

Year 3

Stay and Share

November 2016





Maths in Year 3...



- Year 3 maths has developed and changed rapidly over the last two years and encompasses all of the skills and knowledge the children have explored so far throughout their learning journey.
- Our main priority in maths this year is to develop the children's ability to reason, explain and master their own curriculum to have a secure subject knowledge.
- Weekly recap, consolidation and mastery lessons have so far enabled the children to develop their reasoning skills and fully understand the topics we have been exploring.



Recap, Consolidation and Mastery

? ← Answer	!
Draw it!	First I... Oh, I see! Explain
Prove it!	?
Maths Story	Odd one out

The 4 Stages of Mastery

- Stage 1: I don't know what I don't know yet!
- Stage 2: I know I can't yet...
- Stage 3: If I really concentrate I can...
- Stage 4: Without having to think about it I can...

Concrete **Pictorial** **Abstract**

$2 + 1 = 3$

mastering MATHS

- Here is an example of how we continue to re-cap in class 3:

Re-cap

**TELL
ME
CARDS**





- Here is an example of a consolidation question that we have already explored:

Consolidation

- What time is shown on the analogue clocks below?



- Draw the times on the blank analogue clocks.

- a) Five past four
- b) Twenty five to ten
- c) Half past seven





- Here is an example of a MASTERY question that we have already explored:

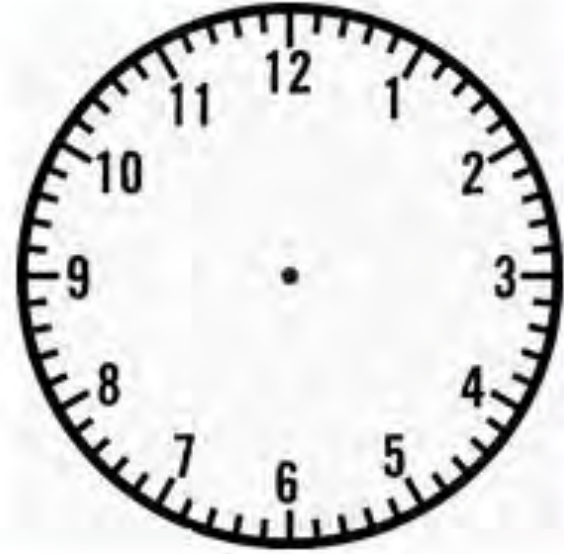
Mastery



MASTERY

A TV programme starts at 5:20 and finishes at 6:05. How long does the programme last for?

Kieran is learning his times tables. On Monday it takes him 1 minute and 12 seconds to complete 10 questions. By Friday he can complete 10 questions in 42 seconds. How much quicker is he by Friday?



Which is the
odd one out?

Why?



Reasoning...

Reasoning...

Odd one out

12



3

4

Which number is the odd one out? Explain why?



- Here is an example of a mastery AT GREATER DEPTH question that we have already explored:

Mastery
at greater depth



MASTERY AT GREATER DEPTH

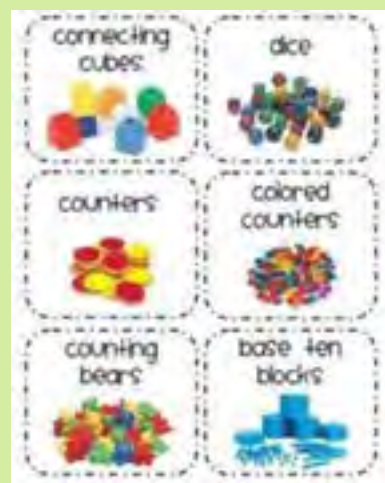
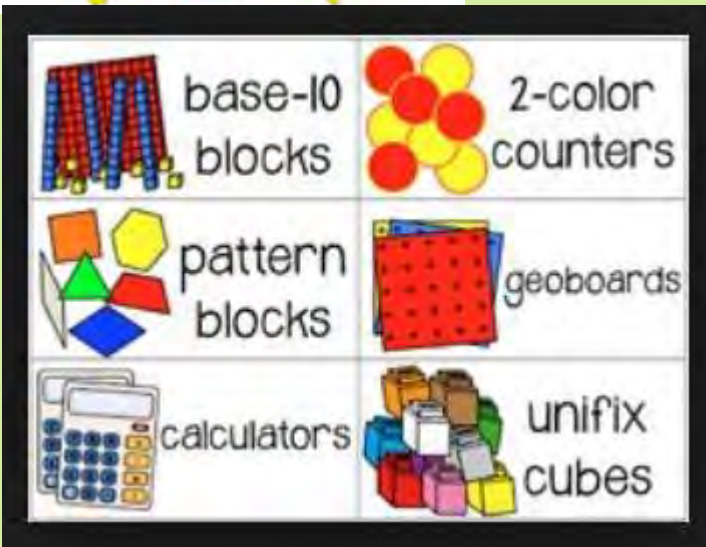
Order the times below from shortest time to longest time.

