Cherry Tree Primary

Mathematics

Times Tables

Geometry
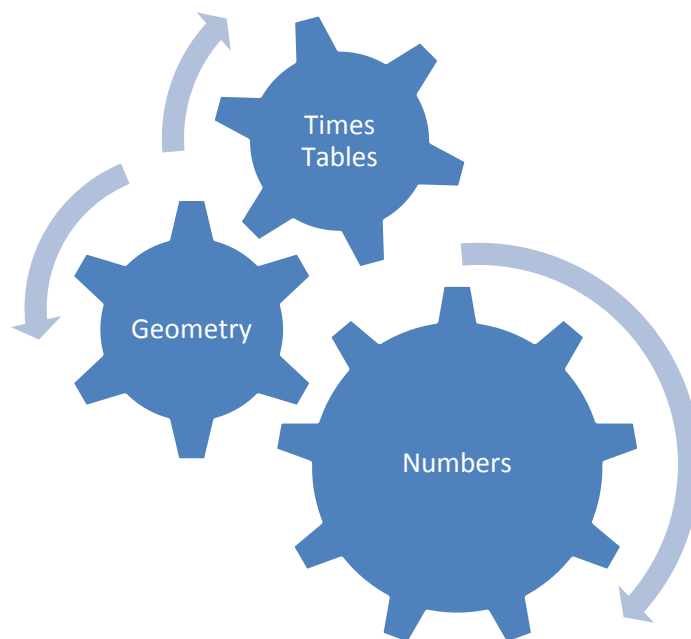
Numbers

Year Four
2015/16

Year 4 National Curriculum Statutory Requirements

Numbers

Number: 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

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

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 commutativity 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

Number: Fractions (including 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 ½ ¼ and ¾.

- 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

Measurement

Pupils should be taught to:

- Convert between different units of measure [for example, kilometre to metre; hour to minute]

- Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres

- Find the area of rectilinear shapes by counting squares

- Estimate, compare and calculate different measures, including money in pounds and pence

- Read, write and convert time between analogue and digital 12- and 24-hour clocks

- Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days

Geometry

Geometry: Position and Direction

Pupils should be taught to:

- Describe positions on a 2-D 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

Geometry: Properties of Shapes

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 2-D shapes presented in different orientations

- Complete a simple symmetric figure with respect to a specific line of symmetry

Statistics (Data Handling)

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

Times Tables

It is now a National Curriculum requirement that times tables up to 12 x 12 are learnt and taught by the time a child reaches the end of year 4. It would be extremely beneficial if parents could support their child at home by practising the relevant times tables for their child's year group. There are a variety of websites and apps to support the consolidation of times tables. Here are just a few of them:

Websites
http://resources.woodlands-junior.kent.sch.uk/maths/timestable/
http://www.topmarks.co.uk/maths-games/5-7-years/times-tables
http://www.maths-games.org/times-tables-games.html

APPs
Squeeble Times Tables 2
Tap Times Tables
Times Tables Personal Assistant

Number game 1

You need about 20 counters or coins.

- Take turns. Roll two dice to make a two-digit number, e.g. if you roll a 4 and 1, this could be 41 or 14.
- Add these two numbers in your head. If you are right, you win a counter. Tell your partner how you worked out the sum.
- The first to get 10 counters wins.

Now try subtracting the smaller number from the larger one.

Number game 2
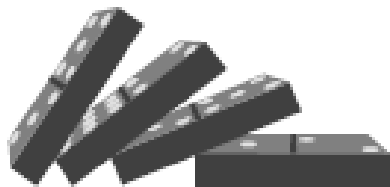
Put some dominoes face down

- Shuffle them.
- Each choose a domino.
- Multiply the two numbers on your domino.
- Whoever has the biggest answer keeps the two dominoes.
- The winner is the person with the most dominoes when they have all been used.

Number game 3

Use three dice.
If you have only one dice, roll it 3 times.

- Make three-digit numbers, e.g. if you roll 2, 4 and 6, you could make 246, 264, 426, 462, 624 and 642.
- Ask your child to round the three-digit number to the nearest multiple of 10. Check whether it is correct, e.g.

    76 to the nearest multiple of 10 is 80.

    134 to the nearest multiple of 10 is 130.

  (A number ending in a 5 always rounds up.)
- Roll again. This time round three-digit numbers to the nearest 100.

Mugs

You need a 1 litre measuring jug and
a selection of different mugs, cups or beakers.

♦ Ask your child to fill a mug with water.
♦ Pour the water carefully into the jug.
♦ Read the measurement to the nearest 10 millilitres.
♦ Write the measurement on a piece of paper.
♦ Do this for each mug or cup.
Now ask your child to write all the measurements in order

Measuring
Use a tape measure that shows centimetres.

♦ Take turns measuring lengths of different objects, e.g. the length of a sofa, the width of a table, the length of the bath, the height of a door.
♦ Record the measurement in centimetres, or metres and centimetres if it is more than a metre, e.g. if the bath is 165 cm long, you could say it is 1m 65cm (or 1.65m).
♦ Write all the measurements in order.

Pairs to 100

This is a game for two players.

- Each draw 10 circles. Write a different two-digit number in each circle – but not a 'tens' number (10, 20, 30, 40…).
- In turn, choose one of the other player's numbers.
- The other player must then say what to add to that number to make 100, e.g. choose 64, add 36.
- If the other player is right, she crosses out the chosen number.
- The first to cross out 6 numbers wins.

Dicey tens

For this game you need a 1–100 square (a snakes and ladders board will do), 20 counters or coins, and a dice.

- Take turns.
- Choose a two-digit number on the board e.g. 24.
- Roll the dice. If you roll a 6, miss that turn.
- Multiply the dice number by 10, e.g. if you roll a 4, it becomes 40.
- Either add or subtract this number to or from your two-digit number on the board, e.g. 24 + 40 = 64.
- If you are right, put a coin on the answer.
- The first to get 10 coins on the board wins.

Left overs

♦ Take turns to choose a two-digit number less than 50.
♦ Write it down. Now count up to it in fours. What number is
  left over?
♦ The number left is the number of points you score, e.g.

> Choose 27.
> Count: *4, 8, 12, 16, 20, 24.*
> 3 left over to get to 27.
> So you score 3 points.

♦ The first person to get 12 or more points wins.

Now try the same game counting in threes, or in fives.
Can you spot which numbers will score you points?

Sum it up

♦ Each player needs a dice.
♦ Say: *Go!* Then each rolls a dice at the same time.
♦ Add up all the numbers showing on your own dice, at the sides
  as well as at the top.
♦ Whoever has the highest total scores 1 point.
♦ The first to get 10 points wins.

Dicey division

You each need a piece of paper. Each of you should choose five numbers from the list below and write them on your paper.

5   6   8   9   12   15   20   30   40   50

- Take turns to roll a dice. If the number you roll divides exactly into one of your numbers, then cross it out, e.g. you roll a 4, it goes into 8, cross out 8.
- If you roll a 1, miss that go. If you roll a 6 have an extra go.
- The first to cross out all five of their numbers wins.

Tables

Practise the 3x, 4x and 5x tables. Say them forwards and backwards. Ask your child questions like:

What are five threes?	What is 15 divided by 5?
Seven times three?	How many threes in 21?

Out and about

- Choose a three-digit car number, e.g. 569.
- Make a subtraction from this, e.g. 56 – 9.
- Work it out in your head. Say the answer.
- If you are right, score a point.
- The first to get 10 points wins.

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