Maths workshop

Monday 25th March 2024

Maths at Red Oaks

- Fun
- Challenging
- Purposeful

- Not frightening
- Not churning
- Not Pointless

How we teach Maths at Red Oaks

Maths at Red Oaks follows the Can Do scheme of work. Teachers follow a long-term plan and unit roadmaps that are set out as a guide to ensure there is full coverage of all objectives.

As well as following the Can Do scheme for maths teachers carry out problem solving lessons termly, where a range of group activities are used to secure understanding and promote positive and supportive relationships within maths.

A Mastery Approach

At Red Oaks we use the language of 'Do it, Secure it and Deepen it' in lessons to ensure challenge and progress is achieved in every lesson.

All children access the same quality first teaching and then progress through lessons with support and challenge according to need.

CPA - Concrete

- The Concrete stage encourages the use of manipulatives and physical resources to physically show the process behind what is being taught. At its most basic level, this can be as simple as using counters, sweets, marbles, etc to show numbers/amounts, allowing children to visualise the idea of more or less or comprehend what 3 (or any given number) actually is.

- All of the main mathematical operations can be introduced and explored in this way. You'll find that your children love getting involved with this hands-on approach.

CPA - Pictorial

- Once secure with understanding at the concrete stage, pupils move on to pictorial based problem-solving and expression. The physical resources are generally replaced with a pictorial representation. Additionally, visual support strategies such as ten frames, bar models and part whole representations are used for pupils to show their understanding through answering questions using these visuals.

- The pictorial stage is essential for learners to consolidate and secure their understanding of topics. It bridges the gap between getting to grips with a concept (quite literally) and knowing how to combat more abstract ideas.

CPA - Abstract

- The abstract stage is when children face questions using numbers and symbols, or key vocabulary alone. For instance, 6 + 3 =? Or What is ⅔ divided by 2?

- If children have entered into the abstract stage, before establishing secure links or points of reference as to what these numbers, operations or keywords mean – they may well struggle here ("Miss, what does 'divide' mean?").

- At this stage, pupils are expected to have a depth of knowledge which can now be applied without the need for physical or visual support strategies.

When the children learn a concept in maths, they embed that skills. Just because we know our numbers to 10, we do not rush to learn numbers to 100.

Mathematics – EYFS

Developing a strong foundation in number is essential, so that all children develop the necessary building blocks to excel mathematically.

Children should be able to count confidently and develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.

Mathematics – EYFS

By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built.

In addition, it is important for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures.

Number
Manageable Steps to support learning. Use assessment to adapt as required

| Term 4. W/c		Ongoing		
19/02/2024	M T W T F	Counting stories and rhymes, choral counting, group counting including beyond 10 Exploring patterns: What is the same and what is different?	Compare numbers Unit 10	Identify groups that are the same Identify the group that has more and use language of comparison Identify the group that has fewer and use language of comparison Compare groups Extra Problem Solving
26/02/2024	M T W T F		Compare numbers Unit 10	Identify numbers that are more Identify numbers that are less Compare numbers Order numbers Extra Problem Solving
04/03/2024	M T W T F		Composition of 7 and calculating within 7 Unit 11	Partition 7 Combine groups to make 7 Find totals up to 7 by combining groups, including the empty set Find one more than numbers up to 7 Extra Problem Solving
11/03/2024	M T W T F		Composition of 7 and calculating within 7 Unit 11	Take away from 7 Take away from numbers up to 7 Find one less than numbers up to 7 Find hidden numbers when calculating within 7 Extra Problem Solving
18/03/2024	M T W T F		Composition of 8 and calculating within 8 Unit 12	Partition 8 Combine groups to make 8 Find totals up to 8 by combining groups, including the empty set Find one more than numbers up to 8 Extra Problem Solving
25/03/2024	M T W T F		Composition of 8 and calculating within 8 Unit 12	Take away from 8 Take away from numbers up to 8 Find one less than numbers up to 8 Find hidden numbers when calculating within 8 Extra Problem Solving
Easter Break				

