

Maths at West Lodge – Our Vision

All children at West Lodge enjoy Mathematics and are able to see the beauty in it. The spark is lit within them through the use of enriching learning opportunities. Children explore concepts through concrete apparatus, pictorial imagery and link this to abstract ideas and calculations. We believe that all children are capable of understanding and succeeding in Mathematics. Learning best happens when children's misconceptions are understood, addressed and supported through challenging work. Mistakes are expected, reflected upon and treated as a learning opportunity.

Mathematicians **not** number crunchers



The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking



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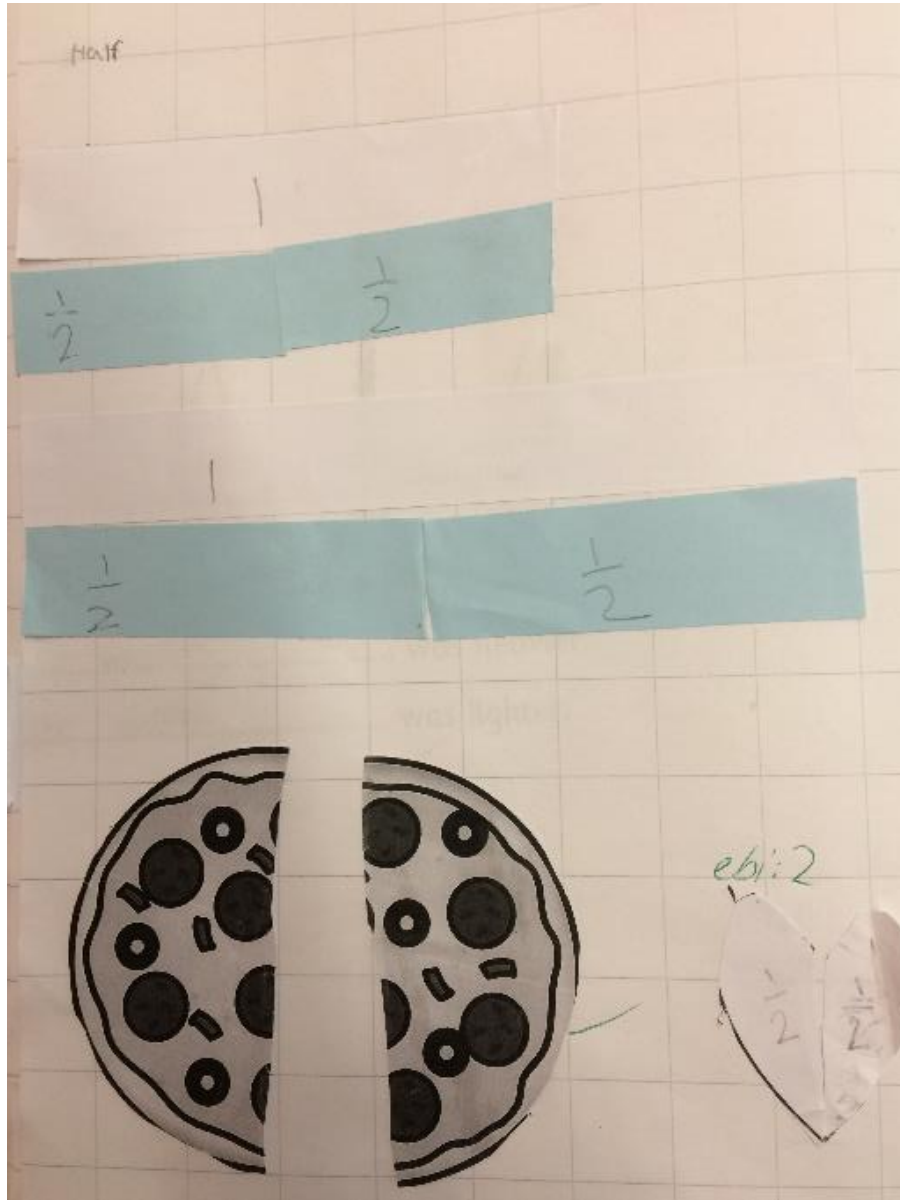


What is bar modelling?



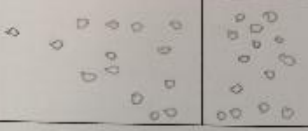
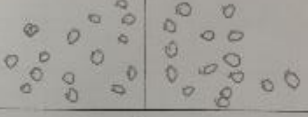
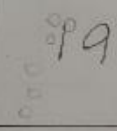
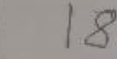
Concrete Pictorial Abstract





Year 1



Question	Bar model	
Half of 32 = 16 ✓ $32 \div 2 = 16$ Double 16 = 32	32 	
Half of 28 = 14 ✓ $28 \div 2 = 14$ Double 14 = 28		
Mrs Williams has 30 chocolate bars. She eats half of them. How many chocolate bars does she have left? ✓ Double 15 $30 \div 2 = 15$ = 30	30 	
This morning, Sarah made 38 chocolate cupcakes. Her brother ate half of them for his lunch. How many are left? ✓ Double 19 = 38 $38 \div 2 = 19$	38 19 	
There were 36 candles on a cake. Half of them were blown out. How many of them were still alight? ✓ Double 18 = 36 $36 \div 2 = 18$	36 18 	
34 children were playing a game of football. Half of them were wearing red shirts. How many of them were wearing red shirts? ✓ Double 17 = 34 $34 \div 2 = 17$	34 	

Year 2



5.10.17 To identify adding and subtraction bar models

357 - 145 = 212

357	
145	?

$$357 = 300 + 50 + 7$$

$$145 = 100 + 40 + 5$$

$$212 = 200 + 10 + 2$$

315 + 434 = 749

315	434
	?

$$434 = 400 + 30 + 4$$

$$315 = 300 + 10 + 5$$

$$749 = 700 + 40 + 9$$

451 - 126 = 577

451	126
	?

$$451 = 400 + 50 + 1$$

$$126 = 100 + 20 + 6$$

$$577 = 500 + 70 + 7$$

789 - 445 = 344

789	
445	?

$$789 = 700 + 80 + 9$$

$$445 = 400 + 40 + 5$$

$$344 = 300 + 40 + 4$$

Year 3



140	
80	?

?			
7	7	7	7

44			
?	?	?	?

?	
90	20



Over to our pupils.....



Can you match the bar model to the operation?

