Statistics

Master The Curriculum

2

Fluency & Reasoning Teaching Slides

Make Tally Charts

2

Fluency & Reasoning Teaching Slides

Activity 1 Make Tally Charts

Complete the tally chart.

Favourite Colour	Tally	Total
Green	||	
Orange	𝍸 𝍸	
Red	𝍸 |	
Blue	𝍸 𝍸 ||	
Yellow	|	

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

How would you count the groups?

Activity 1 Make Tally Charts

Complete the tally chart.

Favourite Colour	Tally	Total
Green	||	2
Orange	𝍸 𝍸	10
Red	||||	4
Blue	𝍸 𝍸 ||	12
Yellow	|	1

Activity 1 Make Tally Charts

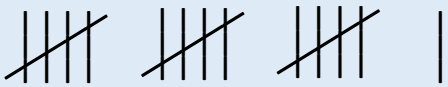
Complete the tally chart.

Favourite Animal	Tally	Total
Dog		
Cat		
Fish		
Snake		
Rabbit		

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

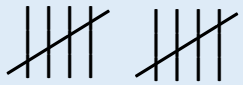
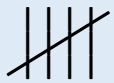
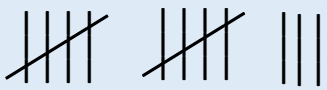
Activity 1 Make Tally Charts

Complete the tally chart.

Favourite Animal	Tally	Total
Dog		9
Cat		7
Fish		3
Snake		6
Rabbit		16

Activity 1 Make Tally Charts

Complete the tally chart.

Favourite Food	Tally	Total
Pizza		
Fried Chicken		
Cheese Burger		
Chocolate		
Chips		

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

Activity 1 Make Tally Charts

Complete the tally chart.

Favourite Food	Tally	Total
Pizza	𝍸 𝍸	10
Fried Chicken	𝍸	5
Cheese Burger	||	2
Chocolate	𝍸 ||||	9
Chips	𝍸 𝍸 |||	13

Activity 2 Make Tally Charts

Complete the tally chart for Year 2 and Year 4.

Year Group	Tally	Total
Year 1	𝍸 𝍸 𝍸	15
Year 2		16
Year 3	𝍸 |||	8
Year 4	𝍸 𝍸 |	

Why we draw tallys like this?

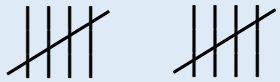
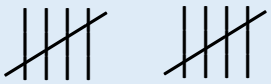
Activity 2 Make Tally Charts

Complete the tally chart for Year 2 and Year 4.

Year Group	Tally	Total
Year 1	𝍸 𝍸 𝍸	15
Year 2	𝍸 𝍸 𝍸 |	16
Year 3	𝍸 |||	8
Year 4	𝍸 𝍸 |	11

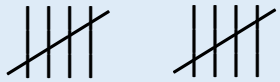
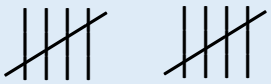
Activity 2 Make Tally Charts

Complete the tally chart for Year 1 and Year 3.

Year Group	Tally	Total
Year 1		
Year 2		6
Year 3		
Year 4		10

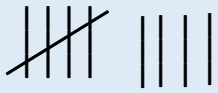
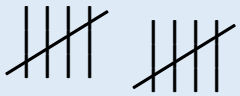
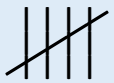
Activity 2 Make Tally Charts

Complete the tally chart for Year 1 and Year 3.

Year Group	Tally	Total
Year 1		10
Year 2		6
Year 3		8
Year 4		10

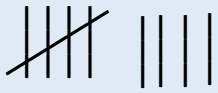
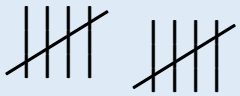
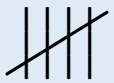
Activity 2 Make Tally Charts

Complete the tally chart for Year 1 and Year 2.

Year Group	Tally	Total
Year 1		
Year 2		
Year 3		8
Year 4		5

Activity 2 Make Tally Charts

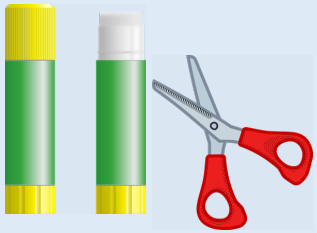
Complete the tally chart for Year 1 and Year 2.

Year Group	Tally	Total
Year 1		9
Year 2		10
Year 3		8
Year 4		5

Activity 3 Make Tally Charts

Make a tally chart about one of the following topics:

Class equipment?



Sports?

Colours?

Fruit and Vegetables?

When do we use tallys?

Activity 3 Make Tally Charts

Make a tally chart about one of the following topics:

This is a tally chart for the most popular sports.

Sports	Tally	Total
Basketball	𝍸 ||||	9
Football	𝍸 𝍸	10
Hockey	𝍸 |||	8
Swimming	𝍸	5

Activity 3 Make Tally Charts

Make a tally chart about one of the following topics:

Sweets?

Toys?

Balloon Colours?

Activity 3 Make Tally Charts

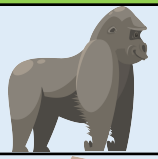
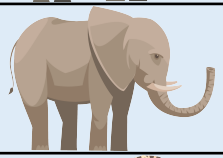
Make a tally chart about one of the following topics:

This is a tally chart for the number of toys children have.

Toys	Tally	Total
Car	𝍸 𝍸	10
Train	𝍸 |	6
Dice	𝍸 |||	8
Ball	𝍸 𝍸	10

Reasoning - 1 Make Tally Charts

Zach makes a tally chart of the animals he saw at the zoo.

Animal	Tally
	|||
	𝍸
	|||
	𝍸 |||

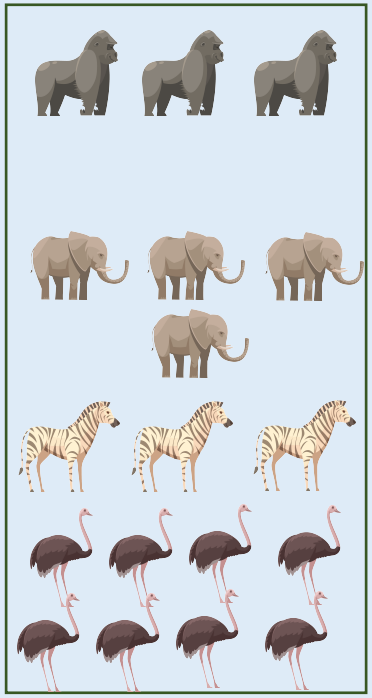
Reasoning - 1

Make Tally Charts

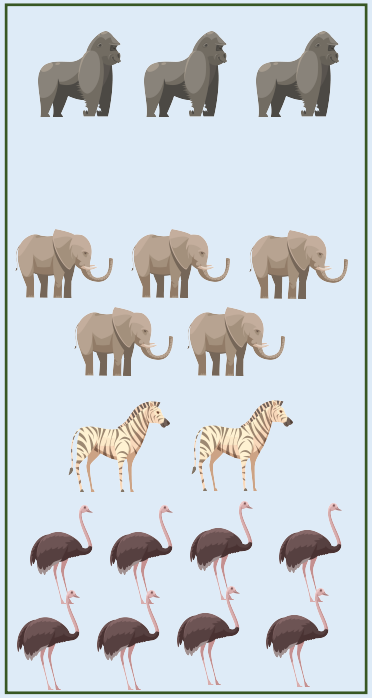
Animal	Tally
	𝍸
	𝍸 |
	𝍸
	𝍸 𝍸

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

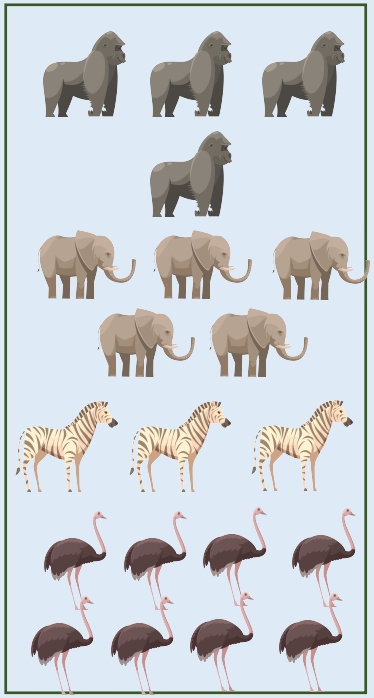
Box 1



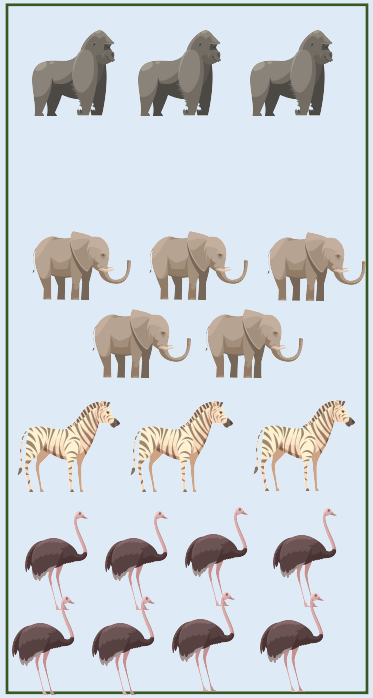
Box 2



Box 3



Box 4



Reasoning - 1 Make Tally Charts

Zach makes a tally chart of the animals he saw at the zoo.

Box 1 is incorrect because there are not enough elephants to match the tally chart.

Box 2 is incorrect because there are not enough zebras to match the tally chart.

Box 3 is incorrect because there are too many gorillas.

Reasoning - 2 Make Tally Charts

Class 1 and Class 2 were each asked their favourite ice-cream flavours.
Their total results are shown in the tally charts.

Class 1	
Flavour	Total
Mint	𝍸
Strawberry	𝍸 𝍸 𝍸
Chocolate	𝍸 | | |
Vanilla	𝍸

Class 2	
Flavour	Total
Mint	| |
Strawberry	𝍸 𝍸 𝍸
Chocolate	𝍸 𝍸
Vanilla	𝍸 | |

What is the same? What is different?

Reasoning - 2 Make Tally Charts

Class 1 and Class 2 were each asked their favourite ice-cream flavours.
Their total results are shown in the tally charts.

The same:

Both classes have 15 votes for strawberry. Both tally charts show strawberry is the favourite flavour. The order of preference for four flavours is the same.

Different:

In Class 1, one more child like Mint. There are more children in Class 2 than in Class 1. 2 more children chose chocolate in Class 2. 2 more children chose vanilla in Class 2

Discussion

Make Tally Charts

What do you notice about the groups?
How would we count these?

How would you show 6, 11, 18 as a tally?

Why do we draw tallies like this?

When do we use tallies?

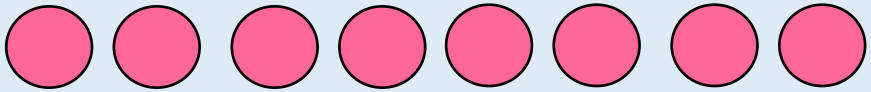
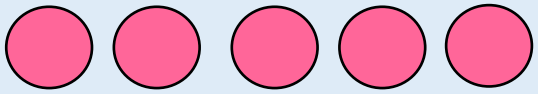
Draw Pictograms (1 – 1)

2

Fluency & Reasoning Teaching Slides

Activity 1 Draw Pictograms (1 – 1)

Complete the pictogram.

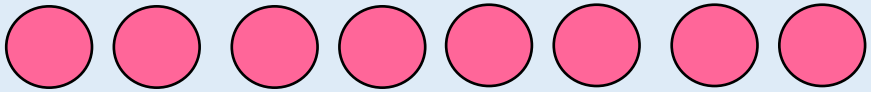
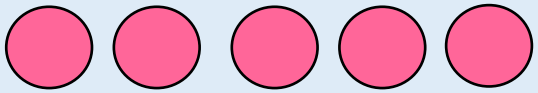
Hair Colour		Total
Brown		8
Black		9
Blonde		7
Ginger		

Key  = 1

How do you know how many images to draw?

Activity 1 Draw Pictograms (1 – 1)

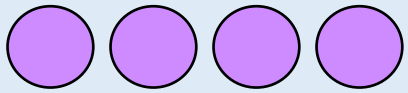
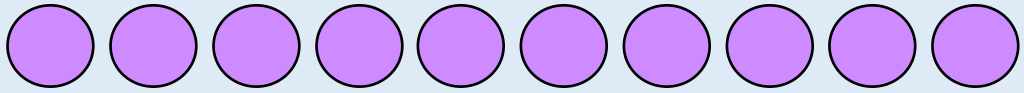
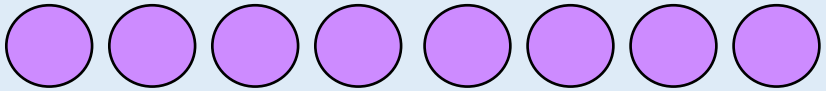
Complete the pictogram.