CanDoMaths Key Performance Indicators

Year R KPIs

| #			
1	Count to 5		
2	Count to 10		
3	Understand in front, behind, next to, under		
4	To know a circle and what makes a circle		
5	To know a triangle and what makes a triangle		
6	To know a square and what makes a square		
7	Weight - what is heavier/ what is lighter		
8	Length - what is longer/ what is shorter		
9	Capacity - what is more/ what is less		
10	Volume – compare the size of items/ containers		
11	Composition of numbers to 3		
12	Composition of numbers to 5		
13	Composition of numbers to 8		
14	Composition of numbers to 10		
15	Explore patterns with shapes and/or colours – what comes next		
16	Ordering items: 1ST, 2ND, 3RD last		
17	Count beyond 10		
18	Doubling numbers to 5		
19	Doubling numbers to 10		
20	Compare, same and different		

Mathematics – Year 1
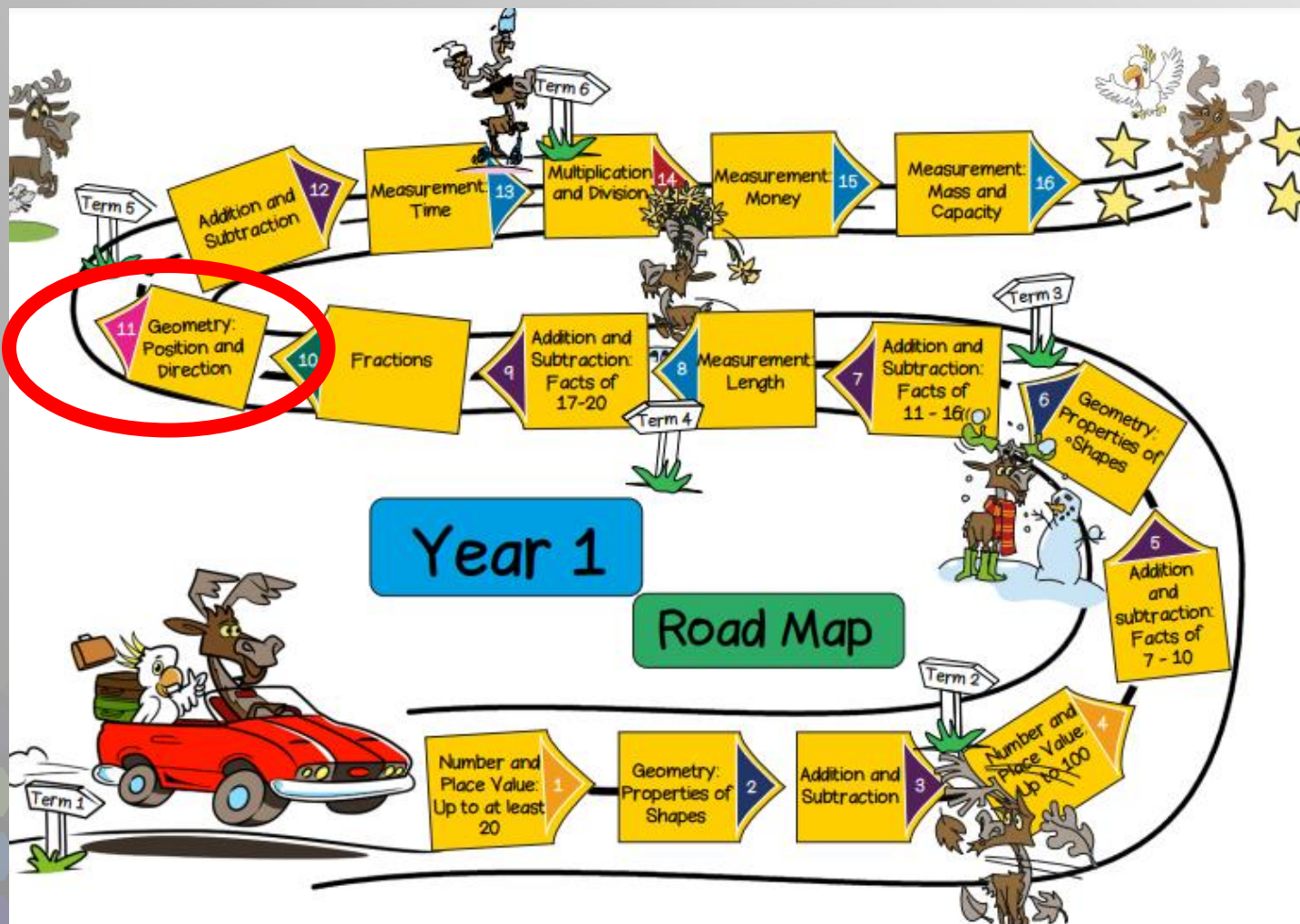
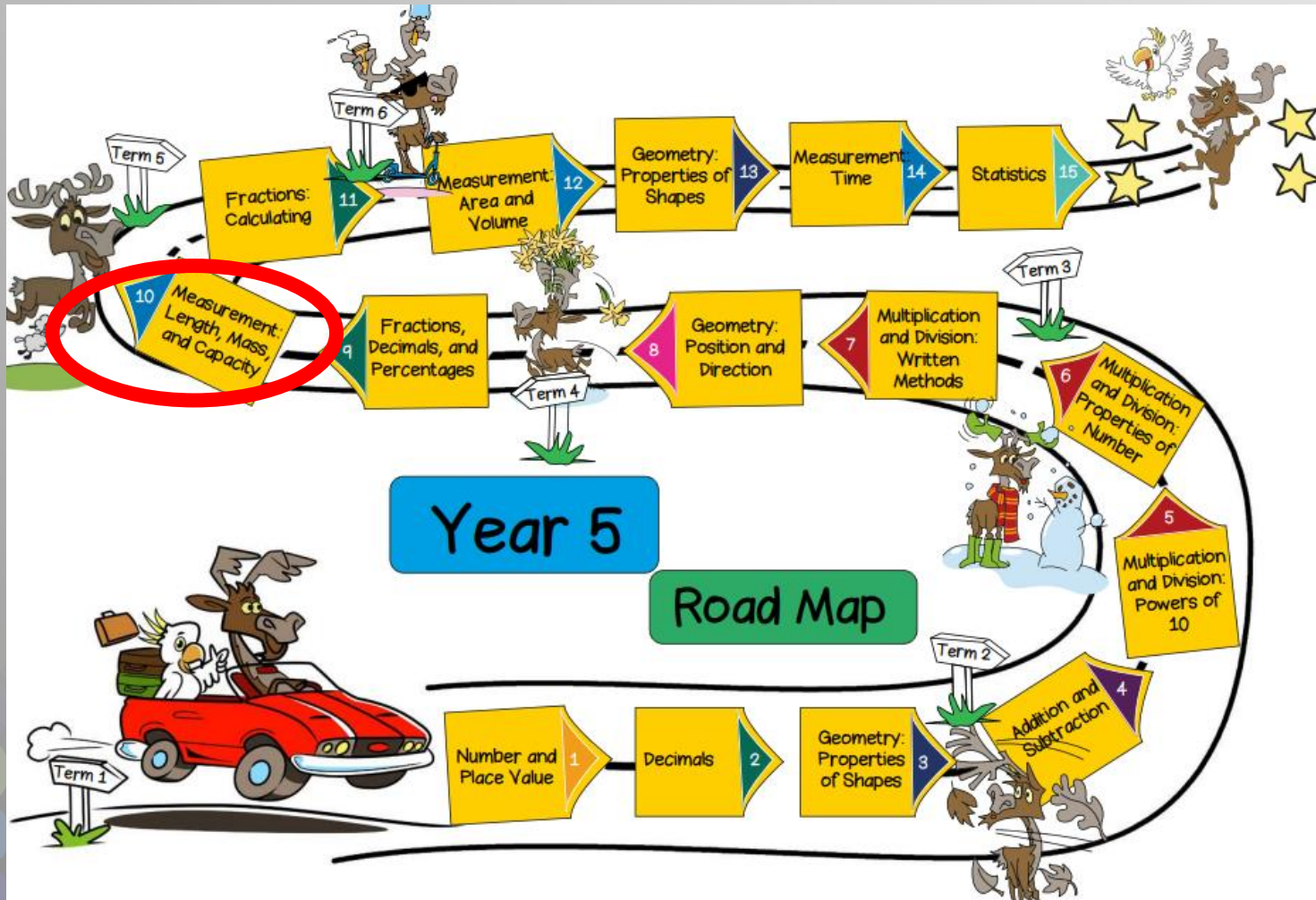# Mathematics – Year 2
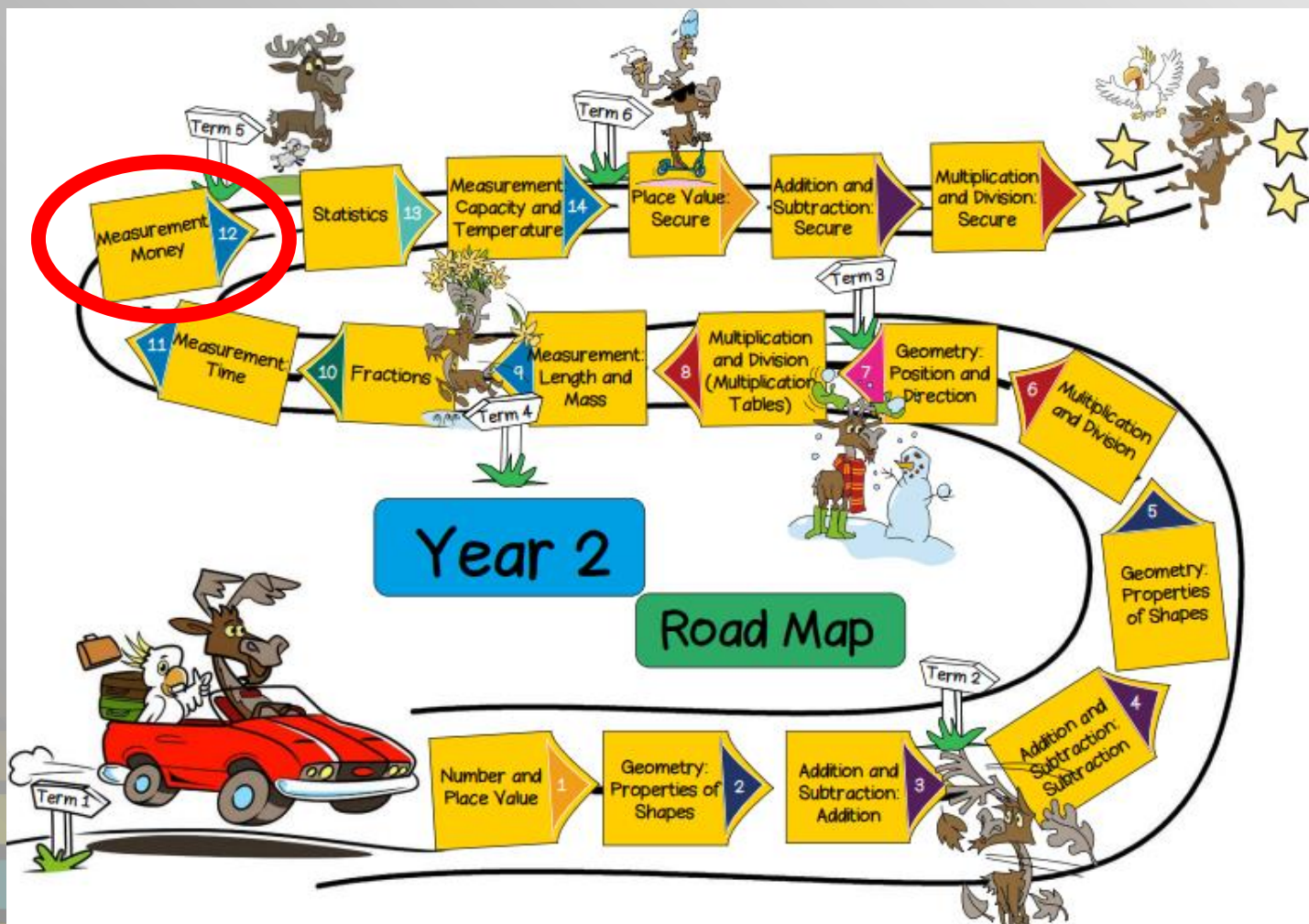