- 83 seconds
- 1 minute 12 seconds
- 56 seconds
- 2 minutes 2 seconds
- 1 minute 87 seconds
- 143 seconds

Explain your reasoning.



Visual Images...





Visual Images...



- Visual images have become a main focus when introducing new concepts to the children to enable them to actually see their learning in picture formation.
- With every new concept introduced, the children will explore it in the following way:
 - *Using real life contexts*
 - *Visual images to provide a visual aid*
 - *Application to a range of different questions*

Working example...

How many different ways
can you represent:

24



Maths in Year 3...

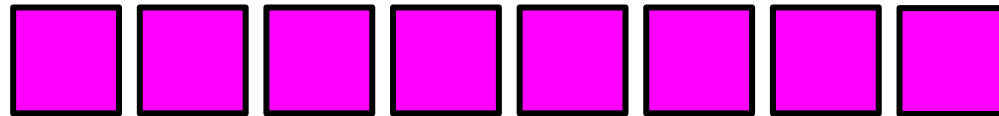
A spider has 8 legs

An ant has 6 legs.

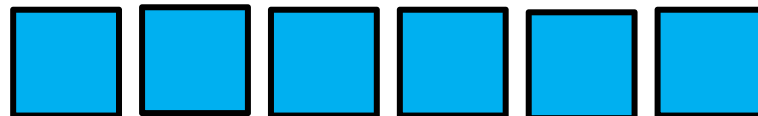
How many more legs does a spider have?



Spider

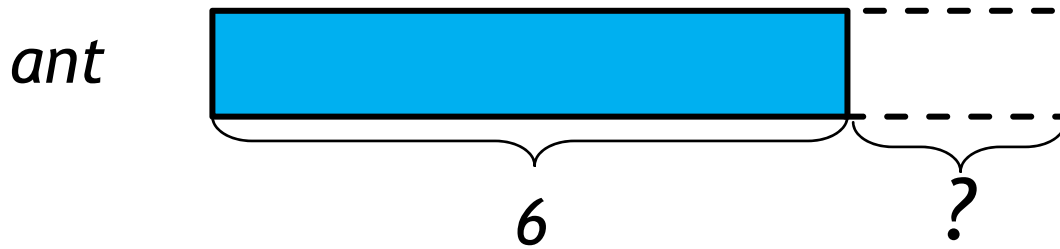
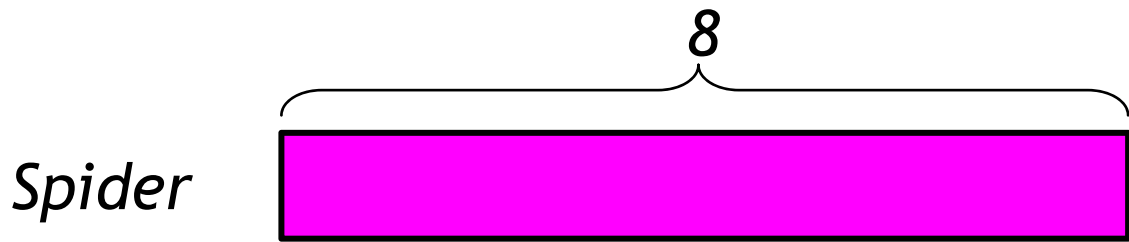
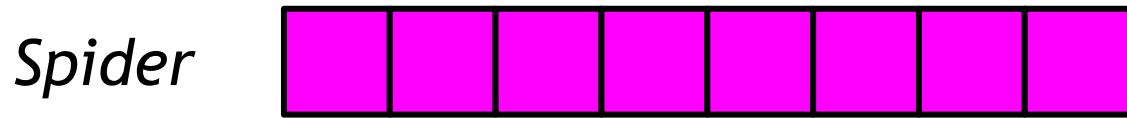


ant



The Bar Model is a tool the children use to support their maths learning in problem solving situations to help interpret the questions they are exploring.