Hair Colour		Total
Brown		8
Black		9
Blonde		7
Ginger		5

Key  = 1

Activity 1 Draw Pictograms (1 – 1)

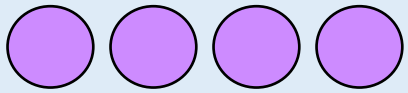
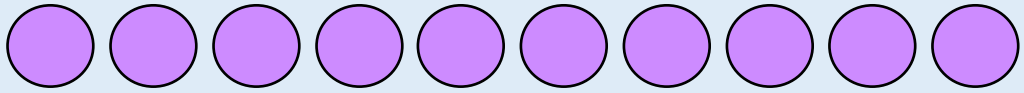
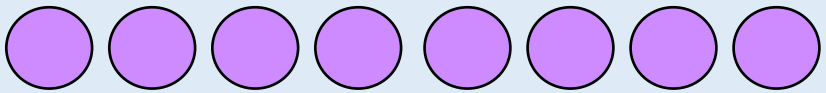
Complete the pictogram.

Eye Colour		Total
Brown		
Black		3
Blue		10
Green		

Key  = 1

Activity 1 Draw Pictograms (1 – 1)

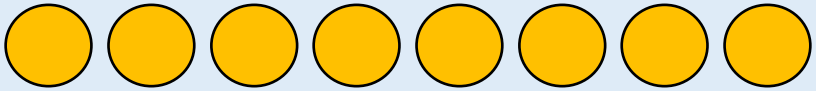
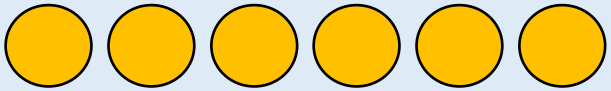
Complete the pictogram.

Eye Colour		Total
Brown		4
Black		3
Blue		10
Green		8

<u>Key</u>  = 1

Activity 1 Draw Pictograms (1 – 1)

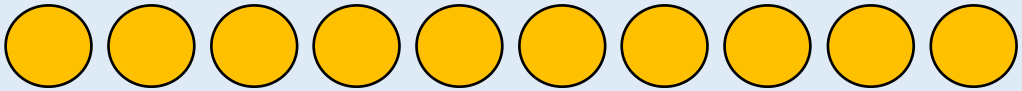
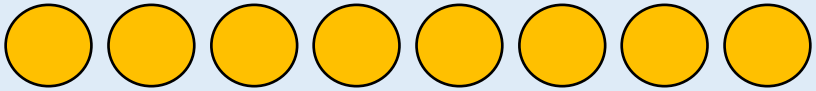
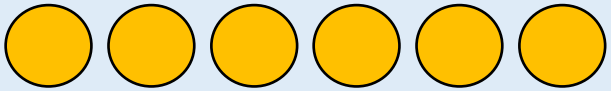
Complete the pictogram.

Pets		Total
Dog		10
Cat		
Hamster		5
Bird		

Key  = 1

Activity 1 Draw Pictograms (1 – 1)

Complete the pictogram.

Pets		Total
Dog		10
Cat		8
Hamster		5
Bird		6

Key  = 1

Activity 2 Draw Pictograms (1 – 1)

Use the tally chart to help you complete the pictogram.

Fruit	Tally
Banana	𝍸 |
Grape	||||
Pear	𝍸 |||
Apple	|||

Fruit	
Banana	
Grape	
Pear	
Apple	

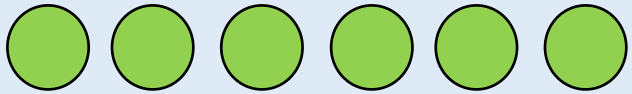
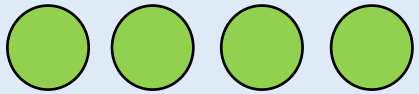
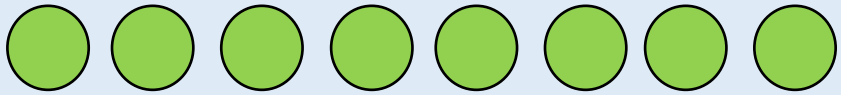
Key  = _____

What is the same and what is different about these pictograms?

Activity 2 Draw Pictograms (1 – 1)

Use the tally chart to help you complete the pictogram.

Fruit	Tally
Banana	𝍸 |
Grape	𝍸
Pear	𝍸 |||
Apple	|||

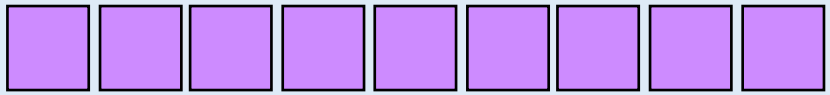
Fruit	
Banana	
Grape	
Pear	
Apple	

Key  = 1 fruit

Activity 2 Draw Pictograms (1 – 1)

Use the tally chart to help you complete the pictogram.

Fruit	Tally
Strawberry	𝍸 ||
Pear	𝍸 ||||
Apple	𝍸 |||
Peach	|||
Grape	||||

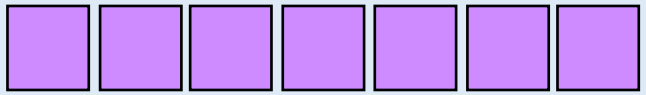
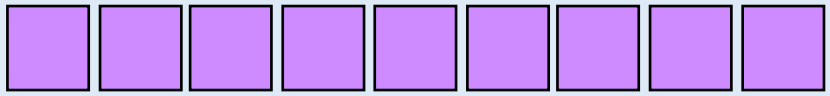
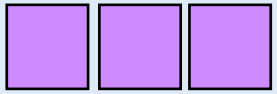
Fruit	
Strawberry	
Pear	
Apple	
Peach	
Grape	

Key  = _____

Activity 2 Draw Pictograms (1 – 1)

Use the tally chart to help you complete the pictogram.

Fruit	Tally
Strawberry	𝍸 ||
Pear	𝍸 ||||
Apple	𝍸 |||
Peach	|||
Grape	||||

Fruit	
Strawberry	
Pear	
Apple	
Peach	
Grape	

Key = 1 fruit

Activity 2 — Draw Pictograms (1 – 1)

Use the tally chart to help you complete the pictogram.

Vegetable	Tally
Squash	𝍸
Carrots	𝍸 |
Aubergine	𝍸 𝍸
Potatoes	𝍸

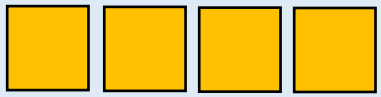
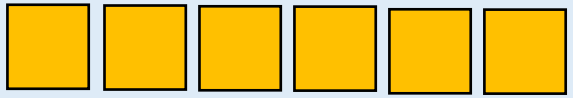
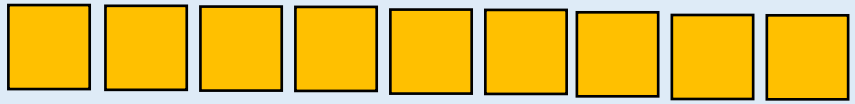
Fruit	
Squash	
Carrots	
Aubergine	
Potatoes	

Key  = _____

Activity 2 Draw Pictograms (1 – 1)

Use the tally chart to help you complete the pictogram.

Vegetable	Tally
Squash	𝍸
Carrots	𝍸 |
Aubergine	𝍸 𝍸
Potatoes	𝍸

Fruit	
Squash	
Carrots	
Aubergine	
Potatoes	

Key ■ = 1 vegetable

Activity 3 Draw Pictograms (1 – 1)

Complete the pictogram using the data given.

Name	Tally
Zach	||
Esin	𝍸 |||
Malachi	𝍸
Tia	𝍸 |

<u>Key</u>  = 1 goal

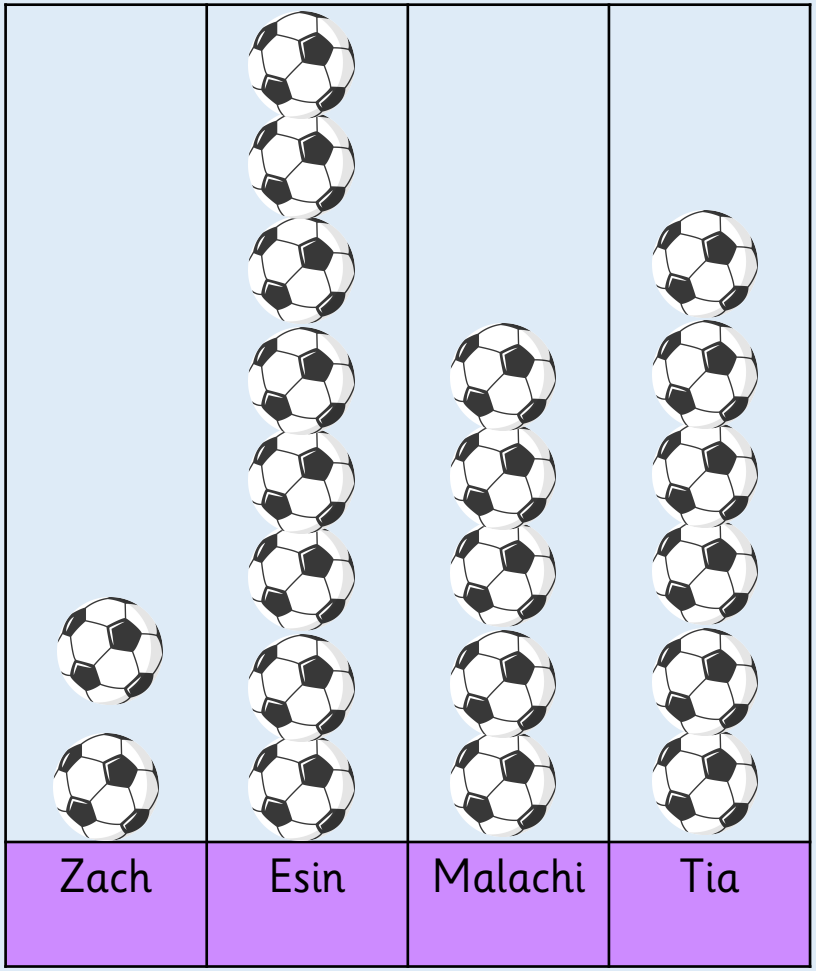
What symbol could we use to represent the data?

Activity 3 Draw Pictograms (1 – 1)

Complete the pictogram using the data given.

Name	Tally
Zach	||
Esin	𝍸 |||
Malachi	𝍸
Tia	𝍸 |

Key = 1 goal



Activity 3 Draw Pictograms (1 – 1)

Complete the pictogram using the data given.

Name	Tally
Tia	𝍸
Zach	𝍸 ||
Rosie	|||
Leanna	𝍸 |||

<u>Key</u>  = 1 goal

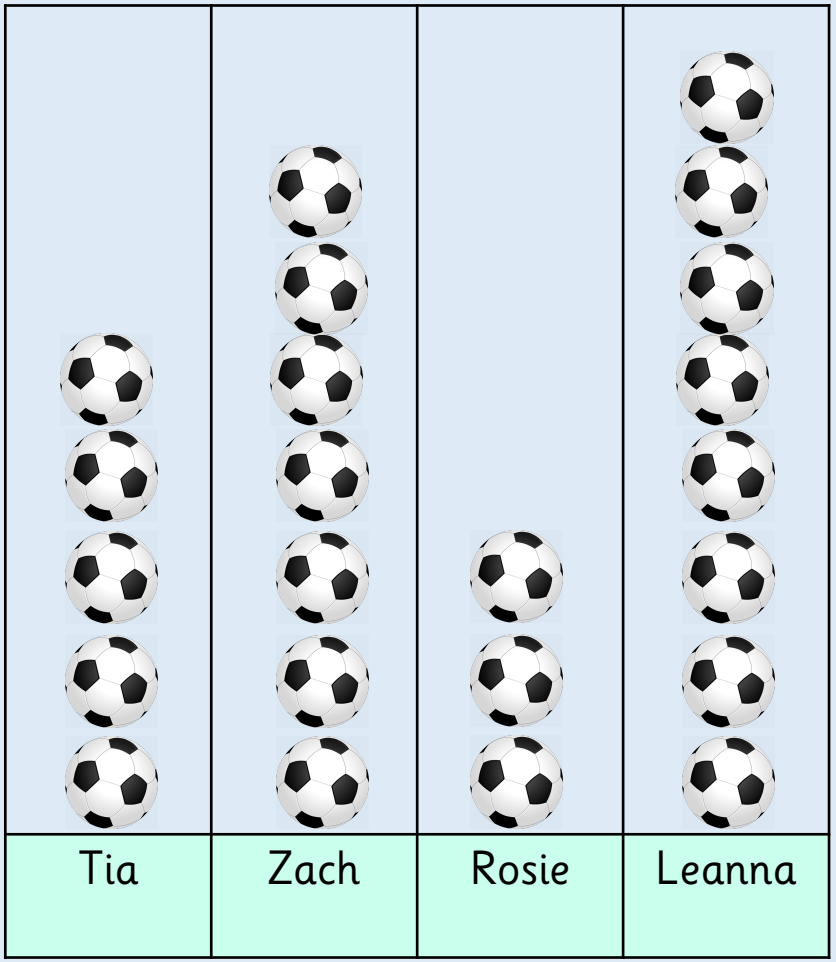
			
Tia	Zach	Rosie	Leanna

Activity 3 Draw Pictograms (1 – 1)

Complete the pictogram using the data given.