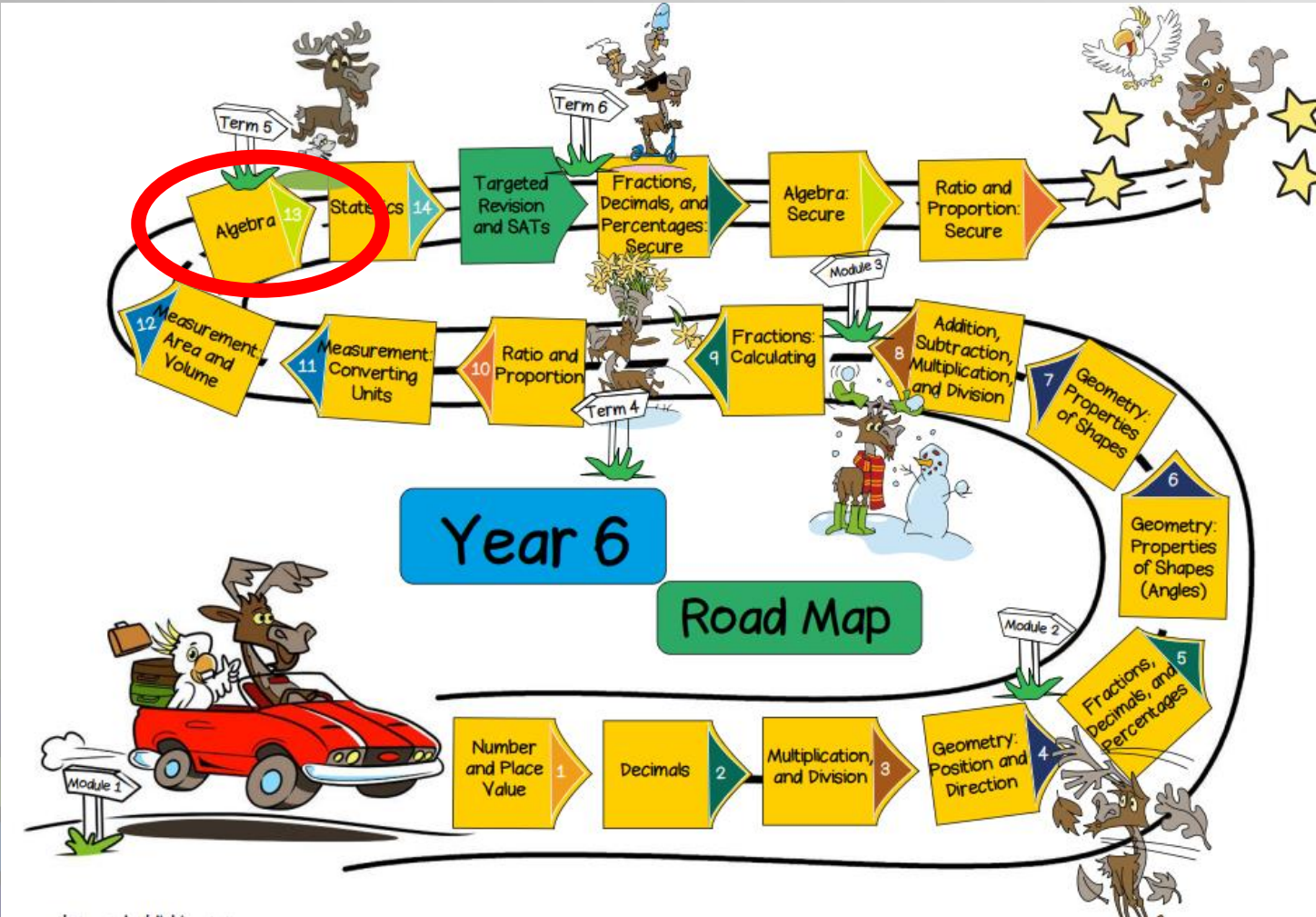
Mathematics – Year 3
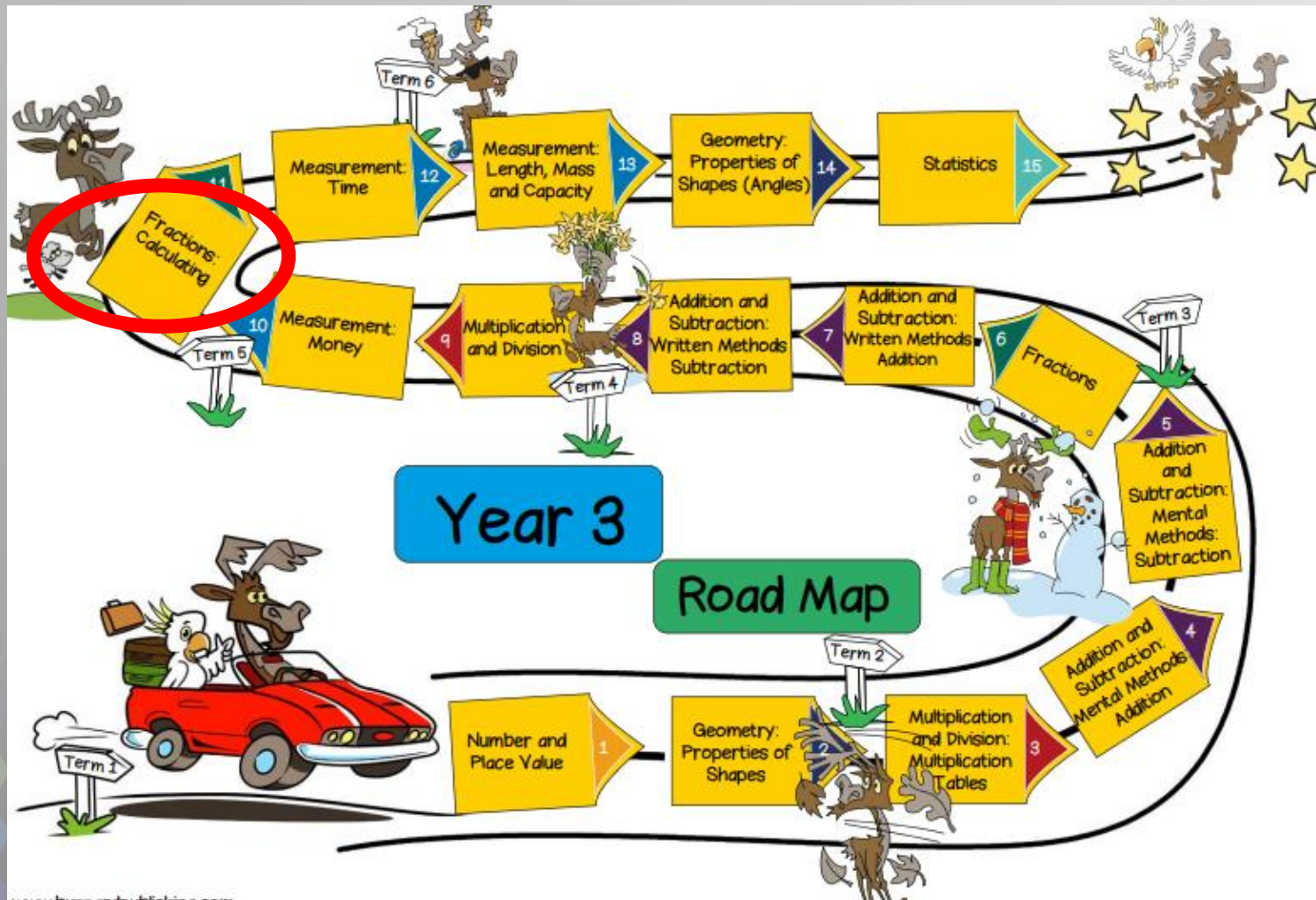
Mathematics – Year 4
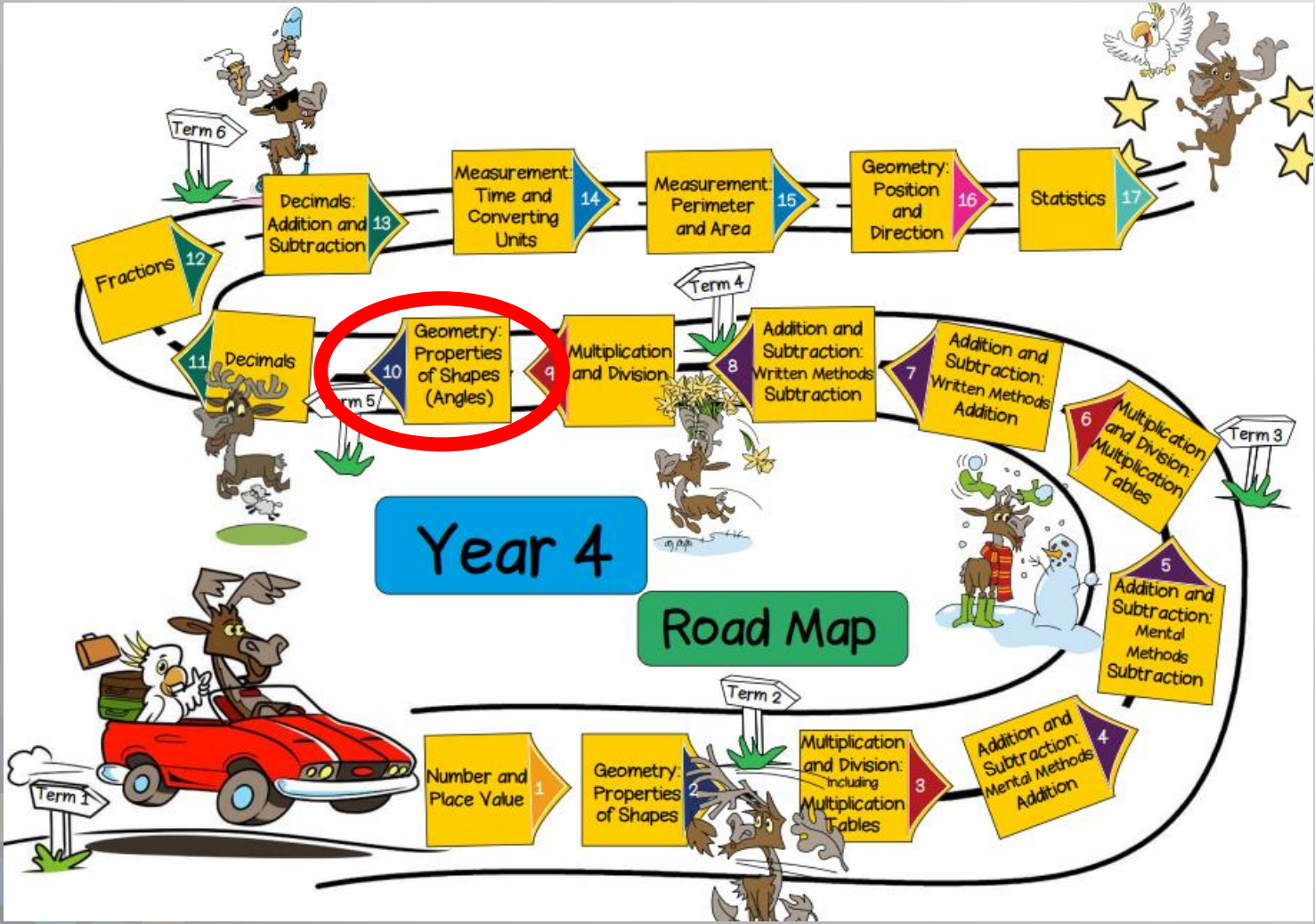
Mathematics – Year 5

