

Helping our children to achieve

Maths: Information for Parents

November 2024

Our aims for this information evening are:

- To outline some of the key skills and concepts your child needs to know
- To share some of the activities that we do in school
- To provide ideas on how you can support your child at home



Developments and changes

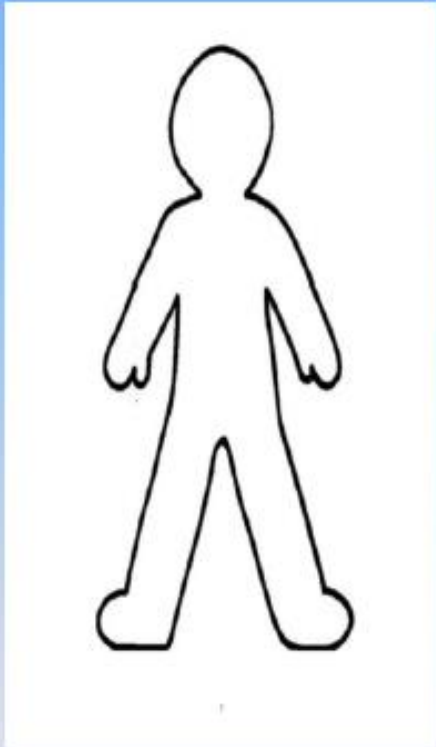
Expectations that children will cover the maths objectives for their year. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice. before moving on.

- Using a practical, visual , abstract approach at all ages for all children
- Fluency
- Depth
- Mastery



P
V
A

What are the characteristics of a child who is good at maths?



A child who:

- takes risks
- asks questions and explores alternative solutions without fear of being wrong
- enjoys exploring and applying mathematical concepts to understand and solve problems
- explains their thinking and presenting their solutions to others in a variety of ways
- reasons logically and creatively through discussion of mathematical ideas and concepts
- becomes a fluent, flexible thinker able to see and make connections



Practical

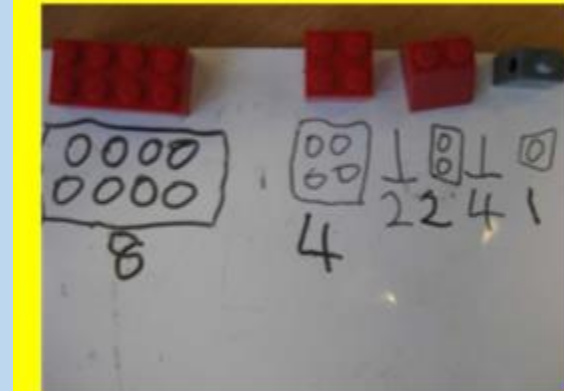
Visual

Abstract

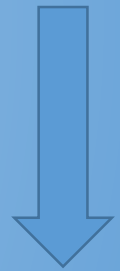
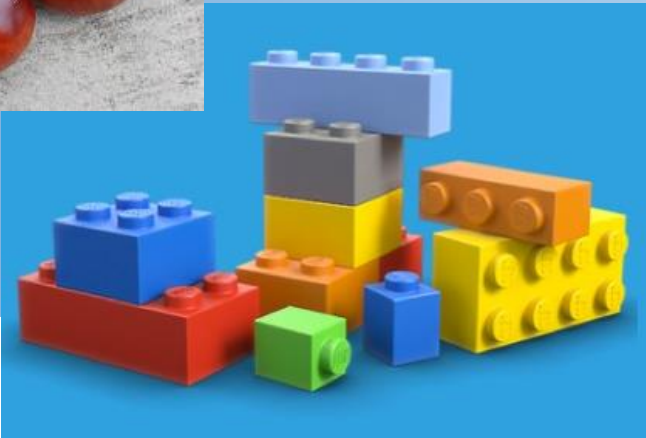
Practical Experiences

Concrete representation

- This is a 'hands on' component using real objects and it is the foundation for conceptual understanding



