**Southery Academy**



**Mathematical Vocabulary**

**Expectations by Year Group**

**Using the correct mathematical language is crucial for thinking, learning and communicating mathematically. We need to encourage children to explain what they are doing and why they are doing it. We must offer them opportunities to use mathematical vocabulary frequently. This will help children to learn new vocabulary, to use words which they already know and to express new ideas and thinking.**

**Using mathematical vocabulary can help all children to make links across areas of mathematics, across the curriculum as a whole and also real-life situations. It can especially support lower attainers, enabling them to build confidence, communicate and problem solve, so should be an integral part of every maths lesson.**

Reception

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Number** | **Place Value** | **Estimating** | **Addition and subtraction** | **Multiplication and division** | **Fractions** |
| zero  number  one, two, three… to twenty and beyond,  teens numbers  eleven, twelve  none  how many?  count, count (up)to, count on (from, to) count back (from, to)  count in ones, twos, fives, tens,  is the same as  more, less  odd, even, few,  pattern,  pair | ones  tens  digit  the same number as  as many as  more, larger, bigger, greater, fewer, smaller, less, fewest, smallest, least, most, biggest, largest, greatest  one more, ten more  one less, ten less  compare,  order  size  first, second, third… twentieth  last, last but one  before, after  next  between | guess  how many…?  estimate  nearly  close to  about the same as  just over, just under  too many, too few  enough, not enough | add, more, and  make, sum, total  altogether  double  one more, two more… ten more  how many more to make…?  how many more is \_ than \_ ?  how much more is \_?  take away  how many are left / left over?  how many have gone?  one less, two less… ten less  how many fewer is \_ than \_?  how much less is \_?  difference between | sharing  doubling  halving  number patterns | parts of a whole  half  quarter |

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| --- | --- | --- | --- | --- | --- |
| **Measurement** | **Length** | **Weight** | **Capacity and volume** | **Time** | **Money** |
| measure  size  compare  guess  estimate  enough, not enough  too much, too little  too many, too few  nearly, close to, about the same as  just over, just under | metre  length  height  width  depth  long  short  tall  high, low  wide, narrow  thick, thin  longer, shorter, taller, higher etc.  longest, shortest, tallest, highest etc.  far, near, close | weigh  weighs  balances  heavy  light  heavier than  lighter than  heaviest, lightest  scales | full  empty  half full  holds  container | time  days of the week  day, week  birthday, holiday  morning, afternoon, evening, night, bedtime, dinner time, playtime  today, yesterday, tomorrow  before, after  next, last  now, soon  early, late  quick, quicker, quickest, quickly  slow, slower, slowest, slowly  old, older, oldest,  new, newer, newest  takes longer, takes less time  hour  o’clock  clock, watch hands | money  coin  penny  pence  pound  price  cost  buy  sell  spend  spent  pay |
|  |  |  |  |  |  |
| **Properties of shape** | **2D shape** | **3D shape** | **Position and direction** | **Statistics** | **General** |
| shape pattern  flat  curved  straight  round  hollow  solid  sort  make  build  draw  size  bigger  larger  smaller  symmetrical  pattern  repeating pattern  match | corner  side  rectangle (including square)  circle  triangle | face  edge  vertex  vertices  cube  pyramid  sphere  cone | position, over, under, above, below, top, bottom, side,  on, in  outside, inside  around  in front of  behind  front, back  beside, next to  opposite  apart  between  middle, edge, corner  direction  left, right  up, down  forwards, backwards, sideways  across next to, close, near, far  along, through  to, from, towards, away from  movement  slide, roll, turn, stretch, bend  whole turn, half turn | count  sort  group  set  list | pattern  puzzle  what could we try next?  how did you work it out?  recognise  describe  draw  compare  sort |

