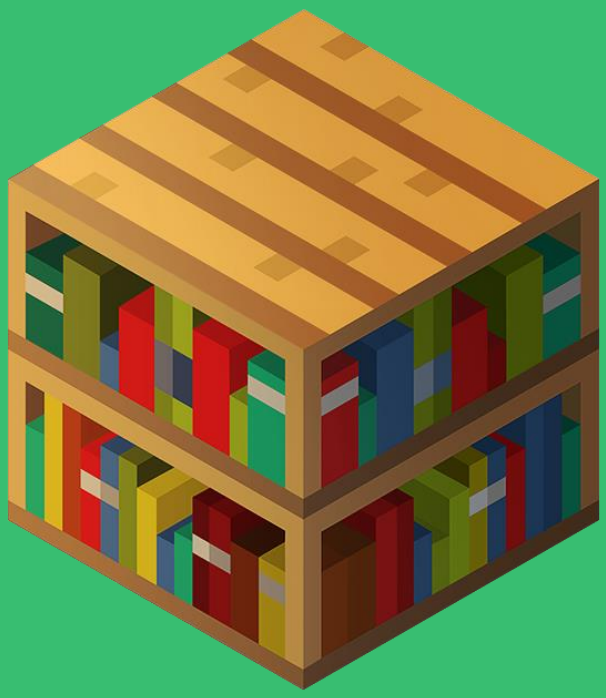


MINECRAFT
EDUCATION EDITION

CURRICULUM ALIGNMENT GUIDE

NATIONAL CURRICULUM IN ENGLAND

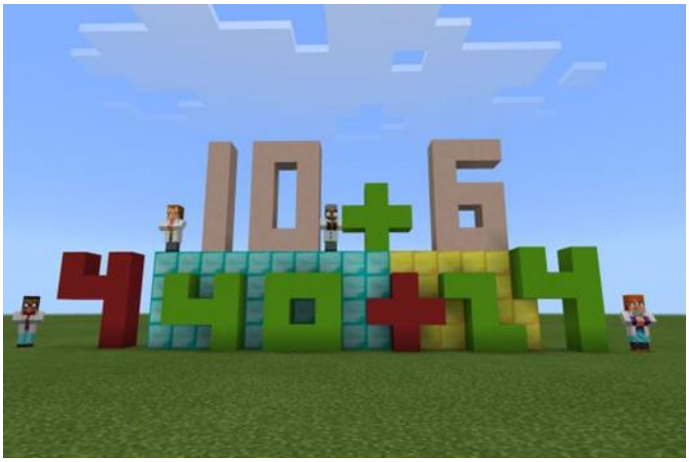
MATHEMATICS PROGRAMMES OF STUDY (KEY STAGE 2)

Introduction

Minecraft: Education Edition is an open-world game that promotes creativity, collaboration, and problem-solving in an immersive environment where the only limit is your imagination. As a game-based learning platform, Minecraft offers educators a transformative way to engage students and ignite their passion for learning. Teachers from around the world are using Minecraft in their classroom to successfully:

- Increase Student Engagement,
- Facilitate Classroom Collaboration
- Provide opportunities for Creative Exploration
- Connect Learning to Tangible Outcomes

This alignment guide will provide you with links to activities you can use in your classroom. These activities take full advantage of Minecraft's capabilities to complement and enhance classroom teaching. In this guide, you will find a list of applicable standards along with links and descriptions of Minecraft activities that focus on each objective.



For more information on using Minecraft in your classroom or to find additional education resources and training materials, visit us online.

EDUCATION.MINECRAFT.NET

LOWER KEY STAGE 2

YEAR 3 PROGRAMME OF STUDY

NUMBER – NUMBER AND PLACE VALUE

ATTAINMENT TARGET	ACTIVITY
Identify, represent and estimate numbers using different representations.	Sheepish Probability Explore the probability of dispensers, sheep breeding and design your own fair experiment to determine the probability of different Minecraft mobs.