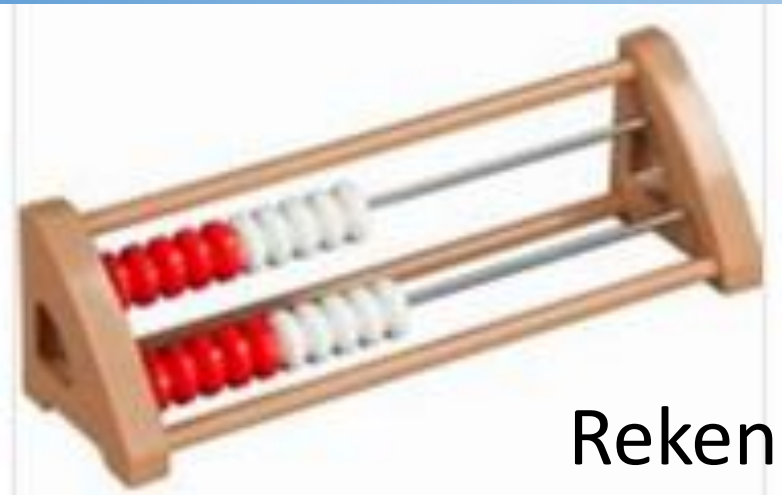
Practical resources



White Rose Education

Mastering number (NCETM)

Numberblocks – inline with our curriculum



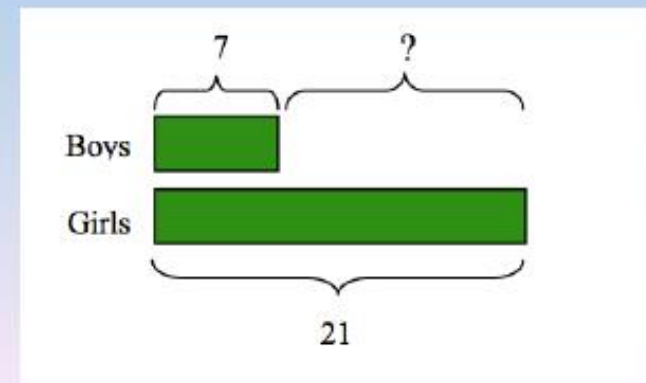
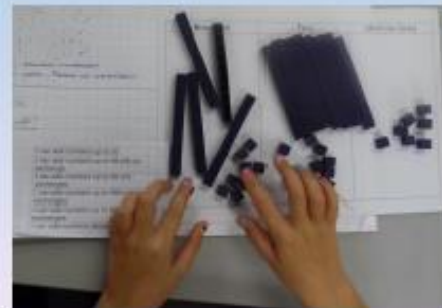
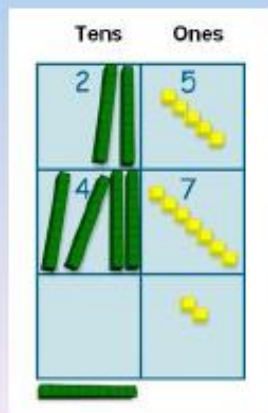
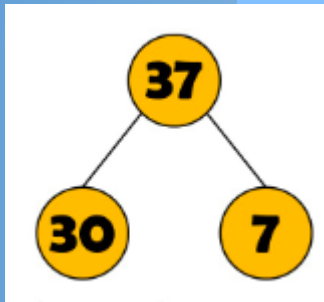
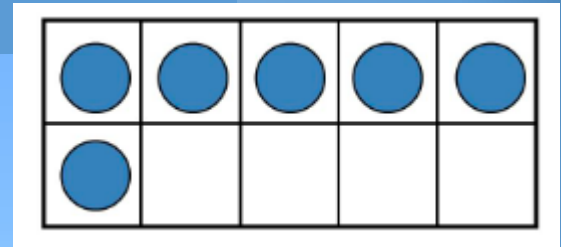
Rekenrek

[Rekenrek | Free Virtual Manipulatives | Toy Theater](#)

Visual Experiences

Visual representation

Using representations, such as a diagram or picture of the problem.

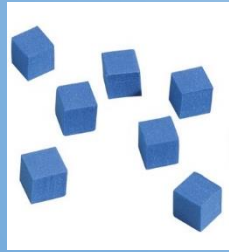


Practical to Abstract

Problem – Mrs Martin had 15 grapes. She was given 7 more.
How many does she have now?

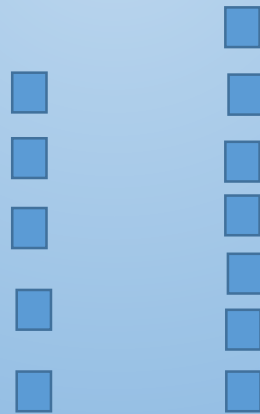
P

(Practical)



V

(Visual)



A

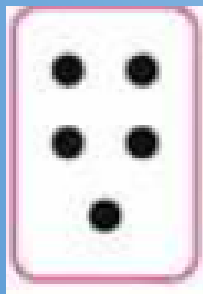
(Abstract)

$$15 + 7 = 22$$

Subitising

[Subitising | numeracy | early years - BBC Bitesize](#)

