

**Mathematics**

**Key Stages 1 and 2**

Resources to help you teach the 2014 curriculum for mathematics

**Year 1 programme of study**

**Number – Number and place value**

Pupils should be taught to:

|  |  |
| --- | --- |
| * Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
* Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens
* When given a number, identify one more and one less
* Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least
* read and write numbers from 1 to 20 in numerals and words
 | * [**Counting activities**](http://www.tes.co.uk/teaching-resource/1-More-1-Less-Counting-Activities-6033643/)

A colourful number line for children to practise counting forward and backwards.* [**Money – less and more**](http://www.tes.co.uk/teaching-resource/One-More-and-One-Less-Money-6403191/)

PowerPoint presentation of different school objects where children identify one more or one less using money.* [**Counting farm**](http://www.tes.co.uk/teaching-resource/Counting-Farm-3005774/)

Table-top counting resource which asks children to identify and represent numbers using pictorial representations.* **[Writing numbers](http://www.tes.co.uk/teaching-resource/Writing-numbers-1-to-10-in-words-handwriting-6392210/)**

Handwriting sheets for children to practise writing numbers one to ten. |

**Number – Addition and subtraction**

 Pupils should be taught to:

|  |  |
| --- | --- |
| * read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs, represent and use number bonds and related subtraction facts within 20
* add and subtract one-digit and two-digit numbers to 20, including zero
* solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = – 9
 | * **[Missing number sums](http://www.tes.co.uk/teaching-resource/Missing-Number-Sums-6305291/)**

Differentiated missing number bond questions within 20.* [**Number bonds to 20**](http://www.tes.co.uk/teaching-resource/Number-bonds-and-sums-to-20-6052669/)

A series of practical activities to support children in learning to count up to 20.* [**Fairy tale maths**](http://www.tes.co.uk/teaching-resource/Year-1-Fairy-tale-Maths-Problem-Solving-6387396/)

A series of worded problem-solving questions. * [**Sheep number bonds**](http://www.tes.co.uk/teaching-resource/sheep-problem-solving-using-number-bonds-6368062/)

A series of number bond questions, followed by problem-solving questions involving different animals. |

**Number – Multiplication and division**

 Pupils should be taught to:

|  |  |
| --- | --- |
| * solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher
 | * [**KS1 multiplication**](http://www.tes.co.uk/teaching-resource/Introducing-Multiplication-KS1-6122712/)

A Flipchart resource that moves through stages of multiplication as repeated addition and then an array.* [**Challenges and investigations**](http://www.tes.co.uk/teaching-resource/Maths-challenges-and-investigations-6144567/)

A series of maths challenges originally from the National Strategies that include multiplication and division problems for Years 1 and 2. * [**Word multiplication**](http://www.tes.co.uk/teaching-resource/Multiplication-dinosaur-word-problems-numberline-6324893/)

Worded dinosaur-themed multiplication problems that have number lines to support calculation.* [**Addition cards**](http://www.tes.co.uk/teaching-resource/Repeated-Addition-Card-with-Cubes-6435604/)

Repeated addition problems using cubes. |

**Number – Fractions**

Pupils should be taught to:

|  |  |
| --- | --- |
| * recognise, find and name a half as one of two equal parts of an object, shape or quantity
* recognise, find and name a quarter as one of four equal parts of an object, shape or quantity
 | * [**Halves and quarters**](http://www.tes.co.uk/teaching-resource/Sharing-Lollies-6032487)

An activity in which children can share lollies between two and four children to develop their understanding of halves and quarters.* [**Sorting shapes**](http://www.tes.co.uk/teaching-resource/Sorting-Shaded-Shapes-6032513)Children sort the shapes depending on whether they are coloured less than a half, exactly a half, or more than a half.
* [**Different halves**](http://www.tes.co.uk/teaching-resource/Half-of-It-6068162) Pupils think about what a half means in lots of different contexts, both for halves of whole objects and halves of numbers of objects.
* [**Fruity fractions**](http://www.tes.co.uk/teaching-resource/Fruity-fractions-lesson-resources-6073172) Resources for a lesson on finding simple fractions of fruit, particularly halves and quarters.
 |

**Measurement**

Pupils should be taught to:

|  |  |
| --- | --- |
| * compare, describe and solve practical problems for:
	+ lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]
	+ mass/weight [for example, heavy/light, heavier than, lighter than]
	+ capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]
	+ time [for example, quicker, slower, earlier, later]
 | * [**Goldilocks sizes**](http://www.tes.co.uk/teaching-resource/Goldilocks-and-the-three-bears-size-ordering-6023927)

Big, medium and small bears, bowls, chairs and beds to be used as an ordering activity. Can also be used to give cutting practice.* [**Weight resources**](http://www.tes.co.uk/teaching-resource/Weight-6061512/)

A collection of materials for looking at reading scales, weighing objects and practising key vocabulary such as ‘heavier’ and ‘lighter’. * [**Animal heights**](http://www.tes.co.uk/teaching-resource/Animal-Height-Labels-6030547)

An activity for measuring and comparing the heights of different animals, using whole metres.* [**Capacities**](http://www.tes.co.uk/teaching-resource/Capacity-Full-Half-Full-Nearly-Full-Empty-3006132/)Children have plastic cups and physically fill their cup to the different levels, then draw the water level and labels the cup appropriately.
 |
| * measure and begin to record the following:
	+ lengths and heights
	+ mass/weight
	+ capacity and volume
	+ time (hours, minutes, seconds)
 | * [**Measuring in centimetres and m**](http://www.tes.co.uk/teaching-resource/Measuring-in-cm-and-m-6004093)**etres**

PowerPoint presentation for measuring in centimetres, converting centimetres into metres and reading an unmarked scale.* [**Animal measurements**](http://www.tes.co.uk/teaching-resource/At-the-Vets-6030553/)

An activity to measure the height, length and weight of animals at the vet.* [**Weight resources**](http://www.tes.co.uk/teaching-resource/Weight-resources-6434745/)

A selection of worksheets that introduce children to the terms lightest to heaviest.* [**Potion capacity**](http://www.tes.co.uk/teaching-resource/Capacity-Magic-Potions-empty-measuring-jug-6189506/)

A hands-on activity in which children measure out liquids to create potions. |
| * recognise and know the value of different denominations of coins and notes
 | * [**Coin spinner**](http://www.tes.co.uk/teaching-resource/Coins-Spinner-6054070/)

A tool to help children recognise different coins. * [**Recognising money**](http://www.tes.co.uk/teaching-resource/Recognising-money-Year-1-6148406/)

A presentation to help introduce the coins we use in everyday life with slides to support children in understanding the value of money.* [**Coin exchange**](http://www.tes.co.uk/teaching-resource/Coin-Exchange-6048253/)

A series of simple games designed to help children understand the value of various coins. Move around the board collecting coins and then exchange them for coins of greater value.* [**Matching coins**](http://www.tes.co.uk/teaching-resource/Early-Years-Year-One-Money-sheet-matching-coins-6425902/)

A simple worksheet for children to cut out coins and place them against their correct numerical value. |
| * sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]
* recognise and use language relating to dates, including days of the week, weeks, months and years
 | * [**Sequencing time and events**](http://www.tes.co.uk/teaching-resource/Katie-Morag-sequencing-events-and-time-3013512)

Pupils work out the sequence of events by reading the clues. A contextual problem-solving resource for KS1.* [**Things in order**](http://www.tes.co.uk/teaching-resource/Sequencing-6119622/)

An activity in which children compare and order objects and events in time using appropriate language by direct comparison.* [**Months of the year**](http://www.tes.co.uk/teaching-resource/Calendar-days-weeks-months-and-season-lesson-1-6052837/)

A simple resource that asks children to match and order the months of the year.* [**Days of the week**](http://www.tes.co.uk/teaching-resource/Days-of-the-Week-Powerpoint-and-activities-6341413/)

A simple PowerPoint presentation with days of the week and links to days-of-the-week songs. |
| * tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
 | * [**Time games**](http://www.tes.co.uk/teaching-resource/time-resources-and-games-6064474/)

A selection of time games that could be adapted for teaching telling time to the hour and half past the hour.* [**What time is it?**](http://www.tes.co.uk/teaching-resource/How-to-tell-the-time-6393597/)

A PowerPoint presentation that introduces children to telling the time, including looking at the composition of a clock face.* [**Telling the time**](http://www.tes.co.uk/teaching-resource/Simple-telling-the-time-power-point-6143057/)

A simple resource that introduces children to telling the time.* [**O’clock and half past**](http://www.tes.co.uk/teaching-resource/Telling-the-time-to-o-and-39-clock-half-past-6319335/)

Four worksheets for learning how to tell the time to the hour and half past the hour. |

**Geometry – Properties of shape**

 Pupils should be taught to:

|  |  |
| --- | --- |
| * recognise and name common 2D and 3D shapes, including:
	+ 2D shapes [for example, rectangles (including squares), circles and triangles]
	+ 3D shapes [for example, cuboids (including cubes), pyramids and spheres]
 | * [**What’s the shape?**](http://www.tes.co.uk/teaching-resource/What-shape-is-it-3007419)Name and recognise common mathematical shapes, both 2D and 3D.
* [**Basic shapes**](http://www.tes.co.uk/teaching-resource/Shapes-fan-6061732)

Eight basic shapes in a fan that can be fastened together with a split pin. A useful resource for teaching Year 1 about 2D shapes.* [**Shape game**](http://www.tes.co.uk/teaching-resource/2D-Shape-resources-3006082)

A fun shape game that teaches children about 2D shapes.* [**3D shapes**](http://www.tes.co.uk/teaching-resource/What-am-I-Naming-3d-shapes-3003858)

A worksheet to support children in naming and describing the properties of 3D shapes. Simply differentiated. |

**Geometry – Position and direction**

Pupils should be taught to:

|  |  |
| --- | --- |
| * describe position, direction and movement, including whole, half, quarter and three quarter turns
 | * [**Positioning**](http://www.tes.co.uk/teaching-resource/Position-Them-The-Picnic-6032389)

Pupils act on positional instructions, by moving a creature into the position requested in the sentence at the top of the slide.* [**Turning teddy**](http://www.tes.co.uk/teaching-resource/Turning-Teddy-Differentiated-Worksheet-6256994/)

Differentiated worksheets that ask children to follow a given route and write down the first ten directions.* [**Whole and half turns**](http://www.tes.co.uk/teaching-resource/Teddy-Turns-6042891/)

A PowerPoint presentation for teaching children about whole turns and half turns. * [**Position and direction**](http://www.tes.co.uk/teaching-resource/Y1-position-and-direction-activity-6192631/)

A simple activity to introduce directions forward, backward, left and right. Children have the printed grid and have to follow the given directions.  |

**Year 2 programme of study**

**Number – Number and place value**

Pupils should be taught to:

|  |  |
| --- | --- |
| * count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
* recognise the place value of each digit in a two-digit number (tens, ones)
* identify, represent and estimate numbers using different representations, including the number line
* compare and order numbers from 0 up to 100; use <, > and = signs
* read and write numbers to at least 100 in numerals and in words
* use place value and number facts to solve problems
 | * [**Counting to 100**](http://www.tes.co.uk/teaching-resource/Count-to-100-6177135/)

A combination of activities to help children learn how to count to 100 by: ones, fives, tens, twenties, twenty-fives and 100 objects. * [**Ordering to 20**](http://www.tes.co.uk/teaching-resource/Comparing-and-Ordering-numbers-to-20-booklet-6423063/)

A variety of activities for choosing the largest/smallest numbers, ordering numbers and using < and >.* [**Words and figures**](http://www.tes.co.uk/teaching-resource/Write-1-2-and-3digit-numbers-in-figures-and-words-homework-sheet-3013597/)

Numeracy homework sheets to help children write numbers in figures and words. * [**Greater than, smaller than**](http://www.tes.co.uk/teaching-resource/Crocodile-and-lt-and-gt-Game-6265094/)

A game to enable children to use and apply < and > to order numbers.* [**Number patterns**](http://www.tes.co.uk/teaching-resource/number-sequences-and-patterns-3012064/)

Simple number patterns counting forwards and backwards in twos, fives and tens.* [**Number caterpillars**](http://www.tes.co.uk/teaching-resource/Number-Caterpillars-6014684/)

