8 of 980g, 15% of 360)

Work out decimal calculations using related multiplication/division facts (e.g. 0.8 x 7 = 5.6, 4.8 􀁹6 = 0.8)

Multiply HTU x TU including problem solving

Multiply a decimal to 2 dp by a single digit (e.g. 38.24 x 6 = 229.44)

Order negative numbers

Use and plot coordinates in all four quadrants

Understand parallel and perpendicular

Classify quadrilaterals using their properties (e.g. number of parallel sides)

Rotate shapes through 90􀁱and 180􀁱where the centre of rotation is the vertex/centre of the shape.

Draw and measure all angles, including reflex angles, accurately

Draw a triangle accurately, given an angle and the lengths of two sides

Use the formula L x B to find the area of a square/rectangle. I can solve problems using this formula (e.g. given the area of a square I can find the length of a side)

Find the length of a rectangle given the perimeter and width

Understand and calculate the mean of a set of data

**Step 14:**

**National Curriculum 5B**

Make a prediction

Order fractions with different denominators

Order decimals with mixtures of 1dp, 2dp, 3dp

Understand simple ratio and can solve problems involving direct proportion by scaling up/down

Calculate simple percentages of quantities (e.g. 15% of £3.60) and use in problem solving (eg find sale prices - Reduce £260 by 25%)

Calculate decimal complements (e.g. 100 - 63.8 = 36.2)

Use brackets and inverses effectively (e.g. (24 + P) 􀁹 6 = 5)

Divide decimals up to 2dp by a single digit

Express a quotient as a fraction/decimal (e.g. 67 􀁹 5 = 13.4 or 13 2/5)

Add and subtract negative numbers in problem solving

Use formulae (e.g. n-2 means 2 less than n)

Use symbols to represent an unknown number (e.g. 3n = 30 n =10 )

Reason about triangles/quadrilaterals (e.g. given the perimeter and length of one side of an isosceles triangle, I can find the length of all sides)

Find unknown coordinates (e.g. given the coordinates of three vertices of a parallelogram, find the fourth coordinate)

Know the sum of the angles in a triangle/along a straight line is 180 0 and around a point is 360 and I can calculate unknown angles.

Translate a shape along an oblique line

Recognize order of rotation symmetry

Find the area of a right angled triangle given the lengths of the two perpendicular sides

Read and interpret scales on a range of measuring equipment

Convert imperial/metric units (e.g. 8km =5 miles)

Understand that different outcomes may result from repeating an experiment

Use the probability scale 0 to 1

Compare two probabilities to show likelihood (e.g. two spinners, which is more likely to give an even number)

Interpret bar graphs with grouped data

Compare two distributions using the range and one from the mode, mean, median (e.g. Find five numbers where the mode is 6 and the range is 8)

Interpret and compare pie charts (e.g. different sample size)

**Step 15:**

**National Curriculum 5A**

Explain whether a line of enquiry has proved conclusive

Read, write, count and order numbers to **at least 1000000** and know place value

Have a sound understanding of the number system including fractions, decimals, percentages

Reduce a ratio to simplest form and use it in problem solving by multiplying (eg given the ingredients in a recipe for 5 people, calculate the quantities needed for 8 people)

Calculate percentages of quantities (e.g. 16% of £4.00)

Know the square roots of numbers up to 12 x 12

Competently carry out all the four operations using integers and decimals and use a calculator competently (e.g. find a percentage)

Rapidly recall a wide range of number facts including fractions, decimals and percentages

Check answers using inverses

Find what symbols represent in formulae (e.g. 3n 􀍴 2 =43 and so n=15)

Reflect a shape in two mirror lines where the shape is not parallel or perpendicular to either mirror

Visualise a 3D shape from its net and match the vertices that will be joined

Identify where patterns drawn on a 3D shape will occur on its net and vice versa.

Find the surface area and volume of cubes and cuboids

Ask questions, plan and collect data to solve a problem

Interpret a range of data from a variety of representations and identify ways to extend the survey/investigation

Expected Level at the end of Year 1

Expected Level at the end of Year 2

Expected Level at the end of Year 3

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| --- |
| Step15  5A |
| Step 14  5B |
| Step 13  5C |
| Step 12  4A |
| Step 11  4B |
| Step 10  4C |
| Step 9  3A |
| Step 8  3B |
| Step 7  3C |
| Step 6  2A |
| Step 5  2B |
| Step 4  2C |
| Step 3  1A |
| Step 2  1B |
| Step 1  1C |

Expected Level at the end of Year 1

Expected Level at the end of Year 2

Expected Level at the end of Year 3

Expected Level at the end of Year 4

Expected Level at the end of Year 5

Expected Level at the end of Year 6