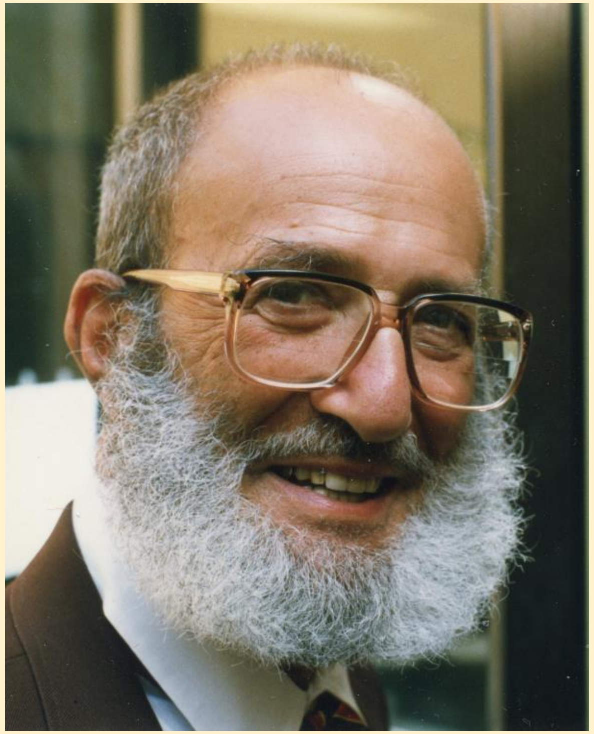
“The only way to learn mathematics is to do mathematics. ”— *Paul Halmos (award winning statistician)*



Year 3
Maths Parent Workshop

“We will always have STEM with us. Some things will drop out of the public eye and go away, but there will always be science, engineering, and technology. And there will always, always be mathematics.”— *Katherine Johnson (mathematician and NASA employee)*

Welcome!

Aims for this session:

- To look at the White Rose Maths scheme with a focus on the 4 operations (addition, subtraction, multiplication and division)
- How to support your children at home with their maths learning
- A chance for you to explore the concrete resources

Maths coverage

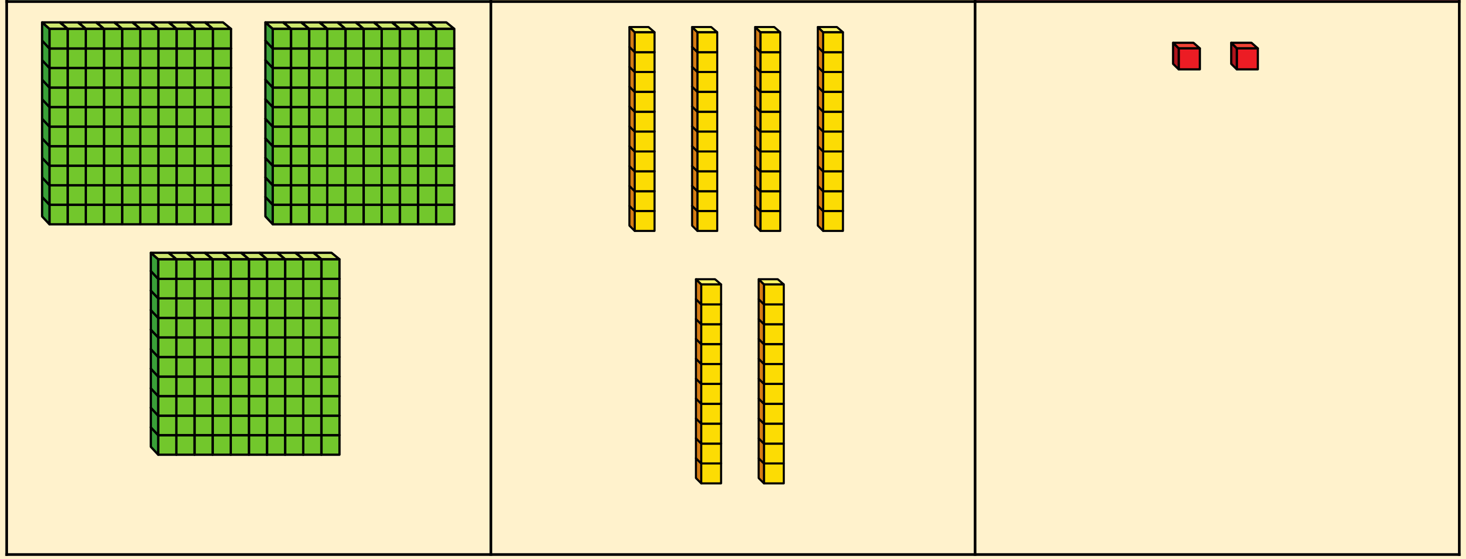
Autumn term	Number Place value	Number Addition and subtraction	Number Multiplication and division A			
Spring term	Number Multiplication and division B	Measurement Length and perimeter	Number Fractions A	Measurement Mass and capacity		
Summer term	Number Fractions B	Measurement Money	Measurement Time	Geometry Shape	Statistics	Consolidation