Number lines in the shape of a caterpillar with missing numbers for the children to fill in by counting up in ones, twos, fives and tens, and counting down in ones.* [**Two by two**](http://www.tes.co.uk/teaching-resource/Noah-and-39-s-Ark-counting-in-twos-6131654/)

A simple PowerPoint presentation to help learners with counting and multiplication skills.* [**Ten sparkling fireworks**](http://www.tes.co.uk/teaching-resource/10-Sparkling-Fireworks-6004457/)

A number rhyme sung to the tune of *Ten Fat Sausages* that explores number recognition, counting and “one less than”.  |

**Number – Addition and subtraction**

 Pupils should be taught to:

|  |  |
| --- | --- |
| * solve problems with addition and subtraction:
* using concrete objects and pictorial representations, including those involving numbers, quantities and measures
* applying their increasing knowledge of mental and written methods
* recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
* add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
* a two-digit number and ones
* a two-digit number and tens
* two two-digit numbers
* adding three one-digit numbers
* show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
* recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems
 | * [**Addition and subtraction problems**](http://www.tes.co.uk/teaching-resource/2-step-addition-and-subtraction-problems-4-levels-6406783/)

Four levels of addition and subtraction problems. The first two levels appropriate for Year 2.* [**Mental addition**](http://www.tes.co.uk/teaching-resource/Addition-Powerpoint-6019699/)

A PowerPoint presentation introducing mental maths: counting in twos, fives, sevens and tens. Suitable for upper KS1.* [**Addition and subtraction facts**](http://www.tes.co.uk/teaching-resource/Derive-and-recall-addition-and-subtraction-facts-6197254/)

Addition problems using a number line to support calculation.* [**Partitioning**](http://www.tes.co.uk/teaching-resource/Adding-2-Digit-Numbers-6030242)

A resource to help demonstrate adding through partitioning.* [**Adding multiples of ten**](http://www.tes.co.uk/teaching-resource/adding-multiples-of-ten-to-any-two-digit-number-6036918/)

A demonstration of how to add multiples of ten to any two-digit number.* [**Two-digit addition and subtraction**](http://www.tes.co.uk/teaching-resource/2-digit-addition-and-subtraction-PPT-for-week-6118928/)

A PowerPoint presentation to use as a starter activity to strengthen students’ abilities to add and subtract two-digit numbers mentally.* [**Inverse**](http://www.tes.co.uk/teaching-resource/Inverse-operations-6299751/) **operations**

This PowerPoint presentation uses simple addition and subtraction number sentences to demonstrate inverse operations.* [**Two-digit inverse operations**](http://www.tes.co.uk/teaching-resource/Inverse-Operations-Addition-and-Subtraction-6081526/)

A series of addition and subtraction cards showing inverse operations using two-digit numbers. |

**Number – Multiplication and division**

Pupils should be taught to:

|  |  |
| --- | --- |
| * recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
* calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs
* show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
* solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
 | * [**Multiplication bingo game**](http://www.tes.co.uk/teaching-resource/KS1-Multiplication-Bingo-Game-6381677/)

Bingo cards for 2, 5 and 10 times tables for children to use with a partner for a quick-fire bingo game. Useful as an alternative means of times-table work during lesson starter.* [**Inverse relationships**](http://www.tes.co.uk/teaching-resource/Inverse-Relationships-Multiplication-and-Division-6031901/)

An activity for pupils to find all the inversions that can be made from sets of three numbers. * [**Chocolate multiplication**](http://www.tes.co.uk/teaching-resource/Using-arrays-to-solve-multiplication-6122183/)

Use chocolate bar arrays to solve multiplications.* [**Levelled multiplication**](http://www.tes.co.uk/teaching-resource/Multiplication-problems-at-levels-2-3-and-4-6402179/)

Worded multiplication problems involving differentiated multiplication.* [**Word problems**](http://www.tes.co.uk/teaching-resource/multiplication-word-problems-year-2-6259551/)

Multiplication word problems for 2, 5 and 10 times tables, based on a castles and knights theme.* [**Multiplication and division word problems**](http://www.tes.co.uk/teaching-resource/multiplication-and-amp-division-word-problems-for-Year-2-6407241/)

Differentiated multiplication and division problem sheets plus an easier sheet with numbers to 20 for lower ability.* [**Multiplication word problems**](http://www.tes.co.uk/teaching-resource/Multiplication-word-problems-and-arrays-cards-6015039/)

Array cards and one- and two-step multiplication word problems based on the themes of dinosaurs and London. * [**Multiplication and division challenges**](http://www.tes.co.uk/teaching-resource/Maths-challenges-and-investigations-6144567)

A series of mathematical challenges for Years 1 and 2, including multiplication and division problems. |

**Number – Fractions**

Pupils should be taught to:

|  |  |
| --- | --- |
| * recognise, find, name and write fractions 1/3, 1/4, 2/4, 3/4 of a length, shape, set of objects or quantity
* write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2
 | * [**Fraction pizzas**](http://www.tes.co.uk/teaching-resource/Pizza-Fraction-Hands-on-game-3004863/)

Illustrated place mats with plates and pizza cutters and an assortment of pizza slices to support learning about simple fractions.* [**Fraction snap cards**](http://www.tes.co.uk/teaching-resource/Fraction-Snap-Cards-3004852/)

Each card has a pizza picture, fraction name and numeral. The set includes: whole, half, thirds, quarters, fifths, sixths and eighths.* [**Fraction dominoes**](http://www.tes.co.uk/teaching-resource/Introducing-Fractions-1-2-and-1-4-6176041/)

A dominoes game to help reinforce the understanding of fractions.* [**Chocolate fractions**](http://www.tes.co.uk/teaching-resource/Fraction-Fun-With-Freddie-6020593/)

Introduce children to fractions using chocolate. |

**Measurement**

Pupils should be taught to:

|  |  |
| --- | --- |
| * choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
* compare and order lengths, mass, volume/capacity and record the results using >, < and =
 | * [**Measuring and converting cm and m**](http://www.tes.co.uk/teaching-resource/Measuring-in-cm-and-m-6004093)

A PowerPoint presentation covering measuring in cm, converting cm into m and reading an unmarked scale.* [**Time, length and capacity**](http://www.tes.co.uk/teaching-resource/Problem-Solving-Time-Length-Capacity-3008861)

A set of problem-solving time cards to print. The cards are printed on different colours for different ability.* [**Measuring a playground**](http://www.tes.co.uk/teaching-resource/Measuring-a-playground-and-converting-m-to-cm-to-m-6365815/)

A practical outdoor activity to help with the understanding of converting measurements.* [**Comparing weights**](http://www.tes.co.uk/teaching-resource/Use-Less-Than-and-Greater-Than-symbols-6431740/)

Use greater than and less than symbols to compare weights. |
| * recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
* find different combinations of coins that equal the same amounts of money
* solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
 | * [**Adding coins**](http://www.tes.co.uk/teaching-resource/adding-coins-3006238/)

Children pick between two and five coins and then work out the total before writing it in a speech bubble.* [**Coin problems**](http://www.tes.co.uk/teaching-resource/Coin-problems-6016760/)

Interactive activities to help pupils learn to solve whole number problems using money, use mental strategies to solve "real-life" money problems and recognise coins of different values.* [**Coin value**](http://www.tes.co.uk/teaching-resource/KS2-Maths-money-6331509/)

This lesson on money teaches understanding of coin value and equivalence using Numicon.* [**Adding coins**](http://www.tes.co.uk/teaching-resource/Coin-equivalents-to-50p-signed-6192004/)

An animation to teach children how to use a combination of different coins to make 50p to pay at a car park. |
| * compare and sequence intervals of time
* tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times
* know the number of minutes in an hour and the number of hours in a day
 | * [**Time cards**](http://www.tes.co.uk/teaching-resource/Time-cards-3003731)

A set of time cards written in the “o’clock” format. * [**Telling the time**](http://www.tes.co.uk/teaching-resource/Telling-the-time-6016764/)

A resource for teaching the correct position of numbers on a clock, while covering how to tell the time to the hour and half past the hour.* [**Analogue to digital dominoes**](http://www.tes.co.uk/teaching-resource/Analogue-Time-Domino-Activity-6324433/)

These time dominoes include analogue-to-analogue and analogue-to-digital cards for more-able students.* [**Matching the time**](http://www.tes.co.uk/teaching-resource/matching-the-time-logic-puzzles-6143660/)

These puzzles require children to use and apply their telling-the-time skills to solve logic puzzles following clues. |

**Geometry – Properties of shape**

Pupils should be taught to:

|  |  |
| --- | --- |
| * identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line
* identify and describe the properties of 3D shapes, including the number of edges, vertices and faces
* identify 2D shapes on the surface of 3D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]
* compare and sort common 2D and 3D shapes and everyday objects
 | * [**Sorting 3D shapes**](http://www.tes.co.uk/teaching-resource/Shape-Sorter-3D-Open-6032447)

An interactive activity to sort 3D shapes into different numbers of sets. Pupils can choose their own criteria for sorting. * [**Introduction to 3D shapes**](http://www.tes.co.uk/teaching-resource/Introduction-to-3D-Shape-Powerpoint-6019507/)

A PowerPoint presentation to introduce or revise 3D shapes such as cubes, cuboids, spheres and cylinders. * [**Properties of 2D and 3D shapes**](http://www.tes.co.uk/teaching-resource/Properties-of-2D-and-3D-shapes-6435492/)

An activity in which pupils can measure the sides and angles of 6 different quadrilaterals and then choose the most appropriate sentence for each shape. They also answer questions on faces, vertices and edges of 3D shapes.* [**3D shape properties**](http://www.tes.co.uk/teaching-resource/Simple-3D-shape-properties-cards-6322067/)

Clear cards for teaching about seven 3D shapes: sphere, cube, cuboid, cone, cylinder, triangular prism and pyramid. Each card contains information on number of faces, edges and corners. |

**Geometry – Position and direction**

Pupils should be taught to:

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| --- | --- |
| * order and arrange patterns of mathematical objects in patterns and sequences
* Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half, three-quarter turns (clockwise and anti-clockwise)
 | * [**Pattern cards**](http://www.tes.co.uk/teaching-resource/Unifix-flashcards-6075931)

Squared paper with blocks of Unifix on, designed for children in KS1 to be able to describe different patterns to their partner using direction vocabulary, colours and counting.* [**Position words**](http://www.tes.co.uk/teaching-resource/Position-labels-3007635)

A set of ten A5 labels showing and illustrating position words. * [**Clockwise and anticlockwise**](http://www.tes.co.uk/teaching-resource/Clockwise-and-anticlockwise-3004500)

An activity in which children have to draw a line that is a quarter, half, three-quarter or whole turn clockwise or anti-clockwise.* [**Direction treasure map**](http://www.tes.co.uk/teaching-resource/Quarter-and-Half-turn-Treasure-map-6316920/)

Use the map to reinforce learning about quarter and half turns through following the instructions. |

**Statistics**

Pupils should be taught to:

|  |  |
| --- | --- |
| * interpret and construct simple pictograms, tally charts, block diagrams and simple tables
 | * [**Understanding bar charts**](http://www.tes.co.uk/teaching-resource/Understanding-Bar-charts-recording-and-amp-reading-6059843)

An interactive whiteboard activity to help children understand how to complete a bar chart and how to interpret the information represented.* [**Travelling to school pictogram**](http://www.tes.co.uk/teaching-resource/Pictogram-Travelling-to-School-6032380)

Collect data on ways of travelling to school and ask pupils to input the information into a pictogram. * [**Toy pictogram**](http://www.tes.co.uk/teaching-resource/Pictogram-Favourite-Toys-6032379)

Ask pupils to collect information on favourite toys, as a class or within groups, and to then display the data in a pictogram. * [**Data handling game**](http://www.tes.co.uk/teaching-resource/Handa-s-Data-Handling-Game-3005431)

A game in which students move around a game board and complete a graph. There are some choices and hazards along the way.  |
| * ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.
* ask and answer questions about totalling and comparing categorical data
 | * [**Money pictogram**](http://www.tes.co.uk/teaching-resource/At-the-leisure-centre-3013377)

This pictogram chart shows how much activities cost at a leisure centre and is followed by ten questions.* [**Birthday pictogram**](http://www.tes.co.uk/teaching-resource/Birthday-Pictogram-6030579)