- Subitising is a few random dots on a page
- You only show the children for a moment (1 - 2 seconds) – not long enough for them to count them!
- You ask how many dots there were
- The child needs to use addition to work out how many dots
- It is important that they explain how they worked it out



There are 4 at the top and
then one more which makes 5

$$4 + 1 = 5$$



There are 5 in the middle – it looks like a dice
Then there are 2 at the top and 2 at the bottom

$$2 + 2 = 4$$

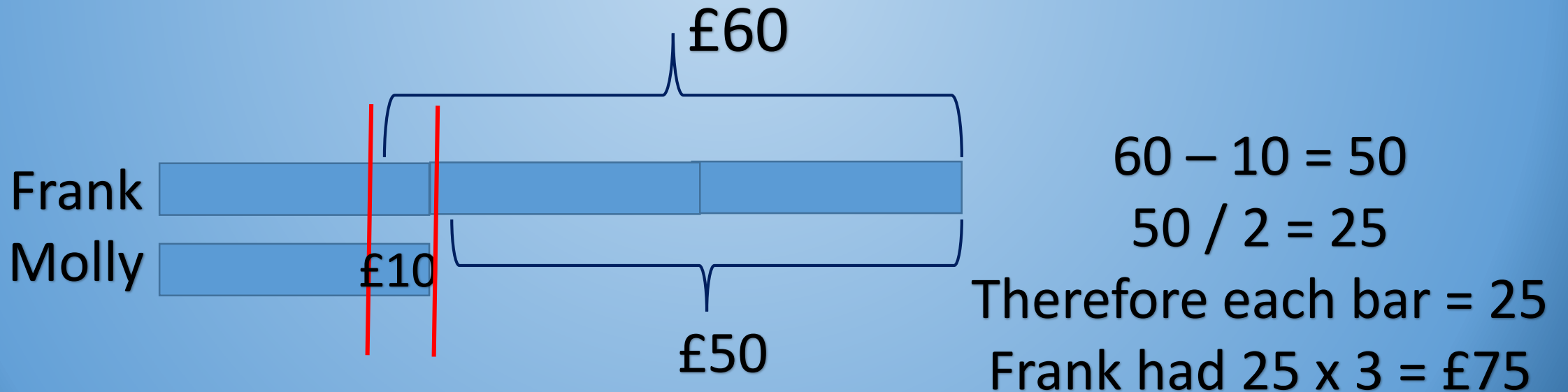
$$4 + 5 = 9$$

Example -

Frank has three times as much money as Molly.

After Frank spent £60 and Molly spent £10, they had an equal amount of money left.

How much money did Frank have at first?



How do they solve calculations?

+ **-** **X** **÷**

+

Subitising

Number bonds

Adding real objects

Bar modelling

Number lines

Tens and ones

Exchanging

Formal method

-

inverse number bonds

Taking away real objects

Crossing off

Number lines

Bar modelling

Tens and ones

Exchanging

Formal method

X

Number square

Double

Sets of/ groups of real resources

Numicon pieces

Arrays – practical/ visual

Number lines – repeated addition

Chanting times tables

⋮

Halving


Sharing practically into groups/ sets


Sharing abstract resources


Arrays – practical/ visual


Number lines – repeated subtraction

Inverse times tables


 add make
total
plus addition
more
sum
altogether

 difference between
leave subtract
minus less
take away

 balance
same as
equals

 multiplication
times multiply
groups of multiple of
multiplied by lots of
repeated additon

divided by
share
divided into divide
equal groups of
share equally





=

= “is the same as”

$$12 + 4 = 16$$

“12 add 4 is equal to 16”

$$16 = 12 + 4$$

“16 is equal to 12 + 4”

Moves on to balance equations

$$12 + 4 = 19 - 3$$

Be careful of subtraction!

$$12 - 4 = 8$$

Is not the same as

$$12 = 4 - 8$$

Teaching for Mastery – how the journey goes through every lesson...

1. We all start the journey together
2. Some children will need additional support along the way
3. Some children who feel more confident, will be let loose. They will be able to explore the concept deeper before returning to continue the journey with the rest of the children.
4. Children will not be racing off ahead on a different journey.
5. Children will not be left alone, working isolated from the journey.
6. Everyone will finish the journey together.