NUMBER – ADDITION AND SUBTRACTION

ATTAINMENT TARGET	ACTIVITY
Add and subtract numbers mentally, including: • a three-digit number and ones • a three-digit number and tens • a three-digit number and hundreds	Regrouping Video Students will be able to produce a video of them solving a three-digit addition and subtraction problem.
Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.	Regrouping Video Students will be able to produce a video of them solving a three-digit addition and subtraction problem.
Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	Subtraction World With the help of a pencil and a blank paper students will begin to explore the subtractions in a wonderful Minecraft world divided in three large zones.

NUMBER – MULTIPLICATION AND DIVISION

ATTAINMENT TARGET	ACTIVITY
Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.	Multiplication and Division Build multiplication and division math models and play Bed Wars Minecraft mini-game.
Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.	Multi Digit Multiplication Students will solve and build area models of multi digit multiplication problems.

NUMBER – FRACTIONS

ATTAINMENT TARGET	ACTIVITY
Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.	Fractions in Minecraft: Comparing Decimals In this Minecraft world, students will build math models and answer questions pertaining to fractions.
Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.	Crafting Fractions Students will observe crafting recipes, write them as fractions, and use this knowledge to complete a task.
Add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7}$, $\frac{1}{7}$, $\frac{6}{7}$].	Fraction Farms Students explore math models of addition and subtraction problems with fractions then create a plan for a farm in Minecraft using what they've learned.
Recognise and write decimal equivalents of any number of tenths or hundredths.	Fractions in Minecraft: Comparing Decimals In this Minecraft world, students will build math models and answer questions pertaining to fractions.

MEASUREMENT

ATTAINMENT TARGET	ACTIVITY
Measure the perimeter of simple 2-D shapes.	Geometry World Students discover the relationships between area & perimeter as they relate to quadrilaterals and other shapes.

GEOMETRY – PROPERTIES OF SHAPES

ATTAINMENT TARGET	ACTIVITY
Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.	Classifying Quadrilaterals Define, build, and classify quadrilaterals then will peer review classmates' structures by labelling shapes with signs and documentation.
Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	Lines, Angles, and Architecture Students will explore parallel lines, perpendicular lines, acute angles, and obtuse angles and use this knowledge to design facades for buildings.

STATISTICS

ATTAINMENT TARGET	ACTIVITY
Interpret and present data using bar charts, pictograms and tables.	Survival Olympics Bar Graphs Students will fish, mine ores, and fight monsters. Then they will make and compare bar graphs for a scoreboard.

LOWER KEY STAGE 2

YEAR 4 PROGRAMME OF STUDY

NUMBER – NUMBER AND PLACE VALUE

ATTAINMENT TARGET	ACTIVITY
Identify, represent and estimate numbers using different representations.	Sheepish Probability Explore the probability of dispensers, sheep breeding and design your own fair experiment to determine the probability of different Minecraft mobs.
Round any number to the nearest 10, 100 or 1,000.	Round Number Video Students demonstrate rounding by breaking and placing blocks in Minecraft. They then set up their own problem, creating a video to explain their rounding.

NUMBER – ADDITION AND SUBTRACTION

ATTAINMENT TARGET	ACTIVITY
Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.	Regrouping Video Students will be able to produce a video of them solving a three-digit addition and subtraction problem.
Estimate and use inverse operations to check answers to a calculation.	Regrouping Video Students will be able to produce a video of them solving a three-digit addition and subtraction problem.
Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Subtraction World With the help of a pencil and a blank paper students will begin to explore the subtractions in a wonderful Minecraft world divided in three large zones. Repeated Addition with Parkour Students analyse math models and build their own parkour course in Minecraft to demonstrate understanding.