Name	Tally
Tia	𝍸
Zach	𝍸 ||
Rosie	|||
Leanna	𝍸 |||

<u>Key</u>  = 1 goal

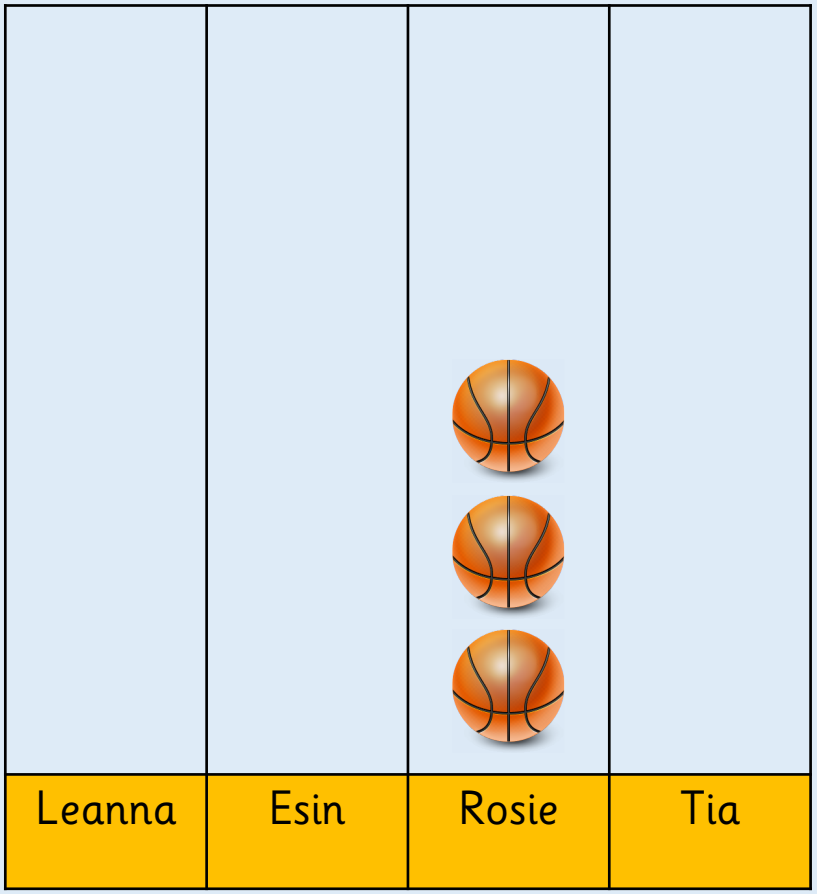


Activity 3 Draw Pictograms (1 – 1)

Complete the pictogram using the data given.

Name	Tally
Leanna	𝍸 ||
Esin	𝍸
Rosie	𝍸
Tia	𝍸 ||

Key  = 1 point

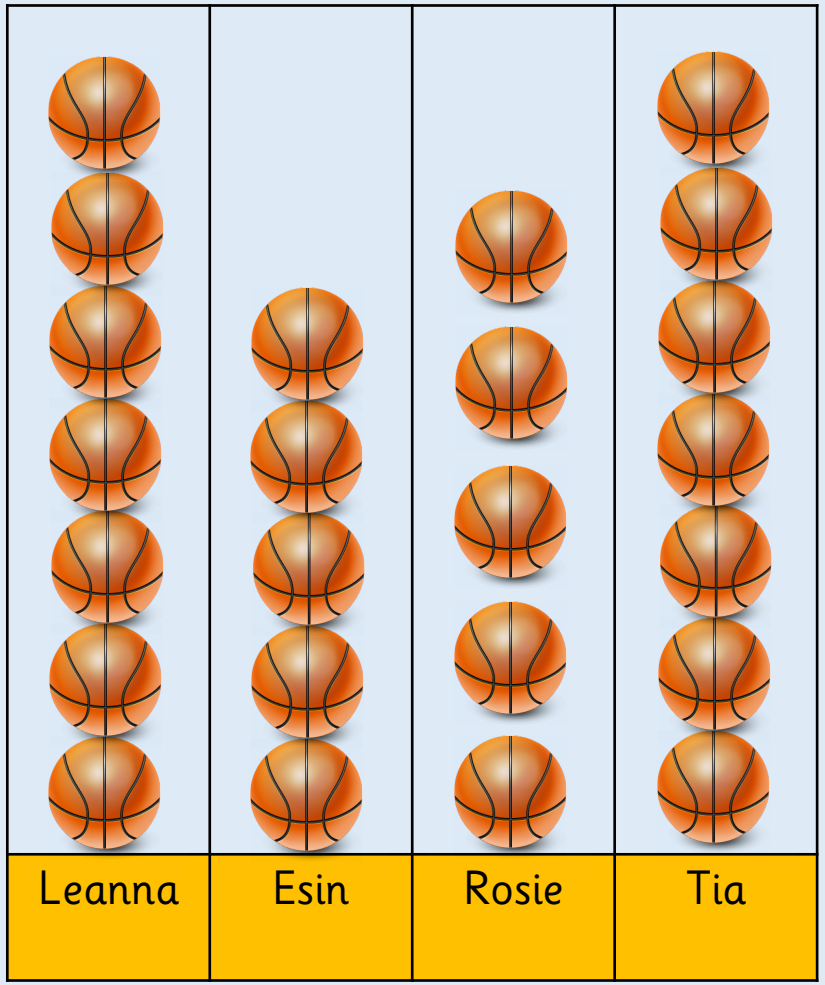


Activity 3 Draw Pictograms (1 – 1)

Complete the pictogram using the data given.

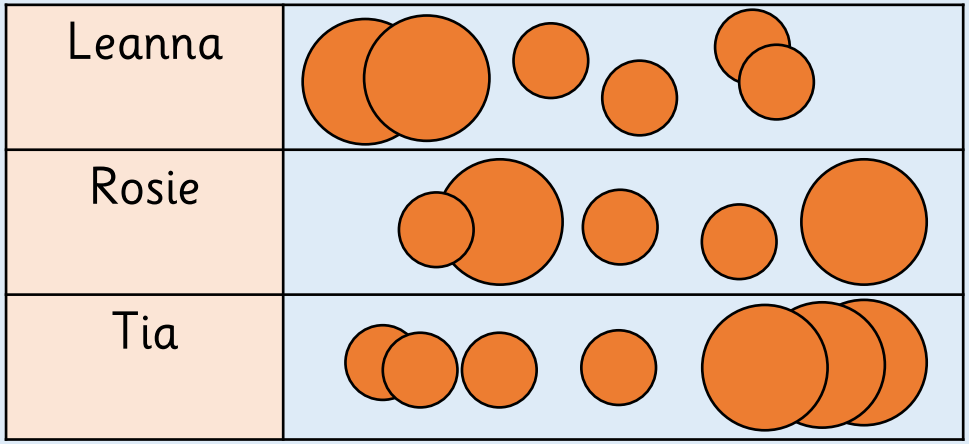
Name	Tally
Leanna	𝍸 ||
Esin	𝍸
Rosie	𝍸
Tia	𝍸 ||

Key = 1 point



Reasoning - 1 Draw Pictograms (1 – 1)

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



How could you improve the pictogram?

Reasoning - 1 Draw Pictograms (1 – 1)

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

Possible answer:
Children show understanding that the pictogram is hard to read as the symbols are overlapping each other.

The pictures must be lined up and evenly spaced. They are also different sized circles representing the data. The pictures need to be the same size. There isn't a key.

Reasoning - 2 Draw Pictograms (1 – 1)

Use the clues below to help you complete the pictogram.

- More Vanilla was sold than Mint flavour, but less than Caramel.
- Chocolate was the most popular flavour.
- Bubblegum was the least popular.

Flavour	= 1 ice cream	Total
Bubblegum		
Caramel		
Chocolate		
Mint		4
Strawberry		
Vanilla		

Can you find more than one way to complete the pictogram?

Reasoning - 2 Draw Pictograms (1 – 1)

Use the clues below to help you complete the pictogram.

Various answers,

e.g.

Bubblegum – 1

Caramel – 8

Chocolate – 9

Mint – 4

Strawberry – 4

Vanilla – 6

Discussion

Draw Pictograms (1 – 1)

How do you know how many images to draw?

What is the same and what is different about these two pictograms? (same data but shown horizontally and vertically)
Which pictogram is easier to read? Why?

What simple symbol could we draw to represent the data?
Why did you choose this?

Interpret Pictograms (1 – 1)

2

Fluency & Reasoning Teaching Slides

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Activity 1 Interpret Pictograms (1 – 1)

Here is a pictogram to show Class 5's favourite colour of jacket.

Colour	
Blue	
Green	
Red	
Purple	

 = 1 vote

What is the most popular colour jacket?
What colour is the least popular jacket?
How many more children chose blue jackets than red?
How many children are in Class 5?

What is the pictogram showing us?

Activity 1 Interpret Pictograms (1 – 1)

Colour	
Blue	
Green	
Red	
Purple	

What is the most popular colour jacket?

The most popular jacket colour is blue.

What colour is the least popular jacket?

The colour of the least popular jacket is green.

How many more children chose blue jackets than red?

There are 4 children who chose blue jackets than red.

How many children are in Class 5?

There are 21 children in Class 5.

Activity 1 Interpret Pictograms (1 – 1)

Here is a pictogram to show Class 2's favourite meals.

Favourite Meal	
Spaghetti	
Chips	
Roast Dinner	
Sandwiches	

 = 1 vote

What is the most popular meal?

What is the least popular meal?

How many more children chose chips more than sandwiches?

How many children are in Class 2?

Activity 1 Interpret Pictograms (1 – 1)

Favourite Meal	
Spaghetti	
Chips	
Roast Dinner	
Sandwiches	

What is the most popular meal?

The most popular meal is roast dinner.

What is the least popular meal?

The least popular meal is spaghetti.

How many more children chose chips more than sandwiches?

There are 2 children who chose chips than sandwiches.

How many children are in Class 2?

There are 20 children in Class 2.

Activity 1 Interpret Pictograms (1 – 1)

Here is a pictogram to show Class 1's favourite colour of shorts.

Colour	
Black	
Brown	
Blue	
Red	

 = 1 vote

What is the most popular colour of short?
What colour is the least popular short?
How many more children chose brown short than blue?
How many children are in Class 1?

Activity 1 Interpret Pictograms (1 – 1)

Colour	
Black	
Brown	
Blue	
Red	

What is the most popular colour of short?

The most popular colour of short is black.

What colour is the least popular short?

The least popular colour of short is red.

How many more children chose brown short than blue?

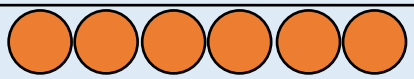
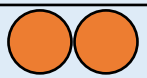
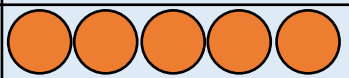
There is 1 more child who chose brown short than blue.

How many children are in Class 1?

There are 16 children in Class 1.

Activity 2 Interpret Pictograms (1 – 1)

Here is a pictogram to show mini beasts collected by Class 5.