**Year 1**

As previous year and including the following new vocabulary

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Number** | **Place Value** | **Estimating** | **Addition and subtraction** | **Multiplication and division** | **Fractions** |
| numeral  twenty-one…one hundred  forwards, backwards  equal to  equivalent to  most, least  many  multiple of | equal to  half-way between  above, below | roughly | addition  near double  half, halve  subtract  equals  is the same as  number bonds/pairs  missing number | multiplication  multiply  multiplied by  multiple  division  dividing  grouping  array | fraction  equal part  equal grouping  equal sharing  one of two equal parts  one of four equal parts |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Measurement** | **Length** | **Weight** | **Capacity and volume** | **Time** | **Money** |
| measurement  roughly | centimetre  ruler  metre stick | kilogram  half kilogram | litre, half litre  capacity, volume  more than  less than  quarter full | months of the year  seasons: spring, summer, autumn, winter  weekend, month, year  earlier, later  first  midnight  date  how long ago?  how long will I be t…?  how long will it take to…?  how often?  always, never, often, sometimes  usually  once, twice  half past, quarter past  quarter to  clock face  hour hand minute hand  hours  minutes | change  dear  costs more  cheap  costs less  cheaper  costs the same as  how much…?  how many…?  total |
|  |  |  |  |  |  |
| **Properties of shape** | **2D shape** | **3D shape** | **Position and direction** | **Statistics** | **General** |
| symmetry  symmetrical pattern | point  pointed | cuboid  cylinder | underneath  centre  journey  quarter turn  three-quarter turn | vote  table | problem  problem solving  mental  mentally  explain your thinking |

**Year 2**

As previous years and including the following new vocabulary

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Number** | **Place Value** | **Estimating** | **Addition and subtraction** | **Multiplication and division** | **Fractions** |
| two hundred… one thousand  count in threes, fours,  tally  sequence  continue  predict  rule  > greater than  < less than | hundreds  one-, two- or three-digit number  place, place value  stands for  represents  exchange  twenty-first… | exact  exactly | one hundred more  one hundred less  number facts  tens boundary | groups of  times  once twice, three times… ten times  repeated addition  divide  divided by, divided into  share  share equally  left, left over  one each, two each, three each… ten each  group in pairs, threes… tens  equal groups of  row, column  multiplication table  multiplication fact  division fact | equivalent fraction  mixed number  numerator  denominator  two halves  two quarters, three quarters  one third, two thirds  one of three equal parts |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Measurement** | **Length** | **Weight** | **Capacity and volume** | **Time** | **Money** |
| measuring scale | further, furthest  tape measure | gram | millilitre  contains | fortnight  5, 10, 15… minutes past  digital, analogue  timer | bought  sold |
| **Temperature**  temperature  degree |
|  |  |  |  |  |  |
| **Properties of shape** | **2D shape** | **3D shape** | **Position and direction** | **Statistics** | **General** |
| surface  line symmetry | rectangular  circular  pentagon  hexagon  octagon |  | route  higher, lower  clockwise  anti-clockwise  right angle  straight line | tally  graph  block graph  pictogram  represent  label  title  most popular, most common  least popular, lease common | show how you…  explain your method  describe the pattern  describe the rule  investigate  mental calculation  written calculation |

**Year 3**

As previous years and including the following new vocabulary

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Number** | **Place Value** | **Estimating** | **Addition and subtraction** | **Multiplication and division** | **Fractions** |
| count on in eights, fifties, to hundreds…  factor of  relationship  Roman numerals | one hundred more  one hundred less | approximate  approximately  round  nearest  round to the nearest ten/hundred  round up, round down | hundreds boundary | factor  product  remainder | sixths, sevenths, eigths, tenths… |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Measurement** | **Length** | **Weight** | **Capacity and volume** | **Time** | **Money** |
| division  approximately | millimetre, kilometre, mile  distance apart… between… to… from…  perimeter |  | **Temperature**  centigrade | century  calendar  earliest, latest  am  pm  Roman numerals  12-hour clock time  24-hour clock time |  |
|  |  |  |  |  |  |
| **Properties of shape** | **2D shape** | **3D shape** | **Position and direction** | **Statistics** | **General** |
| perimeter | pentagonal  hexagonal  octagonal  quadrilateral  right angled  parallel  perpendicular | hemisphere  prism  triangular prism | compass point  north, south, east, west, N,S,E,W  horizontal, vertical, diagonal  angle  … is a greater/ smaller angle than  acute angle  obtuse angle | chart, bar chart, frequency table  Carroll diagram, Venn diagram  axis, axes  diagram | greatest value, least value, statement |