Create a class chart of pupils’ birthdays and then use it as a stimulus for questions.* [**Food groups – data handling**](http://www.tes.co.uk/teaching-resource/Food-Types-6031559)

Pupils choose food for a meal and look at its nutritional value. Use for whole class discussions or for individual pupils to explore, then report back their findings.* [**Fruit pictogram**](http://www.tes.co.uk/teaching-resource/pictogram-3002705)

At able and clip art to complete a fruit pictogram, plus a pictogram worksheet to show favourite ice creams and accompanying questions. |

**Year 3 programme of study**

**Number – Number and place value**

Pupils should be taught to:

|  |  |
| --- | --- |
| * count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
* recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
* compare and order numbers up to 1000
* identify, represent and estimate numbers using different representations
* read and write numbers up to 1000 in numerals and in words
* solve number problems and practical problems involving these ideas
 | * [**Adding and taking away**](http://www.tes.co.uk/teaching-resource/1-10-and-amp-100-more-less-than-6071954/)

A resource for teachers to support them in demonstrating how to add on and take away 1, 10, and 100, as well as rounding in 10 and 100 and some estimating. * [**Number logic**](http://www.tes.co.uk/teaching-resource/Reading-writing-and-ordering-numbers-6099900/)

Help students to read, write and order numbers.* [**Comparing numbers**](http://www.tes.co.uk/teaching-resource/Comparing-numbers-6257973/)

A resource to help children solve simple times-table questions and then compare the results using greater-than and less-than symbols.* [**Comparing three-digit numbers**](http://www.tes.co.uk/teaching-resource/Y3-Comparing-numbers-6207623/)

An activity in which children compare three-digit numbers and find a number in between.* [**Comparing and ordering numbers**](http://www.tes.co.uk/teaching-resource/Maths-Comparing-and-Ordering-Numbers-worksheet-6093284/)

Order numbers including decimals, temperature and using < and > signs.* [**Place value**](http://www.tes.co.uk/teaching-resource/Year-4-place-value-and-lt-and-gt-and-addition-6310148/)

A series of resources to develop children’s understanding of place value.* [**Estimation presentation**](http://www.tes.co.uk/teaching-resource/Estimating-powerpoint-3002438/)

Each slide in this presentation shows a number of objects for children to estimate.* [**Up to 1000**](http://www.tes.co.uk/teaching-resource/Read-and-write-numbers-up-to-1000-6266470/)

Recognise, count and read numbers up to 1000 using words, digits and pictures. |

**Number – Addition and subtraction**

 Pupils should be taught to:

|  |  |
| --- | --- |
| * add and subtract numbers mentally, including:
	+ a three-digit number and ones
	+ a three-digit number and tens
	+ a three-digit number and hundreds
	+ add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
	+ estimate the answer to a calculation and use inverse operations to check answers
* solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction
 | * [**Adding 100 and 500**](http://www.tes.co.uk/teaching-resource/Adding-100-or-500-to-6093028/)

Four separate activities in which pupils must add either 100 or 500 to a given number.* [**Column addition**](http://www.tes.co.uk/teaching-resource/Introduction-to-column-addition-6012441)

A teaching presentation and supporting activity sheets to introduce more formal written methods for column addition.* [**Addition and subtraction calculations**](http://www.tes.co.uk/teaching-resource/Addition-and-Subtraction-calculations-HTU-HT-6411318/)

A worksheet with differentiated calculations involving addition and subtraction of hundreds, tens and units. * [**Column method**](http://www.tes.co.uk/teaching-resource/column-addition-powepoint-6042211/)

A resource that supports understanding of how to effectively use column addition to add hundreds, tens and units.* [**Find the missing link**](http://www.tes.co.uk/teaching-resource/Inverse-Operation-Missing-Link-Tasks-Addition-6094948/)

A series of tasks with random-inverse or missing-link addition questions. * [**Two-step addition and subtraction**](http://www.tes.co.uk/teaching-resource/2-step-addition-and-subtraction-problems-4-levels-6406783/)

Four levels of two-step addition and subtraction problems that increase in difficulty.* [**Random-inverse questions**](http://www.tes.co.uk/teaching-resource/Inverse-Operation-Addition-and-amp-Subtraction-6094952/)

A series of tasks with random-inverse or missing-link addition and subtraction questions.* [**Code breaker**](http://www.tes.co.uk/teaching-resource/Codebreaker-Subtraction-using-inversion-6370811/)

Children use inversion to complete the subtraction problems in order to work out the letters and crack the code. |

**Number – Multiplication and division**

Pupils should be taught to:

|  |  |
| --- | --- |
| * recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
 | * [**Division board game**](http://www.tes.co.uk/teaching-resource/Division-Board-Game-3013404/)

Three differentiated levels of a division board game. * [**Code-breaking multiplication**](http://www.tes.co.uk/teaching-resource/Code-Breaking-Multiplication-Tables-Puzzle-6074118/)

Two puzzles that use code breaking to determine the multiplication table used.* [**Multiplication table challenge**](http://www.tes.co.uk/teaching-resource/Multiplication-Table-Challenge-6350373/)

Children have to answer all questions correctly in three minutes to move onto the next challenge. * [**Tuneful multiplication**](http://www.tes.co.uk/teaching-resource/Multiplications-to-well-known-tunes-6107616/)

The 3, 4, 6, 7, 8, 9, 12 times tables are written as lyrics to well-known tunes or nursery rhymes.  |
| * 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
 | * [**Maximum multiplication**](http://www.tes.co.uk/teaching-resource/Multiplication-Problem-Solving-SmartboardYr-2-3-4-6321474/)

Children choose from a list of numbers and have to work out all the multiplication sums that could make that number in total.* [**Multiplication starter cards**](http://www.tes.co.uk/ResourceDetail.aspx?storyCode=6421729)

Starter cards for grid multiplication that are differentiated by complexity and how many times tables are known.* [**Grid method practice**](http://www.tes.co.uk/teaching-resource/Multiplication-practice-grid-method-differentiated-6129718/)

Practise using the grid method with the help of differentiated questions and an extension sheet.* [**Grid method checker**](http://www.tes.co.uk/teaching-resource/Grid-Method-Multiplication-6334126/)

This Excel document allows users to check grid method calculations, providing instant feedback. |
| * solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects
 | * [**Differentiated multiplication**](http://www.tes.co.uk/teaching-resource/Multiplication-problems-at-levels-2-3-and-4-6402179/)

A series of differentiated multiplication problems.* [**World Cup multiplication**](http://www.tes.co.uk/teaching-resource/World-Cup-Multiplication-Word-Problems-6432852/)

Three levels of differentiated questions to help children use and apply their knowledge of multiplication in context. * [**Division and multiplication word problems**](http://www.tes.co.uk/teaching-resource/Y3-4-word-problems-for-division-and-multiplication-6140584/)

This is a PowerPoint presentation that has six word problems for division and multiplication.* [**Multiplication maker**](http://www.tes.co.uk/teaching-resource/Missing-Number-Multiplication-Worksheet-Maker-6436011/)

The customizable multiplication-worksheet maker is great for introducing algebra to your students.  |

**Number – Fractions**

 Pupils should be taught to:

|  |  |
| --- | --- |
| * 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
* recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
* recognise and show, using diagrams, equivalent fractions with small denominators
* add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7]
* compare and order unit fractions, and fractions with the same denominators
* solve problems that involve all of the above
 | * [**Greater or less than**](http://www.iboard.co.uk/activity/Up-or-Down-the-Number-Line-FISH-TENTHS-358)

A simple number-line activity in which children practise using greater than and less than symbols.* [**Fractions of amounts**](http://www.tes.co.uk/teaching-resource/Fractions-6076632)

Help students to learn about fractions of amounts and improve their basic number skills.* [**Fraction machine**](http://www.tes.co.uk/teaching-resource/Fraction-Machine-Tool-6072156)

A tool for exploring equivalence by using up and down arrows to set the numerator and denominator of each “fraction laser”.* [**Equivalent fractions**](http://www.tes.co.uk/teaching-resource/Recognise-when-two-simple-fractions-are-equivalent-6410762/)

Resources for teaching children about equivalent fractions.* [**Pizza fractions**](http://www.tes.co.uk/teaching-resource/Pizza-Fraction-Hands-on-game-3004863/)

Illustrated place mats with plates and pizza cutters and an assortment of pizza slices to support learning about simple fractions. Matches the fraction display pack and comes with a set of fraction snap cards.* [**Frosty fractions**](http://www.tes.co.uk/teaching-resource/Frosty-fractions-ppt-6142027/)

A snow-themed PowerPoint presentation to help students order fractions.* [**Equivalent pizzas**](http://www.tes.co.uk/teaching-resource/Equivalent-fractions-problems-6225120/)

A word document that can be used to introduce equivalent fractions, with a pizza problem story.* [**Comparing fractions**](http://www.tes.co.uk/teaching-resource/Comparing-Fractions-Presentation-6431722/)

A PowerPoint presentation tutorial on comparing fractions.  |

**Measurement**

 Pupils should be taught to:

|  |  |
| --- | --- |
| * measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
* measure the perimeter of simple 2D shapes
* add and subtract amounts of money to give change, using both £ and p in practical contexts
* tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
* estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o’clock, a.m./p.m., morning, afternoon, noon and midnight
* know the number of seconds in a minute and the number of days in each month, year and leap year
* compare durations of events [for example to calculate the time taken by particular events or tasks]
 | * [**Units of measurement**](http://www.tes.co.uk/teaching-resource/Units-of-Measurement-powerpoint-3011627/)

A PowerPoint presentation that reminds children of the main units of measurement for time, weight, length and capacity.* [**M and km measurement problems**](http://www.tes.co.uk/teaching-resource/Measure-problems-m-and-km-6024592)

Measurement problems based around the hometown of *The Simpsons*. * [**Area and perimeter**](http://www.tes.co.uk/teaching-resource/Area-and-perimetre-investigation-3011097)

An investigation to find out the width and area of walls with a set perimeter and height.* [**Money addition and subtraction**](http://www.tes.co.uk/teaching-resource/Year-3-adding-and-subtracting-money-resources-6341153/)

Differentiated resources for a lesson on adding and subtracting amounts of money. * [**Cake calculations**](http://www.tes.co.uk/ResourceDetail.aspx?storyCode=3011568)

A sheet that asks children to calculate the time at which a cake will be cooked based on the time that it went into the oven.* [**The nearest minute**](http://www.tes.co.uk/teaching-resource/Reading-The-Time-to-nearest-minute-6055018/)

A worksheet containing nine analogue clocks that show times to the nearest minute and space to write in the answer in either analogue or digital time.* [**Hands on the clock**](http://www.tes.co.uk/teaching-resource/Time-to-the-nearest-min-6314065/)

Time sheets on which children add hands to clocks to show time to the nearest minute.* [**12- and 24-hour clock**](http://www.tes.co.uk/teaching-resource/Time-Durations-12-and-24-hr-clock-6132870/)

A resource to support the teaching of duration in which children need to answer a series of questions from a given table. |

**Geometry – Properties of shape**

Pupils should be taught to:

|  |  |
| --- | --- |
| * draw 2D shapes and make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them
* recognise angles as a property of shape or a description of a turn
* identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle
* identify horizontal and vertical lines and pairs of perpendicular and parallel lines
 | * [**Right angles**](http://www.tes.co.uk/teaching-resource/Right-Angles-IWB-and-amp-Carroll-diagram-worksheet-6111256/)

An interactive whiteboard resource for teaching right angles and a simple worksheet for children to sort angles into categories using a Carroll diagram.* [**Ordering and measuring angles**](http://www.tes.co.uk/teaching-resource/Year-4-order-and-measure-angles-and-amp-directions-6310227/)

Plans and resources on teaching the ordering, drawing and measuring of angles.* [**Right angles in shapes**](http://www.tes.co.uk/teaching-resource/recognise-right-angles-in-shapes-diff-orientations-6393759/)

An activity in which children recognise right angles in shapes in different orientations. * [**Parallel and perpendicular lines**](http://www.tes.co.uk/teaching-resource/Parallel-and-perpendicular-lines-6085412/)

A worksheet to reinforce learning of parallel and perpendicular lines.* [**Angles in shapes**](http://www.tes.co.uk/teaching-resource/Angles-in-Simple-Shapes-Collective-Memory-6125132/)