Mini beast	
Woodlouse	
Ladybird	
Centipede	
Worm	
Spider	

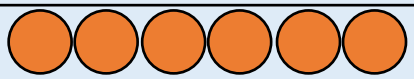
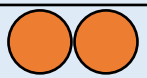
 = 1 mini beast

There are ___ ladybirds.
There are ___ centipedes and worms altogether.
There are ___ more worms than centipedes.
What else does the pictogram tell you?

What can you find out from this pictogram?

Activity 2 Interpret Pictograms (1 – 1)

Here is a pictogram to show mini beasts collected by Class 5.

Mini beast	
Woodlouse	
Ladybird	
Centipede	
Worm	
Spider	

 = 1 mini beast

There are 6 ladybirds.

There are 7 centipedes and worms altogether.

There are 3 more worms than centipedes.

What else does the pictogram tell you?

The most collected mini beast is the woodlouse.

Activity 2 Interpret Pictograms (1 – 1)

Here is a pictogram to show mini beasts collected by Class 5.

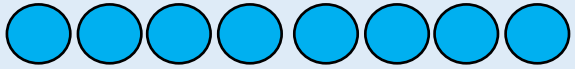
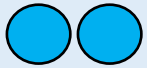
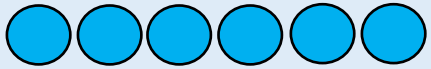
Mini beast	
Beetle	●●●●●●●●
Ladybird	●●
Ant	●●●●●●●●●
Centipede	●●●●●●
Spider	●

● = 1 mini beast

There are ___ ants.
There are ___ beetles and spiders altogether.
There are ___ more centipedes than ladybirds.
What else does the pictogram tell you?

Activity 2 Interpret Pictograms (1 – 1)

Here is a pictogram to show mini beasts collected by Class 5.

Mini beast	
Beetle	
Ladybird	
Ant	
Centipede	
Spider	

 = 1 mini beast

There are 9 ants.

There are 9 beetles and spiders altogether.

There are 4 more centipedes than ladybirds.

What else does the pictogram tell you?

The least popular mini beast collected is the spider.

Reasoning - 1 Interpret Pictograms (1 – 1)

Malachi writes these statements about his pictogram.

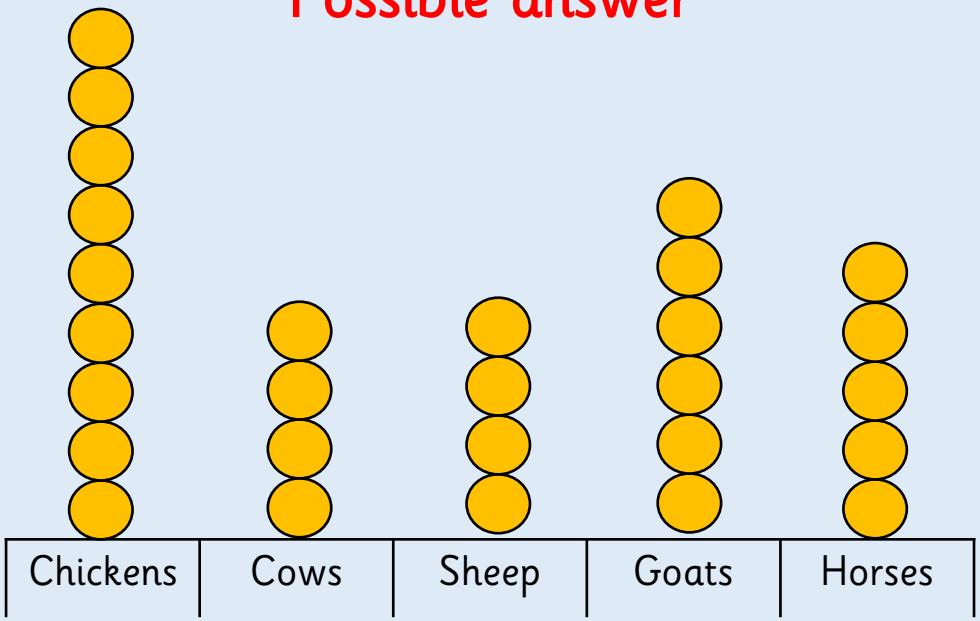
- There were more horses than cows.
- There were the same number of cows and sheep.
- There were more chickens than any other animal.
- There were less horses than goats.
- There were 6 goats.

Can you draw a pictogram so that Malachi's statements are correct?
What title would you give it?

Reasoning - 1 Interpret Pictograms (1 – 1)

Malachi writes these statements about his pictogram.

Possible answer



Children may have different numbers from this and still be correct.

Reasoning - 2 Interpret Pictograms (1 – 1)

Here's a pictogram.

Esin

The most popular colour is blue.

Do you agree with Esin?
Explain why and correct any mistakes.

Interpret Pictograms (1 – 1)

Here's a pictogram.

Esin is wrong because the blue are not lined up correctly.

It should look like this:

Discussion

Interpret Pictograms (1 – 1)

What is the pictogram showing us?

What can you find out from this pictogram?

Can you think of your own questions to ask a partner?

Draw Pictograms (2, 5 & 10)

2

Fluency & Reasoning Teaching Slides

Activity 1 Draw Pictograms (2, 5 & 10)

Use the tally to complete the pictogram.

Pet	Tally
Dog	𝍸 𝍸
Cat	𝍸 𝍸 ||||
Rabbit	𝍸 𝍸 ||
Fish	𝍸 𝍸 𝍸 |

Pet	
Dog	■ ■ ■ ■ ■
Cat	■ ■
Rabbit	■ ■ ■ ■
Fish	■ ■ ■ ■ ■

■ = 2 animals

If a symbol represents 2, how can you show 1 on a pictogram?

Activity 1 Draw Pictograms (2, 5 & 10)

Use the tally to complete the pictogram.

Pet	Tally
Dog	𝍸 𝍸
Cat	𝍸 𝍸 ||||
Rabbit	𝍸 𝍸 ||
Fish	𝍸 𝍸 𝍸 |

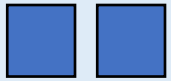
Pet	
Dog	
Cat	
Rabbit	
Fish	

= 2 animals

Activity 1 Draw Pictograms (2, 5 & 10)

Use the tally to complete the pictogram.

Transport to school	Tally
Walk	𝍸 𝍸 𝍸
Car	𝍸 ||||
Bike	𝍸 |||
Scooter	|||
Bus	

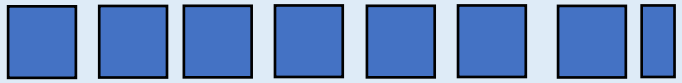
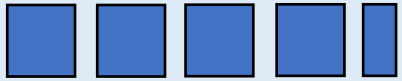
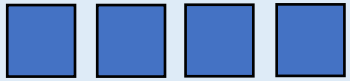
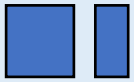
Transport to school	
Walk	
Car	
Bike	
Scooter	
Bus	

 = 2 people

Activity 1 Draw Pictograms (2, 5 & 10)

Use the tally to complete the pictogram.

Transport to school	Tally
Walk	𝍸 𝍸 𝍸
Car	𝍸 ||||
Bike	𝍸 |||
Scooter	|||
Bus	

Transport to school	
Walk	
Car	
Bike	
Scooter	
Bus	

 = 2 people

Activity 1 Draw Pictograms (2, 5 & 10)

Use the tally to complete the pictogram.

Meal	Tally
Spaghetti	𝍸 |
Roast Dinner	𝍸 𝍸
Chips	𝍸 𝍸 ||||
Sandwiches	𝍸 𝍸 ||

Meal	
Spaghetti	
Roast Dinner	
Chips	
Sandwiches	

= 2 meals

Activity 1 Draw Pictograms (2, 5 & 10)

Use the tally to complete the pictogram.

Meal	Tally
Spaghetti	𝍸 |
Roast Dinner	𝍸 𝍸
Chips	𝍸 𝍸 ||||
Sandwiches	𝍸 𝍸 ||

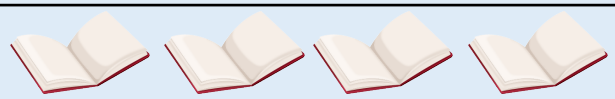
Meal	
Spaghetti	
Roast Dinner	
Chips	
Sandwiches	

= 2 meals

Activity 2 — Draw Pictograms (2, 5 & 10)

Use the information to complete the pictogram about the number of books read in each class.

Class 1	𝍸 𝍸 𝍸 𝍸 𝍸
Class 2	𝍸 𝍸 𝍸 𝍸 𝍸
Class 3	𝍸 𝍸 𝍸
Class 4	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸
Class 5	𝍸 𝍸 𝍸 𝍸
Class 6	𝍸 𝍸 𝍸

Class 1	
Class 2	
Class 3	
Class 4	
Class 5	
Class 6	

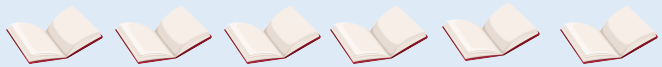
 = 5 books

When would you use a picture to represent 10 objects?

Activity 2 Draw Pictograms (2, 5 & 10)

Use the information to complete the pictogram about the number of books read in each class.

Class 1	𝍸 𝍸 𝍸 𝍸 𝍸
Class 2	𝍸 𝍸 𝍸 𝍸 𝍸
Class 3	𝍸 𝍸 𝍸
Class 4	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸
Class 5	𝍸 𝍸 𝍸 𝍸
Class 6	𝍸 𝍸 𝍸

Class 1	
Class 2	
Class 3	
Class 4	
Class 5	
Class 6	

 = 5 books

Activity 2 Draw Pictograms (2, 5 & 10)

Use the information to complete the pictogram about the number of books read in each class.

Year 1	𝍸 𝍸 𝍸 𝍸 𝍸
Year 2	𝍸 𝍸 𝍸
Year 3	𝍸 𝍸
Year 4	𝍸
Year 5	𝍸 𝍸 𝍸 𝍸
Year 6	𝍸 𝍸

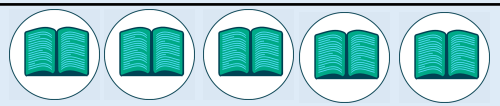
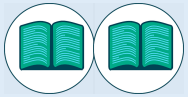
Year 1	
Year 2	
Year 3	
Year 4	
Year 5	
Year 6	

 = 5 books

Activity 2 Draw Pictograms (2, 5 & 10)

Use the information to complete the pictogram about the number of books read in each class.

Year 1	𝍸 𝍸 𝍸 𝍸 𝍸
Year 2	𝍸 𝍸 𝍸
Year 3	𝍸 𝍸
Year 4	𝍸
Year 5	𝍸 𝍸 𝍸 𝍸
Year 6	𝍸 𝍸

Year 1	
Year 2	
Year 3	
Year 4	
Year 5	
Year 6	

 = 5 books

Activity 2 — Draw Pictograms (2, 5 & 10)

Use the information to complete the pictogram about the number of books read in each class.

Class 1	𝍸 𝍸 𝍸
Class 2	𝍸 𝍸 𝍸 𝍸 𝍸
Class 3	𝍸 𝍸 𝍸
Class 4	𝍸 𝍸
Class 5	𝍸 𝍸 𝍸 𝍸 𝍸
Class 6	𝍸 𝍸 𝍸 𝍸

Class 1	
Class 2	
Class 3	
Class 4	
Class 5	
Class 6	

 = 5 books

Activity 2 Draw Pictograms (2, 5 & 10)

Use the information to complete the pictogram about the number of books read in each class.

Class 1	𝍸 𝍸 𝍸
Class 2	𝍸 𝍸 𝍸 𝍸 𝍸
Class 3	𝍸 𝍸 𝍸
Class 4	𝍸 𝍸
Class 5	𝍸 𝍸 𝍸 𝍸 𝍸
Class 6	𝍸 𝍸 𝍸 𝍸

Class 1	
Class 2	
Class 3	
Class 4	
Class 5	
Class 6	

 = 5 books

Activity 3 Draw Pictograms (2, 5 & 10)

Year 2 sell cakes at a bake sale.
The tally chart shows the data.
Draw a pictogram to represent the data.

Chocolate	𝍸 𝍸 𝍸 𝍸
Lemon	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸
Red Velvet	𝍸 𝍸 𝍸 𝍸 𝍸
Mint	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸
Carrot	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸

When would you use a picture to represent 10 objects?

Activity 3 Draw Pictograms (2, 5 & 10)

Year 2 sell cakes at a bake sale. The tally chart shows the data. Draw a pictogram to represent the data.