Mastery

- Not about bigger numbers
- Can they apply it in lots of different situations?
- Retaining it over time – repetition
- Becoming fluent

- Money
- Weighing
- Measuring
- Real life situations

Developing maths

- Prompting thinking & questioning
- Providing opportunities to manipulate, experience and see (use of resources)
- Develop thinking through investigation
- Reasoning and making connections
- Engaging in talk
- Enabling learning through drawing attention to
- Encouraging children to make links and generalise

Maths is about spotting patterns, making links and understanding how pieces of knowledge fit together. NOT purely memorising facts and procedures by rote.



Solving Problems

- Word Problems
- Same but different
- Odd one out
- True or false?
- Prove it/ convince me
- Make a rule

Word Problems

- Mrs Martin was having a party. She had invited 12 people. She wanted to buy enough sandwiches for everyone to have 4 each.
- How many sandwiches does she need to make?



Word Problems

- Mrs Martin was having a party. She had invited 12 people. She wanted to buy enough sandwiches for everyone to have 4 each.
- The shop sold sandwiches either singly or in packs of 5.



8p



35p

- Which is the better deal?

Buying a Balloon



Lola bought a balloon at the circus. She gave the clown six coins to pay for it.

What could Lola have paid for the balloon?

Which of your answers seems a reasonable amount to pay for a balloon?

Same but different

What's the same and what's different about the three sets of calculations?

$$10 - 9 =$$

$$10 - 8 =$$

$$10 - 7 =$$

$$10 - 6 =$$

$$10 - 5 =$$

$$20 - 19 =$$

$$20 - 18 =$$

$$20 - 17 =$$

$$20 - 16 =$$

$$20 - 15 =$$

True or False?

$$7 + 8 = 15 - 6$$

5 copper coins can be worth more than 1 silver coin.

Odd one out

55

92

86

Amalya thinks that 86 is the odd one out.

What reason might she give?

Always, sometimes, never

You can make £1 using an odd number of coins.

Prove it.

- If I add 10 to a number the second digit stays the same
- All the numbers in the 5 times table end with a zero.
- Anna has 3 silver coins in her hand. Larry says, “I have more than you because I have a £1 coin.” Is he correct? Explain why.

Convince me...

14, 6, 20

Elena says, ' I will use an addition sign for this calculation.
Aaron says 'I will use a subtraction sign for this calculation.
Who is right?

Make a rule.

- What rule can you make for the 5 times table?

Homework

- **Year 1** – Half termly tasks in their homework book
Weekly Tapestry post summarising the maths that week, giving practical activity ideas and links to websites
 - **Year 2** – 3 weekly homework – sets different levels of challenge/ practical activities and links to websites
 - **Reception** – Weekly Tapestry posts with general learning from the week. It will include maths when key learning.
-
- Homework doesn't need to be a sheet!

Place value at home...

You could use...

- Coins
- Pasta
- Buttons
- A bead necklace
- Packs of raisins
- Straws

Anything you can group into 10s and ones!

You could do...

- Making numbers
- Adding 10s then 1s
- Subtracting 10s then 1s
- Adding groups of 10

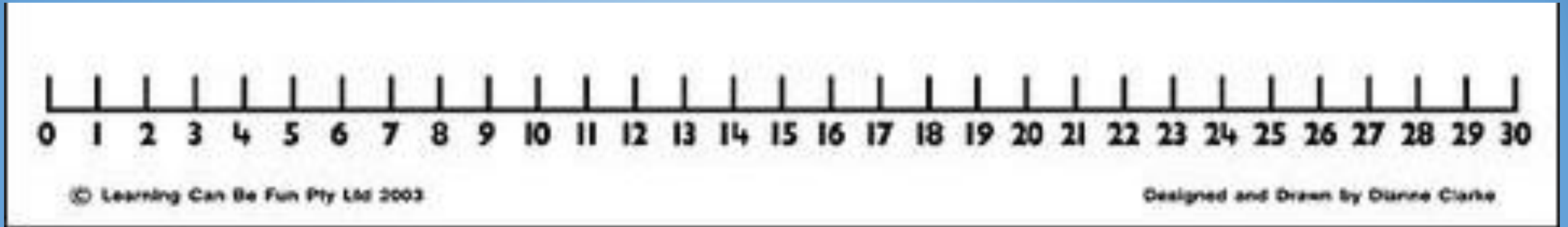
Then draw a picture of the equipment

Mastery requires fluency.

What activities can you do with a number square?

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

Number lines for reasoning and calculations.