A poster that covers types of angles, angles on a line, in triangles and in quadrilaterals.* [**Types of angles**](http://www.tes.co.uk/teaching-resource/introduction-to-types-of-angles-6316948/)

A resource to introduce children to different angle types and help them to identify these.* [**3D nets**](http://www.tes.co.uk/teaching-resource/3d-Shape-properties-and-amp-nets-6299209/)

Students can guess what shape these printable 3D nets will make before attempting to build them. * [**Lines and 2D shapes**](http://www.tes.co.uk/teaching-resource/Parallel-and-perpendicular-linked-to-2D-shapes-6182052/)

Look for parallel and perpendicular lines in the world around us and in 2D shapes. The activity involves drawing 2D shapes with certain pairs of lines. |

**Statistics**

Pupils should be taught to:

|  |  |
| --- | --- |
| * interpret and present data using bar charts, pictograms and tables
* solve one-step and two-step questions [for example, ‘How many more?’ and ‘How many fewer?’] using information presented in scaled bar charts and pictograms and tables
 | * [**Birthday data**](http://www.tes.co.uk/teaching-resource/Birthday-data-handling-activity-6056098)

A simple data-handling activity that also encourages pupils to get to know each other and work together.* [**Zoo bar charts**](http://www.tes.co.uk/teaching-resource/Interpreting-Bar-Charts-6430938/)

A multi-worksheet activity with a zoo theme in which pupils learn how to read a bar chart in order to find quantities and progress to answering a number of questions based on the data shown in the bar chart.* [**Pictograms**](http://www.tes.co.uk/teaching-resource/Pictograms-Interactive-powerpoint-and-worksheets-6403956/)

An interactive PowerPoint presentation and worksheets to introduce children to pictograms and how to retrieve information from them.* [**Tallying and bar charts**](http://www.tes.co.uk/teaching-resource/Tallying-and-Bar-Chart-Data-Handling-6133235/)

A tally and bar chart activity in which children use clothes as data. |

**Year 4 programme of study**

**Number – Number and place value**

Pupils should be taught to:

|  |  |
| --- | --- |
| * count in multiples of 6, 7, 9, 25 and 1000
* find 1000 more or less than a given number
* count backwards through zero to include negative numbers
* recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)
* order and compare numbers beyond 1000
* identify, represent and estimate numbers using different representations
* round any number to the nearest 10, 100 or 1000
* solve number and practical problems that involve all of the above and with increasingly large positive numbers
* read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value
 | * [**Rounding to 10 with Ben**](http://www.tes.co.uk/teaching-resource/Rounding-to-the-nearest-10-and-100-with-Ben-10-6023478/)

This presentation uses a number line to round to the nearest 10 and 100 with *Ben 10*.* [**Roman numeral bingo**](http://www.tes.co.uk/teaching-resource/Roman-Numerals-6401532/)

A PowerPoint presentation that introduces Roman numerals and provides children with the opportunity to reinforce their knowledge through a bingo game.* [**Understanding Roman numerals**](http://www.tes.co.uk/teaching-resource/Roman-Numerals-Activity-6368189/)

Help students to understand the value of Roman numerals and practise using them. * [**Five-digit ordering**](http://www.tes.co.uk/teaching-resource/Ordering-game-6332215/)

Five-digit numbers that can be cut up and laminated for children to sort and order.* [**Fighting numbers**](http://www.tes.co.uk/teaching-resource/Roman-Numerals-3000977/)

80 questions and answers using Roman numerals divided into four sections. * [**Rounding numbers**](http://www.tes.co.uk/teaching-resource/Differentiated-QuizQuizTrade-Rounding-10-100-1000-6386917/)

Differentiated “quiz, quiz, trade” cards in which children round to the nearest 10, 100 and 1000.* [**Roman maths**](http://www.tes.co.uk/teaching-resource/Romans-Series-3-of-resources-for-KS-plans-on-Roman-6096464)

Three levels of Roman numerals worksheets.* [**Applying Roman numerals**](http://www.tes.co.uk/teaching-resource/Roman-Numerals-6122858/)

Tasks to help children to use and apply Roman numerals. |

**Number – Addition and subtraction**

Pupils should be taught to:

|  |  |
| --- | --- |
| * add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
* estimate and use inverse operations to check answers to a calculation
* solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why
 | * [**Word problems**](http://www.tes.co.uk/teaching-resource/Addition-and-subtraction-word-problems-6401535/)

Worded addition and subtraction problems.* [**Subtraction word problems**](http://www.tes.co.uk/teaching-resource/Year-4-subtraction-difference-and-word-problems-6310367/)

A sequence of lessons looking at common misconceptions and how difference can be applied to word problems. * [**Addition and subtraction problem solving**](http://www.tes.co.uk/teaching-resource/Addition-and-Subtraction-Problem-Solving-6372027/)

Addition and subtraction problems for students to solve.* [**Differentiated addition**](http://www.tes.co.uk/teaching-resource/Addition-word-problems-6427311/)

Addition word problems that are split into abilities for clear differentiation.* [**Money maths**](http://www.tes.co.uk/teaching-resource/Money-addition-and-subtraction-problems-6428251/)

Money-based addition and subtraction problems.* [**Counting up method**](http://www.tes.co.uk/teaching-resource/Find-difference-by-counting-up-6174159/)

Questions to help children to calculate the difference using counting up.* [**Add or subtract?**](http://www.tes.co.uk/ResourceDetail.aspx?storyCode=3008379)

Straight-forward word problems for children to read, decide whether to add or subtract and then carry out the calculation.* [**Written methods**](http://www.tes.co.uk/teaching-resource/Addition-subtraction-and-multiplication-6168650/)

Resources to support the teaching of efficient written methods. There are four sets of questions.  |

**Number – Multiplication and division**

Pupils should be taught to:

|  |  |
| --- | --- |
| * recall multiplication and division facts for multiplication tables up to 12 × 12
* 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
* recognise and use factor pairs and commutatively in mental calculations
* multiply two-digit and three-digit numbers by a one-digit number using formal written layout
* solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects
 | * [**Division board game**](http://www.tes.co.uk/teaching-resource/Division-Board-Game-3013404/)

Three differentiated levels of a division board game.* [**Inverse activity**](http://www.tes.co.uk/teaching-resource/Inverse-and-divison-6103048/)

Children write the inverse to multiplication and division sums.* [**Multiplication wheel**](http://www.tes.co.uk/teaching-resource/Multiplication-Wheel-6421842/)

A resource to help with the quick recall of multiplication facts from the 2 times table up to 10 times table.* [**Multiplication by 10, 100 and 1000**](http://www.tes.co.uk/teaching-resource/Multiplication-by-10-100-and-1000-6432444/)

A range of questions on multiplying numbers by 10, 100 and 1000.* [**Long multiplication**](http://www.tes.co.uk/teaching-resource/Long-multiplication-6266819/)

Resources to help children refine and use efficient written methods to multiply three-digit by one-digit numbers and two-digit by two-digit numbers, including long multiplication.* [**Grid-multiplication starter cards**](http://www.tes.co.uk/ResourceDetail.aspx?storyCode=6421729)

Starter cards for grid multiplication differentiated by times tables known and complexity.* [**Grid-multiplication checker**](http://www.tes.co.uk/teaching-resource/Grid-Method-Multiplication-6334126/)

This Excel document allows users to check grid method calculations and receive instant feedback.* [**Problem-solving word cards**](http://www.tes.co.uk/teaching-resource/Problem-Solving-word-cards-6315140/)

Simple one-step word problem cards for each of the four operations.  |

**Number – Fractions (and decimals)**

Pupils should be taught to:

|  |  |
| --- | --- |
| * recognise and show, using diagrams, families of common equivalent fractions
* count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.
* 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
* add and subtract fractions with the same denominator
* recognise and write decimal equivalents of any number of tenths or hundredths
* recognise and write decimal equivalents to 1/4, 1/2, 3/4
* 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
* round decimals with one decimal place to the nearest whole number
* compare numbers with the same number of decimal places up to two decimal places
* solve simple measure and money problems involving fractions and decimals to two decimal places
 | * [**Simplifying fractions**](http://www.tes.co.uk/teaching-resource/Simplifying-Fractions-Step-by-Step-6072151)

Fraction demonstration tool. Children create a fraction and try and work out the factors before revealing them.* [**Fractions of amounts**](http://www.tes.co.uk/teaching-resource/Fractions-6076632)

A series of fraction of amounts resources.* [**Fractions maze**](http://www.tes.co.uk/teaching-resource/finding-fractions-of-amounts-maze-worksheets-Y4-6041978)

Children find fractions of amounts, showing their working out, to make their way through the maze and help the knight get to the gold.* [**Adding and subtracting fractions**](http://www.tes.co.uk/teaching-resource/Add-and-Subtract-Fractions-6290962/)

A PowerPoint presentation with explanations and questions on how to add and subtract fractions with both the same and different denominators.* [**Adding fractions with common denominators**](http://www.tes.co.uk/teaching-resource/Add-Fractions-with-Common-Denominators-6396669/)

Maths video presentation on adding fractions with a common denominator.* [**Rounding to whole numbers**](http://www.tes.co.uk/teaching-resource/ROUNDING-TO-THE-WHOLE-NUMBER-6359643/)

A resource to support the rounding of numbers to whole numbers.* [**Rounding decimals**](http://www.tes.co.uk/teaching-resource/Rounding-decimals-6140440/)

A Tarsia domino activity for rounding decimals to one and two decimal places.* [**Decimal number lines**](http://www.tes.co.uk/teaching-resource/Decimal-fraction-equivalent-number-line-6195678/)

A PowerPoint presentation that builds up decimal number lines with some fractional equivalents. |

**Measurement**

Pupils should be taught to:

|  |  |
| --- | --- |
| * convert between different units of measure [for example, kilometre to metre; hour to minute]
* estimate, compare and calculate different measures, including money in pounds and pence
* measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres
* find the area of rectilinear shapes by counting squares
 | * [**Units of measurement**](http://www.tes.co.uk/teaching-resource/Units-of-Measurement-powerpoint-3011627/)

A PowerPoint presentation that reminds children of the main units of measurement for time, weight, length and capacity. * [**Measuring length and mass**](http://www.tes.co.uk/ResourceDetail.aspx?storyCode=6435805)

Lesson designed to help consolidate learning for measuring length and mass. * [**Converting measures**](http://www.tes.co.uk/teaching-resource/Convert-Metric-Units-length-6325864/)

A PowerPoint presentation along with differentiated worksheet: mm, cm, m and km focused on converting measures.* [**Estimating measures**](http://www.tes.co.uk/teaching-resource/Choose-and-estimate-measures-6267552/)

Recognise the need for standard units of length, mass and capacity, choose which ones are suitable for a task, and use them to make sensible estimates in everyday situations.* [**Perimeter and area**](http://www.tes.co.uk/teaching-resource/Perimeter-and-Area-worksheet-6434133/)

A worksheet to revise area and perimeter.* [**Dinosaur perimeters**](http://www.tes.co.uk/teaching-resource/Dinosaur-Perimeter-Investigation-6428608/)

A perimeter investigation based on dinosaurs (all measurements can be adjusted to match ability).* [**Area and perimeter**](http://www.tes.co.uk/teaching-resource/Area-and-Perimeter-6372230/)

Resources to support the teaching of area and perimeter.* [**Applying area and perimeter knowledge**](http://www.tes.co.uk/teaching-resource/Practical-focused-area-and-perimeter-of-rectangles-6362070/)

A practical lesson that applies area and perimeter knowledge. |
| * read, write and convert time between analogue and digital 12- and 24-hour clocks
 | * [**Converting hours, minutes and seconds**](http://www.tes.co.uk/teaching-resource/Converting-between-Hours-Minutes-and-Seconds-6423319/)

Converting between hours, minutes and seconds.* [**Converting time**](http://www.tes.co.uk/teaching-resource/Converting-time-24-hour-time-level-4-6434210/)

This resource takes students from converting minutes, seconds, hours, etc, through to converting to and from 24-hour time. * [**Comparing time**](http://www.tes.co.uk/teaching-resource/Converting-time-6125107/)

A worksheet looking at comparing time in words, 12-hour and 24-hour clock.* [**Analogue to digital**](http://www.tes.co.uk/teaching-resource/Change-these-clocks-from-analogue-to-digital-6151431/)