Addition – Progression of skills:

Year 2	Year 3	Year 4
• Add 1s to any number (related facts) • Add three 1-digit numbers • Add across a 10 • Add multiples of 10 • Add 10s to any number • Add two 2-digit numbers (not across a ten) • Add two 2-digit numbers (across a ten) • Missing numbers	• Add 1s, 10s and 100s to a 3-digit number • Add two numbers (no exchange) • Add two numbers across a 10 or 100 • Complements to 100 • Add fractions with the same denominator within 1 whole • Calculate the duration of events	• Add 1s, 10s and 100s to a 4-digit number • Add up to two 4-digit numbers • Add decimal numbers in the context of money • Add fractions and mixed numbers with the same denominator beyond 1 whole

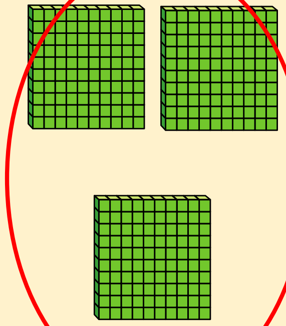
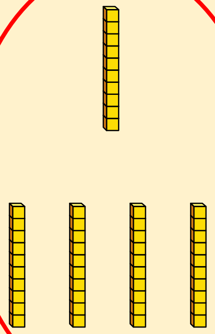
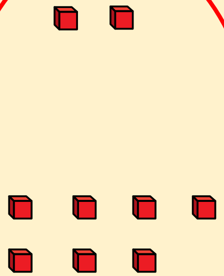
$342 + 20 = \underline{362}$

Hundreds	Tens	Ones



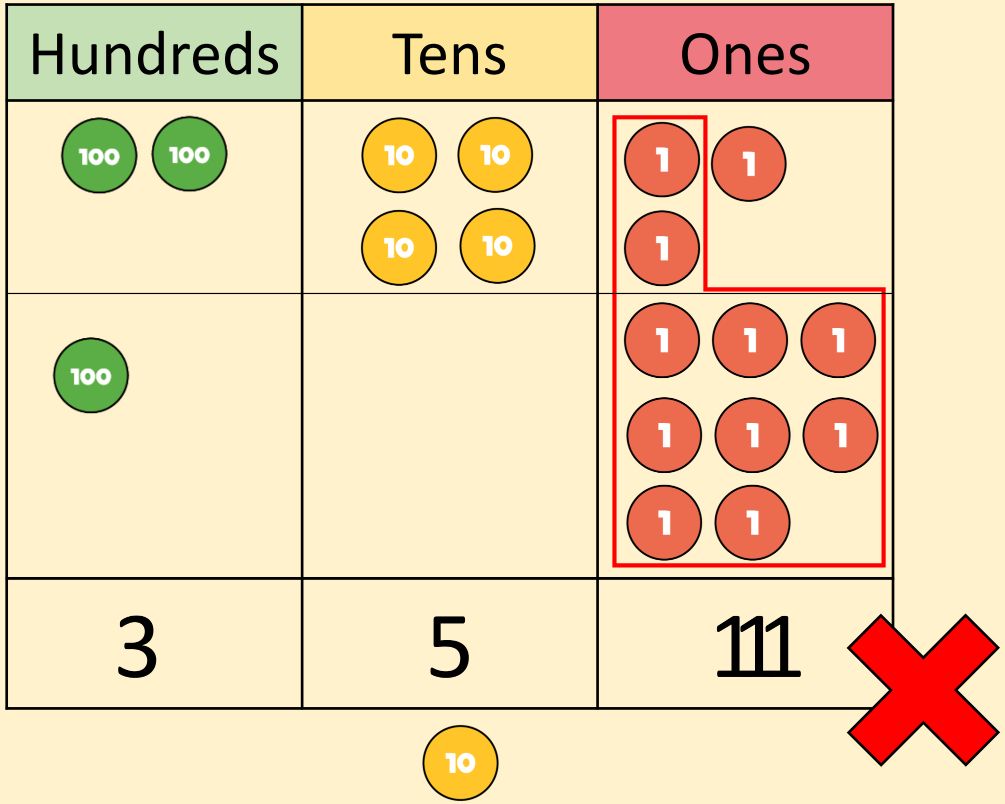
4 tens plus 2 tens is equal to <u>6</u> tens.

