Maths at Uley C of E primary school

Parent information pack

Maths at Uley

Contents:

Maths in EYFS

Maths in EYFS is hugely practical as the concept of Maths can be very abstract for young children. As children move towards the end of Reception year, more written recording of Maths is done. At the end of their Reception year, children should be able to do the following:

	Number	Shape, Space and Measure
40-60 Months	•Recognise some numerals of personal significance •Recognises numerals 1 to 5 •Counts up to three or four objects by saying one number name for each item. •Counts actions or objects which cannot be moved. •Counts objects to 10 and beginning to count beyond 10. •Counts out up to six objects from a larger group. •Selects the correct numeral to represent 1 to 5, then 1 to 10 objects. •Counts an irregular arrangement of up to ten objects. •Estimates how many objects they can see and checks by counting them. •Uses the language of 'more' and 'fewer' to compare two sets of objects. •Finds the total number of items in two groups by counting all of them. •Says the number that is one more than a given number. •Finds one more or one less from a group of up to five objects, then ten objects. • In practical activities and discussion,	•Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes. •Selects a particular named shape. •Can describe their relative position such as 'behind' or 'next to'. •Orders two or three items by length or height. •Orders two items by weight or capacity. •Uses familiar objects and common shapes to create and recreate patterns and build models. •Uses everyday language related to time. •Beginning to use everyday language related to money. •Orders and sequences familiar events. •Measures short periods of time in simple ways.

	beginning to use the vocabulary involved in adding and subtracting. •Records, using marks that they can interpret and explain. •Begins to identify own mathematical problems based on own interests and fascinations.	
Early Learning Goal	Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.	Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

End of Year Expectations in Maths

Year 1 end of year expectations in Maths	
Number • I can count reliably to 100. • I can count on and back in 1s, 2s, 5s and 10s from any given number up to 100. • I can write all numbers in words to 20. • I can say the number that is one more or one less than a number to 100. • I can recall all pairs of addition and subtraction number bonds to 20. • I can add and subtract 1-digit and 2-digit numbers to 20, including zero. • I know the signs + - =. • I can solve a missing number problem. • I can solve a one-step problem using addition and subtraction, using concrete objects and pictorial representations.	**Measurement and geometry** • I recognise all coins. • I recognise and can name the 2D shapes: circle, triangle, square and rectangle. • I recognise and can name the 3D shapes: cuboid, pyramid, sphere. • I can name the days of the week and months of the year. • I can tell the time to o'clock and half past the hour.
Year 2 end of year expectations in Maths	
Number • I can read and write all numbers to at least 100 in numerals and words. • I recognise odd and even numbers to 100. • I can count in steps of 2, 3 and 5 from 0. • I recognise and can define the place value of each digit in a 2 digit number. • I can compare and order numbers from 0 to 100 using the < > and = signs. • I can name the fractions 1/3, 1/4, 1/2 and 3/4 and can find fractional values of shapes, lengths and numbers. • I can recall and use multiplication and division	**Measurement, geometry and statistics** • I can choose and use appropriate standard units to estimate length, height, temperature and capacity. • I can tell and write the time to 5 minute intervals. • I recognise and can use the symbols £ and p when solving problems involving addition and subtraction of money. • I can describe the properties of 2D and 3D shapes to include edges, vertices and faces. I can interpret and construct pictograms, tally charts, block diagram and simple tables.

facts for the 2, 5 and 10x tables. • I can add and subtract a 2-digit number and ones. • I can add and subtract a 2-digit number and tens. • I can add and subtract two 2-digit numbers. • I can add three 1-digit numbers. • I can solve problems involving addition and subtraction. I understand and can use commutivity in relation to addition, subtraction, multiplication and division.	
Year 3 end of year expectations in Maths	
Number • I can compare and order numbers to 1000 and read and write numbers to 1000 in numerals and words. • I can count from 0 in multiples of 4, 8, 50 and 100. • I can recognise the value of each digit in a 3-digit number. • I understand and can count in tenths, and find the fractional value of a given set. • I can add and subtract fractions with a common denominator. • I can derive and recall multiplication facts for 3, 4 and 8x tables. • I can add and subtract mentally combinations of 1-digit and 2-digit numbers. • I can add and subtract numbers with up to 3-digits using formal written methods. • I can write and calculate mathematical statements for multiplication and vision using the 2x, 3x, 4x, 5x, 8x and 10x tables.	**Measurement, geometry and statistics** • I can identify right angles and can compare other angles stating whether they are greater or smaller than a right angle. • I can identify horizontal and vertical lines and pairs of perpendicular and parallel lines. • I can tell the time to the nearest minute and use specific vocabulary, including seconds, am & pm. • I can measure, compare, add and subtract using common metric measures. I can solve one and two step problems using information presented in scaled bar charts, pictograms and tables.