Children have to convert the times on the clocks from analogue to digital.  |
| * solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days
 | * [**Real-life time**](http://www.tes.co.uk/teaching-resource/2-sets-of-time-problem-solving-questions-6135254/)

Two sets of questions looking at problems with times using real-life situations.* [**Duration game**](http://www.tes.co.uk/teaching-resource/Time-Problem-Generator-Level-4-6106896/)

A game that generates duration, start time and end time problems in context.* [**Time problems**](http://www.tes.co.uk/teaching-resource/Time-Problems-6120583/)

A slide show of time problems for your pupils to solve.* [**Zoo time**](http://www.tes.co.uk/teaching-resource/Real-life-time-problem-calculating-hours-etc-6192141/)

A real-life time problem set in the context of a zoo.  |

**Geometry – Properties of shape**

Pupils should be taught to:

|  |  |
| --- | --- |
| * compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes

 * identify acute and obtuse angles and compare and order angles up to two right angles by size
* identify lines of symmetry in 2D shapes presented in different orientations
* complete a simple symmetric figure with respect to a specific line of symmetry
 | * [**Symmetry along a mirror line**](http://www.tes.co.uk/teaching-resource/Symmetry-along-a-mirror-line-6007750)

Children are to complete the shape along the line of symmetry. * [**Properties of quadrilaterals**](http://www.tes.co.uk/teaching-resource/Properties-of-Quadrilaterals-matching-card-activit-6340610/)

Properties of quadrilaterals matching cards.* [**Classifying quadrilaterals**](http://www.tes.co.uk/teaching-resource/Classifying-Quadrilaterals-6179066/)

A series of activities to cover the properties of quadrilaterals.* [**Types of angles**](http://www.tes.co.uk/teaching-resource/Acute-Obtuse-and-Right-Angles-6198301/)

A video to help explain the different types of angles.* [**Angle matching cards**](http://www.tes.co.uk/teaching-resource/Angle-Matching-Cards-6312476/)

Cards with acute, reflex and obtuse angles for students to sort, order and then estimate and measure the size of the angle. * [**Lines of symmetry**](http://www.tes.co.uk/teaching-resource/Reflective-Symmetry-Quiz-6432437/)

The quiz contains a range of shapes/letter/flags; children are to work out how many lines of symmetry each one has. * [**Butterfly symmetry**](http://www.tes.co.uk/teaching-resource/-6313403/)

This colourful activity helps students to understand lines of symmetry.  |

**Geometry – Position and direction**

Pupils should be taught to:

|  |  |
| --- | --- |
| * describe positions on a 2D grid as coordinates in the first quadrant
* describe movements between positions as translations of a given unit to the left/right and up/down
* plot specified points and draw sides to complete a given polygon
 | * [**Cat coordinates**](http://www.tes.co.uk/teaching-resource/Coordinates-for-top-set-year-4-bottom-set-year-5-6319259/)

Pirate cat-themed coordinates lesson, including in first and all four quadrants.* [**Find the treasure**](http://www.tes.co.uk/ResourceDetail.aspx?storyCode=6419085)

Treasure map coordinates activity.* [**Coordinate directions**](http://www.tes.co.uk/teaching-resource/Giving-directions-using-coordinates-pirate-6333977/)

These differentiated activities move children on from position of coordinates to giving directions from one coordinate to another.* [**Making shapes**](http://www.tes.co.uk/teaching-resource/Coordinates-investigation-6102345/)

Simple PowerPoint presentation that gives children the challenge of creating as many known 2D shapes as possible using coordinates. * [**Compass points and grid references**](http://www.tes.co.uk/teaching-resource/flip-charts-for-maths-positions-compass-points-6177550/)

Flip charts to introduce turns, compass points, grid references.* [**Find the aliens**](http://www.tes.co.uk/teaching-resource/Using-a-Compass-to-follow-directions-6120630/)

Children use a compass to give directions to find the aliens. (Using N, S, E, W, NE, NW, SE, SW).* [**Compass directions**](http://www.tes.co.uk/teaching-resource/Direction-Game-Which-Direction-6265233/)

This direction game helps students learn the directions on a compass like north, east, south and west. * [**Mouse directions**](http://www.tes.co.uk/teaching-resource/Directions-6401393/)

The children must draw a route and write directions for the mouse to find the cheese. |

**Statistics**

Pupils should be taught to:

|  |  |
| --- | --- |
| * interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs
* solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs
 | * [**Drawing charts**](http://www.tes.co.uk/teaching-resource/Drawing-Bar-Charts-6278242/)

A PowerPoint presentation for drawing bar charts, beginning with pictograms and building towards comparative bar charts. * [**Crisps bar chart**](http://www.tes.co.uk/ResourceDetail.aspx?storyCode=6125464)

Children have to use the bar chart based on favourite crisps. They then have to answer the questions which follow about the bar graph.* [**Interpreting bar graphs and pictograms**](http://www.tes.co.uk/teaching-resource/Interpreting-Graphs-6320243/)

Designed for a relatively low-ability group, this looks at interpreting bar charts and pictograms, and includes a nice worksheet with questions on topics of interest to them.* [**Natural disaster bar chart**](http://www.tes.co.uk/teaching-resource/Analysing-Bar-Charts-6342466/)

Differentiated activity using real data. Used during a week based on natural disasters.  |

**Year 5 programme of study**

**Number – Number and place value**

Pupils should be taught to:

|  |  |
| --- | --- |
| * read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
* count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
* interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
* round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
* solve number problems and practical problems that involve all of the above
* read Roman numerals to 1000 (M) and recognise years written in Roman numerals
 | * [**Ordering numbers**](http://www.tes.co.uk/teaching-resource/Ordering-game-6332215/)

Simple quick activity where children order numbers.* [**Number order**](http://www.tes.co.uk/ResourceDetail.aspx?storyCode=6121206)

Ordering numbers randomiser – automatically generates a series of numbers tailored to different ability levels. * [**Rounding to nearest 10, 100 and 1000**](http://www.tes.co.uk/teaching-resource/ROUNDING-NUMBERS-6112357/)

Rounding 3 and 4 digit numbers to nearest 10, 100 and 1000.* [**Roman numerals**](http://www.tes.co.uk/teaching-resource/Roman-Numbers-made-easy-6320294/)

A PowerPoint presentation to explain Roman Numerals.* [**Roman numbers**](http://www.tes.co.uk/teaching-resource/Roman-Numerals-3000977/)

Eighty questions and answers using Roman numerals, divided into four sections.* [**Rounding to 10, 100 and 1000**](http://www.tes.co.uk/teaching-resource/Differentiated-QuizQuizTrade-Rounding-10-100-1000-6386917/)

Differentiated *QuizQuizTrade* activity to support understanding of rounding to 10, 100 and 1000.* [**Activities on Roman numerals**](http://www.tes.co.uk/teaching-resource/Romans-Series-3-of-resources-for-KS-plans-on-Roman-6096464/)

Series of Roman activities, which includes differentiated Roman numeral activities. * [**Roman maths**](http://www.tes.co.uk/teaching-resource/Roman-Numerals-6122858/)

A Roman numeral activity. |

**Number – Addition and subtraction**

 Pupils should be taught to:

|  |  |
| --- | --- |
| * add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
* add and subtract numbers mentally with increasingly large numbers
* use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
 | * [**Addition and subtraction problems**](http://www.tes.co.uk/teaching-resource/Addition-and-Subtraction-Problem-Solving-6372027/)

Addition and subtraction using and applying activities.* [**Adding and subtracting decimals**](http://www.tes.co.uk/teaching-resource/Year-4-5-2-step-add-subtract-word-problems-6427811/)

Differentiated sheets to calculate using decimals within adding and subtracting, using effective written methods.* [**Addition and subtraction activities**](http://www.tes.co.uk/teaching-resource/More-Addition-and-subtraction-problems-6138049/)

Addition and subtraction problems for your pupils to solve, to enhance mental and written skills.* [**Problem solving**](http://www.tes.co.uk/teaching-resource/Problem-solving-with-addition-and-subtraction-6192928/)

Using and applying addition and subtraction includes lesson on choosing most efficient subtraction method.  |
| * solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
 | * [**Decimal places and significant figures**](http://www.tes.co.uk/teaching-resource/Rounding-to-Decimal-Places-and-Significant-Figures-6094524/)

Worksheets; rounding to decimal places and significant figures.* [**Addition and subtraction word problems**](http://www.tes.co.uk/ResourceDetail.aspx?storyCode=3008379)

Straightforward word problems for children to read and select whether to add or subtract, then carry out the calculation.* [**Rounding game**](http://www.tes.co.uk/teaching-resource/Who-wants-to-be-a-millionaire-Rounding-6033830/)

A quick game to assess children's knowledge on the subject of rounding. * [**Money maths**](http://www.tes.co.uk/teaching-resource/Money-addition-and-subtraction-problems-6428251/)

Money addition and subtraction problems. |

**Number – Multiplication and division**

Pupils should be taught to:

|  |  |
| --- | --- |
| * Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
* know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers
* Establish whether a number up to 100 is prime and recall prime numbers p to 19
 | * [**Multiples and factors**](http://www.tes.co.uk/teaching-resource/Factors-and-multiples-6062712/)

Differentiated multiples and factors worksheets.* [**Factor squares and prime numbers**](http://www.tes.co.uk/teaching-resource/Factors-Squares-and-amp-Primes-Number-Bugs-6428823/)

A PowerPoint presentation to introduce the finding factors of numbers and then using the 'factor bugs' worksheet to illustrate numbers and their factors. * [**Multiple and prime factors**](http://www.tes.co.uk/teaching-resource/Multiples-Factors-Prime-Factors-6408394/)

A set of resources involving a practical investigation into factors and multiples.* [**Prime factor**](http://www.tes.co.uk/teaching-resource/Sigma-Prime-Lite-prime-factor-game-6265157/)

Prime factors game.* [**Understanding prime factors**](http://www.tes.co.uk/teaching-resource/Prime-Factors-6330978/)

Starts with understanding and finding factors and multiples, moving into prime numbers.* [**Factor bugs**](http://www.tes.co.uk/teaching-resource/Factors-Squares-and-amp-Primes-Number-Bugs-6428823/)

A PowerPoint presentation to introduce the finding factors of numbers and then using the 'factor bugs' worksheet to illustrate numbers and their factors. * [**Prime numbers to 100**](http://www.tes.co.uk/teaching-resource/Prime-Numbers-6278544/)

Introduction to prime numbers, including an activity to get them to identify the prime numbers up to 100. |
| * multiply numbers up to 4 digits by one - or two-digit number using a formal written method, including long multiplication for two-digit numbers
* multiply and divice numbers mentally drawing upon known facts
* divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
* multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
 | * [**Grid multiplication**](http://www.tes.co.uk/ResourceDetail.aspx?storyCode=6421729)

Starter cards for grid multiplication.* [**Decimal multiplication**](http://www.tes.co.uk/teaching-resource/Multiplying-Decimals-by-10-100-or-1000-6093707/)

Three separate activities where pupils must multiply a decimal by 10, 100 or 1000. * [**Multiplying by 10, 100 or 1000**](http://www.tes.co.uk/teaching-resource/Multiplying-by-10-100-or-1000-6093703/)

10 separate activities where pupils must multiply a given number by 10, 100 or 1000.* [**Multiplying decimals**](http://www.tes.co.uk/teaching-resource/Multiplying-Decimals-1-Decimal-Place-6096212/)

Five activities where pupils must multiply decimals with one decimal place, or tenths.* [**Rules of multiplication and division**](http://www.tes.co.uk/teaching-resource/Multiply-and-divide-by-10-100-1000-6141378/)