NUMBER – MULTIPLICATION AND DIVISION

ATTAINMENT TARGET	ACTIVITY
Recall multiplication and division facts for multiplication tables up to 12 × 12.	Multiplication and Division Build multiplication and division math models and play Bed Wars Minecraft mini-game.
Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.	Multi Digit Multiplication Students will solve and build area models of multi digit multiplication problems.
Recognise and use factor pairs and commutativity in mental calculations.	Finding Factors Students will use a 100 chart on paper as a map to build rectangles that show the factors for each number between 1 and 100.
Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.	Survival City Making Roads Students will design a prototype of a city road with a length of ten blocks and width of their choice. They will determine how long the road will be and how many blocks are needed if it were to be extended five to ten times, then construct their road in Minecraft.

NUMBER – FRACTIONS (INCLUDING DECIMALS)

ATTAINMENT TARGET	ACTIVITY
Recognise and show, using diagrams, families of common equivalent fractions.	Fraction Pixel Art Using a pixel art editor (or graph paper) students design an artwork, then break down the colours into fractions, discuss number patterns and unit fractions, then build their designs in Minecraft.
Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	Fractions in Minecraft: Comparing Decimals In this Minecraft world, students will build math models and answer questions pertaining to fractions.
Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.	Crafting Fractions Students will observe crafting recipes, write them as fractions, and use this knowledge to complete a task.
Add and subtract fractions with the same denominator.	Fraction Farms Students explore math models of addition and subtraction problems with fractions then create a plan for a farm in Minecraft using what they've learned.
Recognise and write decimal equivalents of any number of tenths or hundredths.	Fractions in Minecraft: Comparing Decimals In this Minecraft world, students will build math models and answer questions pertaining to fractions.
Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$.	Fractions in Minecraft: Converting Decimals to Fractions In this Minecraft world, students will build math models and answer questions pertaining to fractions.

Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.	The Decimal Dungeon - Part 1 Explore the Decimal Dungeon in a five-part unit focused on Numbers & Operations in Base Ten where students observe and build math models to solve problems. Part 1 is focused around place value in multi-digit numbers.
Round decimals with one decimal place to the nearest whole number.	The Decimal Dungeon - Part 2 Explore the Decimal Dungeon in a five-part unit focused on Numbers & Operations in Base Ten where students observe and build math models to solve problems. Part 2 is focused around comparing and rounding decimal place values in multi-digit numbers.
Compare numbers with the same number of decimal places up to two decimal places.	Fractions in Minecraft: Comparing Decimals In this Minecraft world, students will build math models and answer questions pertaining to fractions.
Solve simple measure and money problems involving fractions and decimals to two decimal places.	Crafting Fractions Students will observe crafting recipes, write them as fractions, and use this knowledge to complete a task.

MEASUREMENT

ATTAINMENT TARGET	ACTIVITY
Convert between different units of measure [for example, kilometre to metre; hour to minute].	City Planning - Survival Roads 1 Students will work in groups to build a road that is 0.2 kilometres long. In order to do this, they will need to write equations to figure how many blocks they will need to craft or gather and document their work.
Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.	Geometry World Students discover the relationships between area & perimeter as they relate to quadrilaterals and other shapes.
Find the area of rectilinear shapes by counting squares.	Area and Perimeter Tasks Students will demonstrate their knowledge of area and perimeter.
Estimate, compare and calculate different measures, including money in pounds and pence.	Survival City Part 2 Students will design a prototype of a home. Then they use their knowledge of area and perimeter to find out how much and what kind of materials they will need to build it in survival.
Read, write and convert time between analogue and digital 12- and 24-hour clocks.	Build a Clock! Students will learn about how to read time by building a clock in Minecraft. They will do this by using command blocks. They will do this by using command blocks with the testforblock and setblock commands. Then they will build a minecart ticker to start the clock and keep time.