$212 + 147 = 359$

	Hundreds	Tens	Ones
+			
	3	5	9

	H	T	O
	2	1	2
+	1	4	7
	3	5	9

Mo scores 243 points in a game.
Eva scores 108 points in a game.
How many do they score in total? 351

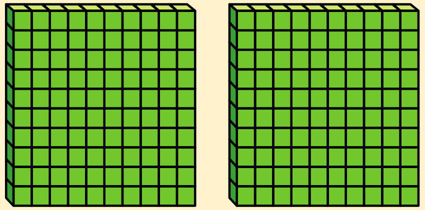
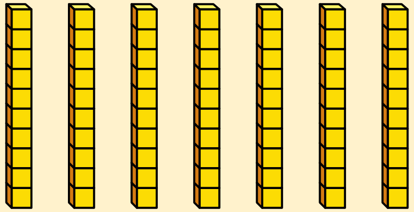


	H	T	O
	2	4	3
+	1	0	8
	3	5	1
		1	

Subtraction – Progression of skills:

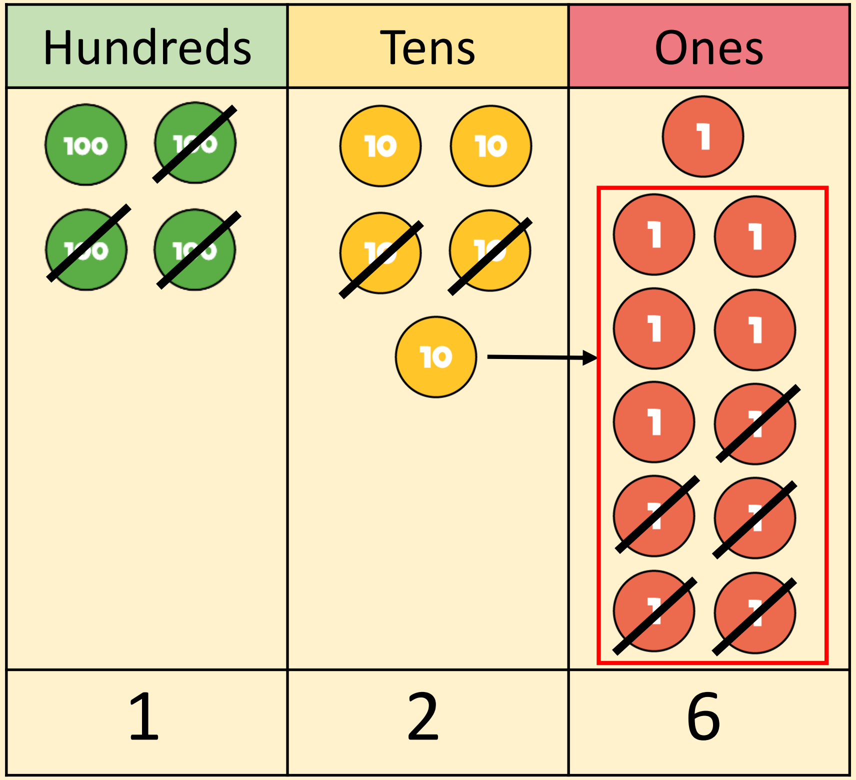
Year 2	Year 3	Year 4
• Subtract 1s from any number (related facts) • Subtract across a 10 • Subtract multiples of 10 • Subtract 10s from any number • Subtract two 2-digit numbers (not across a ten) • Subtract two 2-digit numbers (across a ten) • Missing numbers	• Subtract 1s, 10s and 100s from a 3-digit number • Subtract two numbers (no exchange) • Subtract two numbers across a 10 or 100 • Complements to 100 • Subtract fractions with the same denominator within 1 whole	• Subtract 1s, 10s, 100s and 1,000s from a 4-digit number • Subtract up to two 4-digit numbers • Subtract decimal numbers in the context of money • Subtract fractions and mixed numbers with the same denominator

$$275 - 30 = \underline{\ 245\ }$$

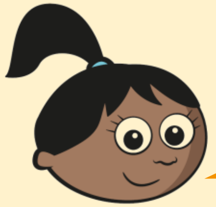
Hundreds	Tens	Ones
		

7 tens minus 3 tens is equal to __4__ tens.