Maths in Year 3...



$$8 - 6 = 2$$

The Bar Model is a tool the children use to support their maths learning in problem solving situations to help interpret the questions they are exploring.



Methods explored...



Written calculations
Add numbers with up to four digits, using the formal written (columnar) method

$\begin{array}{r} \text{£}12.32 \\ + \text{£}11.81 \\ \hline \text{£}24.13 \end{array}$	<p>789 + 642 becomes</p> $\begin{array}{r} 789 \\ + 642 \\ \hline 1431 \end{array}$
<p>Using Dienes</p> $262 + 145 = 407$	<p>Answer: 1431</p>

Addition...

Example

$$23 + 12 = \square$$

$$20 + 10 = 30$$

$$3 + 2 = 5$$

$$= 35$$

Example

$$28 + 15 = \square$$

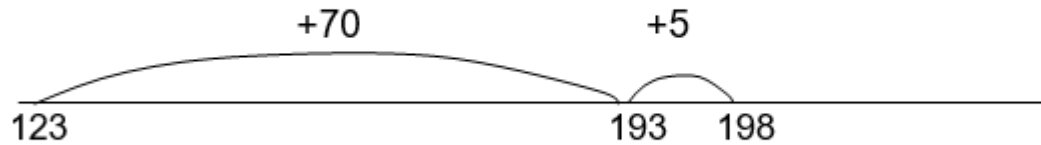
$$20 + 10 = 30$$

$$8 + 5 = 13$$

$$= 43$$

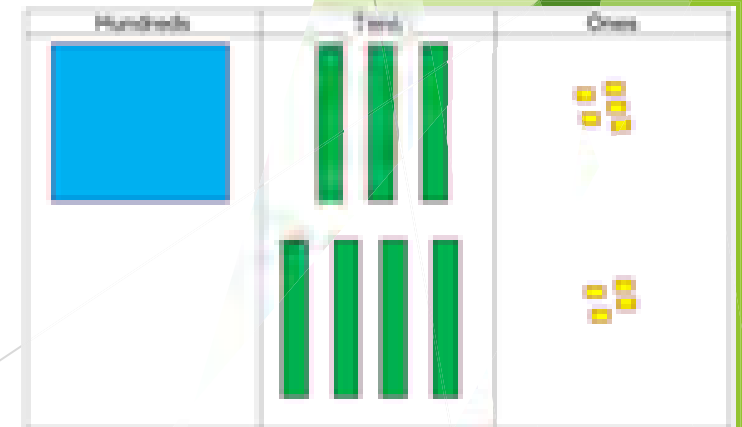
Example

$$123 + 75 = \square$$



$$123 + 75 = 198$$

$$\begin{array}{r} 587 \\ 375+ \\ \hline 962 \\ \hline 11 \end{array}$$





Subtraction...

Example
 What is the difference between 97 and 105?

+ 3 +5

97 100 105

so the difference is 8

Example
 $60 - 23 =$

37 40 60

-3 -20

so the answer is 37

Example
 $38 - 19 = ?$

$$\begin{array}{r} 2 \cancel{1} \\ 38 \\ - 19 \\ \hline 19 \end{array}$$

Hundreds	Tens	Ones

Multiplication...



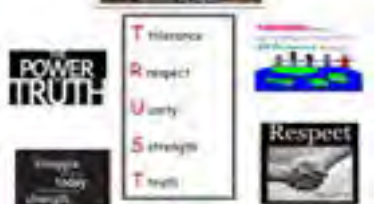
Example

$$124 \times 6 = ?$$

124 books were sold. Each book cost £6. How much money was taken?

x	H	T	U	
	100	20	4	
<hr/>				
6	600	120	24	= 744

Multiplication...



Example
 $14 \div 3 = 4 \text{ remainder } 2$

remainder

2 5 8 11 14

-3 -3 -3 -3

4 3 2 1