• I can calculate 2-digit x 1-digit. I can solve number problems using one and two step problems	
Year 4 end of year expectations	
Number • I can recall all multiplication facts to 12 x 12. • I can round any number to the nearest 10, 100 or 1000 and decimals with one decimal place to the nearest whole number. • I can count backwards through zero to include negative numbers. • I can compare numbers with the same number of decimal places up to 2-decimal places. • I can recognise and write decimal equivalents of any number of tenths or hundredths. • I can add and subtract with up to 4-decimal places using formal written methods of columnar addition and subtraction. • I can divide a 1 or 2-digit number by 10 or 100 identifying the value of the digits in the answer as units, tenths and hundredths. • I can multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout. • I can solve two step addition and subtraction problems in context. I can solve problems involving multiplication.	**Measurement, geometry and statistics** • I can compare and classify geometrical shapes, including quadrilaterals and triangles, based on their properties and sizes. • I know that angles are measured in degrees and can identify acute and obtuse angles. • I can compare and order angles up to two right angles by size. • I can measure and calculate the perimeter of a rectilinear figure in cm and m. • I can read, write and convert between analogue and digital 12 and 24 hour times. I can interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
Year 5 end of year expectations	
Number • I can count forwards and backwards in steps of powers of 10 for any given number up to 1,000,000. • I recognise and use thousandths and relate them to tenths, hundredths and decimals equivalents. • I recognise mixed numbers and improper fractions and can convert from one to the other. • I can read and write decimal numbers as fractions. • I recognise the % symbol and understand percent relates to a number of parts per hundred.	**Measurement, geometry and statistics** • I know that angles are measured in degrees. • I can estimate and compare acute, obtuse and reflex angles. • I can draw given angles and measure them in degrees. • I can convert between different units of metric measures and estimate volume and capacity. • I can measure and calculate the perimeter

• I can write percentages as a fraction with denominator hundred and as a decimal fraction. • I can compare and add fractions whose denominators are all multiples of the same number. • I can multiply and divide numbers mentally drawing on known facts up to 12 x 12. • I can round decimals with 2dp to the nearest whole number and to 1dp. • I recognise and use square numbers and cube numbers; and can use the notation ^{2} and ^{3}. • I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. • I can multiply numbers up to 4-digit by a 1 or 2-digit number using formal written methods, including long multiplication for a 2-digit number. • I can divide numbers up to 4-digits by a 1-digit number. • I can solve problems involving multiplication and division where large numbers are used by decomposing them into factors. • I can solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. I can solve problems involving numbers up to 3dp.	of composite rectilinear shapes in cm and m. • I can calculate and compare the areas of squares and rectangles including using standards units (cm^2 and m^2). I can solve comparison, sum and difference problems using information presented in a line graph.
Year 6 end of year expectations	
Number • I can use negative numbers in context, and calculate intervals across zero. • I can round any whole number to a required degree of accuracy and solve problems which require answers to be rounded to a specific degree of accuracy. • I can solve problems involving the relative sizes of two quantities where the missing values can be found by using integer multiplication and division facts. • I can use common factors to simplify fractions; use common multiples to express fractions in the same	**Measurement, geometry and statistics** • I can recognise, describe and build simple 3D shapes, including making nets. • I can compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangle, quadrilateral and regular polygons. • I can illustrate and name parts of circles, including radius, diameter and circumference and know that the radius is half the diameter. • I can read, write and convert between standard units, converting measurements of

denomination. • I can solve problems involving the calculation of percentages. • I can multiply 1-digit numbers with up to two decimal places by whole numbers. • I can perform mental calculations, including with mixed operations with large numbers. • I can divide numbers up to 4-digits by a 2-digit whole number using formal written methods of long division and interpret remainder in various ways. • I use my knowledge of order of operations to carry out calculations involving all four operations. • I can add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. • I can multiply simple pairs of proper fractions, writing the answer in its simplest form. • I can divide proper fractions by whole numbers. • I can associate a fraction with division and calculate decimal fraction equivalents. • I can express missing number problems algebraically. I can find pairs of numbers that satisfy number sentences involving two unknowns.	length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places. • I can calculate the area of a parallelogram and triangles and calculate, estimate and compare volume of cubes and cuboids using standard units. I can interpret and construct pie charts and line graphs and use these to solve problems.

Maths Calculation Policy

A whole school policy

Uley's calculation policy has been devised to meet the requirements of the National Curriculum 2014 for the teaching and learning of mathematics, and is also designed to give pupils a consistent and smooth progression of learning in calculation across the school. Please note that early learning in number and calculation in Year 1 is designed to build on progressively from the content and methods established in Early Years Foundation Stage.

Age stage expectations

The calculation policy is organised according to age stage expectations as set out in the National Curriculum 2014, however it is vital that pupils are taught according to the stage that they are currently working at, being moved onto the next level as soon as they are ready, or working at a lower stage until they are secure enough to move on.

Choosing a calculation method

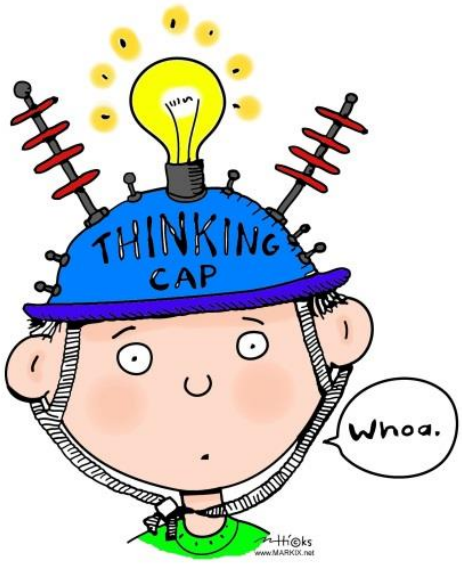
Choosing the appropriate strategy, recording in mathematics and in calculation in particular is an important tool for furthering the understanding of ideas and for communicating those ideas to others. Written methods are complementary to mental methods and should not be seen as separate from them. The aim is that children use mental methods when appropriate, but for calculations that they cannot do in their heads they use an efficient written method accurately and with confidence.

Children should be encouraged to use the following processes in deciding what approach they will take to a calculation. This is to ensure they select the most appropriate method for the numbers involved.