$$451 - 325 = 126$$



$$\begin{array}{cccc} & H & T & O \\ & 4 & {}^{4}\cancel{5} & {}^{1}1 \\ - & 3 & 2 & 5 \\ \hline & 1 & 2 & 6 \\ \hline \end{array}$$



I will exchange 1 ten for 10 ones.

Multiplication – Progression of skills:

Year 2	Year 3	Year 4
• Link repeated addition and multiplication • Use arrays • Double • The 2 times-table • The 10 times-table • The 5 times-table • Missing numbers	• The 3 times-table • The 4 times-table • The 8 times-table • Related facts • Multiply a 2-digit number by a 1-digit number - no exchange • Multiply a 2-digit number by a 1-digit number - with exchange • Scaling • Correspondence problems	• Times-table facts to 12 × 12 • Multiply by 1 and 0 • Multiply 3 numbers • Factor pairs • Multiply by 10 and 100 • Related facts • Mental strategies • Multiply a 2 or 3-digit number by a 1-digit number • Scaling • Correspondence problems

Multiplication

In year 3 we:

- Revise 2, 5, 10 times tables
- Learn 3, 4, 8 times tables

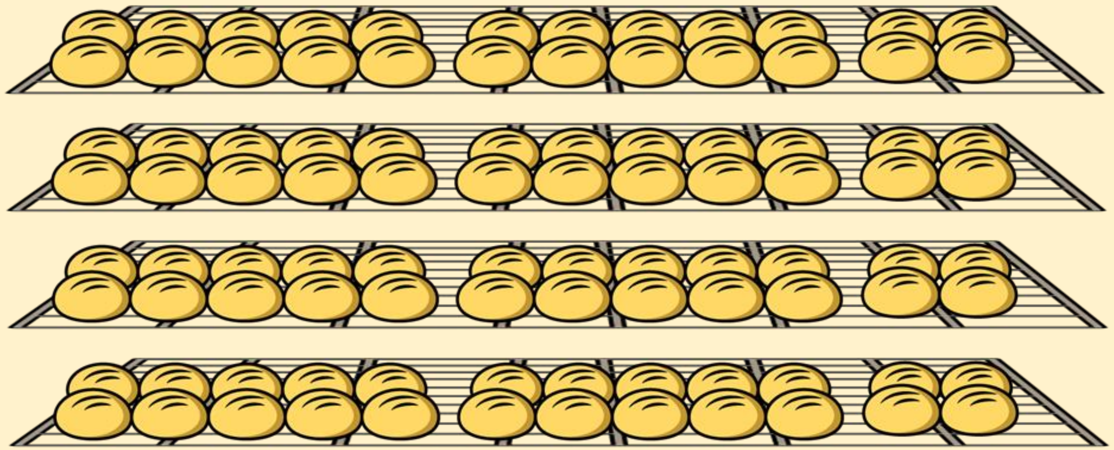
T	O
10 10	1 1
10 10	1 1
10 10	1 1
10 10	1 1

$\underline{22} \times \underline{4} = \underline{88}$

What calculation is shown?

Each shelf has 24 rolls.