Mathematics – Year 6

Mathematics – Year 6

Term 4. W/c		KPI	DfE RTP	**Maths Lessons: Intelligent Practice** **Lesson by Lesson Plan** Resources for planning included in Gold and All Access Pass	
19/02/2024	M T W T F	KPI 18		**Ratio and Proportion**	Extra Problem Solving
					Find 10%, 25%, 50% and 75% of an amount
					Find simple percentages of an amount (multiples of 10% and 5%)
					Find complex percentages of an amount (eg 17%, 28%, 63%))
					Use percentages to make comparisons
26/02/2024	M T W T F	KPI 19	6 AS/MD-3	**Ratio and Proportion**	Find the value of the parts, given the whole
					Find the value of the whole and parts, given one part
					Use scale factors to calculate dimensions in similar shapes
					Use scale drawings
					Extra Problem Solving
04/03/2024	M T W T F	KPI 20	5NPV-5	**Measurement: Converting Units**	Convert between metric units from the smaller unit to the larger unit
					Convert between metric units from the larger unit to the smaller unit
					Convert between units of time
					Convert between miles and km
					Recognise that shapes with the same areas can have different perimeters and vice versa
11/03/2024	M T W T F	KPI 21, 22	6G-1	**Measurement: Area and Volume**	Calculate the area of a parallelogram
					Calculate the area of a triangle
					Calculate the volume of cuboids, including cubes
					Extra Problem Solving
					Use simple formulae expressed in words (e.g. time needed to cook a chicken: allow 20 minutes plus 40 minutes per kilogram)
18/03/2024	M T W T F	KPI 23, 24	6 AS/MD-3,4	**Algebra**	Know the basic rules of algebraic notation
					Express missing number problems algebraically
					Find combinations of two variables
					Find pairs of numbers that satisfy an equation with two unknowns e.g. a + b = 15
					Generate a linear sequence from its description
25/03/2024	M T W T F			**Algebra**	Describe and find the next terms of a linear sequence
					Find a missing term in a linear sequence
					Describe a number pattern algebraically
					End of Term Assessment: Remember it 4

Mathematics – Year 6

CanDoMaths Key Performance Indicators

	Year 6 KPIs		
1	Read, write and order numbers up to 10,000,000		
2	Multiply and divide numbers by 10, 100 and 1000		
3	Multiply numbers up to 4 digits by a 2-digit number choosing efficient methods		
4	Divide numbers up to 4 digits by a two-digit number choosing efficient methods and interpreting the remainders		
5	Calculate intervals across zero		
6	Describe and plot positions on a 2-D grid as coordinates in the four quadrants		
7	Reflect and translate shapes		
8	Simplify fractions		
9	Compare and order fractions, including fractions > 1		
10	Know and use simple fraction, decimal and percentage equivalents		
11	Compare and classify 2-D and 3-D shapes		
12	Know and use angle properties of straight lines, at a point and shapes		
13	Draw simple shapes using given lengths and angles		
14	Add and subtract fractions with denominators that are not multiples of each other		
15	Add and subtract mixed numbers		
16	Multiply simple pairs of proper fractions		
17	Divide proper fractions by a whole number		
18	Find percentages of an amount		
19	Use simple ratio to compare quantities		
20	Convert between different units of metric measure		
21	Calculate the area of triangles and parallelograms		
22	Calculate volumes of cuboids		
23	Use simple formulae expressed in words		
24	Find possible values in missing number problems involving one or two unknowns		

It is important that children develop positive attitudes and interests in maths, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

Workshop

Year 1 - Use mathematical language to describe a turn, including quarter turns

Year 3 – Find unit fractions of a number of objects

Year 5 – Convert kilometres to meters and KM to M using decimal notation

Thank you for attending this workshop.
You now welcome to move around the school and visit your child's class. You are welcome to join in activities and take notes of resources used in class that you might want to use at home.

Please do not take any photos – phones must be turned off and away to comply with our safeguarding policy.

KPI sheets are available for your child's year group.
I am available for any advice or any questions you may have.
There will be a bing bong at 9:35 to signal the end of the session.