Approximate: Can I do it in my head using a mental strategy?

Calculate: Could I use some jottings to help me?

Check it: Should I use a written method to work it out?



Aims of the policy:

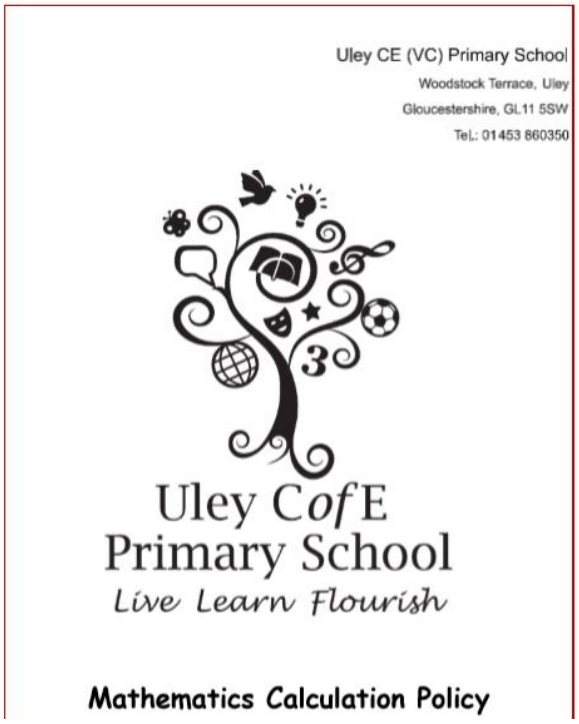
- To ensure consistency and progression in our approach to calculation
- To ensure that children develop an efficient, reliable, formal written method of calculation for all operations
- To ensure that children can use these methods accurately with confidence and understanding.

How to use this policy:

- Use the policy as the basis of your planning but ensure you use previous or following years' guidance to allow for personalised learning
- Always use Assessment for Learning to identify suitable next steps in calculation for groups of children
- If, at any time, children are making significant errors, return to the previous stage in calculation
- Cross reference key vocabulary and mental methods
- Always use suitable resources (manipulatives), models and images to support children's understanding of calculation and place value, as appropriate
- Encourage children to make sensible choices about the methods they use when solving problems

The calculation policy can be found on the schools Maths page on the website:

http://www.uleyprimary.co.uk/the-curriculum/maths/



This is an award-winning interactive site that aims to improve pupil's maths skills through fun activities linked to the UK National Curriculum. This website can be accessed from any computer.

Aspects of Mathletics are:

- Learning activities linked to all areas of maths.
- Learning is individual - At their own pace, children can complete activities they would like to do or complete activities set by their teachers. If the activities set are too easy or too hard this can be adjusted to meet your child's ability.
- Live Mathletics - Improving mental maths skills by answering questions against the clock, whilst competing against other children from all around the world. Also children can invite their friends at school to compete against them.
- Problem solving games
- Times tables toons - Children can learn their times tables through these fun, animated songs.
- Rainforest maths - Activities suitable for foundation stage and key stage 1 aged children.
- Concept search - Children can use the Mathletics dictionary to find out what different mathematical vocabulary means.
- Clear charts to show pupils their strengths and areas for improvement - A pupil can complete any activity as many times as they would like.

Teachers can see how children in their class have performed on the activities they have completed - this information can then be used to help teachers assess any misconceptions they may have, and highlight areas for improvement and extra teaching.

Individual profiles - Children receive points for each activity they complete, which they can 'spend' on creating their own profile - The more points they earn the more exciting their profile can be!

Each child at Uley C of E Primary School, from Reception to Year 6, has their own username for Mathletics. Each child has been given a card to take home to enjoy practising their Maths at home. Mathletics can be accessed from the website below: https://www.mathletics.com/uk// or by simple searching Mathletics using google.

Rainbow Maths

The purpose of Rainbow Maths is to improve the children's rapid recall of the four operations when applied to basic mathematical questions.

The children spend 5 minutes each day working through their colour card. Everyone starts the year at the lowest part of the scale. When a child can successfully answer most of the questions correctly (the number of mistakes allowed varies between year groups) within 5 minutes every day for a week they then move up a colour.

Elements stages: Addition and Subtraction

Fire, Air, Earth and Water

Rainbow stages: Multiplication and Division

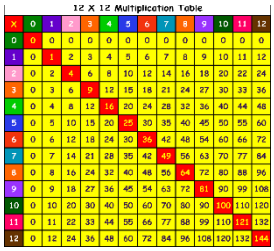
- Red, Orange, Yellow, Green, Blue - Multiplying
- Indigo and Violet - Dividing

Award stages - Division and Decimals

- Bronze - dividing and multiplying
- Silver - dividing
- Gold - dividing decimals
- Platinum - dividing decimals
- Kryptonite - converting decimals
- Plutonium - percentages
- Mercury - calculating square and cubed numbers
- Uranium - algebra

When a child passes a level of Rainbow Maths it is celebrated within class with a Rainbow Maths certificate.

Times tables



Learning times tables off by heart makes mental maths much easier. It will boost your child's confidence in their maths lessons at school, but it's also a skill they'll use all the time in the world outside school.

Why is it important for my child to know the times tables?

When children know their times tables, mental arithmetic becomes easier. Practising times tables also helps children to understand number and number relationships, and to see patterns in numbers. These skills will help them to master key concepts and move quickly through more complex maths problems with confidence.