GEOMETRY

ATTAINMENT TARGET	ACTIVITY
Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	Capture the Flag Students will compare and contrast different quadrilaterals and define them. Next they will build them on the capture the flag map. Once complete push the button to start the game, chose a character, and destroy your opponent's flag.
Identify acute and obtuse angles and compare and order angles up to two right angles by size.	Lines, Angles, and Architecture Students will explore parallel lines, perpendicular lines, acute angles, and obtuse angles and use this knowledge to design facades for buildings.
Identify lines of symmetry in 2-D shapes presented in different orientations.	Minecraft Math - Symmetry Students will show understanding of horizontal, vertical, oblique, and/or rotational symmetry.
Complete a simple symmetric figure with respect to a specific line of symmetry.	Minecraft Math - Symmetry Students will show understanding of horizontal, vertical, oblique, and/or rotational symmetry.

GEOMETRY – POSITION AND DIRECTION

ATTAINMENT TARGET	ACTIVITY
Describe positions on a 2-D grid as coordinates in the first quadrant.	Coordinate System Tutorial Learn to Navigate using the MC Coordinate System.
Describe movements between positions as translations of a given unit to the left/right and up/down.	Coordinate System Tutorial Learn to Navigate using the MC Coordinate System.

STATISTICS

ATTAINMENT TARGET	ACTIVITY
Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.	Survival Olympics Bar Graphs Students will fish, mine ores, and fight monsters. Then they will make and compare bar graphs for a scoreboard.
Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	Survival Olympics Bar Graphs Students will fish, mine ores, and fight monsters. Then they will make and compare bar graphs for a scoreboard.

UPPER KEY STAGE 2

YEAR 5 PROGRAMME OF STUDY

NUMBER – NUMBER AND PLACE VALUE

ATTAINMENT TARGET	ACTIVITY
Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000.	Round Number Video Students demonstrate rounding by breaking and placing blocks in Minecraft. They then set up their own problem, creating a video to explain their rounding.
Identify, represent and estimate numbers using different representations.	Sheepish Probability Explore the probability of dispensers, sheep breeding and design your own fair experiment to determine the probability of different Minecraft mobs.

NUMBER – ADDITION AND SUBTRACTION

ATTAINMENT TARGET	ACTIVITY
Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).	Regrouping Video Students will be able to produce a video of them solving a three-digit addition and subtraction problem.
Add and subtract numbers mentally with increasingly large numbers.	Regrouping Video Students will be able to produce a video of them solving a three-digit addition and subtraction problem.
Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Round Number Video Students demonstrate rounding by breaking and placing blocks in Minecraft. They then set up their own problem, creating a video to explain their rounding.
Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	Regrouping Video Students will be able to produce a video of them solving a three-digit addition and subtraction problem.

NUMBER – MULTIPLICATION AND DIVISION

ATTAINMENT TARGET	ACTIVITY
Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	Finding Factors Students will use a 100 chart on paper as a map to build rectangles that show the factors for each number between 1 and 100.
Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.	Mini Math Minecraft: Prime vs. Composite Introduce students to prime and composite numbers with Minecraft block manipulatives.
Establish whether a number up to 100 is prime and recall prime numbers up to 19.	Mini Math Minecraft: Prime vs. Composite Introduce students to prime and composite numbers with Minecraft block manipulatives.
Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers.	Survival City Making Roads Students will design a prototype of a city road with a length of ten blocks and width of their choice. They will determine how long the road will be and how many blocks are needed if it were to be extended five to ten times, then construct their road in Minecraft.
Multiply and divide numbers mentally drawing upon known facts.	Multiplication And Division Using Visual and Auditory Senses, students will learn Multiplication from 1x1 to 1x10 and how to divide equally using 'fair sharing'.
Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	Survival City Making Roads Students will design a prototype of a city road with a length of ten blocks and width of their choice. They will determine how long the road will be and how many blocks are needed if it were to be extended five to ten times, then construct their road in Minecraft.
Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}).	Volume World: Part 2 To better understand volume, students will take part in three challenges within Minecraft: filling sandboxes with piles of sand, a maze where students create equations and find the volume of rectangular prisms, and last they will find the volume of irregular shapes.
Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	Volume World: Part 2 To better understand volume, students will take part in three challenges within Minecraft: filling sandboxes with piles of sand, a maze where students create equations and find the volume of rectangular prisms, and last they will find the volume of irregular shapes.
Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.	Build a Two-Step Word Problem Deconstruct problems to identify what operations are used to solve them, then build a word problem story set in Minecraft.