Chocolate	
Lemon	
Red Velvet	
Mint	
Carrot	

 = 5 cakes

Activity 3 Draw Pictograms (2, 5 & 10)

Year 3 sell ice cream at the summer fete. The tally chart shows the data. Draw a pictogram to represent the data.

Chocolate	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸
Vanilla	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸
Lemon	𝍸
Mint	𝍸 𝍸 𝍸
Strawberry	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸

Activity 3 Draw Pictograms (2, 5 & 10)

Year 3 sell ice cream at the summer fete. The tally chart shows the data. Draw a pictogram to represent the data.

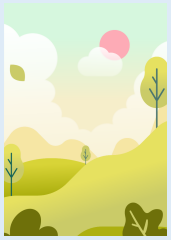
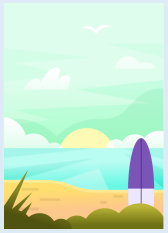
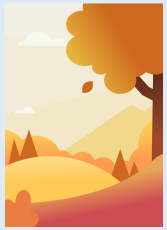
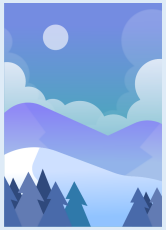
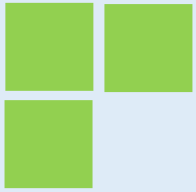
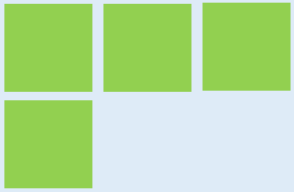
Chocolate	
Vanilla	
Lemon	
Mint	
Strawberry	

 = 5 ice cream

Reasoning - 1 Draw Pictograms (2, 5 & 10)

Create a pictogram to show who was born in what season in your class.
Use what you know about pictograms to help you.

Here is an example.

			
Spring	Summer	Autumn	Winter
			

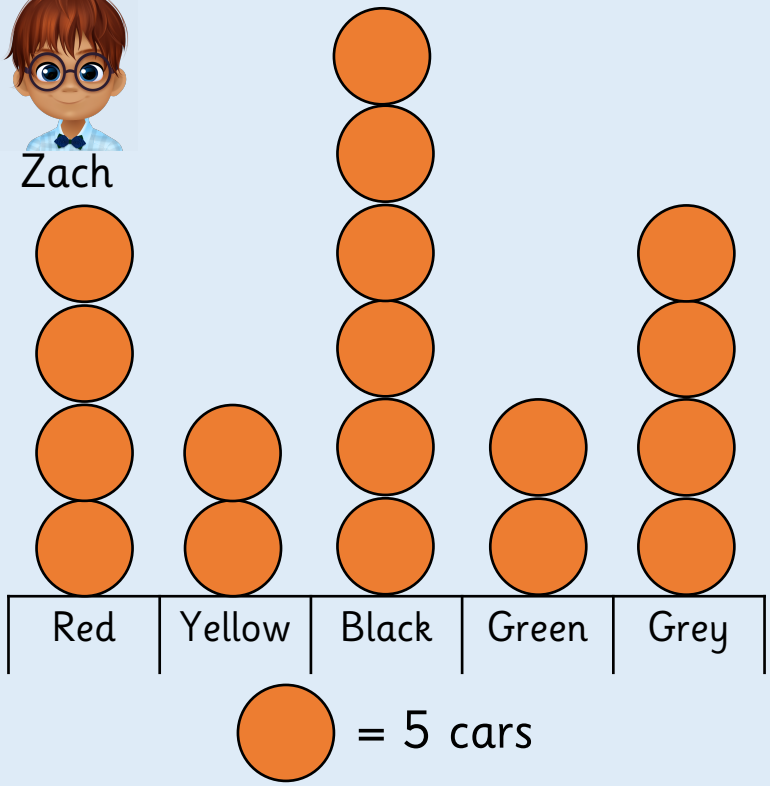
Key

 = 2 children

Reasoning - 2 Draw Pictograms (2, 5 & 10)

Zach and Leanna both draw a pictogram to show how many cars they counted driving past their school.

Zach



Colour	Number of Cars
Red	● ●
Yellow	●
Black	● ● ●
Green	●
Grey	● ●

● = 10 cars

Leanna

What is the same? What is different?
Whose pictogram do you prefer? Why?

Reasoning - 2 Draw Pictograms (2, 5 & 10)

Zach and Leanna both draw a pictogram to show how many cars they counted driving past their school.

Possible answer:

Same – both pictograms show the same information. Both easy to read. Both used circle. Both are in the same order.

Different – Leanna counts in 10s, Zach counts in 5s. Zach's is vertical and Leanna's is horizontal.

Discussion

Draw Pictograms (2, 5 & 10)

If a symbol represents 2, how can you show 1 on a pictogram? How can you show 5? How can you show any odd number?

When you use a picture to represent 10 objects?

Discuss with children that when using larger numbers, 1-1 correspondence becomes inefficient.

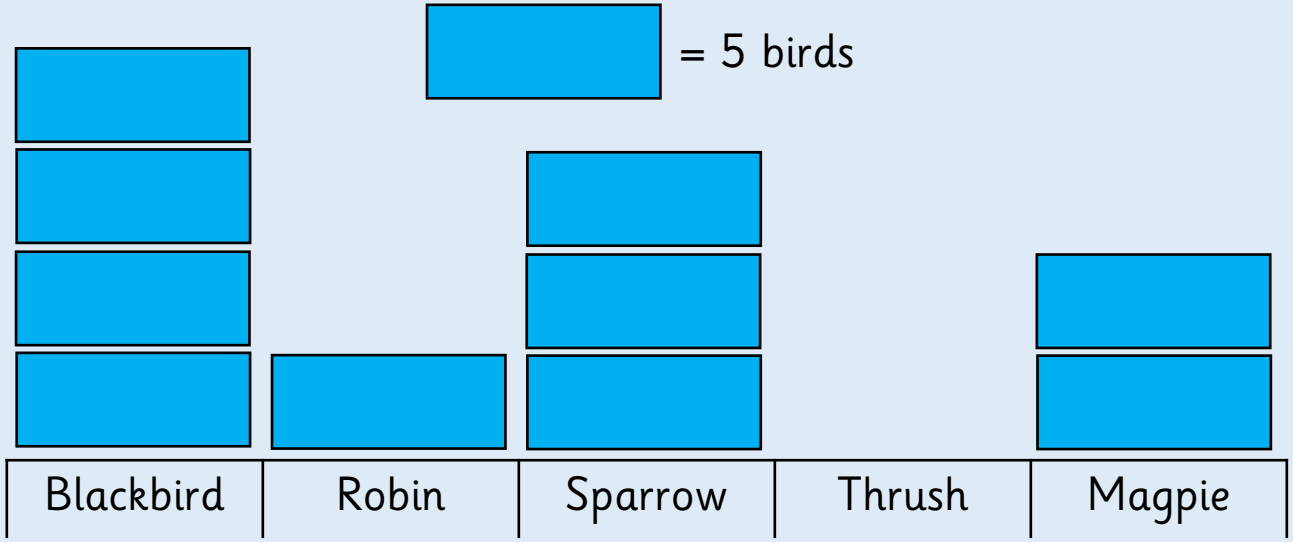
Interpret Pictograms (2, 5 & 10)

2

Fluency & Reasoning Teaching Slides

Activity 1

Interpret Pictograms (2, 5 & 10)

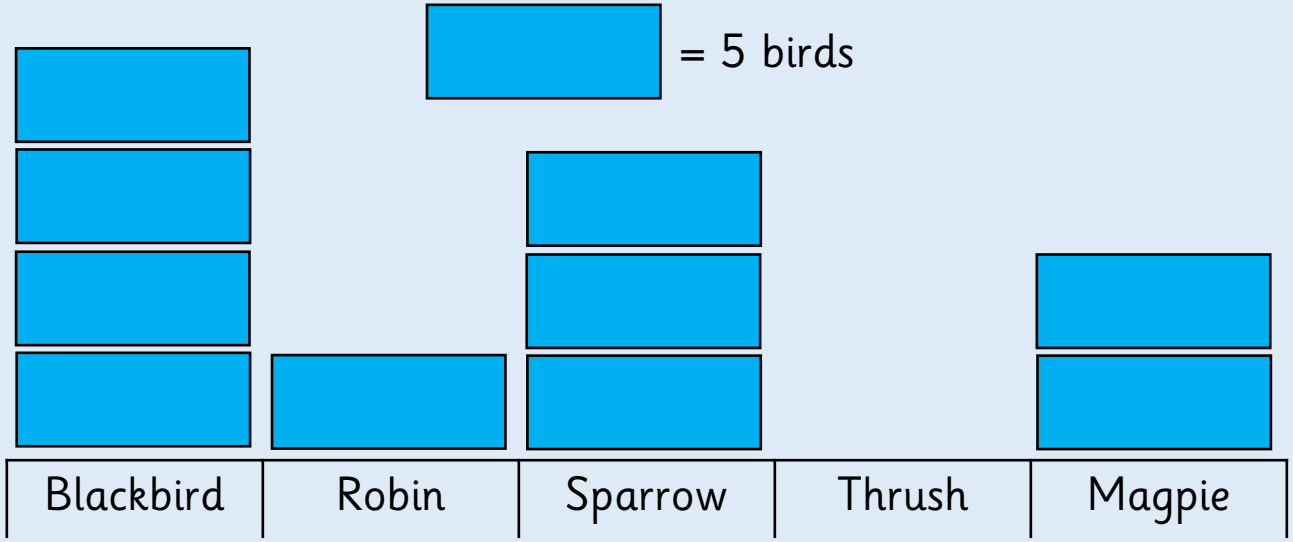


How many more sparrows are there than robins?
What is the total number of birds?
How did you calculate this?
Can you think of your own questions to ask a friend?

How can we represent 0 on a pictogram?

Activity 1

Interpret Pictograms (2, 5 & 10)



How many more sparrows are there than robins?

There are 10 more sparrows than robin.

What is the total number of birds?

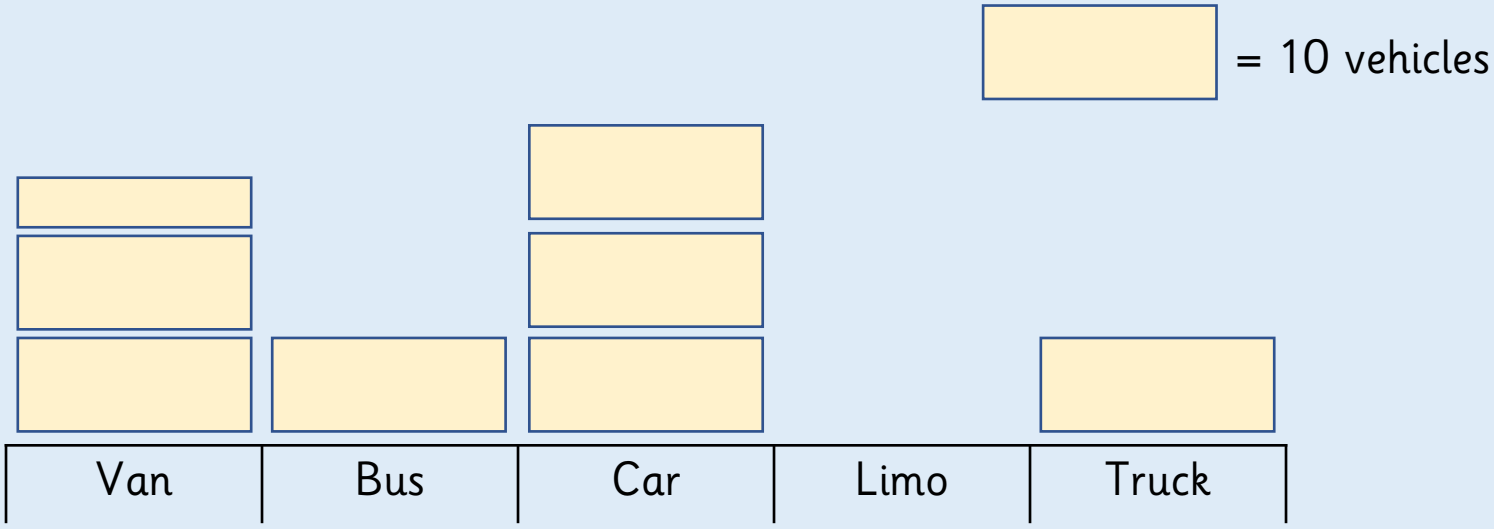
There are 50 birds.

How did you calculate this?