A thorough knowledge of multiplication and division facts will help children succeed in their tests at the end of primary school and set them up for success at secondary school. As they grow older, knowing the times tables will help them with everyday activities like shopping, budgeting and cooking.

When does my child need to know their times tables?

Children will be expected to know the following in each year at primary school:

Year 1	count in multiples of 2, 5 and 10.
Year 2	be able to remember and use multiplication and division facts for the **2, 5 and 10** multiplication tables, including recognising odd and even numbers.
Year 3	be able to remember and use multiplication and division facts for the 3, 4 and 8 multiplication tables, including recognising odd and even numbers.
Year 4	be able to remember and use multiplication and division facts for the multiplication tables up to **12 x 12**.
Year 5	revision of all multiplication and division facts for the multiplication tables up to **12 x 12**.
Year 6	revision of all multiplication and division facts for the multiplication tables up to **12 x 12**.

Information on times tables from: https://home.oxfordowl.co.uk/maths/primary-multiplication-division/help-with-times-tables/#

Year 4 Multiplication tables check

The government has now introduced a new Multiplication tables check for children in Year 4. The test consists of pupils answering 25 multiplication questions (up to the 12 times tables) within a certain time limit. The main aim of the tests is to increase children's confidence with learning their times table in preparation for their time in Year 5 and 6.

To help practise and recall their times tables in school, the children complete a daily Rainbow Maths activity and enjoy competing in a times table competition within their class. However, we also encourage all pupils to continue to practise their times tables at home.

Below are a list of useful website/resources you can use to support your child/children at home with practising and recalling their times tables:

Hit the button – times table practise and used within school for the times table competition
https://www.topmarks.co.uk/maths-games/hit-the-

Maths frame – Multiplication tables check example
https://mathsframe.co.uk/en/resources/resource/477/Multiplication-Tables-Check

Maths frame - contains a range of fun and interactive multiplication games for the children to play.
https://mathsframe.co.uk/

Mathletics- An online Maths platform.
https://www.mathletics.com/uk/

Rainbow Maths sheets – attachments available online for parents to download.

Oxford Owl - Provides activities and information booklets to support times tables practise at home.
https://home.oxfordowl.co.uk/maths/primary-multiplication-division/help-with-times-tables/#

Information on times tables from: https://home.oxfordowl.co.uk/maths/primary-multiplication-division/help-with-times-tables/#

Resources to support Maths home learning

Resources available from school

At school we have a number of resources available for parents to use to support their Maths at home.

Maths games – We have a selection of Maths games covering a range of levels to suit different abilities and year groups. The games are an opportunity to explore different mathematical areas/concepts whilst playing fun games at home with the family.

Rainbow Maths sheets – All Rainbow Maths sheets are available from Uley's Maths page, however if you would like us to print any sheets off for you please just ask.

Extra Maths sheets – As a school we encourage children to use Mathletics as a resource to support Maths practise at home, however we are also happy as a send home extra Maths sheets to practise specific areas of Maths if needed. This would be implemented through discussions between parents and teachers.

Ways to support your EYFS child with Maths at home

In the street

- Recognising bus numbers
- Number plate hunt. Who can find a 7? Add the numbers up.
- Comparing door numbers
- Counting – how many lampposts on the way to school?

Doing the washing

- Counting in 2s – matching shoes
- Sorting by colour and size.
- Matching/pairing up socks.
- Find four shoes that are different sizes. Can you put them in order.

Time

- What day is it yesterday, today, tomorrow?
- Use timers, phones and clocks to measure short periods of time.
- Count down 10/ 20 seconds to get to the table/ into bed etc.
- Recognising numbers on the clock. If you cover a number, what number was missing?

Food!

- Can you cut your toast into 4 pieces? Can you cut it into triangles?
- Setting the table. Counting the right number of plates etc. How many more do we need?
- Can you make shapes/ patterns out of the knives and forks. Can you put them in the right place in the drawers?
- Helping with the cooking by measuring and counting ingredients.

- Setting the timer.
- Positional language at dinner time: what is on the rice, where are the carrots etc?

Going shopping

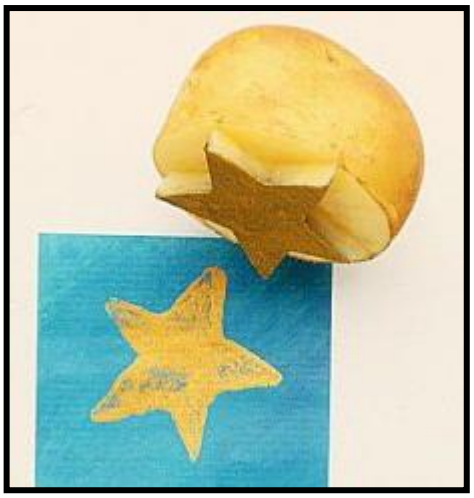
- Reading price tags
- Counting items into the basket
- Finding and counting coins
- Comparing weights – which is heavier

Measuring

- Are you taller than a …?
- Marking height on the wall.
- Cut hand shapes out of paper. How many hands long is the couch? How long is the table? Which is longer?
- Who has the biggest hands in our family?
- How many steps from the gate to the front door?

Shapes

- Cut a potato into shapes (circles, triangle etc). Use with paint to make pictures and patterns.
- Cut out shapes from coloured paper/ newspaper and arrange into pictures.
- Shape hunt: Can you find a square in your house (windows etc), a circle …



Playdough

Here's a simple recipe:

1 cup of plain flour
1 cup of water
1 tablespoon cooking oil
2 teaspoons cream of tartar
Half a cup of salt

food colouring and essences (optional)
Put all ingredients in a large saucepan, and heat slowly, stirring all the time until it forms a ball. Keep it wrapped in clingfilm or in a covered tub to stop it drying out.