A chart to laminate showing the rules for multiplying and dividing with labelled boxes for Th, Hun, T, U, decimal place 10th, 100th, etc. |
| * recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)
 | * [**Squares, cubes and roots**](http://www.tes.co.uk/teaching-resource/Square-and-Cube-numbers-plus-roots-6279288/)Looking at how to calculate square and cube numbers and the reverse of finding square and cube roots.
* [**Display of square, cube and prime numbers**](http://www.tes.co.uk/teaching-resource/explanations-on-a-display-for-square-cube-and-prime-numbers-6022604/)Explanations on a display for square, cube and prime numbers, suitable for wall display.
* [**Square and cube problems**](http://www.tes.co.uk/teaching-resource/Squares-and-Cubes-Maths-Problems-6324891/)Problem solving, puzzle-type questions on squares and cubes.
* [**Estimating roots**](http://www.tes.co.uk/teaching-resource/Squares-cubes-and-roots-6431493/)Differentiated lesson including estimating roots.
 |
| * solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes
* solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
* solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates
 | * [**Squares and cubes**](http://www.tes.co.uk/teaching-resource/Square-and-Cube-Numbers-Tarsia-6144668/)

Jigsaw puzzle to check pupils' knowledge of key squares and cubes. * [**Word problems**](http://www.tes.co.uk/teaching-resource/Multi-step-word-problems-6072795/)

Multi-step word problems.* [**Puzzle solving**](http://www.tes.co.uk/teaching-resource/Year-4-5-word-problems-6401569/)

Fun multi-step problems. The children need to read the puzzle, identify the key information and then write the number sentence to solve each.* [**Differentiated word problems**](http://www.tes.co.uk/teaching-resource/Worksheets-Word-Problems-4-Operations-6432599/)

Three differentiated worksheets (LA/MA/HA) for solving one and two step word problems by working out different numbers. |

**Number – Fractions (including decimals and percentages)**

Pupils should be taught to:

|  |  |
| --- | --- |
| * compare and order fractions whose denominators are all multiples of the same number
* identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
* 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, 2/5 + 4/5 = 6/5 = 1 and 1/5]
* add and subtract fractions with the same denominator and denominators that are multiples of the same number
* multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
 | * [**Simplifying fractions**](http://www.tes.co.uk/teaching-resource/Simplifying-Fractions-Step-by-Step-6072151)

A simple resource for simplifying fractions.* [**Equivalent and simplified fractions**](http://www.tes.co.uk/teaching-resource/Equivalent-and-amp-Simplifying-Fractions-6178507/)

A PowerPoint presentation with explanation and practice questions. Bingo game.* [**Mixed and improper fractions**](http://www.tes.co.uk/teaching-resource/Mixed-to-Improper-Fractions-Tool-6072147)

A demonstration tool to show, step by step, the conversion of improper fractions to mixed fractions.* [**Adding fractions**](http://www.tes.co.uk/teaching-resource/Add-Simplify-and-Convert-to-Mixed-Fractions-6072145)

This demonstration tool takes a step-by-step approach to adding fractions.  |
| * read and write decimal numbers as fractions [for example, 0.71 = 71/100]
* recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
* round decimals with two decimal places to the nearest whole number and to one decimal place
* read, write, order and compare numbers with up to three decimal places
* solve problems involving number up to three decimal places
 | * [**Matching equivalences**](http://www.tes.co.uk/teaching-resource/Maths-Matching-Cards-Equivalences-KS2-KS3-7-6150505/)

A resource featuring matching card activities.* [**Equivalent fractions, decimals and percentages**](http://www.tes.co.uk/teaching-resource/fraction-decimal-percentage-equivalence-sheet-6195910/)

Reinforce the understanding of the equivalence of fractions decimals and percentages using these straightforward sheets.* [**Equivalence chart**](http://www.tes.co.uk/teaching-resource/Fractions-decimals-percentage-equivalence-chart-6037230/)

Fraction, decimal, percentage equivalent chart.* [**Ordering decimal place numbers**](http://www.tes.co.uk/teaching-resource/Ordering-3-decimal-place-numbers-6393521/)

Simple ordering sheet with steps to success. |
| * 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  | * [**Equivalent dominoes**](http://www.tes.co.uk/teaching-resource/Equivalent-Squares-6068475)

This is a simple domino-like game, designed to teach equivalence between fractions, decimals and percentages.* [**Match up**](http://www.tes.co.uk/teaching-resource/Equivalent-Fractions-Decimals-and-amp-Percentages-Match-6417516/)

Children have to match up the equivalent fractions, decimals and percentages.* [**Understanding percentages**](http://www.tes.co.uk/teaching-resource/Understanding-Percentage-6333820/)

A resource to help children understand percentages of amounts. It looks at the process of converting to a known fraction, calculating, and using the correct units. * [**Representing equivalent fractions, decimals and percentages**](http://www.tes.co.uk/teaching-resource/Decimals-Fractions-and-Percentages-Colouring-6072152/)

An activity specifically focused on the equivalent representation of fractions, decimals and percentages.  |
| * solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25
 | * [**Percentages of amounts**](http://www.tes.co.uk/teaching-resource/Bubble-Method-Finding-Percentages-of-Amounts-6020692/)

This resource helps learners to find an alternative method to work out the percentage of different amounts without using calculators.* [**Fractions and percentages word problems**](http://www.tes.co.uk/teaching-resource/Word-Problem-Cards-Fractions-and-Percentages-6073060/)

Mixed level word problem cards with pictures related to fractions and percentages.* [**Finding percentages**](http://www.tes.co.uk/teaching-resource/finding-percentages-of-amounts-for-weak-ability-6289020/)

A PowerPoint presentation focused on finding simple percentages.* [**Fraction, decimal and percentage hunt**](http://www.tes.co.uk/teaching-resource/Fractions-Decimals-and-percentages-Hunt-6190884/)

A fractions, decimals and percentages hunt. |

**Measurement**

 Pupils should be taught to:

|  |  |
| --- | --- |
| * convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
* understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
 | * [**Length problems**](http://www.tes.co.uk/teaching-resource/Length-problems-m-km-km-m-6150057/)

Length problem cards to cut out and laminate.* [**Conversion bingo**](http://www.tes.co.uk/teaching-resource/Converting-m-to-km-and-km-to-m-Bingo-Game-6311899/)

Forty different bingo cards with four different order of questions to project or read out.* [**Changing units**](http://www.tes.co.uk/teaching-resource/Changing-between-metric-and-imperial-units-6267235/)

Changing between metric and imperial units.* [**Conversion from metric to imperial**](http://www.tes.co.uk/teaching-resource/Measurement-Imperial-to-Metric-3000890/)

An introduction to the conversion of metric into imperial. |
| * measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
* calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes
 | * [**Area and perimeter of compound shapes**](http://www.tes.co.uk/teaching-resource/Area-and-Perimeter-KS2-Compound-and-Problems-6419869/)

A variety of resources about simple area and perimeter of 2D shapes, word problems involving area and perimeter and area and perimeter of compound shapes.* [**Straw shapes**](http://www.tes.co.uk/teaching-resource/Maths-Primary-Measuring-Shapes-and-quot-Straws-2-and-quot-6160379/)

Use this resource to help students understand how to calculate the perimeter of regular shapes. * [**Area of irregular shapes**](http://www.tes.co.uk/teaching-resource/Estimate-the-area-of-shapes-6267685/)

Estimate the area of an irregular shape by counting squares.* [**Estimating and measuring**](http://www.tes.co.uk/teaching-resource/Estimating-and-measuring-area-6192038/)

How to calculate area in square metres from knowledge of lengths and widths using a real-life problem – estimating and measuring the length of a carpet.  |
| * estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]
 | * [**Estimating volume**](http://www.tes.co.uk/teaching-resource/Using-Cubes-to-Estimate-Volume-6408972/)

A video looking at estimating volume.* [**Capacity**](http://www.tes.co.uk/teaching-resource/Introducing-Metric-Capacity-Volume-3012035/)

A PowerPoint presentation to introduce pupils to the concept of capacity using metric units of measure.* [**Estimating different capacities**](http://www.tes.co.uk/teaching-resource/Capacity-estimating-and-checking-capacity-using-non-standard-measure-3006133/)

Recording sheet for estimating the capacity of different containers and then checking the estimations.* [**Volume of a cuboid**](http://www.tes.co.uk/teaching-resource/introduction-to-volume-6196690/)

This is a fun activity when introducing the formula for the volume of a cuboid. It leads to the "discovery" of the v=lbh formula. |
| * solve problems involving converting between units of time
 | * [**Converting hours to minutes**](http://www.tes.co.uk/teaching-resource/Converting-units-of-time-6297863/)

A resource focused on converting hours to minutes, and vice versa.* [**Hours, minutes and seconds**](http://www.tes.co.uk/teaching-resource/Converting-between-Hours-Minutes-and-Seconds-6423319/)

Resource focused on converting between hours, minutes and seconds.* [**Time duration**](http://www.tes.co.uk/teaching-resource/Time-duration-cards-6010261/)

A set of cards for children to determine time duration.* [**Analogue to digital conversion**](http://www.tes.co.uk/teaching-resource/Time-6299854/)

Resources for teaching analogue to digital conversion, telling the time and adjusting using timetables.  |
| * use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling
 | * [**Measurement word problems**](http://www.tes.co.uk/teaching-resource/Solving-word-problems-involving-measurements-6092998/)

Solving word problems involving measurement.* [**Capacity word problems**](http://www.tes.co.uk/teaching-resource/WORD-PROBLEMS-6434358/)

Word problems involving length, mass and capacity.* [**Time and measure problems**](http://www.tes.co.uk/teaching-resource/1-and-2-step-time-and-measure-problems-Y4-6036004/)

One and two step time and measure problems.* [**Volume of cuboids**](http://www.tes.co.uk/teaching-resource/Volume-of-cuboids-treasure-hunt-loop-cards-6433062/)

This treasure hunt has 10 questions on volume of cuboids.  |

**Geometry – Properties of shape**

Pupils should be taught to:

|  |  |
| --- | --- |
| * Identify:
	+ 3D shapes, including cubes and other cuboids, from 2D representations
	+ know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
	+ draw given angles, and measure them in degrees (°)
* Identify:
	+ angles at a point and one whole turn (total 360°)
	+ angles at a point on a straight line and 1/2 a turn (total 180°)
	+ other multiples of 90°
	+ use the properties of rectangles to deduce related facts and find missing lengths and angles
* distinguish between regular and irregular polygons based on reasoning about equal sides and angles
 | * [**Features of 3D shapes**](http://www.tes.co.uk/teaching-resource/Features-of-3D-shapes-6185165/)

Questions on the number of faces, edges and corners on 3D shapes.* [**3D shape properties**](http://www.tes.co.uk/teaching-resource/3D-Shape-Properties-Tables-6327968/)

A range of 3D shapes should be available and the children are to identify the shape properties and complete the table. * [**Angles and missing angles**](http://www.tes.co.uk/teaching-resource/Year-6-revision-angles-and-missing-angles-lines-6310027/)

A series of resources for revising angles and missing angles.* [**Angles on a straight line**](http://www.tes.co.uk/teaching-resource/Angles-on-a-straight-line-card-sort-6294853/)

Two activities on angles on a straight line. * [**Angle properties**](http://www.tes.co.uk/teaching-resource/ANGLES-ON-A-STRAIGHT-LINE-INTERACTIVE-ACTIVITY-6068997/)

A brilliant interactive webpage where you can investigate angle properties by dragging points and seeing the angle relationships update in real time.* [**Interior angles**](http://www.tes.co.uk/teaching-resource/Interior-angle-sum-investigation-6263371/)

A neat way of relating the interior angle sum to different types of polygon, whether they are regular or irregular. * [**Guide to angles**](http://www.tes.co.uk/teaching-resource/Interactive-Guide-to-Angles-with-Worksheets-6012218/)

Interactive whiteboard materials dealing with all aspects of the study of angles: degrees, triangles, parallel lines, construction, angles in polygons.* [**Identifying, measuring and drawing angles**](http://www.tes.co.uk/ResourceDetail.aspx?storyCode=6343903)

A PowerPoint presentation that covers the identification, measuring and drawing of angles. |

**Geometry – Position and direction**

Pupils should be taught to:

|  |  |
| --- | --- |
| * identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed
 | * [**Translations**](http://www.tes.co.uk/teaching-resource/Translations-worksheets-6186080/)

Three worksheets for translations. The first one is for them to draw the translated shape and the second is for the pupils to write the translation themselves. The third contains both of the above plus a few blank grids for pupils to create their own.* [**Shape translations**](http://www.tes.co.uk/teaching-resource/Translation-6267328/)

Translate a shape either vertically or horizontally. Describe a translation of this type using simple language. * [**Translation, rotation and reflection**](http://www.tes.co.uk/teaching-resource/Translation-rotation-and-reflection-6171064/)