How many rolls are there in total?



$$24 \to 20,\ 4$$

$4 \times 20 = 80$ $\quad$ $4 \times 4 = 16$

$80 + 16 = 96$

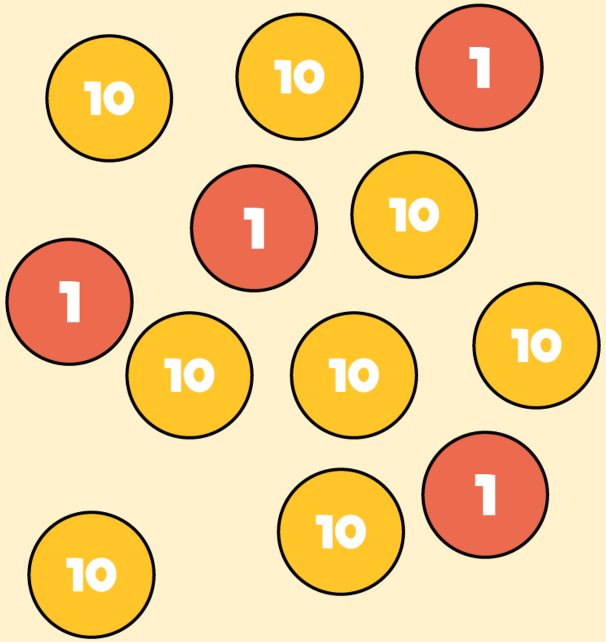
$4 \times 24 = 96$

There are 96 rolls in total.

Division – Progression of skills:

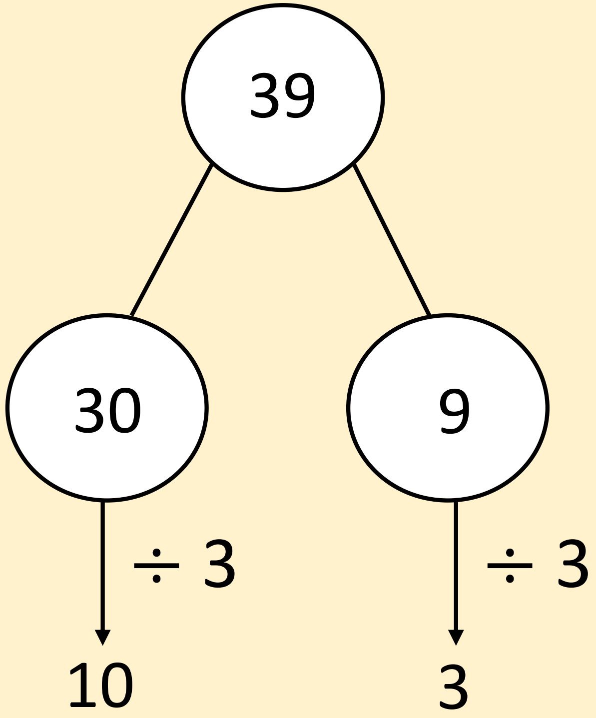
Year 2	Year 3	Year 4
• Divide by 2 • Divide by 10 • Divide by 5 • Missing numbers • Unit fractions • Non-unit fractions	• Divide by 3 • Divide by 4 • Divide by 8 • Related facts • Divide a 2-digit number by a 1-digit number - no exchange • Divide a 2-digit number by a 1-digit number - with remainders • Unit fractions of a set of objects • Non-unit fractions of a set of objects	• Division facts to 12 × 12 • Divide a number by 1 and itself • Related facts • Divide a 2 or 3-digit number by a 1-digit number • Divide by 10 and 100

$84 \div 4 = 21$



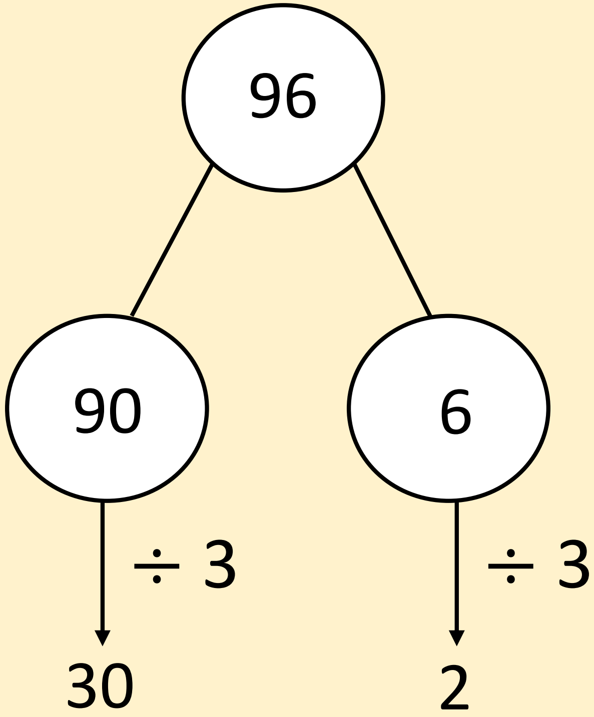
Tens	Ones

$39 \div 3 = 13$



$10 + 3 = 13$

$96 \div 3 = 32$



$30 + 2 = 32$

96 partitioned into tens and ones is 9 tens and 6 ones.