Then ….

- Make numerals and shapes
- Sort shapes into groups, or order by size
- Make long and short wiggly snakes.

Games

- Putting cards into piles
- Jigsaws (you can make your own by cutting up a magazine picture)
- Snap (matching pairs) or Happy Families (collect 4 of a kind)
- Snakes and ladders or other simple dice games.

- Adding numbers on two dice.
- Bingo, with numbers or shapes
- Hopscotch

Number rhymes and songs

Eg: 5 little monkeys jumping on the bed
One fell off and bumped his head
Mummy called the doctor and the doctor said
"No more monkeys jumping on the bed!"
4 little monkeys jumping on the bed …

The importance of playing games

Playing a range of Maths games can encourage children to practise maths skills in a fun and exciting way, which can also make them feel less anxious about Maths. The best maths games need to have the right level of challenge, with the option for children to choose and use strategies as they play. It can also encourage children to problem-solve and make decisions.

Games can also be a nice change from maths schoolwork, but while maths games are fun, it is important to play games for reviewing and practicing skills rather than for teaching new concepts.

Below is a list of fun maths games you can play simply with a pack of cards, dice or just a pencil and paper. All the games have rules and instructions for how to play, which can be adapted to suit different year groups and abilities. The children in school especially like creating their own rules to make the games even more challenging!

Rapid recall and Mental Maths games

Below are a list of rapid recall and mental maths games you can play simply with a pack of cards, dice or pencil and paper.

- Chase
- Tug of war
- Fizz buzz
- Calculation war
- Card Wars
- Elevenses
- Zero – out
- OXO
- Maths ladder
- Hit 100/Hit 10
- Finger Maths
- Hangman

Chase

Focus: Multiples

Equipment needed: dice/paper/pencil

1. Choose a multiple to chase, for example the 7's.
2. Keep rolling the dice and adding or subtracting, claiming a point every time you land on a multiple of that number.

e.g. **Chasing 7's**
roll 5 : 5
roll 4 : 5 + 4 = 9
roll 6: 9 + 6 = 15
roll 1 : 15 – 1 = 14 (point as 14 is a multiple of 7)
roll 4: 14 – 4 = 10
roll 3: 10 – 3 = 7 (point as 7 is a multiple of 7)

Ways to extend the game:

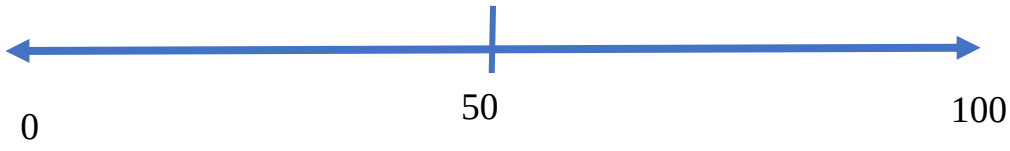
- Use different tables
- Chose different start points
- Not to land on the same multiple

Tug of War

Focus: addition and subtraction

Equipment needed: 20-sided dice (or combine dice together)

1. Start at the number 50
2. Player 1 adds/ Player 2 subtracts
3. The aim is to 'tug' your partner to 0 or 100
4. Switch sides are each game has been played



e.g.
Player 1 rolls a 20 (50+ 20 = 70)
Player 2 rolls a 12 (70-12 = 58)
Player 1 rolls a 14 (58+14 = 72)
Player 2 rolls a 3 (72-3 = 69)

Ways to extend the game: use a different dice, starting points.

Fizz Buzz

Focus: factors and multiples
Equipment needed: none

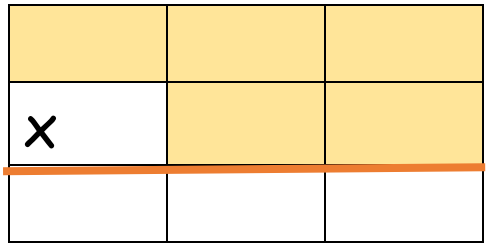
1. Choose the multiples you are focusing on e.g. 3 and 4
2. Within a group, take it in turns counting round a circle.
3. If your number is a multiple of 3, say fizz.
4. If your number is a multiple of 4 ay buzz.
5. If it is a multiple of 3 and 4 (e.g. 12) say fizz buzz.
6. If you get it wrong, you are out!

Ways to extend the game: add in an extra multiple e.g. 5. If you say a multiple of 5 you say super. 60 would be 'super fizz buzz' being a multiple of 3,4 and 5.

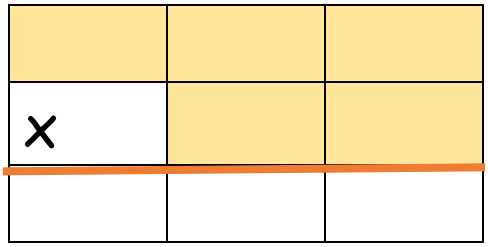
Calculation War

Focus: multiplication
Equipment needed: dice/paper and pencil

1. Roll a dice and place the digits in a pre-decided calculation grid.
2. Decide if the highest or lowest answer wins



Player 1's grid



Player 2's grid

Card Wars

Focus: products (multiplication)/square numbers/HCF (highest common factor)/LCM (lowest common multiple)

Equipment needed: pack of cards

1. All playing cards are turned face down
2. Players pick two (or three) cards up each, choosing a particular maths challenge (e.g. highest product, closest product to a square number, HCF, LCM)
3. Same as 'Top trumps' the player with the highest score wins the cards, and play continues.