Using multiplication that is, 5 x 10 = 50

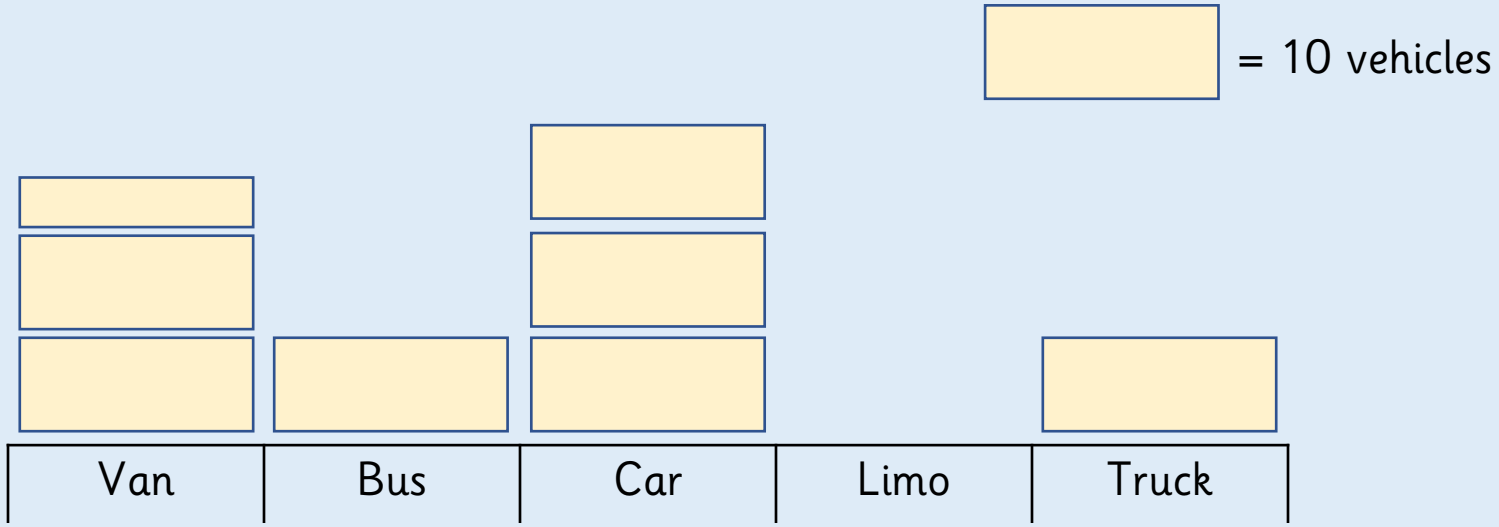
Can you think of your own questions to ask a friend?

Activity 1 Interpret Pictograms (2, 5 & 10)



How many cars were seen more than buses?
What is the total number of vehicles?
Can you think of your own question to ask a friend?

Activity 1 Interpret Pictograms (2, 5 & 10)



How many cars were seen more than buses?

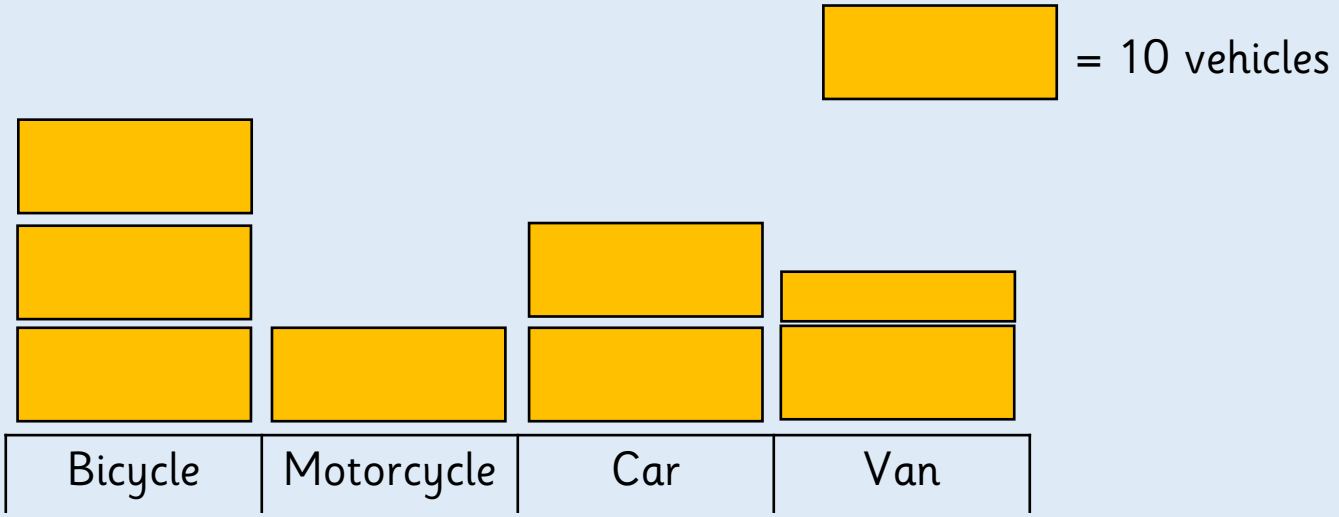
There were 20 more cars seen than buses.

What is the total number of vehicles?

There are 75 vehicles.

Can you think of your own question to ask a friend?

Activity 1 Interpret Pictograms (2, 5 & 10)

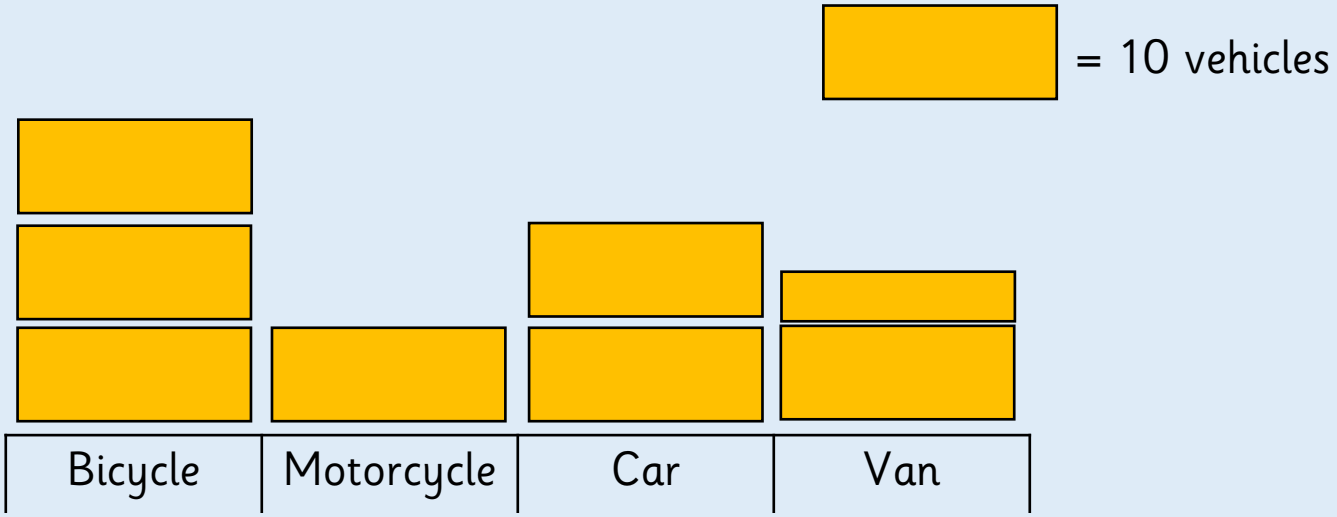


How many bicycle were seen more than motorcycle?

What is the total number of vehicles?

Can you think of your own question to ask a friend?

Activity 1 Interpret Pictograms (2, 5 & 10)



How many bicycle were seen more than motorcycle?

There were 20 more bicycles seen than motorcycle.

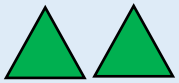
What is the total number of vehicles?

There are 75 vehicles.

Can you think of your own question to ask a friend?

Activity 2 Interpret Pictograms (2, 5 & 10)

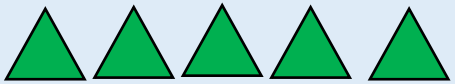
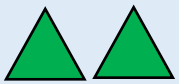
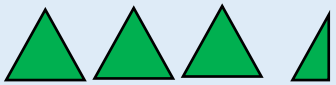
Which is the most popular sport?
How many children voted for football and swimming?
What could the title of this pictogram be?

Sport	
Football	
Tennis	
Basketball	
Hockey	
Swimming	

What does the pictogram show? What doesn't it show?

Activity 2 Interpret Pictograms (2, 5 & 10)

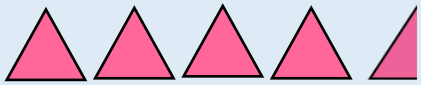
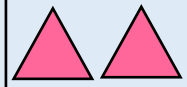
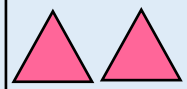
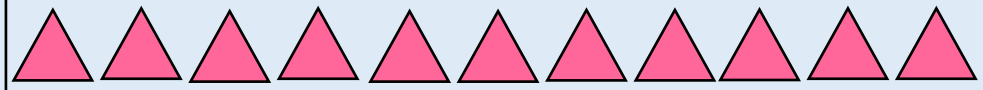
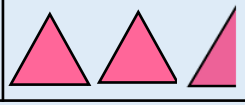
Which is the most popular sport?
How many children voted for football and swimming?
What could the title of this pictogram be?

Sport	
Football	
Tennis	
Basketball	
Hockey	
Swimming	

The most popular sport is football.
Assuming that each triangle is equal to 2 votes,
there are 11 children who voted for football and swimming.
The title could be "Sports played as a hobby"

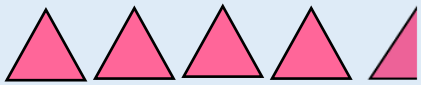
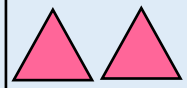
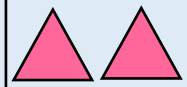
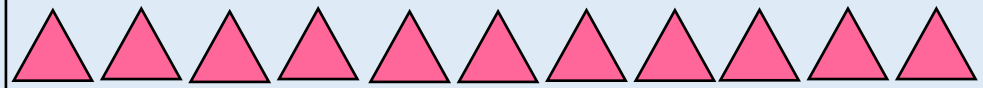
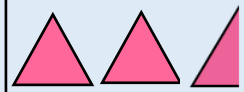
Activity 2 Interpret Pictograms (2, 5 & 10)

Which is the most popular sport?
How many children voted for hockey and swimming?
What could the title of this pictogram be?

Sport	
Netball	
Basketball	
Hockey	
Football	
Swimming	
Tennis	

Activity 2 Interpret Pictograms (2, 5 & 10)

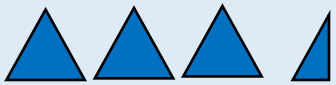
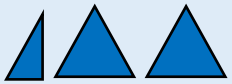
Which is the most popular sport?
How many children voted for hockey and swimming?
What could the title of this pictogram be?

Sport	
Netball	
Basketball	
Hockey	
Football	
Swimming	
Tennis	

The most popular sport is swimming. Assume that 1 triangle = 2 votes, then there are 26 votes for hockey and swimming.
The title could be "Favourite Sports"

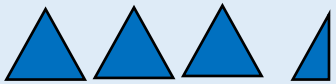
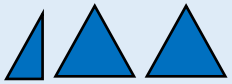
Activity 2 Interpret Pictograms (2, 5 & 10)

Which is the most popular sport?
How many children voted for hockey and swimming?
What could the title of this pictogram be?

Sport	
Football	
Tennis	
Basketball	
Hockey	
Swimming	

Activity 2 Interpret Pictograms (2, 5 & 10)

Which is the most popular sport?
How many children voted for hockey and swimming?
What could the title of this pictogram be?

Sport	
Football	
Tennis	
Basketball	
Hockey	
Swimming	

The most popular sport is basketball. Assume that 1 triangle = 2 votes, then there are 12 votes for hockey and swimming.

Activity 3 Interpret Pictograms (2, 5 & 10)

Use the pictogram to decide if the statements are true or false.

Animal	Number on the farm
Pig	
Sheep	
Horses	
Chickens	
Cows	

 = 10 animals

Statement	True or False?
Horses were the least popular animal.	
The number of chickens seen was half the number of cows seen.	
The total amount of pigs and sheep is 70	
There were 8 cows on the farm.	
There were 10 fewer chickens than sheep.	

What is each symbol worth?