Addition, subtraction, multiplication, more than, less than, division, partitioning, drawing, in words

12

Addition, subtraction, multiplication, more than, less than, division, partitioning, drawing, in words

$11 + 1$

1 ten + 2 ones

$10 + 2$

Double 6

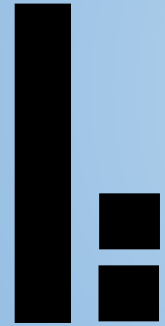
$20 - 8$

$9 + 3$

12

$24 / 2$

$8 + 4$



twelve

6×2

1 less than 13

3×4

1 more than 11

Helping at home

- **Cook – measuring and weighing**
- **Look at numbers in the environment e.g. telephone keys, number plates, door numbers, book pages, sleeps until Christmas!**
- **Money**
- **Comparing heights**
- **Birthdays, Months of the year, Days of the week**



2017

February							May							August							November										
Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S
1	5	6	7	8	9	10	11	16	7	8	9	10	11	12	13	22	6	7	8	9	10	11	12	40	5	6	7	8	9	10	11
2	12	13	14	15	16	17	18	14	15	16	17	18	19	20	26	13	14	15	16	17	18	19	41	12	13	14	15	16	17	18	
3	19	20	21	22	23	24	25	16	21	22	23	24	25	26	27	29	20	21	22	23	24	25	26	42	19	20	21	22	23	24	25
4	26	27	28	1	2	3	4	17	28	29	30	31	1	2	3	30	27	28	29	30	31	1	2	43	26	27	28	29	30	1	2
March							June							September							December										
Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S
5	5	6	7	8	9	10	11	18	4	5	6	7	8	9	10	31	3	4	5	6	7	8	9	44	3	4	5	6	7	8	9
6	12	13	14	15	16	17	18	19	11	12	13	14	15	16	17	32	10	11	12	13	14	15	16	45	10	11	12	13	14	15	16
7	19	20	21	22	23	24	25	20	18	19	20	21	22	23	24	33	17	18	19	20	21	22	23	46	17	18	19	20	21	22	23
8	26	27	28	29	30	31	1	21	25	26	27	28	29	30	1	34	24	25	26	27	28	29	30	47	24	25	26	27	28	29	30
April							July							October							January-18										
Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S
9	2	3	4	5	6	7	8	22	2	3	4	5	6	7	8	35	1	2	3	4	5	6	7	48	31	1	2	3	4	5	6
10	9	10	11	12	13	14	15	23	9	10	11	12	13	14	15	36	8	9	10	11	12	13	14	49	7	8	9	10	11	12	13
11	16	17	18	19	20	21	22	24	16	17	18	19	20	21	22	37	15	16	17	18	19	20	21	50	14	15	16	17	18	19	20
12	23	24	25	26	27	28	29	25	23	24	25	26	27	28	29	38	22	23	24	25	26	27	28	51	21	22	23	24	25	26	27
13	30	1	2	3	4	5	6	26	30	31	1	2	3	4	5	39	29	30	31	1	2	3	4	52	28	29	30	31	1	2	3

Feb 14 Valentine's Day Feb 20 Presidents' Day Apr 14 Good Friday
 Apr 16 Easter Sunday May 14 Mother's Day May 29 Memorial Day
 Jun 18 Father's Day Jul 04 Independence Day Sep 04 Labor Day
 Oct 09 Columbus Day Oct 31 Halloween Nov 11 Veterans Day
 Nov 23 Thanksgiving Day Dec 25 Christmas Jan 01 New Year's Day

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Play games!

- Snakes and ladders – make their own
- Shut the box
- Top Trumps
- Hexago Continuo
- Dominoes
- Cards
- Darts

Calendar Activities

- Mark off days
- What day is it today? Yesterday was.... Tomorrow will be....
- How many days until the weekend?
- Who has a birthday this week? How many days until Jack's birthday?
- How many school days left this month?
- What fraction of the month is either a Monday or Tuesday?

Include rhymes/songs about days of the week, months of the year, seasons, weather....

<https://www.youtube.com/watch?v=3tx0rvuXIRg>



Good websites...

Hit the button



App – 1min of maths a day



Resources for parents

<https://www.coolmath4kids.com/>



App - Some free access
Let them get it wrong!

<https://www.topmarks.co.uk/>

[NRICH - Mathematics Resources for Teachers,
Parents and Students to Enrich Learning
\(maths.org\)](https://www.nrich.org/)



Finally



Don't tell them you are hopeless at maths

- You may remember maths as being hard, but you were probably not hopeless, and even if you were, that implies to your child, “I was hopeless at maths, and I'm a successful adult, therefore maths is not important”



Do get excited about maths and your child will get excited too!