Elevenses

Focus: addition (total)

Equipment needed: pack of cards

1. Nine cards are set out in an array e.g. 3 cards by 3 cards.
2. Player one covers two (or more cards) that total 11
3. Players take turns until all cards are used
4. If all 3 face cards are visible a player can cover all of these to use three cards

---

OXO

Focus: suitable for reception

Equipment needed: dice/paper and pencil

1. Roll a dice
2. Fill in the dots in a grid (set out as if you are playing noughts and crosses)
3. If you fill in a complete section (by the square totalling 6), claim it with an 'o' or 'x'
4. 3 in a row wins

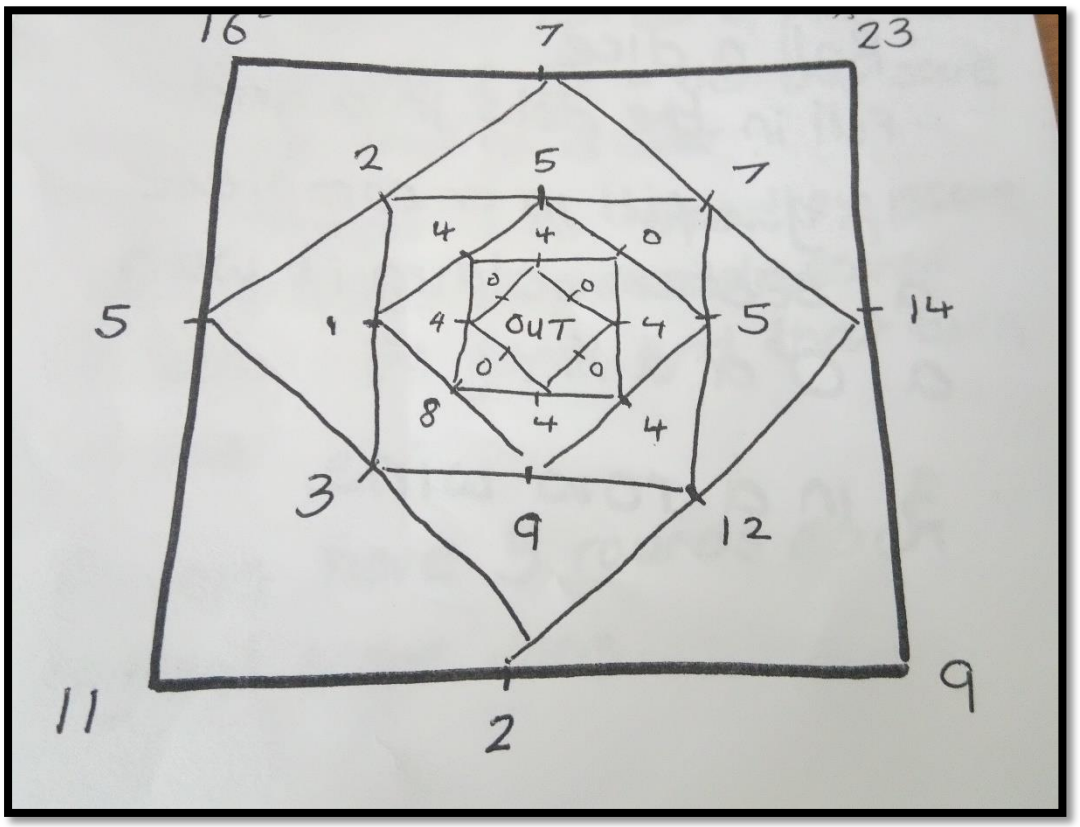
Zero-Out

Focus: mental subtraction

Equipment needed: paper and pencil

1. Draw a large square.
2. Place 4 numbers (numbers can be altered depending on different abilities)
3. Subtract the corners and write the difference in the middle
4. Create a new square
5. Keep going until you reach 'zero' all out.

Ways to extend the game: use fractions on each of the corners instead of whole numbers.



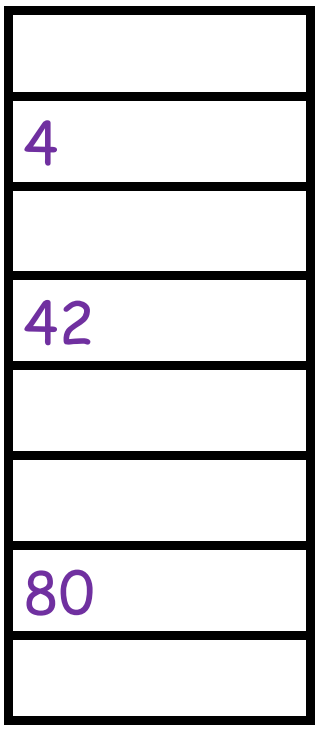
Maths Ladder

Focus: multiplication tables

Equipment needed: dice/times table generator/paper and pencil

1. Draw an 8-space ladder on a piece of paper
2. Roll two 10 or 12-sided dice and multiply the numbers together
3. Place the answer on the ladder you have drawn
4. Repeat
5. The aim is to get 8 numbers in their correct places in ascending order

Ways to extend the game: can be played with dice or excel random number generator.