Activity 3 Interpret Pictograms (2, 5 & 10)

Use the pictogram to decide if the statements are true or false.

Animal	Number on the farm
Pig	
Sheep	
Horses	
Chickens	
Cows	

 = 10 animals

Statement	True or False?
Horses were the least popular animal.	True
The number of chickens seen was half the number of cows seen.	False
The total amount of pigs and sheep is 70	False
There were 8 cows on the farm.	False
There were 10 fewer chickens than sheep.	True

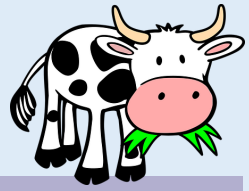
Activity 3 — Interpret Pictograms (2, 5 & 10)

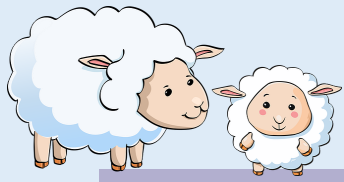
Use the pictogram to decide if the statements are true or false.

Animal	Number on the farm
Cow	★★★★
Pig	★★½
Horse	★★★★★★
Sheep	★★★½
Goat	★★★★½

★ = 10 animals

Statement	True or False?
Pigs were the least popular animal.	
Cows were the most popular animal.	
The number of sheep seen were half the number of horses seen.	
The total amount of pigs and cows seen were 65.	
There were 5 fewer goats than sheep.	
There were 8 cows on the farm.	





Activity 3 Interpret Pictograms (2, 5 & 10)

Use the pictogram to decide if the statements are true or false.

Animal	Number on the farm
Cow	
Pig	
Horse	
Sheep	
Goat	

 = 10 animals

Statement	True or False?
Pigs were the least popular animal.	True
Cows were the most popular animal.	False
The number of sheep seen were half the number of horses seen.	False
The total amount of pigs and cows seen were 65.	True
There were 5 fewer goats than sheep.	False
There were 8 cows on the farm.	False

Reasoning - 1 Interpret Pictograms (2, 5 & 10)

Zach and Tia have carried out a traffic survey.

Van	
Bus	
Bike	
Lorry	
Car	

 = 10 vehicles

Reasoning - 1 Interpret Pictograms (2, 5 & 10)

Zach and Tia have carried out a traffic survey.

Zach

If I add the number of lorries and bus together then it will be equal to the number of cars.

To find the total number of vehicles I need to count the symbols.
There are 17 vehicles.

Tia

Is Zach right? Convince me.
Is Tia correct? Explain your answer.

Interpret Pictograms (2, 5 & 10)

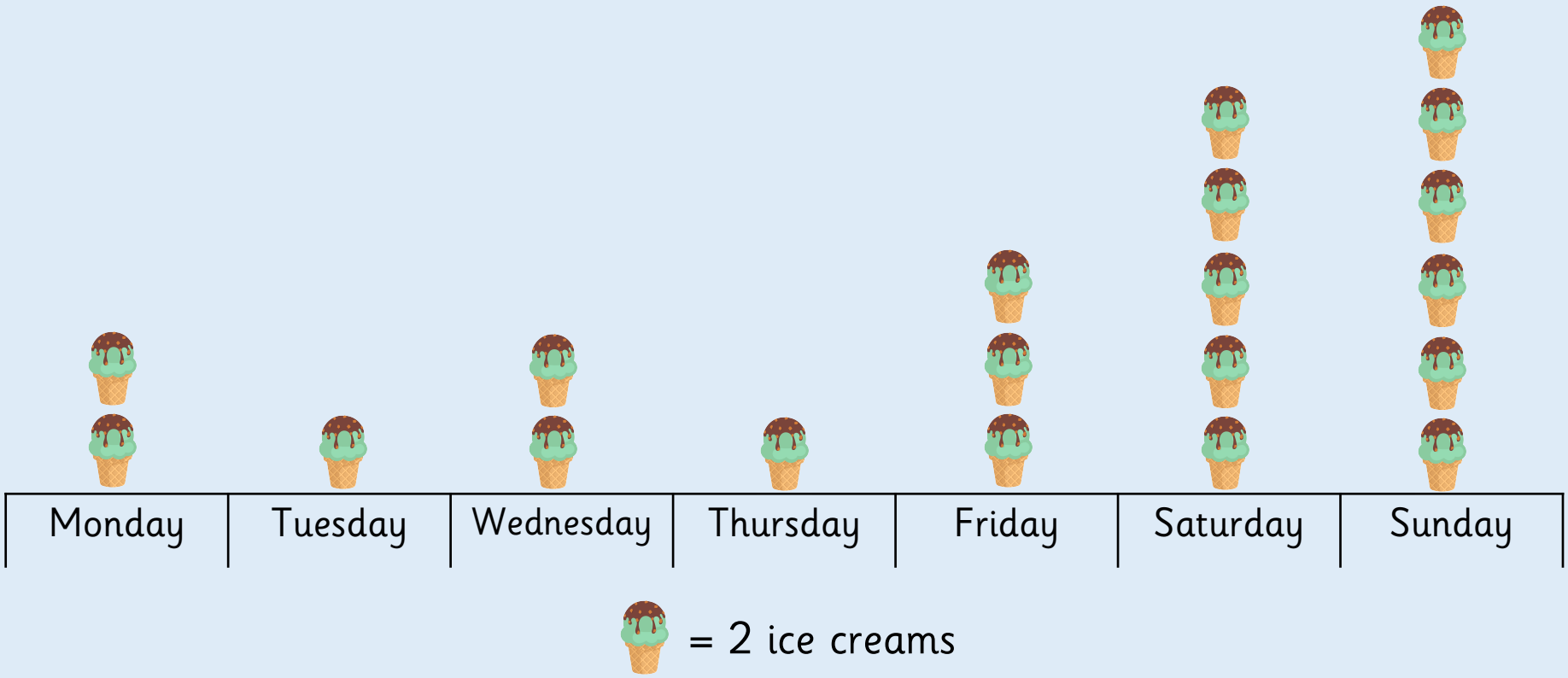
Zach and Tia have carried out a traffic survey.

Zach is correct because there are 10 lorries and 50 buses. That means there are 60 lorries and buses altogether. This is the same as the number of cars.

Tia is incorrect because she has ignored the key. That means there will be 170 cars, not 17.

Reasoning - 2 Interpret Pictograms (2, 5 & 10)

Ice creams sold in a week.



Reasoning - 2 Interpret Pictograms (2, 5 & 10)

Ice creams sold in a week.

Convince me

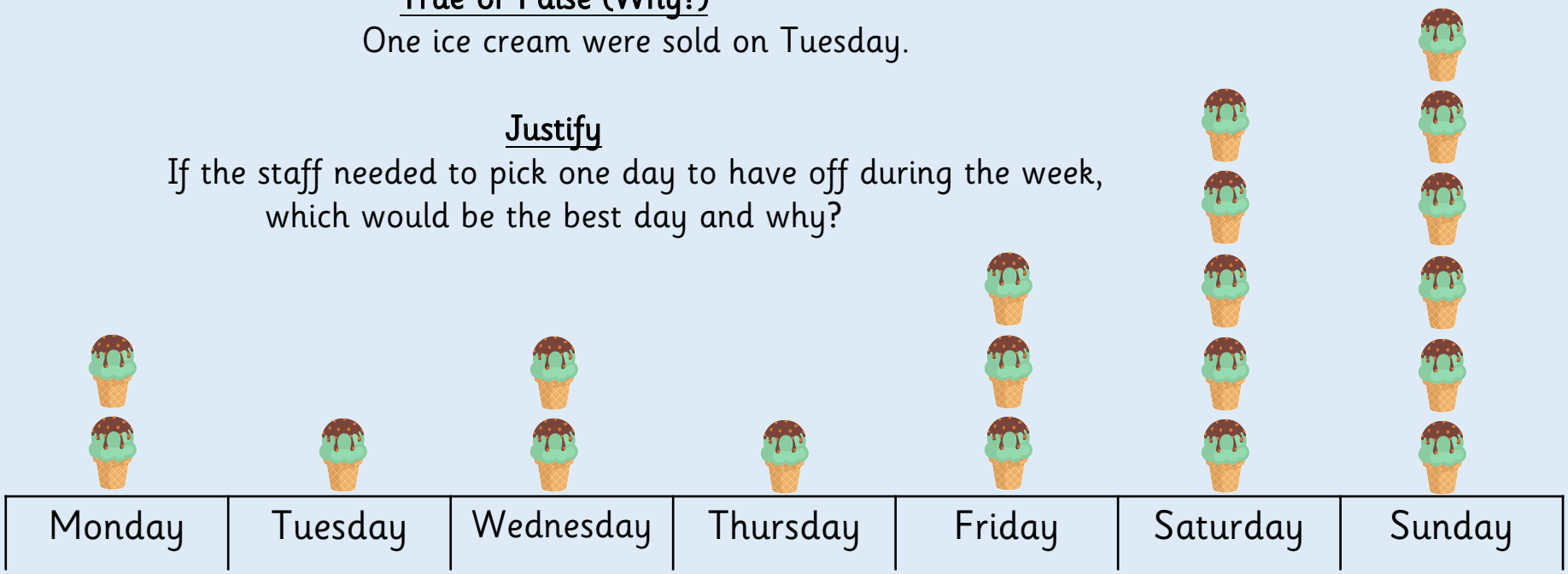
There are more ice creams sold at weekend than during the rest of the week.

True or False (Why?)

One ice cream were sold on Tuesday.

Justify

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



= 2 ice creams

Reasoning - 2 Interpret Pictograms (2, 5 & 10)

Ice creams sold in a week.

There were 22 ice creams sold at the weekend and only 18 sold during the rest of the week.

There was not 1 ice cream sold on Tuesday, there was 2 sold. One symbol represents 2 ice creams.

The best days off would be Tuesdays and Thursdays that is the days they sold the least amount.

Discussion

Interpret Pictograms (2, 5 & 10)

How can we represent 0 on a pictogram?

What does the pictogram show? What doesn't it show?

What is each symbol worth?

Block Diagrams 2

Fluency & Reasoning Teaching Slides

www.masterthecurriculum.co.uk

Activity 1 Block Diagrams

Class 4 are collecting data about favourite colours.

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

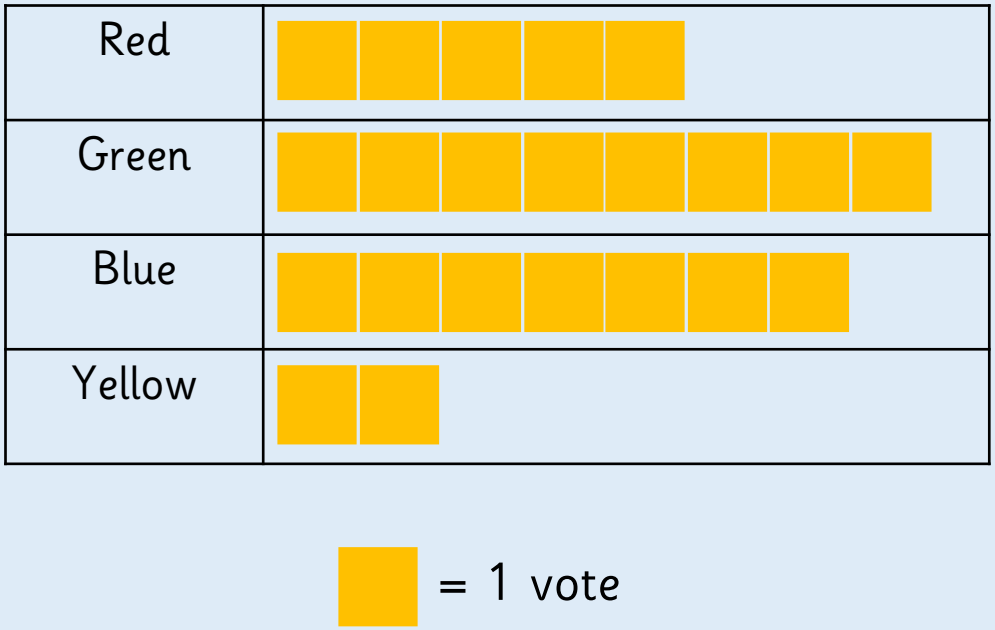
Make a block diagram using cubes to represent the data.
Now, draw the block diagram.
What will the title be?
Label the blocks and draw a clear scale.

Can you draw a block diagram to represent the data?

Activity 1 Block Diagrams

Class 4 are collecting data about favourite colours.

