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Links to prior learning/ objectives:	Resources:	Vocabulary:
~ read and recognise and write numbers to 20 and know numbers to 100. ~ Counting in multiples of 2, 5 and 10. ~ Multiplication facts with 2s, 5s ad 10s. ~ Recognising odd and even numbers. ~Addition and subtraction skills- base ten, tens frames, number lines, physical objects. ~ Word problems linked to addition and subtraction. ~ Awareness of greater than, less than and equal to symbols. ~ Awareness of commutativity.	Base10, number lines, counting objects/ forming them into arrays, bead strings, tens frames, two-sided counters, Part-Part-Whole diagrams/ bar models. Axis, scales,	Pictogram, tally chart, block diagram, table, scale, interpret, construct, intervals, multiples. sort, quantity, total, how many more, difference. Add, addition, commutative, commutativity, order, part, whole. Add, subtract, addition, subtraction, inverse, part, whole, missing number,
	Mastery: (where to find some resources) • Teaching for Mastery • White Rose **New and old documents** • Mastery maths stickers • Nrich (curriculum mapping)	

Objectives and Teaching

Week 1	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.
Barriers to ARE (misconceptions) Children may struggle to read a graph and determine what it is showing. Children may struggle to count in multiples of 2s,5s and 10s to read the scale. Children may not be able to recognise what an amount may be if it falls between two numbered intervals- odd numbers on a scale of 2s. Recognising the worth of a picture on a pictogram- especially when more than one. Children may struggle to draw their own scale, recognising that intervals must be equally parted.	• To know how to record and interpret data in a tally chart. • To develop the skill of collecting data. • To know how to create a pictogram using knowledge of data collection. • To develop the skill of interpreting data in a pictogram.

Fluency	Reasoning	Problem Solving

Complete the tally chart.

Favourite colour	Tally	Total
Blue	卌 III	
Red	卌 卌 II	
Yellow	II	
Green	III	

What does the data tell you? Tell me the story.

Complete the tally chart for Year 2

Year group	Tally	Total
Year 1	卌 卌	10
Year 2		19
Year 3	卌 卌 卌 卌 I	21
Year 4	卌 卌 卌 II	17

What could the title be for this tally chart?

Make a tally chart about one of the following topics:
- Equipment in class (scissors, glue etc)
- Favourite sport
- Favourite fruit
- Ways of getting to school (walk, car, cycle etc)
- A choice of your own

Complete the pictogram.

Hair colour		Number
Black	●●●●●	5
Blonde	●●●●●●●	7
Brown		9
Ginger	●●●●	4

Use the tally chart to help you complete the pictogram.

Fruit	Tally
Banana	卌I
Grapes	IIII
Pear	卌III
Apple	III

Fruit	Number
Banana	🍌🍌🍌🍌🍌🍌
Grapes	🍇🍇
Pear	🍐🍐🍐
Apple	🍎🍎

Complete the pictogram using the data given.

Name	Tally of goals scored
Raj	II
Mark	卌 IIII
Rose	卌
Amal	卌 I

⚽
⚽

Raj	Mark	Rose	Amal

⚽ = 1 goal

What is the same? What is different?

Favourite ice-cream flavours in class 1	Tally
Vanilla	卌 卌 卌
Chocolate	卌 卌 卌 卌
Strawberry	卌 II
Mint	I

Favourite ice-cream flavours in class 1	Tally
Vanilla	卌 卌 II
Chocolate	卌 卌 卌 卌
Strawberry	卌
Mint	III

Frankie makes a tally chart of the animals he saw at the zoo

Animals at the zoo	Tally
(turtle)	卌
(elephant)	IIII
(panda)	II
(horse)	卌 II

Tick one box below that shows all of the animals Frankie saw and explain why the others are incorrect.

Box 1	Box 2	Box 3	Box 4

Here is a pictogram showing the number of counters each child has.

