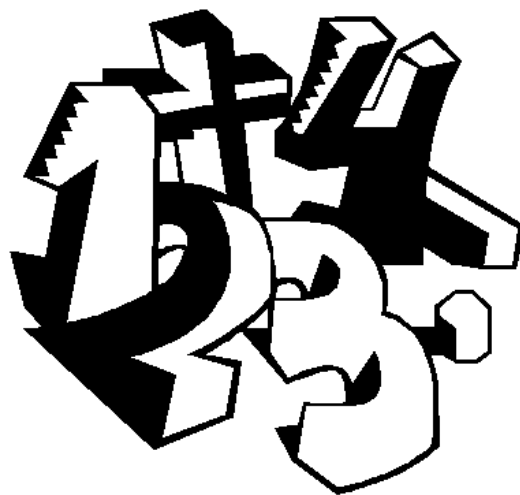




# Supporting your child in Maths



## Problem Solving



## The aims of this morning:

- To share some strategies encouraged in school
- To explore skills needed for problem solving
- To suggest activities that you can use to support your children at home in a way that encourages enthusiasm for the subject.



## What the children said...

*It was fun being with your parents doing maths. Now my mum and dad know how to do it.*

*I enjoyed having maths with my mum because I got to be like the teacher and show her how to use a number line.*

*I enjoyed being with my mum and dad and showing them my talent.*

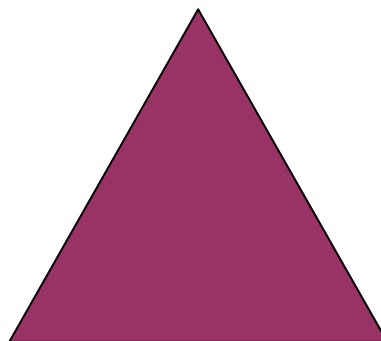
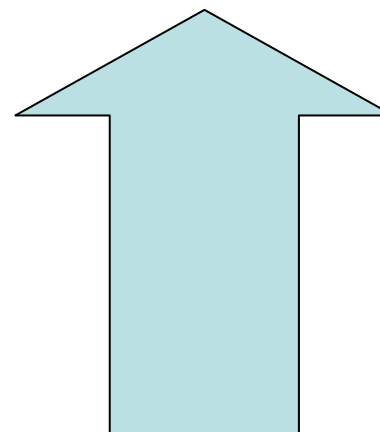


# Why meet today?

- Last year we shared calculation policy which we are still embedding.
- This allows children to have a default method to support their problem solving.



Which is the odd one out? Why?





Which is the odd one out? Why?

9

55

14

171



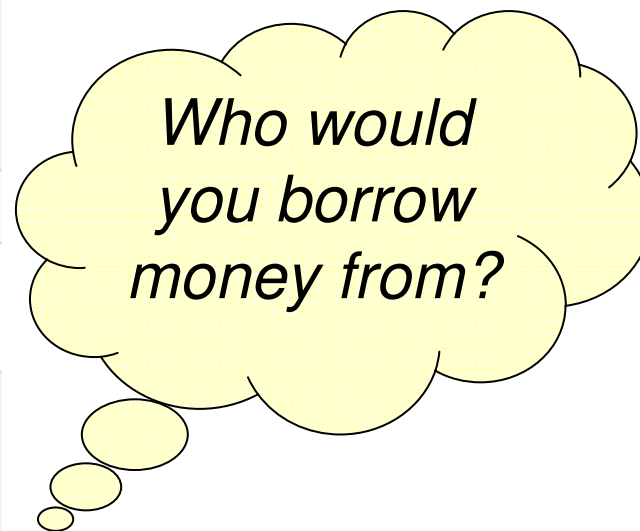
# Why is problem solving important?