Hit 10

Focus: addition and subtraction (crossing boundaries)

Equipment needed: 6-sided dice

1. Roll the dice and add or subtract the number until you reach 10.
2. Restart and raise a finger each time you 'hit' 10

e.g. rolled a 3 – starting number

rolled a roll : 3 + 4 = 7

rolled a 6 : 7 + 6 = 13

rolled a 4 : 13 – 4 = 9

rolled a 1: Hit 10 (point)

Hit 100

(For Year 5/6)

Focus: addition and subtraction (crossing boundaries)

Equipment needed: two 10-sided dice (or use a combination of dice)

1. Roll two 10-sided dice and make a 2-digit number
2. Double or halve the number
3. Choose to stick or continue
4. If you decide to continue, roll again, double or halve the number and add it to your previous number
5. Continue until you stick (you get as close as you can to 100) or go bust
6. Closest to 100 wins

e.g. I roll a 4 and 5, I choose the number 45 or 54
double or halve it? I choose to halve it to make 27
I roll again
I roll a 6 and 8. I choose 68 and halve it to make 34
27 + 34 = 61
I roll again a get a 7 and a 4. I choose 74 and halve it to 37
61 + 37 = 98 (I stick!)

Finger Maths

Focus: multiplication, addition and subtraction

Equipment needed: fingers

Finger Maths is an easy game you can play with a partner and can involve players adding, subtracting, multiplying numbers shown on players fingers.

Finger Maths involves different stages, which vary in challenge.

Stage 1: call out the total (one hand each)

Stage 2: call out the total (two hands each)

Stage 3: call out the product (multiplying the numbers together) of the number of fingers on a specified table (one hand each)

Stage 4: call out the product (two hands each)

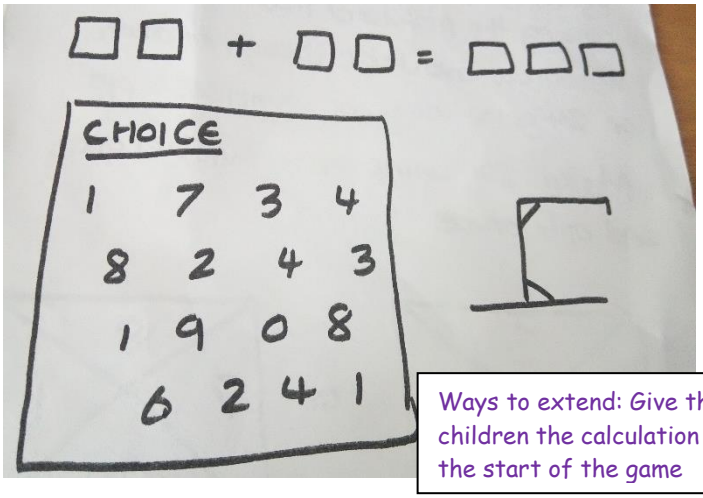
Stage 5: EXTREME – generate a 2-digit number using fingers and call out the remainder when it's divided by a specified number.

Hangman

Focus: Reasoning

Equipment needed: paper and pencil

This game involves using numbers instead of letters and is great for reasoning.
To play you give players a choice of digits to choose from and calculation to solve:



Ways to extend: Give the children the calculation at the start of the game

The Humble Hundred Square

From reception the Humble Hundred Square is great for building children's confidence and awareness of number, whilst encouraging lots of mathematical language.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

In Reception the Hundred Square can be used to support a child's counting and encourage discussion around numbers that are special to them for example their age, birthday, house or even just a number they like the look of.

In Year 1 counting to 100 and beyond is supported by the Hundred Square. Children also use it to learn to read and write numbers. The Hundred Square also supports children's growing concept of the number system as they begin to explore place value. It can also be useful when children move from concrete to visual addition and subtraction methods.

As children progress in mathematics and into Year 2 they should start to use the Hundred Square to support them in adding and subtracting larger numbers, as well as starting to gain a mental visualisation of the Hundred Square. This is when a blank Hundred Square becomes a useful tool.

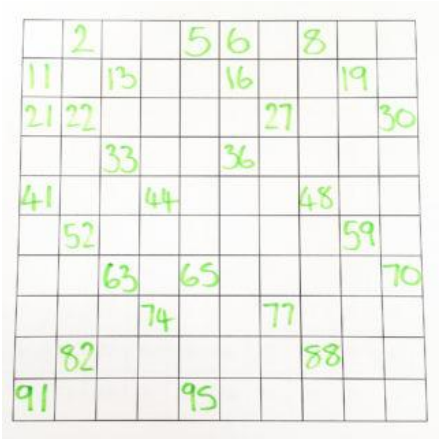
The games and activities that utilise the Hundred Square are endless. The possibilities are endless. However, here are 10 from Reception to Year 2 for you try at home. (All that is needed are 100 squares (filled in/ blank), dice and counters.)

1. Cover-up
Cover up one or more squares using counters. The child has to guess which numbers are hidden under the counter/s.

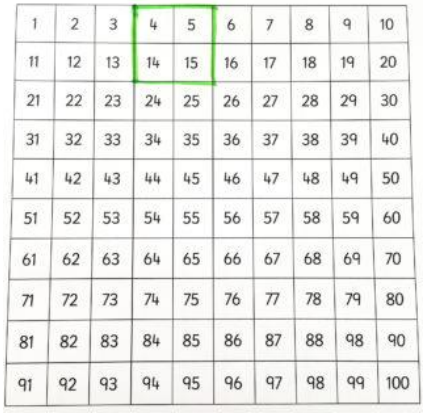
2. Adding and subtracting 10
Add or subtract 10 from any number. What is happening to the number each time? (The units will stay the same and the 10s will increase or decrease by 10.) After some practise children will be able to go down the columns to add 10 and up the columns to subtract 10. Therefore, they will need to find this out by counting along 10 at first.