Tim	🔵🔵 🔵
Sally	🔵🔵 🔵🔵
Tom	🔵 🔵 🔵
Kate	🔵🔵🔵 🔵

How could you improve the pictogram?

Week 2	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.
	Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
Barriers to ARE (misconceptions)	
Children may struggle to read a graph and determine what it is showing.	• To develop the skill of interpreting data.
Children may struggle to count in multiples of 2s,5s and 10s to read the scale.	• To develop the skill of creating pictograms.
Children may not be able to recognise what an amount may be if it falls between two numbered intervals- odd numbers on a scale of 2s.	
Recognising the worth of a picture on a pictogram- especially when more than one.	
Children may struggle to draw their own scale, recognising that intervals must be equally parted.	

Fluency

Use the pictogram to answer the questions.

Colour		
Blue	👕👕👕👕👕👕👕	= 1 t-shirt
Green	👕👕	
Red	👕👕👕	
Purple	👕👕👕👕👕👕	
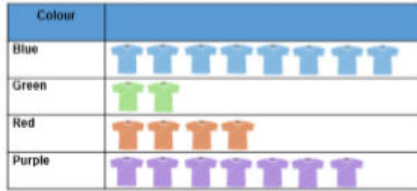
What was the most popular colour t-shirt?
What was the least popular t-shirt?
How many more blue t-shirts were sold than red?
How many t-shirts were sold in total?
Use the pictogram to complete the stem sentences.

Minibeast		
Woodlouse	●●●●●●●●●	= 1 minibeast
Ladybird	●●●●●	
Centipede	●●	
Worm	●●●●●	
Spider	●●●●	
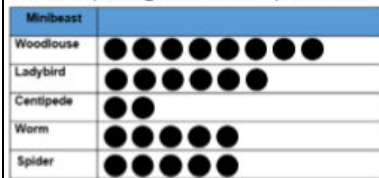
There are ____ ladybirds.
There are _____ centipedes and worms altogether.
_____ is the difference between worms and spiders.
How many more sentences can you write?

Reasoning

Here is a pictogram.

Ice creams sold
in a week

| Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |

▼ = 2 ice creams

Convince me
On Sunday the most ice creams were sold.

True or False (Why?)
Three ice creams were sold on Tuesday.

Justify
If the staff needed to pick which day to have off during the week, which would be the best day and why?

Problem Solving

Sam writes these statements about his pictogram:

- There were more cows than sheep.
- There were the same number of sheep and horses.
- There were more chickens than any other animal.
- There were less cows than goats.

Can you draw the pictogram, with a heading, so that Sam's statements are correct?

Week 3	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.
	Ask and answer questions about totalling and comparing categorical data.
Barriers to ARE (misconceptions) Children may struggle to read a graph and determine what it is showing.	- To know how to sort data into a Venn diagram. - To know how to sort data into a Carroll diagram. - To know to sort data into block diagrams. - To develop the skill of interpreting block diagrams.

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Children may struggle to count in multiples of 2s,5s and 10s to read the scale.
Children may not be able to recognise what an amount may be if it falls between two numbered intervals- odd numbers on a scale of 2s.
Recognising the worth of a picture on a pictogram- especially when more than one.
Children may struggle to draw their own scale, recognising that intervals must be equally parted.

Fluency	Reasoning	Problem Solving

Fluency

Class 4 are collecting data about favourite colours.

Colour	Number of children
Red	5
Green	8
Blue	7
Yellow	2

Make a block diagram using cubes to represent the data.
Can you now draw the block diagram? Remember to label the blocks and draw a clear scale.

5 classes collected their house points.
Here are their results.
Which class collected the most house points?
Which class collected the fewest house points?
How many more points did Class 2 get than Class 4?
How many fewer points did Class 3 get than Class 5?
How many points did Class 2 and Class 3 get altogether?
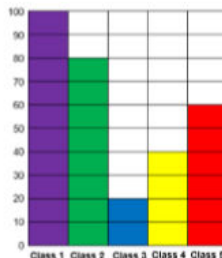
Reasoning

Which one is the odd one out?
Explain why.