NUMBER – FRACTIONS (INCLUDING DECIMALS AND PERCENTAGES)

ATTAINMENT TARGET	ACTIVITY
Compare and order fractions whose denominators are all multiples of the same number.	Fraction Pixel Art Using a pixel art editor (or graph paper) students design an artwork, then break down the colours into fractions, discuss number patterns and unit fractions, then build their designs in Minecraft.
Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.	Fractions in Minecraft: Creating Equivalent Fractions In this Minecraft world, students will build math models and answer questions pertaining to fractions.
Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5}+\frac{4}{5}=\frac{6}{5}=1\frac{1}{5}$].	Fractions Steeplechase Students will build and explain Minecraft math models that show fractions, improper fractions, and mixed numbers on number lines, then use number lines to create jumps for a horse race.
Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	Fractions in Minecraft: Adding and Subtracting Fractions with Like Denominators In this Minecraft world, students will build math models and answer questions pertaining to fractions.
Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	Fractions and Multiplication Observe and build math models that show patterns when multiplying numbers greater than, less than, or equal to one. Create a video to show knowledge.
Read and write decimal numbers as fractions [for example, 0.71 = $\frac{71}{100}$].	Fractions in Minecraft: Converting Decimals to Fractions In this Minecraft world, students will build math models and answer questions pertaining to fractions.
Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	Fractions in Minecraft: Comparing Fractions In this Minecraft world, students will build math models and answer questions pertaining to fractions.
Round decimals with two decimal places to the nearest whole number and to one decimal place.	The Decimal Dungeon - Part 2 Explore the Decimal Dungeon in a five-part unit focused on Numbers & Operations in Base Ten where students observe and build math models to solve problems. Part 2 is focused around comparing and rounding decimal place values in multi-digit numbers.
Read, write, order and compare numbers with up to three decimal places.	The Decimal Dungeon - Part 1 Explore the Decimal Dungeon in a five-part unit focused on Numbers & Operations in Base Ten where students observe and build math models to solve problems. Part 1 is focused around place value in multi-digit numbers.
Solve problems involving number up to three decimal places.	Decimal/Fraction Garden Students will demonstrate understanding a fractional and decimal relationships using a 10 x 10 garden.
Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.	Fractions in Minecraft: Converting Decimals to Fractions In this Minecraft world, students will build math models and answer questions pertaining to fractions.

Solve problems which require knowing percentage and decimal equivalents of [$\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$, and those fractions with a denominator of a multiple of 10 or 25.	Fractions in Minecraft: Comparing Fractions In this Minecraft world, students will build math models and answer questions pertaining to fractions.

MEASUREMENT

ATTAINMENT TARGET	ACTIVITY
Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).	City Planning - Survival Roads 1 Students will work in groups to build a road that is 0.2 kilometres long. In order to do this, they will need to write equations to figure how many blocks they will need to craft or gather and document their work.
Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.	Survival City Part 2 Students will design a prototype of a home. Then they use their knowledge of area and perimeter to find out how much and what kind of materials they will need to build it in survival.
Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes.	Area and Volume 1 Use Minecraft to create and solve problems involving area and volume.
Estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water].	Liquid Measurements Use the fill command to fill up a litre measuring cup. Then design an aquarium that holds 1,000,000 litres.