What a normal maths lesson looks like

- Starter activity – to recap previous learning
- A warm up of questions that cover prior knowledge but lead in to the lesson
- Teacher input and explanation
- Use of whiteboard to assess learning and misconceptions in the lesson
- Practical learning – use of concrete resources
- Application of skills

How can I help my child with maths at home?

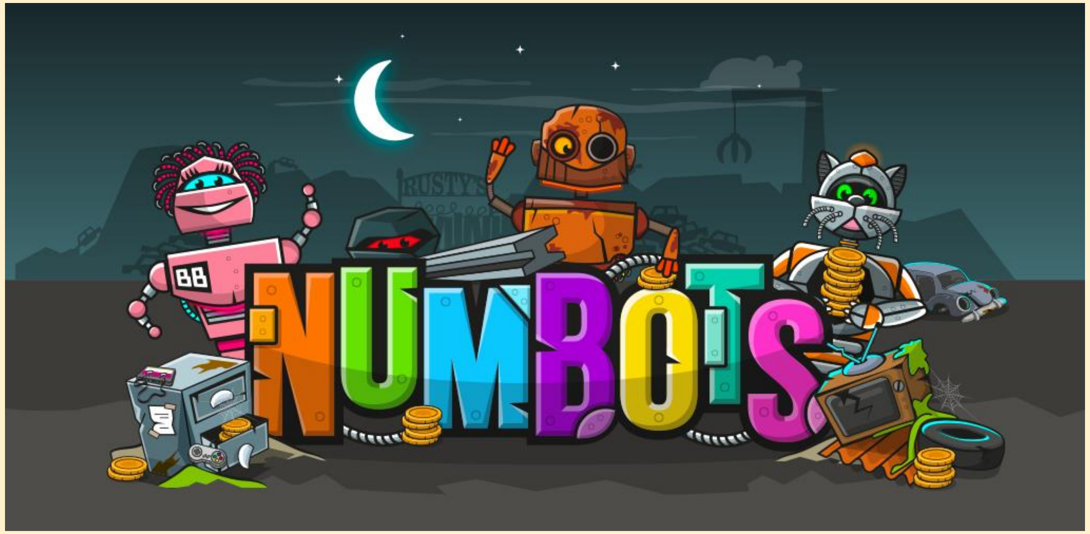
- Support use of Times Tables Rockstars. Little and often works best for most.

- Practise their times tables knowledge with them.

- Involve them in use of money.

- Practise telling the time on an analogue clock.

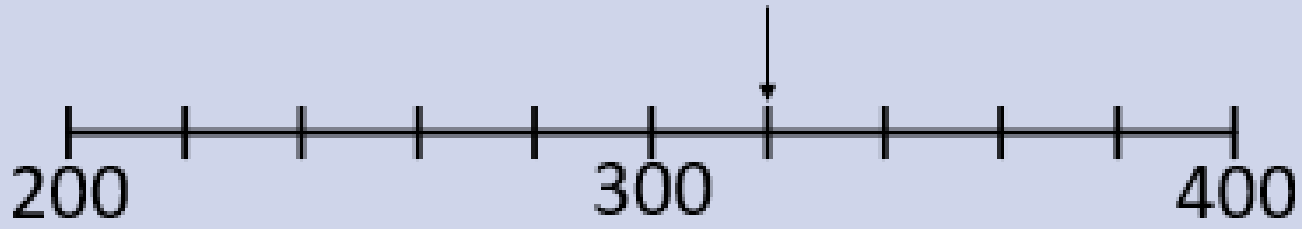
TTRS and Numbots



Starter slide

Starter:

1) What number is the arrow pointing to?



2) 753 is made up of ☐ 100s, ☐ 10s and ☐ 1s

3) How many minutes are there in one and a half hours?

4) How many quarter-turns are there in a full turn?

<u>Challenge</u>: It takes me 90 minutes to get to London. If I leave at 4.30pm, what time will I arrive in London?

Thank you for your time.

Please feel free to explore the resources we use in the classroom now and ask us any questions you may have.