**Year 4**

As previous years and including the following new vocabulary

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Number** | **Place Value** | **Estimating** | **Addition and subtraction** | **Multiplication and division** | **Fractions** |
| ten thousand, hundred thousand, million  count in sixes, sevens, nines, twenty fives to 100  next  consecutive  integer  positive negative  above/below zero  misus  negative numbers | one thousand more  one thousand less | round to the nearest thousand | inverse | inverse  square, squared  cube, cubed | hundredths  decimal, decimal fraction, decimal point, decimal place, decimal equivalent  proportion |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Measurement** | **Length** | **Weight** | **Capacity and volume** | **Time** | **Money** |
| unit, standard unit  metric unit | bredth  edge  area, covers  square centimetres cm² | mass  big, bigger  small, smaller  weight, heavy/ light  heavier / lighter  heaviset / lightest | measuring cylinder | leap year  millennium  noon  date of birth  timetable  arrive depart |  |
|  |  |  |  |  |  |
| **Properties of shape** | **2D shape** | **3D shape** | **Position and direction** | **Statistics** | **General** |
| line  construct  sketch  centre  angle  right-angled  base, square based  reflect, reflection  regular, irregular | two dimensional  oblong  rectilinear  equilateral triangle, isosceles triangle  scalene triangle  heptagon  parallelogram  rhombus  trapezium  polygon | three- dimensional  spherical  cylindrical  tetrahedron  polyhedron | north-east  north-west  south-east  south-west  NE, NW, SE, SW  translate, translation  rotate  rotation  degree  reflection  ruler  set square  angle measurer  compass | survey  questionnaire  data | justify  make a statement |

**Year 5**

As above and including the following new vocabulary

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Number** | **Place Value** | **Estimating** | **Addition and subtraction** | **Multiplication and division** | **Fractions** |
| factor pair  ≥ greater than or equal to  ≤ less than or equal to  formula  divisibility  square number  prime number  ascending/ descending order |  | round to the nearest ten thousand | ones boundary  tenths boundary |  | proper / improper fraction  equivalent, reduced to , cancel  thousandths  in every, for every  percentage per cent % |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Measurement** | **Length** | **Weight** | **Capacity and volume** | **Time** | **Money** |
| imperial unit | square metre (m²)  square millimetre (mm²) |  | pint, gallon |  | discount  currency |
|  |  |  |  |  |  |
| **Properties of shape** | **2D shape** | **3D shape** | **Position and direction** | **Statistics** | **General** |
| radius  diameter  congruent  axis of symmetry  reflective symmetry | x-axis, y-axis, quadrant | octahedron | coordinate  protractor | database  bar line chart  line graph  maximum/ minimum value  outcome | explain your reasoning |

**Year 6**

As previous years and including the following new vocabulary

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Number** | **Place Value** | **Estimating** | **Addition and subtraction** | **Multiplication and division** | **Fractions** |
| factorise  prime factor  digit total |  |  |  |  | ratio  **Algebra**  formula  equation  unknown  variable |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Measurement** | **Length** | **Weight** | **Capacity and volume** | **Time** | **Money** |
|  | yard  foot  feet  inch  inches  circumference | tonne  pound, ounce | centilitre  cubic centimetres (cm³)  cubic metres (m³)  cubic millimetres (mm³)  cubic kilometres (km³) | Greenwich Mean Time, British Summer Time, International Date Line | profit  loss |
|  |  |  |  |  |  |
| **Properties of shape** | **2D shape** | **3D shape** | **Position and direction** | **Statistics** | **General** |
| circumference  concentric arc  net, open, closed  intersecting, intersection, plane  kite |  | dodecahedron  net, open, closed | reflex angle | pie chart  mean (mode, median, range as estimates for this)  statistics, distribution |  |