GEOMETRY – PROPERTIES OF SHAPES

ATTAINMENT TARGET	ACTIVITY
Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.	Classifying Quadrilaterals Define, build, and classify quadrilaterals then will peer review classmates' structures by labelling shapes with signs and documentation.
Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.	Lines, Angles, and Architecture Students will explore parallel lines, perpendicular lines, acute angles, and obtuse angles and use this knowledge to design facades for buildings.
Draw given angles, and measure them in degrees (°).	Measuring Angles and Building Bridges Students will enter the world in pairs and work together to measure and build angles, add and subtract angles, and finally design a bridge built at an angle that a boat can sail under.
Identify: ▪ angles at a point and one whole turn (total 360°) ▪ angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) ▪ other multiples of 90°.	Lines, Angles, and Architecture Students will explore parallel lines, perpendicular lines, acute angles, and obtuse angles and use this knowledge to design facades for buildings.

STATISTICS

ATTAINMENT TARGET	ACTIVITY
Solve comparison, sum and difference problems using information presented in a line graph.	Javelin Line Plots Students will throw 10 tridents and track their distance on a line plot graph.
Complete, read and interpret information in tables, including timetables.	Measurement Mini Game Students will play, examine, and create plans for a mini game that is 120 meters long. Also they will make tables that will show how many meters, centimetres, and kilometres each level of the game is, then they will test each others games.

UPPER KEY STAGE 2

YEAR 6 PROGRAMME OF STUDY

NUMBER – NUMBER AND PLACE VALUE

ATTAINMENT TARGET	ACTIVITY
Round any whole number to a required degree of accuracy.	Round Number Video Students demonstrate rounding by breaking and placing blocks in Minecraft. They then set up their own problem, creating a video to explain their rounding.

NUMBER – ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION

ATTAINMENT TARGET	ACTIVITY
Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.	Multi Digit Multiplication in Minecraft Bed Wars Students will solve and build area models of multi digit multiplication problems and use this knowledge to play a mini game.
Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.	Long Division in Minecraft Students will build long division math models in Minecraft and solve division problems on paper using the algorithm.
Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.	Build a Two-Step Word Problem in Minecraft Students write word problems then build a representation of their problem in Minecraft, including characters to help tell the story and models to prove their maths.
Identify common factors, common multiples and prime numbers.	Mini Math Minecraft: Prime vs. Composite Introduce students to prime and composite numbers with Minecraft block manipulatives.
Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	Regrouping Video Students will be able to produce a video of them solving a three-digit addition and subtraction problem.
Solve problems involving addition, subtraction, multiplication and division.	Regrouping Video Students will be able to produce a video of them solving a three-digit addition and subtraction problem.

NUMBER – FRACTIONS (INCLUDING DECIMALS AND PERCENTAGES)

ATTAINMENT TARGET	ACTIVITY
Compare and order fractions, including fractions > 1.	Fraction Pixel Art Using a pixel art editor (or graph paper) students design an artwork, then break down the colours into fractions, discuss number patterns and unit fractions, then build their designs in Minecraft.
Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.	Fraction World Explore math models of addition and subtraction problems with fractions with different denominators and mixed numbers then create a plan for a farm in Minecraft using what you've learned.
Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$].	Fractions and Multiplication Observe and build math models that show patterns when multiplying numbers greater than, less than, or equal to one. Create a video to show knowledge.
Divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$].	Dividing Fractions Capture the Flag Students are given three fractions division problems to solve and create math models that represent the problems. They will document their models by taking a photo in their portfolio and peer review each other's work. Then they will play capture the flag using the math models as obstacles.
Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.	The Decimal Dungeon - Part 1 Explore the Decimal Dungeon in a five-part unit focused on Numbers & Operations in Base Ten where students observe and build math models to solve problems. Part 1 is focused around place value in multi-digit numbers.
Multiply one-digit numbers with up to two decimal places by whole numbers.	The Decimal Dungeon - Part 3 Explore the Decimal Dungeon in a five-part unit focused on Numbers & Operations in Base Ten where students observe and build math models to solve problems. Part 3 is focused around multiplication of multi-digit numbers.
Use written division methods in cases where the answer has up to two decimal places.	The Decimal Dungeon - Part 4 & 5 Explore the Decimal Dungeon in a five-part unit focused on Numbers & Operations in Base Ten where students observe and build math models to solve problems. Parts 4 &5 are focused around addition, subtraction, and division of decimals.
Solve problems which require answers to be rounded to specified degrees of accuracy.	The Decimal Dungeon - Part 2 Explore the Decimal Dungeon in a five-part unit focused on Numbers & Operations in Base Ten where students observe and build math models to solve problems. Part 2 is focused around comparing and rounding decimal place values in multi-digit numbers.
Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	Fraction Farms Students explore math models of addition and subtraction problems with fractions then create a plan for a farm in Minecraft using what they've learned.

