East Preston Infant School

Mathematics

This booklet provides information for parents and carers on the end of year, national age related, expectations for children in our school.

The staff, following the new National Curriculum statutory guidance, have identified these expectations as being the minimum requirements your child must meet in order to ensure continued progress throughout the following year.

All the objectives will be worked on throughout the year and will be the focus of direct teaching. Any extra support you can provide in helping your children to achieve these is greatly valued.

If you have any queries regarding the content of this booklet or want support in knowing how best to help your child please talk to your child's teacher.

Maths and it's place in the curriculum

We use mathematics and mathematical concepts throughout our lives; to add, to subtract, multiply, divide, to use money, to measure and quantify, to estimate and to be accurate.

It is therefore of the utmost importance that children begin to develop these concepts and an enjoyment of maths at an early age, in order to form a firm foundation upon which to build and consolidate future work.

Children need:

- To be taught specific skills
- To understand what they are doing and why
- To enjoy maths
- To leave school with solid mathematical foundations in order to help them in adult life.
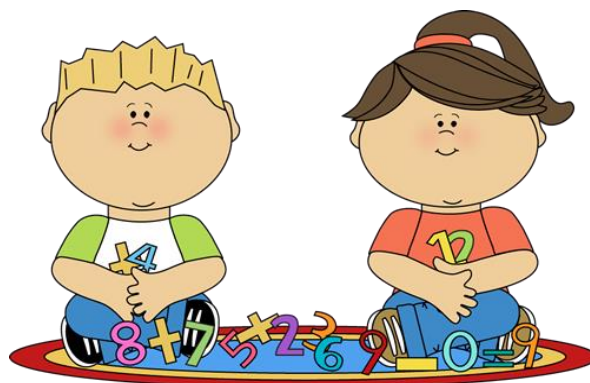
Vocabulary

addition   total   double

more   plus   altogether

add

sum   near double   increase

How many more...?   How much more is...?

sign   equals   is the same as

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subtract   reduce   difference

minus   half   decrease   take away

less

difference between

fewer   halve

How many less...?   How much less is...?

100 Square

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

Adding 10 go up 1

Subtracting 10 go down 1

Adding 1 go right 1

Subtracting 1 go left 1

Odd and even numbers

Counting in amounts 2s, 5s, 10s

Helping your child learn 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 or a circle in your house?
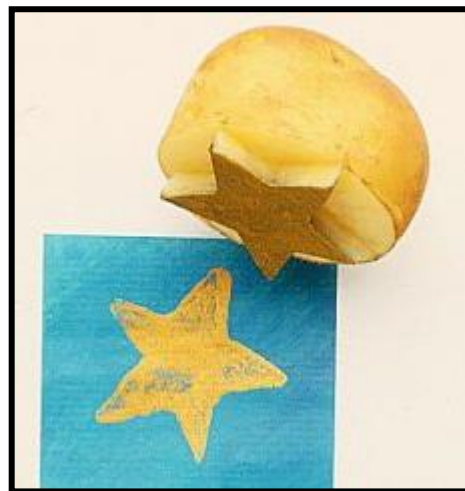
Playdough

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 …

Your child can teach you lots more or try this website which plenty of examples:

http://www.nurseryrhymes4u.com/NURSERY_RHYMES/counting.html

Useful Websites

http://www.coolmath-games.com

http://www.bbc.co.uk/bitesize/ks1/maths

http://www.mathematicshed.com

http://www.mathplayground.com/index.html

http://www.oswego.org/ocsd-web/games/Mathmagician/cathymath.html

http://themathworksheetsite.com

http://nrich.maths.org/public/leg.php

https://www.superteacherworksheets.com

http://www.comberps.newtownards.ni.sch.uk/maths_games_for_ks1.htm

http://www.primarygames.com/math.php

http://www.ks1resources.co.uk/page12.html

http://ictgames.com/resources.html
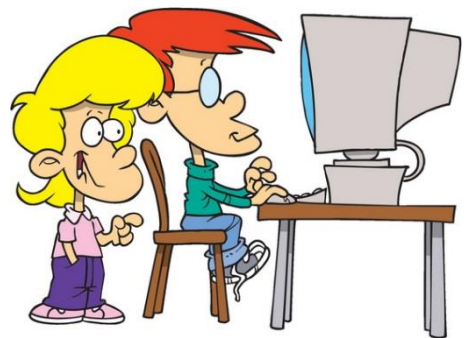
http://www.mathsisfun.com
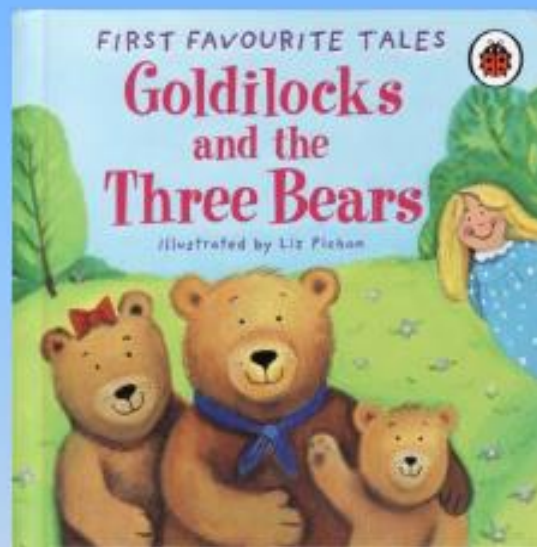
http://mathszone.co.uk

Weights and Measurement –
-Making porridge – measuring out ingredients and milk in grams and millilitres.
- Measuring cups – $\frac{1}{2}$ cup.
-What's your favourite porridge? Tally results.

Shape -
-Make a house for the bears. What shapes could you use? Count the shapes.

Other stories you can use -

Eric Carle – The Bad Tempered Ladybird (Time)
P. Hutchins – The Doorbell Rang (Sharing)
Tony Ross – Centipede's 100 Shoes (Counting to 100)

FIRST FAVOURITE TALES
Goldilocks and the Three Bears
illustrated by Liz Pichon

Size ordering and Comparison -

- Can you order the size of the little bears and their extended family?

Problem solving and Investigations -

- Share the basket of food between the three bears.
- Each bear needs one pair of wellies. How many boots for 1 bear? 2 bears? 3 bears?
- How many ways can we organise different colour buttons on the bears vests?
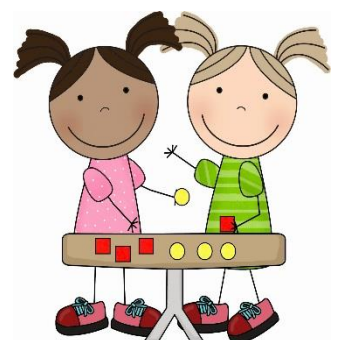
End of year expectations – Reception

Numbers

- 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.

Shape, space and measure

- 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 – Year 1

- Count reliably to 100, forwards and backwards from any number
- Count on and back in 1s, 2s, 5s, and 10s from any given number to 100
- Write all numbers in words to 20
- Say the number that is one more or one less than a number to 100
- Recall all pairs of additions and subtractions number bonds to 20
- Add and subtract 1-digit and 2-digit numbers to 20, including zero
- Know the signs +, - and = and what they mean.
- Solve a missing number problem, such as: 5 = 8 -
- Solve a one-step problem involving an addition and subtraction, using concrete objects, pictorial representations and arrays
- Solve a one-step problem involving a multiplication and division, using concrete objects, pictorial representations and arrays
- Recognise all coins: £1; 50p; 20p; 10p; and 1p
- Recognise and name the 2D shapes: circle; triangle; square and oblong
- Recognise and name the 3D shapes: cube; sphere; cuboid
- Name the days of the week and months of the year
- Tell the time to 'o'clock' and half past the hour.