Translation, rotation and reflection resource.* [**Translation pairs**](http://www.tes.co.uk/teaching-resource/Translation-Pairs-Game-6174640/)

Translation pairs game; pupils are either given a blue or a red shape on a grid. The aim of the game is to ‘pair up’ with the pupil who has their shape after it has been translated two units to the left or the right depending on the colour. |

**Statistics**

Pupils should be taught to:

|  |  |
| --- | --- |
| * solve comparison, sum and difference problems using information presented in a line graph
 | * [**Interpreting line graphs**](http://www.tes.co.uk/teaching-resource/Interpreting-Line-Graphs-KS2-6375388/)

Two differentiated worksheets and a short introductory lesson with questions from SAT papers for a plenary.* [**Reading line graphs**](http://www.tes.co.uk/teaching-resource/E-Bay-Line-Graph-Lesson-6298028/)

This is a PowerPoint presentation and differentiated worksheet task about reading a line graph. It is set in the context of the bid history for an item on eBay.* [**Interpreting graphs**](http://www.tes.co.uk/teaching-resource/Interpreting-graphs-6126359/)

Levelled questions on line graphs and block graphs with links to *Gladiator* themes. |
| * complete, read and interpret information in tables, including timetables
 | * [**Interpreting timetables**](http://www.tes.co.uk/teaching-resource/Olympic-Bus-Service-Timetable-Questions-6257439/)

Interpreting timetables for buses between Stratford Bus Station and the Olympic Stadium. * [**Reading timetables**](http://www.tes.co.uk/teaching-resource/Worksheets-for-reading-timetables-for-Year-6-6210523/)

Worksheets for reading timetables.* [**Timetable questions**](http://www.tes.co.uk/teaching-resource/Timetables-with-questions-plus-extension-task-6173790/)

Timetables with questions. |

**Year 6 programme of study**

**Number – Number and place value**

Pupils should be taught to:

|  |  |
| --- | --- |
| * read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
* round any whole number to a required degree of accuracy
* use negative numbers in context, and calculate intervals across zero
 | * [**Place value**](http://www.tes.co.uk/teaching-resource/Y6-Place-Value-Reminder-6406167/)

A reminder card for place value, goes up to ten millions and down to 2 decimal places.* [**Significant figures**](http://www.tes.co.uk/teaching-resource/Rounding-to-Significant-Figures-Powerpoint-6402182/)

A PowerPoint presentation showing how to round to significant figures. * [**Rounding to decimal places and significant figures**](http://www.tes.co.uk/teaching-resource/Rounding-to-Decimal-Places-and-Significant-Figures-6094524/)

Worksheets; rounding to decimal places and significant figures.* [**Decimals bingo**](http://www.tes.co.uk/teaching-resource/Rounding-and-amp-Ordering-Decimals-Bingo-6206493/)

Rounding and ordering decimals bingo.  |
| * solve number and practical problems that involve all of the above
 | * [**Negative intervals**](http://www.tes.co.uk/teaching-resource/Intervals-across-0-negative-numbers-domino-6431339/)

This activity practices ordering intervals across negative numbers. * [**Place value**](http://www.tes.co.uk/teaching-resource/Yr-6-Place-Value-Lesson-2-6058099/)

Read, write, order and round numbers.* [**Rounding to one decimal place**](http://www.tes.co.uk/teaching-resource/Rounding-to-1-decimal-place-6016266/)

A simple spreadsheet that produces random numbers to round to one decimal place.* [**Ordering to two decimal places**](http://www.tes.co.uk/teaching-resource/ordering-decimals-worksheet-3010111/)

Worksheet to order decimals to two places. |

**Number – Addition, subtraction, multiplication and division**

Pupils should be taught to:

|  |  |
| --- | --- |
| * multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
 | * [**Long-multiplication treasure hunt**](http://www.tes.co.uk/teaching-resource/Long-Multiplication-Treasure-Hunt-6431528/)

Long-multiplication treasure hunt with differentiated cards.* [**Long multiplication**](http://www.tes.co.uk/teaching-resource/Long-multiplication-worksheets-6388213/)

Worksheets to help with two different ways of performing long-multiplication calculations: grid method and ‘Chinese’ method. * [**Dominoes for long multiplication**](http://www.tes.co.uk/teaching-resource/Long-Multiplication-6365712/)

A simple set of 16 Tarsia Dominoes involving long multiplication.* [**Decimals and long multiplication**](http://www.tes.co.uk/teaching-resource/Long-multiplication-including-decimals-lesson-6293769/)

Multiplying two by two digits, three by two digits and decimals without a calculator.  |
| * 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
* 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
 | * [**Long-division treasure hunt**](http://www.tes.co.uk/teaching-resource/Long-Division-Treasure-Hunt-6431343/)

Long-division treasure hunt differentiated into three parts.* [**Division**](http://www.tes.co.uk/teaching-resource/Division-6259542/)

A division PowerPoint presentation that goes through the chunking and short methods.* [**Long-division method**](http://www.tes.co.uk/teaching-resource/Long-Division-Formal-Method-6431341/)

A PowerPoint presentation that examines the formal method of long division.* [**Short-division method**](http://www.tes.co.uk/teaching-resource/Short-Division-PowerPoint-Pupil-Explanation-6362581/)

A visual runthrough to show pupils how to use the short division method when dividing.  |
| * identify common factors, common multiples and prime numbers
 |  * [**Factors and multiples**](http://www.tes.co.uk/teaching-resource/Factors-and-multiples-6266205/)

Find factors and multiples of a number including listing factors in pairs to find all the factors of large numbers. * [**What does a square number look like?**](http://www.tes.co.uk/teaching-resource/Factor-multiple-prime-and-square-as-shapes-6336554/)

 An activity where children explore the shape of square numbers.* [**Prime numbers**](http://www.tes.co.uk/teaching-resource/Prime-Numbers-Interactive-Whiteboard-Quiz-6433362/)

 An interactive prime numbers whiteboard quiz.* [**Common factors**](http://www.tes.co.uk/teaching-resource/Common-Factors-6157424/)

 A factors starter activity worksheet. |
| * perform mental calculations, including with mixed operations and large numbers
* use their knowledge of the order of operations to carry out calculations involving the four operations
* solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
* solve problems involving addition, subtraction, multiplication and division
* use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
 | * [**The cake problem**](http://www.tes.co.uk/teaching-resource/The-Cake-Problem-3011674/)

An open-ended multi-step maths investigation that challenges children’s use of the basic operations. * [**Solving word problems**](http://www.tes.co.uk/teaching-resource/Steps-to-solving-word-problems-6021269/)

Maths lesson resource pack focusing on breaking down the problem-solving process.* [**Addition and subtraction word problems**](http://www.tes.co.uk/teaching-resource/Multi-Step-Addition-and-Subtraction-Word-Problems-6404008/)

A range of problems for children to apply skills to.* [**Multi-step word problems**](http://www.tes.co.uk/teaching-resource/Multi-step-word-problems-6162373/)

A set of differentiated multi-step +/- word problems.  |

**Number – Fractions**

 Pupils should be taught to:

|  |  |
| --- | --- |
| * use common factors to simplify fractions; use common multiples to express fractions in the same denomination
* compare and order fractions, including fractions > 1
* add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
* multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × 1/2 = 1/8]
* divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6]
* associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8]
 | * [**Fractions**](http://www.tes.co.uk/teaching-resource/Fractions-6429743/)

Adding fractions, multiplying fractions, dividing fractions and mixed fractions.* [**Adding and simplifying**](http://www.tes.co.uk/teaching-resource/Adding-and-Simplifying-Fractions-6098279/)

Tasks where pupils must add fractions and then simplify the answer. * [**Multiplying fractions**](http://www.tes.co.uk/teaching-resource/Fractions-multiplying-lesson-6173451/)

A resource for more-able students focused on multiplying fractions.* [**Dividing fractions**](http://www.tes.co.uk/teaching-resource/Dividing-Fractions-Interactive-Worksheet-6130125/)

This interactive worksheet is useful for practicing how to divide fractions and marks itself.  |
| * 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
* multiply one-digit numbers with up to two decimal places by whole numbers
* use written division methods in cases where the answer has up to two decimal places
 | * [**Multiplying decimals**](http://www.tes.co.uk/teaching-resource/Ks2-Multiplying-Decimals-by-10-100-or-1000-6304454/)

This worksheet is an excellent practice for your pupils about moving the decimal point either 1, 2 or 3 places to the right.* [**Multiplying decimals by powers of 10**](http://www.tes.co.uk/teaching-resource/Tarsia-Multiplying-Decimals-by-10-100-1000-6106820/)

A Tarsia activity on multiplying decimals by powers of 10. * [**Quiz on multiplying decimals**](http://www.tes.co.uk/teaching-resource/Team-Quiz-Multiplying-Decimals-6403936/)

A PowerPoint document with the quiz, plus a Word document with the answers. * [**Multiplying and dividing loop cards**](http://www.tes.co.uk/teaching-resource/Loop-Cards-for-multiplying-and-dividing-Decimals-6398748/)

Loop Cards for multiplying and dividing decimals. |
| * solve problems which require answers to be rounded to specified degrees of accuracy
* recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
 | * [**Equivalence**](http://www.tes.co.uk/teaching-resource/fraction-decimal-percentage-equivalence-sheet-6195910/)

Reinforce the understanding of the equivalence of fractions decimals and percentages using these straightforward sheets.* [**Fractions, decimals and percentages**](http://www.tes.co.uk/teaching-resource/Fractions-decimals-percentage-equivalence-chart-6037230/)

Chart used for reinforcement with children placing equivalent fraction, decimal and percentage cards on the chart.* [**Money problems**](http://www.tes.co.uk/teaching-resource/Problem-solving-Rounding-6325530/)

Rounding money activity where the children use their rounding and problem solving skills to save bank accounts.* [**Equivalence demonstration**](http://www.tes.co.uk/teaching-resource/Fractions-Interactive-Spreadsheet-6029820/)

Excel worksheet demonstrating fractions, decimals and percentage equivalents.  |

**Ratio and proportion**

Pupils should be taught to:

|  |  |
| --- | --- |
| * solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
* solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison
* solve problems involving similar shapes where the scale factor is known or can be found
* solve problems involving unequal sharing and grouping using knowledge of fractions and multiples
 | * [**Ratio and proportion problems**](http://www.tes.co.uk/teaching-resource/Ratio-and-amp-Proportion-Problem-Cards-6093286/)

Practical activity cards for children to practice solving ratio and proportion problems.* [**Ratio and proportion cards**](http://www.tes.co.uk/teaching-resource/ratio-and-problems-6340103/)

Ratio and proportion problem cards.* [**Which percentage is bigger?**](http://www.tes.co.uk/teaching-resource/Which-percentage-of-amount-is-bigger-6432462/)

Each slide on this activity presents pupils with two questions. Pupils must work out the percentage of amount, and then state which answer is bigger. * [**Finding money percentages**](http://www.tes.co.uk/teaching-resource/Finding-percentages-of-amounts-of-money-6417559/)

Finding percentages of amounts of money; each poster has a deal – the children have to work out which sale price is the best price. * [**Scale factor**](http://www.tes.co.uk/teaching-resource/Which-are-enlargements-Finding-scale-factor-6432624/)

This PowerPoint presentation has six different questions. Each question contains a red shape, together with several blue shapes. Pupils have to work out which of the blue shapes are enlargements of the red shape.* [**Mental scale factor**](http://www.tes.co.uk/teaching-resource/Mental-Scale-Factors-6432622/)

Mental scale factors; each question presents two shapes, with pupils being required to calculate the scale factor. * [**Calculating percentages**](http://www.tes.co.uk/teaching-resource/Calculating-percentages-of-amounts-powerpoint-6098142/)

This activity is focused on calculating percentages of amounts and calculating percentage and increase.* [**Scale car activity**](http://www.tes.co.uk/teaching-resource/Scale-Drawing-Car-6432621/)

This activity contains a car blueprint. Pupils have to measure certain parts of the scaled drawing, record their measurements, and then work out what the measurement would be in real life.  |