RATIO AND PROPORTION

ATTAINMENT TARGET	ACTIVITY
Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.	Sheepish Probability Explore the probability of dispensers, sheep breeding and design your own fair experiment to determine the probability of different Minecraft mobs.

ALGEBRA

ATTAINMENT TARGET	ACTIVITY
Use simple formulae.	Finding the Unknown Students will explore finding an unknown variable by building and looking at math models in Minecraft.
Generate and describe linear number sequences.	Number Pattern Architecture Students explore math models to learn about arithmetic patterns and create towers in architectural designs.
Express missing number problems algebraically.	Finding the Unknown Students will explore finding an unknown variable by building and looking at math models in Minecraft.
Find pairs of numbers that satisfy an equation with two unknowns.	Finding the Unknown Students will explore finding an unknown variable by building and looking at math models in Minecraft.

MEASUREMENT

ATTAINMENT TARGET	ACTIVITY
Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.	City Planning - Survival Roads 1 Students will work in groups to build a road that is 0.2 kilometres long. In order to do this, they will need to write equations to figure how many blocks they will need to craft or gather and document their work.
Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places.	Measurement Mini Game Students will play, examine, and create plans for a mini game that is 120 meters long. Also they will make tables that will show how many meters, centimetres, and kilometres each level of the game is, then they will test each others games.
Convert between miles and kilometres.	City Planning - Survival Roads 1 Students will work in groups to build a road that is 0.2 kilometres long. In order to do this, they will need to write equations to figure how many blocks they will need to craft or gather and document their work.
Recognise that shapes with the same areas can have different perimeters and vice versa.	Survival City Part 2 Students will design a prototype of a home. Then they use their knowledge of area and perimeter to find out how much and what kind of materials they will need to build it in survival.
Recognise when it is possible to use formulae for area and volume of shapes.	Area and Volume 1 Use Minecraft to create and solve problems involving area and volume.
Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3].	Area and Volume 2 Use Minecraft to create and solve problems involving area and volume.

GEOMETRY – PROPERTIES OF SHAPES

ATTAINMENT TARGET	ACTIVITY
Recognise, describe and build simple 3-D shapes, including making nets.	Capture the Flag Students will compare and contrast different quadrilaterals and define them. Next they will build them on the capture the flag map. Once complete push the button to start the game, chose a character, and destroy your opponent's flag.
Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.	Geometry World Students discover the relationships between area & perimeter as they relate to quadrilaterals and other shapes.

GEOMETRY – POSITION AND DIRECTION

ATTAINMENT TARGET	ACTIVITY
Describe positions on the full coordinate grid (all four quadrants).	Coordinate Planes in Minecraft Students explore coordinate planes in a provided Minecraft world by plotting points and drawing lines with basic functions. An instructional worksheet and help videos are supplied to aide instruction.

STATISTICS

ATTAINMENT TARGET	ACTIVITY
Interpret and construct pie charts and line graphs and use these to solve problems.	Javelin Line Plots Students will throw 10 tridents and track their distance on a line plot graph.
Calculate and interpret the mean as an average.	Javelin Line Plots Students will throw 10 tridents and track their distance on a line plot graph.