# Why is problem solving important?

Headline rate	Payment per month	Total charge for credit	Total amount repayable
5.1%	Representative example: If you borrow £10,000 over 3 years at a Representative APR of 5.1% fixed and an annual interest rate of 5.1% you would pay: <span style="float: right;">i</span>		
	Payment per month <b>£299.64</b>	Total charge for credit <b>£787</b>	Total amount you repay <b>£10,787</b>
	For loans of £7,500 - £15,000.		
Customers can apply to take a 2 month payment break at the start of their loan. Rates for Nectar card holders only. Winner of Moneysupermarket.com Supers award for Best Loan Provider.			
5.1%	Representative example: If you borrow £10,000 over 3 years at a Representative APR of 5.1% fixed and an annual interest rate of 5.1% you would pay: <span style="float: right;">i</span>		
	Payment per month <b>£299.64</b>	Total charge for credit <b>£787</b>	Total amount you repay <b>£10,787</b>
	For loans of £7,500 - £15,000 over 1 - 5 years for new and existing customers.		
Derbyshire is part of the Nationwide Building Society Group.			







# Why is problem solving important?

“Too often pupils are expected to remember methods, rules and facts without grasping the underpinning concepts, making connections with earlier learning and making sense of the mathematics so that they can use it independently”

Ofsted – Understanding the score report 2008



# Why is problem solving important?

- Ability to generalise
- Independence and perseverance
- Capacity to learn and understand new ideas and ways of working quickly
- Effective communication skills
- Ability to argue and reason
- Creativity and originality



# Types of problem

- Word (story) problems
- Finding all possibilities
- Logic Problems
- Finding rules and describing patterns



# Strategies that might be seen in School.



**Always ask yourself:**

- Which words are important?
- What operation do I need to use?
- Can I do this in my head?
- Do I need practical resources?
- Can I do this using drawings or jottings?
- Do I need to use a written method?
- Do I need a calculator?

It is called ***problem*** solving for a reason!



## Skills

### Moving between 'real world' and the 'mathematical world.'

How much will seven oranges cost if four oranges cost £1?

$$100 \div 4 = 25$$

$$25 \times 7 = 175$$

$$175 = 175\text{p or } \pounds 1.75.$$



# Enquiry

# Skills

- Asking questions
- Answering questions
- Sharing findings
- Finding all possibilities- working systematically

*Posing of questions is an element of creativity.*

*Learners are engaged by successful and exciting learning.*



# Skills

## Reasoning

- Talk- describe and explain what they see
- Record their thinking and reasoning- pictures, doodles, numbers, objects, pictures, shapes etc.
  - What *is* the answer?
  - What *might* be the answer?
- Make comparisons- what is the same what is different?



# Skills

## Communicating

- Record work, share working out and strategies
- Discuss formal and informal strategies
- Use mathematical language- add, total, addition etc.





# Supporting your child in Maths Problem Solving

Football Tables [Share](#) [f](#) [t](#) [e](#)

Show me:  OR   Win ■ Draw ■ Loss ■

### Barclays Premier League Table

Position	Team	P	Home	W	D	L	F	A	Away	W	D	L	F	A	GD	Pts	Last 10 games	Report
> 1	Man Utd	28	13	0	1	38	15	10	2	2	30	16	37	71	37	71	-----	Report
> 2	Man City	28	10	3	1	31	11	7	5	2	20	13	27	59	27	59	-----	Report
> 3	Tottenham	28	8	4	2	22	14	8	2	4	27	19	18	54	18	54	-----	Report
> 4	Chelsea	28	8	4	2	31	12	7	3	4	25	18	20	52	20	52	-----	Report
> 5	Arsenal	28	8	3	3	35	19	5	5	4	18	13	21	47	21	47	-----	Report
> 6	Everton	28	7	6	1	25	17	4	6	4	19	18	9	46	9	46	-----	Report
> 7	Liverpool	28	7	3	4	27	12	4	6	4	26	22	19	42	19	42	-----	Report
> 8	Swansea	28	6	6	2	27	19	4	4	6	12	15	5	40	5	40	-----	Report
> 9	West Brom	28	8	2	4	21	13	4	2	8	17	24	1	40	1	40	-----	Report
> 10	Fulham	28	6	3	5	22	17	2	6	6	17	27	-5	33	-5	33	-----	Report
> 11	Stoke	28	6	6	2	18	15	1	6	7	8	18	-7	33	-7	33	-----	Report
> 12	West Ham	28	6	4	4	23	17	3	2	9	9	24	-9	33	-9	33	-----	Report
> 13	Norwich	28	6	5	3	16	15	1	6	7	11	30	-18	32	-18	32	-----	Report
> 14	Sunderland	28	4	5	5	16	15	3	4	7	15	23	-7	30	-7	30	-----	Report
> 15	Newcastle	28	7	1	6	21	20	1	5	8	17	29	-11	30	-11	30	-----	Report
> 16	Southampton	28	4	5	5	19	17	2	4	8	20	34	-12	27	-12	27	-----	Report
> 17	Wigan	28	2	4	8	17	31	4	2	8	16	24	-22	24	-22	24	-----	Report
> 18	Aston Villa	28	3	4	7	11	20	2	5	7	15	33	-27	24	-27	24	-----	Report
> 19	Reading	28	4	6	4	22	27	1	2	11	12	27	-20	23	-20	23	-----	Report
> 20	QPR	28	1	7	6	8	21	2	4	8	13	23	-23	20	-23	20	-----	Report