3. Adding or subtracting game
Use the 100 square as a 'snakes and ladders' type board.
Roll a dice, say the number, count the squares and move your counter. Or use two dice, add the numbers and move your counter. So, either move from 1-100 by adding or from 100-1 by taking away.

4. Race to the target
Use a blank 100 square. Time how long it takes to fill in the numbers. Start by filling in numbers up to 20, 30 or 50 first. Repeat to see if they can improve on their time.



5. Missing numbers
Draw pieces of the 100 square on the blank side with only some of the numbers filled in. Children think about the numbers and the patterns to fill in the empty spaces.

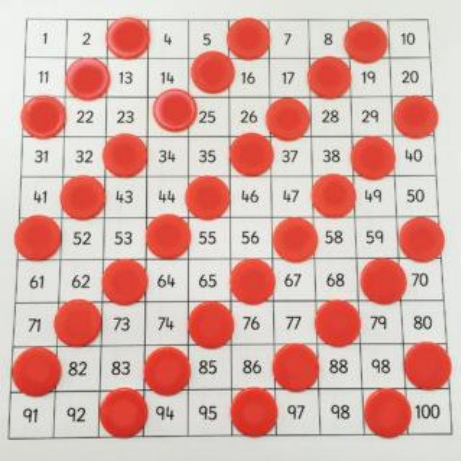


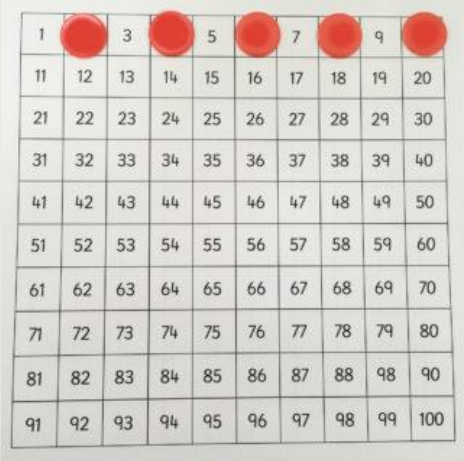
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	98	90
91	92	93	94	95	96	97	98	99	100

6. Squares
Highlight a 2 by 2 square.
What do you notice? Is it always the same? Add the numbers in opposite corners.

7. Patterns

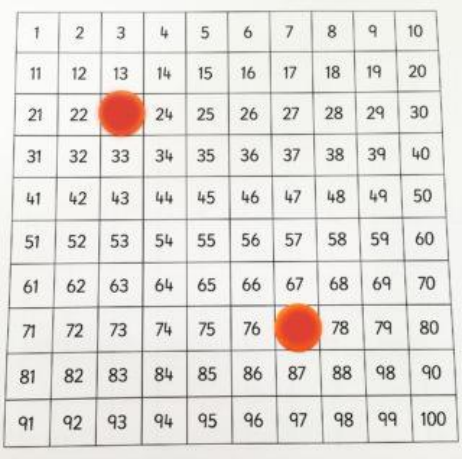
Cover the multiples of 2, 3, 5 and 10 etc (one multiple at a time).
Use the patterns to predict which numbers will be in the sequence.





8. Finding 100

Find pairs of numbers on the hundred square that total 100. How many different pairs can you find? Which two numbers do not have a partner?



9. Digit sums

Use counters to cover numbers on the hundred square whose digits add up to 10. Explain the patterns that you notice. Use a different colour counter to cover numbers whose digits add up to 9, 8, 7 etc. Can you explain what is happening each time?

10. Counter collect

Cover the numbers on the square with counters. Throw two 0 – 9 dice and make a 2-digit number. Work out which counter the number is hidden under. If you are right, keep the counter. If you are wrong, put the counter back down. How many counters can you collect in 5 or 10 minutes? Play again and try to beat your record.

Online resources to support Maths at home

Below is a list of educational websites to support your Maths home learning for EYFS to KS2

Suitable for all ages

- Corbett Maths – videos and tasks, you can choose a topic, watch a video and then do some questions https://corbettmaths.com
- Topmarks – have some free maths games to explore www.topmarks.co.uk
- Mathsframe – have some free maths games and activities you can try including a version of the multiplication check https://mathsframe.co.uk
- Mathplayground – mix of free games www.mathplayground.com
- Mathletics – Mathematical tasks the children can complete https://www.mathletics.com/uk/
- BBC Bitesize - https://www.bbc.co.uk/bitesize/subjects/zjxhfg8

EYFS

- Topmarks – have some free maths games to explore www.topmarks.co.uk
- Ictgames – have a variety of maths games available for free www.ictgames.com
- Cbeebies
- Numberblocks – Sing along and learn all about numbers with the https://www.bbc.co.uk/cbeebies/shows/numberblocks

KS1

- Mathplayground – mix of free games www.mathplayground.com
- Maths Shed – mix of puzzles and activities https://www.mathshed.com
- Education quizzes www.educationquizzes.com

KS2

- Corbett Maths – 5 day – 5 SATs style questions a day https://corbettmaths.com
- Arcademic Skills builders – have games to support practice of the 4 rules and fractions, decimals and % www.arcademics.com
- My Mini Maths – video tutorials and activities https://myminimaths.co.uk (year 5 and year 6), there is also an arithmetic practice area for y6.
- The Daily Rigour Newspaper - https://www.cdmasterworks.co.uk/the-daily-rigour/ This is a weekly free maths newspaper with problems to solve