Block diagram
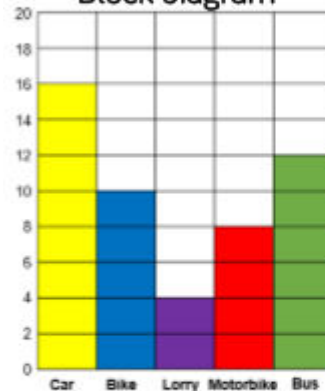
Pictogram
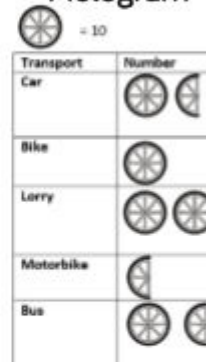
Tally Chart

Transport	Number
Car	||||| ||||| |||||	
Bike	||||| |||||
Lorry	||
Motorbike	||||
Bus	||||| ||||| ||

Problem Solving

Split into groups.
Everyone needs to write their name on a post it note.
Using a blank axis of a block diagram, use your post it notes to find the answers to the following questions:

• How many boys and how many girls are there in your group?
• Which month has the most birthdays for your group?
• How old are the children in your group?

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Week 4 **Barriers to ARE (misconceptions)** Children may struggle to see the whole as the total/ answer. Children may struggle to see that the two parts can written in any order when adding. Children may struggle to see that the whole is first when subtracting	Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. • To know that addition is commutative. • To understand that addition is commutative. • To know that subtraction is not commutative. • To know how to use known facts to create fact families.

Fluency	**Reasoning**	**Problem Solving**
Use concrete objects to check and prove whether the calculations are correct. $12 - 4 = 8$ $7 + 8 = 15$ Can you use the inverse operation to check $5 + 12 = 17$? 17 12 5 How many possible inverse calculations are there? Erin writes this calculation: $18 - 5 = 13$ Which of the following could she use to check her work? $13 + 5$ $13 - 5$ $18 - 13$ $5 + 13$	Which of the representations are equivalent to the bar model? 12 3 9 Harry and Jenny are solving the subtraction $23 - 9$ Here are their methods. Harry: I put 9 in my head and counted on to 23 Jenny: I put 23 in my head and counted back nine. Who's method is the most efficient? Can you explain why? Can you think of another method to solve the subtraction?	$8 - 5 = 3$ $8 - 3 = 5$ $8 = 5 - 3$ $3 = 8 - 5$ Laura says, "I think that all of these facts are correct because the numbers are related." Sam disagrees. Who is correct? Can you prove it?

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Drive

Here is an incomplete bar model.
The total is greater than 10 but less than 20.
What could the numbers be? How many different combinations can you find?

4	

Week 5	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
Barriers to ARE (misconceptions)	
Children may struggle to recognise the relationship between parts and whole when adding and subtracting.	• To know that subtraction is inverse to addition.
	• To know how to use the inverse operation to check calculations
Children may struggle to see how the inverse can be used to check accuracy with an answer.	• To know how to use the inverse operation to solve missing number problems.

Fluency	**Reasoning**	**Problem Solving**

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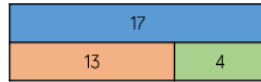Using concrete apparatus, can you talk about the relationships between the different flowers?

One relationship shown by this part whole model is
$15 + 5 = 20$.
Can you write all associated fact facts in the sentences below?

Look at the bar model below. Can you write all of the sentences in the fact family?

17	
13	4

Theo is checking Ellen's work but doesn't do an inverse calculation.

He says, "these calculations can't be right."

How might he know?

$24 + 6 = 84$
$25 - 23 = 12$
$18 - 3 = 21$

Emily did the following calculation:

$$12 - 8 = 4$$

She checked it by using the inverse.

She did $12 + 8 = 20$ and said that her first calculation was wrong.

What advice would you give to her?

Week 6	Consolidate – SATs consolidation using AfL