<http://www.bbc.co.uk/sport/football/tables>

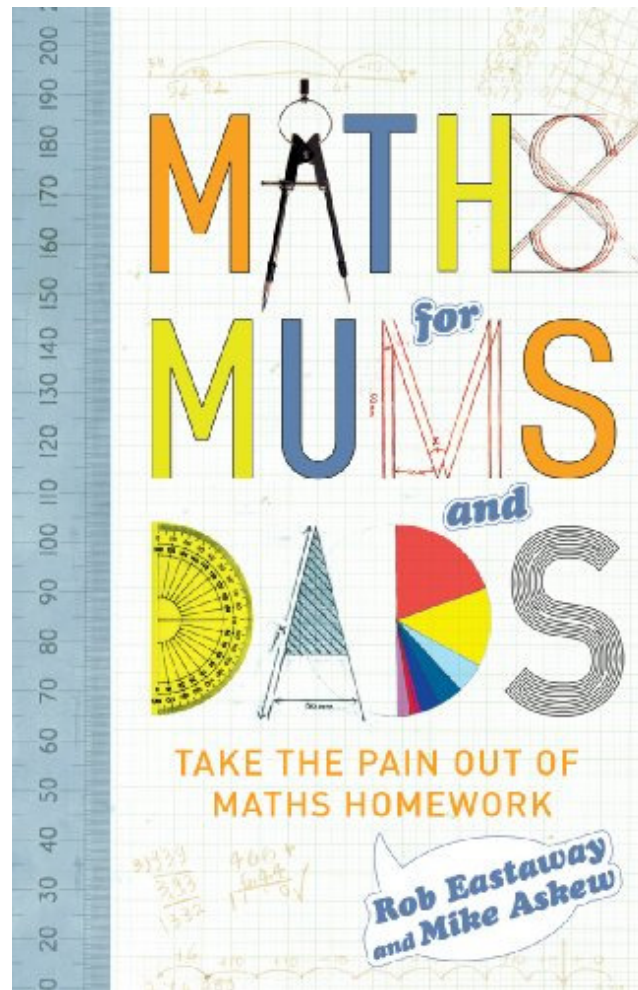
I will record all ideas and turn into a sheet that will go on website.



# Workshop

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
list, define, tell, describe, identify, show, label, collect, who, when, where.	Summarise, describe, interpret, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend	apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover	analyze, separate, order, explain, connect, classify, arrange, divide, compare, select, explain, infer	combine, integrate, modify, rearrange, substitute, plan, create, design, invent, what if?, compose, formulate, prepare, rewrite	assess, decide, rank, test, measure, convince, select, judge, explain, conclude, compare,

A fabulous read with lots of ideas!





## In the classrooms....

You may spend time in your child's classroom until approximately 10.10, at this point the children will be getting ready for assembly.

If you have more than one child please feel free to move from one room to the other in your own time.

Lessons are being taught as normal and the teachers attention will be with the other children in the classroom. We would appreciate it if you did not take away from this valuable input by asking questions of the teacher yourself. You may ask questions of Miss Freeman or Miss Godbold who will both be available in the entrance after the session has finished.

Space will be tight and we apologise that we can not accommodate seating in the classrooms for you.