**Algebra**

Pupils should be taught to:

|  |  |
| --- | --- |
| * use simple formulae
* generate and describe linear number sequences
* express missing number problems algebraically
* find pairs of numbers that satisfy an equation with two unknowns
* enumerate possibilities of combinations of two variables
 | * [**Sequences nth term**](http://www.tes.co.uk/teaching-resource/sequences-nth-term-6334223/)

This treasure hunt has 10 questions on volume of cuboids. * [**Simple algebraic expressions**](http://www.tes.co.uk/teaching-resource/Introduction-to-algebra-simple-expressions-6437354/)

A PowerPoint presentation taking children through the process of creating simple algebraic expressions.* [**Alphabet algebra**](http://www.tes.co.uk/teaching-resource/Alphabet-Algebra-6323158/)

Alphabet algebra; students have to find the value of each letter in the table. * [**Function machine**](http://www.tes.co.uk/teaching-resource/function-machine-6359648/)

Function machine resource for teaching algebra. * [**Linear sequences**](http://www.tes.co.uk/teaching-resource/Sequences-Lessons-nth-term-linear-6192710/)

Differentiated activities on linear sequences. * [**Worksheet on linear sequences**](http://www.tes.co.uk/teaching-resource/Linear-sequences-6017768/)

Linear sequences worksheets.* [**Card sort: linear sequences**](http://www.tes.co.uk/teaching-resource/Card-Sorting-Activity-for-Linear-Sequences-6218690/)

Students sort cards showing number sequence, term to term rule, position to term rule and picture representing sequence into groups.* [**Balancing equations**](http://www.tes.co.uk/teaching-resource/Balancing-Equations-6418762/)

Balancing equations question cards. |

**Measurement**

Pupils should be taught to:

|  |  |
| --- | --- |
| * solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate
* 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
 | * [**Conversion bingo**](http://www.tes.co.uk/teaching-resource/Converting-m-to-km-and-km-to-m-Bingo-Game-6311899/)

Converting m to km and km to m bingo game.* [**Converting length**](http://www.tes.co.uk/teaching-resource/Converting-Measures-Length-6133331/)

A simple worksheet that gives pupils practice on converting between units of length. * [**Converting mass and capacity**](http://www.tes.co.uk/teaching-resource/Converting-Units-of-Mass-and-of-Capacity-6122113/)

Differentiated weight and capacity worksheets and two posters that support discussion about conversion between different units of mass and of capacity.* [**Converting measures**](http://www.tes.co.uk/teaching-resource/Year-6-revision-converting-measures-6310029/)

A couple of worksheets plus a fun PowerPoint presentation for revising converting between different measures.* [**Unit conversion**](http://www.tes.co.uk/teaching-resource/Year-4-measures-6310229/)

Resources that look at measures and converting between different units, eg, m, mm, cm, including worded problems related.* [***The Simpsons* measurement problems**](http://www.tes.co.uk/teaching-resource/Measure-problems-m-and-amp-km-6024592/)

Measurement problems based around *The Simpsons*’ town of Springfield. Topics also included: using and applying number, multi-step problems. |
| * convert between miles and kilometres
 | * [**Metric to imperial**](http://www.tes.co.uk/teaching-resource/Converting-between-metric-and-imperial-units-6322593/)

Sheets with tables on that show conversions between metric and imperial units and worksheet with questions converting between metric and imperial worksheets. * [**Metric and imperial wordsearch**](http://www.tes.co.uk/teaching-resource/Measurement-Units-6395736/)

A crossword and wordsearch covering both metric units and some imperial units.* [**Conversion display**](http://www.tes.co.uk/teaching-resource/Conversions-Imperial-and-Metric-Units-posters-6317254/)

Metric to imperial posters and questions.* [**Working with imperial measures**](http://www.tes.co.uk/teaching-resource/Imperial-Measures-Converting-and-amp-Reading-Scales-6001363/)

Two worksheets for working with imperial measures. One on reading imperial scales and the other on converting using common approximations. * [**Holiday conversions**](http://www.tes.co.uk/teaching-resource/My-French-Holiday-Converting-Imperial-to-Metric-6398729/)

A short worksheet based on being on holiday in France. Children have to convert the imperial measures into metric. |
| * recognise that shapes with the same areas can have different perimeters and vice versa
* recognise when it is possible to use formulae for area and volume of shapes
* calculate the area of parallelograms and triangles
 | * [**Area formulae**](http://www.tes.co.uk/teaching-resource/Area-lxb-6132891/)

Resource to support the learning and teaching of the area formula l x b. * [**Find the area of a rectangle**](http://www.tes.co.uk/teaching-resource/Find-the-area-of-a-rectangle-6267684/)

Use the formula for the area of a rectangle to calculate the rectangle's area.* [**How to find the area of a parallelogram**](http://www.tes.co.uk/teaching-resource/Area-of-a-parallelogram-6427859/)

A PowerPoint presentation explaining how to calculate the area of a parallelogram.* [**Area of a parallelogram**](http://www.tes.co.uk/teaching-resource/Area-of-a-parallelogram-6380122/)

A worksheet on calculating the area of parallelograms with different metric units for length and irrelevant lengths also labelled.* [**Parallelograms and trapeziums**](http://www.tes.co.uk/teaching-resource/Area-of-parallelogram-and-trapezium-6414903/)

A basic introduction to area showing how both shapes are related to a rectangle.* [**Area of trapeziums and parallelogram**](http://www.tes.co.uk/teaching-resource/Area-of-Parallelogram-and-Trapezium-6334325/)

Interactive activities where parallelograms and trapeziums can be generated. |
| * calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³]
 | * [**Relationship between units of volume**](http://www.tes.co.uk/teaching-resource/Ks2-Relationship-Between-Units-of-Volume-6322426/)

A worksheet on the relationship between units of volume.* [**Volume of cubes**](http://www.tes.co.uk/teaching-resource/Concept-of-Volume-for-Cube-and-amp-Cuboid-6355642/)

An introductory PowerPoint presentation on finding the volume of cubes.* [**Volume of cuboid**](http://www.tes.co.uk/teaching-resource/Volume-of-cuboids-treasure-hunt-loop-cards-6433062/)**s**

Volume of cuboid treasure hunt/loop cards.* [**Volume treasure hunt**](http://www.tes.co.uk/teaching-resource/Volume-of-Cubes-Cuboids-QR-Code-Treasure-Hunt-6375928/)

Volume of cubes/cuboids QR treasure hunt. |

**Geometry – properties of shape**

Pupils should be taught to:

|  |  |
| --- | --- |
| * draw 2D shapes using given dimensions and angles

 * recognise, describe and build simple 3D shapes, including making nets
* compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
* illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
* recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
 | * [**Drawing 2D shapes**](http://www.tes.co.uk/teaching-resource/Measuring-and-Drawing-2D-shapes-3-levels-6341160/)

Measuring and drawing 2D shapes accurately using a set square.* [**Drawing shapes and patterns on a grid**](http://www.tes.co.uk/teaching-resource/Draw-shapes-and-patterns-on-a-grid-6267650/)

Make, draw and identify with increasing accuracy 2D shapes and patterns on different orientations on a grid.* [**Tetrahedron investigation**](http://www.tes.co.uk/teaching-resource/Tetrahedra-investigation-3D-Nets-Problem-solving-6011545/)

A short investigation to find the number of ways the net of a tetrahedron can be coloured using four different colours only once.* [**3D shape nets**](http://www.tes.co.uk/teaching-resource/Nets-into-3D-shapes-6418710/)

Follow the instructions for most nets to create their 3D shapes easily for students to visualise the change* [**Deciphering 3D nets**](http://www.tes.co.uk/teaching-resource/Nets-of-3d-shapes-6341404/)

A worksheet/investigation/activity that can be used to decipher the nets of 3D shapes.* [**Radius or diameter of a circle**](http://www.tes.co.uk/teaching-resource/Radius-or-Diameter-of-a-Circle-Given-Area-6415261/)

An interactive resource to help children find the radius or diameter of a circle given its area.* [**Finding the radius of a circle**](http://www.tes.co.uk/teaching-resource/Finding-the-Radius-of-a-Circle-given-Circumference-6399152/)

In this maths tutorial, children learn how to find the radius of a circle when given circumference.* [**Radius, diameter and circumference**](http://www.tes.co.uk/teaching-resource/Radius-Diameter-and-Circumference-of-a-circle-6033637/)

Cut out the circles and measure the radius, diameter and circumference of them.* [**Angles on a straight line**](http://www.tes.co.uk/teaching-resource/Angles-on-a-straight-line-Worksheet-6317911/)

A differentiated worksheet introducing angles on a straight line.* [**Find the missing angle**](http://www.tes.co.uk/teaching-resource/Starter-Missing-Angles-Straight-Line-Around-Point-6428634/)

Fun, easy and active starter/revision activity finding missing angles around a point, on a straight line or in polygons.* [**Angles on a line and around a point**](http://www.tes.co.uk/teaching-resource/Angles-on-a-straight-line-and-around-a-point-6330236/)

Lesson resources for learning about angles on a straight line and around a point.* [**Angle bingo**](http://www.tes.co.uk/teaching-resource/BINGO-GAME-Angles-on-a-straight-line-6277988/)

Class game of bingo with 30 questions on finding the missing angle on straight line – one angle given. |

**Geometry – position and direction**

Pupils should be taught to:

|  |  |
| --- | --- |
| * describe positions on the full coordinate grid (all four quadrants)
* draw and translate simple shapes on the coordinate plane, and reflect them in the axes
 | * [**Plotting coordinates**](http://www.tes.co.uk/teaching-resource/Plotting-co-ordinates-in-four-quadrants-6429444/)

A simple activity where children are asked to plot shapes in quadrants and note down each of the shapes coordinates.* [**Coordinates in quadrants**](http://www.tes.co.uk/teaching-resource/Co-ordinates-four-quadrants-6127160/)

A presentation to start pupils off on coordinates. Shows four quadrants.* [**Royal coordinates**](http://www.tes.co.uk/teaching-resource/Royal-Coordinates-4-quadrants-6242127/)

A PowerPoint presentation to demonstrate plotting and reading coordinates in four quadrants.* [**Reading and plotting coordinates**](http://www.tes.co.uk/teaching-resource/Coordinates-in-4-quadrants-6319838/)

A worksheet to practice reading and plotting coordinates in four quadrants, with an extension looking at missing coordinates of shapes and finding centres of rectangles/squares.* [**Find the missing coordinates and translations**](http://www.tes.co.uk/teaching-resource/Year-6-D2-missing-coordinates-and-translations-6411179/)

Resources focused on missing coordinates and translation.* [**Translation, rotation and reflection**](http://www.tes.co.uk/teaching-resource/Translation-rotation-and-reflection-worksheets-6086910/)

Simple worksheets that vary in difficulty. Topics covered include translation, rotation and reflection. * [**Translation**](http://www.tes.co.uk/teaching-resource/Translation-6426749/)

Differentiated lessons on translation. |

**Statistics**

Pupils should be taught to:

|  |  |
| --- | --- |
| * interpret and construct pie charts and line graphs and use these to solve problems
* calculate and interpret the mean as an average
 | * [**Chart questions**](http://www.tes.co.uk/teaching-resource/Line-Pie-and-Bar-charts-Level-5-SATs-questions-6413643/)

Line, pie and bar chart questions.* [**Types of graph**](http://www.tes.co.uk/teaching-resource/Year-6-revision-handling-data-part-2-6310047/)

A series of three lessons, including plans and resources, looking at lots of different types of graphs children could be asked to interpret in a SATs paper. * [**Pie charts**](http://www.tes.co.uk/teaching-resource/Pie-Charts-for-Years-6-8-6401908/)

Resources for creating and analysing pie charts.* [**Mode, median, range and mean**](http://www.tes.co.uk/teaching-resource/KS2-Maths-MODE-MEDIAN-RANGE-and-MEAN-6093262/)

Activities for calculating averages. Four practical activities to calculate mode, median, range and mean. * [**Movie-star statistics**](http://www.tes.co.uk/teaching-resource/Movie-stars-mean-mode-and-median-6340184/)

Children match the movie star with the info and then find the mean, mode and median for their age and number of films they have starred in. * [**Statistics challenge**](http://www.tes.co.uk/teaching-resource/Mean-challenge-Worksheet-6018605/)

Five spreadsheets requiring students to enter numbers to give a given mean, mode, median and range. |