End of year expectations – Year 2

- Read and write numbers to at least 100 in numerals and words
- Recognise odd and even numbers to 100
- Count in steps of 2, 3 and 5 from 0
- Recognise place value of each digit in 2-digit numbers
- Compare and order numbers from 0 to 100 using the >; <; and = signs
- Name the fractions 1/3 ; ¼ ; ½ and ¾ and find fractional values of shapes; lengths and numbers
- Recall and use multiplication and division facts for the 2, 5 and 10x multiplication tables
- Add and subtract: two 1-digit; 2-digit and a 1 digit; 2-digit and 10s; two 2-digit and three 1-digit numbers
- Solve problems with addition and subtraction
- Understand commutativity in relation to addition, subtraction, multiplication and division
- Choose and use appropriate standard units to estimate length/ height/ temperature and capacity
- Tell and write the time to 5 minute intervals
- Recognise and use the symbols £ and p when solving problems involving addition and subtraction of money
- Describe the properties of 2D and 3D shapes to include: edges, vertices and faces
- Interpret and construct pictograms, tally charts, block diagrams and simple tables.

End of year expectations – Year 3

- Compare and order numbers to 1000 and read and write numbers to 1000 in numerals and words
- Count from 0 in multiples of 4, 8, 50 and 100
- Recognise the value of each digit in a 3-digit number
- Understand and count in tenths, and find the fractional value of a given set
- Add and subtract fractions with a common denominator
- Derive and recall multiplication facts for 3, 4 and 8x multiplication tables
- Add and subtract mentally combinations of 1-digit and 2-digit numbers
- Add and subtract numbers with up to 3-digits using formal written methods
- Write and calculate mathematical statements for multiplication and division; including 2-digit number with a 1-digit number (from multiplication tables they know, ie, 2, 3, 4, 5, 8 and 10)
- Solve number problems using one and two step operations
- Identify right angles; compare other angles to being greater or smaller than a right angle
- Identify horizontal and vertical lines and pairs of perpendicular and parallel lines
- Tell time to nearest minute and use specific vocabulary: seconds, am and pm
- Measure, compare, add and subtract using common metric measures
- Solve one-step and two step problems using information presented in scaled bar charts, pictograms and tables.

A Final Thought...
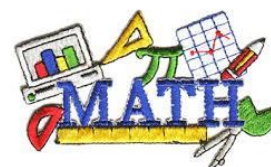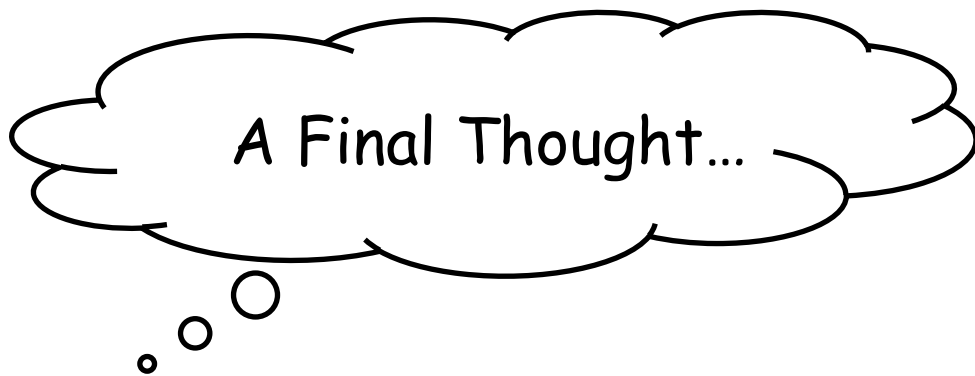
Be positive about maths

Make maths fun

Give lots of praise and encouragement

Talk to your child and ask them to explain their thinking

Maths is around us all of the time!

Make opportunities to experience and apply maths in real life.