Class 4's Favourite Colour



Activity 1 Block Diagrams

Emerald are collecting data about favourite subjects at school.

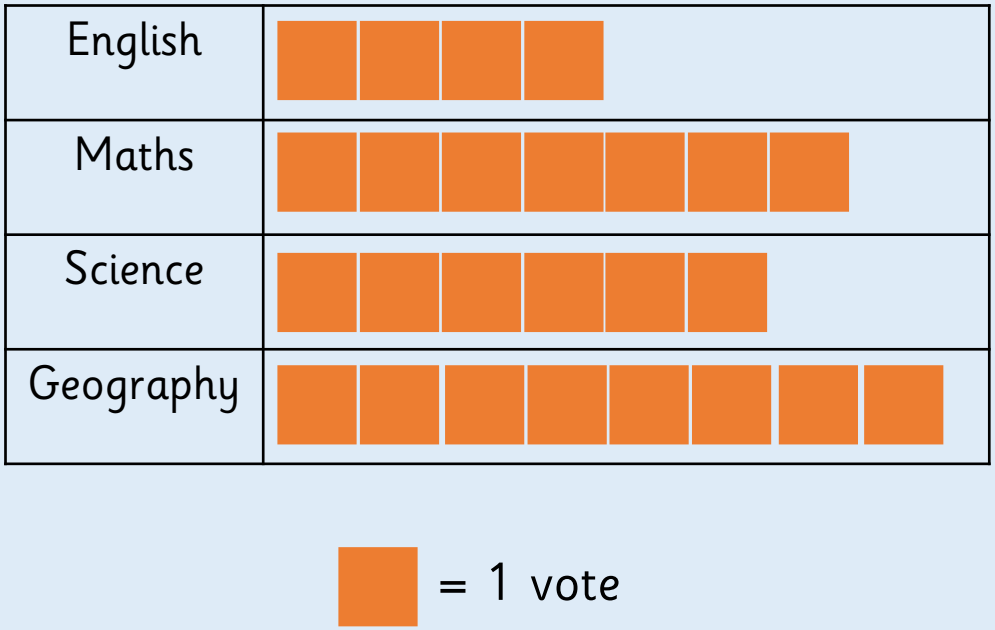
Subject	Number of children
English	4
Maths	7
Science	6
Geography	8

Make a block diagram using cubes to represent the data.
Now, draw the block diagram.
What will the title be?
Label the blocks and draw a clear scale.

Activity 1 Block Diagrams

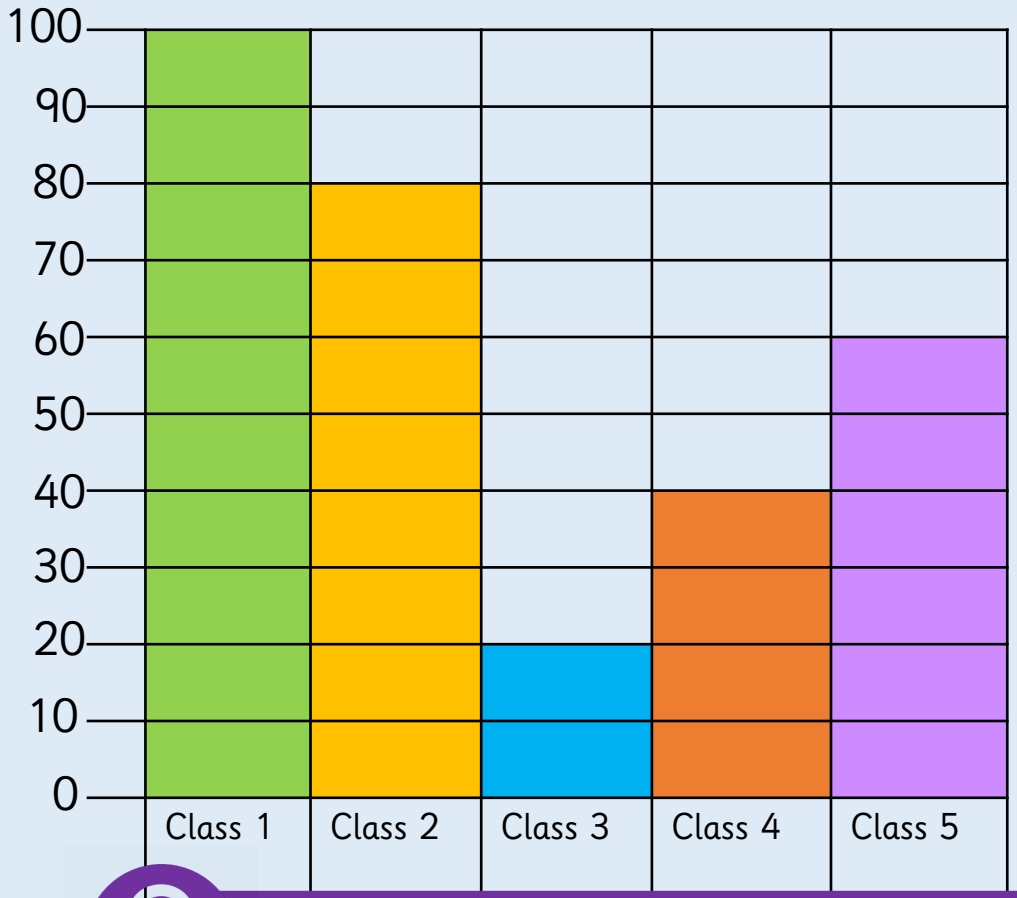
Emerald are collecting data about favourite subjects at school.

Emeralds' Favourite Subjects



Activity 2 Block Diagrams

5 classes collected their house points.

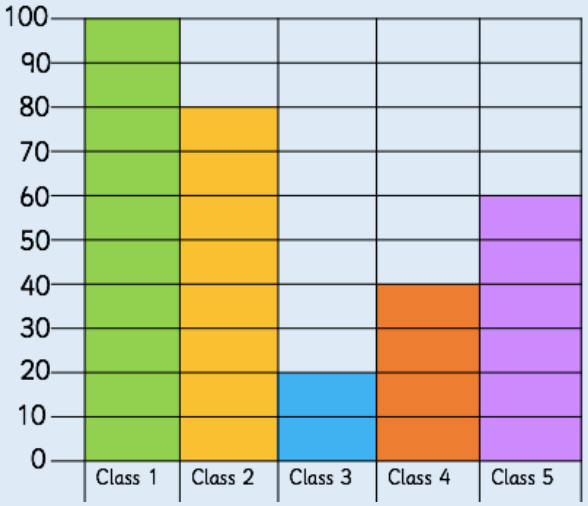


Which class collected the most house points?
Which class collected the fewest house points?
How many more points did Class 2 get than Class 4?
How many fewer points did Class 3 get than Class 5?
How many points did Class 2 and Class 3 get altogether?

Can you create your own questions to ask about the block diagram?

Activity 2 Block Diagrams

5 classes collected their house points.



Which class collected the most house points?

Class 1 collected the most house points.

Which class collected the fewest house points?

Class 3 collected the fewest house points.

How many more points did Class 2 get than Class 4?

Class 2 got 40 more points than Class 4.

How many fewer points did Class 3 get than Class 5?

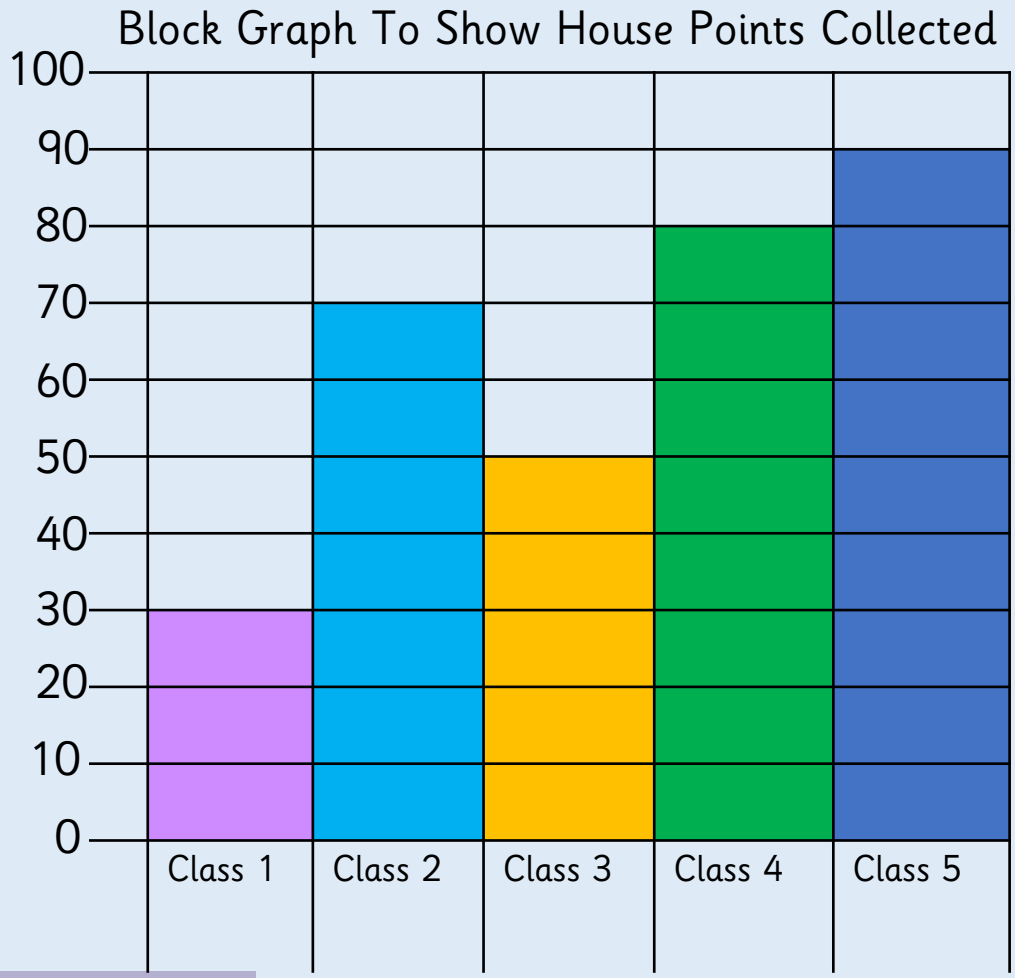
Class 3 got 40 fewer points than Class 5.

How many points did Class 2 and Class 3 get altogether?

Class 2 and Class 3 got 100 points altogether.

Activity 2 Block Diagrams

5 classes collected their house points.



Which class collected the most house points?

Which class collected the fewest house points?

How many more points did Class 3 get than Class 1?

How many fewer points did Class 2 get than Class 5?

How many points did Class 1 and Class 3 get altogether?

Activity 2 Block Diagrams

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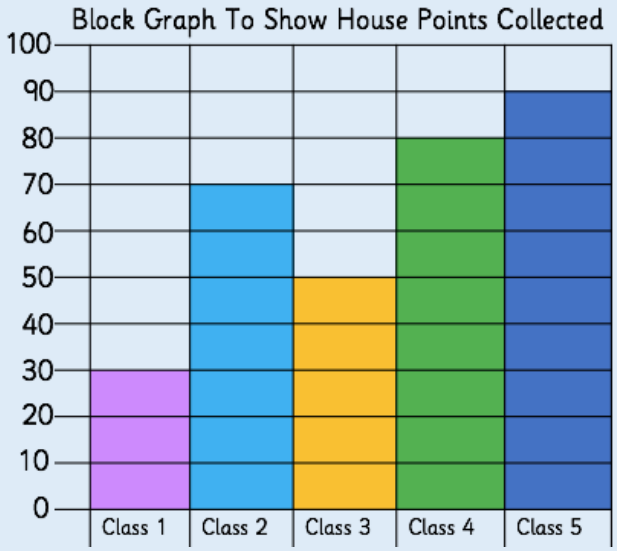


Which class collected the most house points?

Class 5 collected the most house points.

Which class collected the fewest house points?

Class 1 collected the fewest house points.

How many more points did Class 3 get than Class 1?

Class 3 got 20 more points than Class 1.

How many fewer points did Class 2 get than Class 5?

Class 2 got 20 fewer points than Class 5.

How many points did Class 1 and Class 3 get altogether?

Class 1 and Class 3 got 80 points altogether.

Reasoning - 1 Block Diagrams

Here are three tables of data.

Data Set 1

Name	Score
Malachi	16
Esin	6
Zach	20
Rosie	12

Data Set 2

Team	Goals
A	30
B	23
C	16
D	37

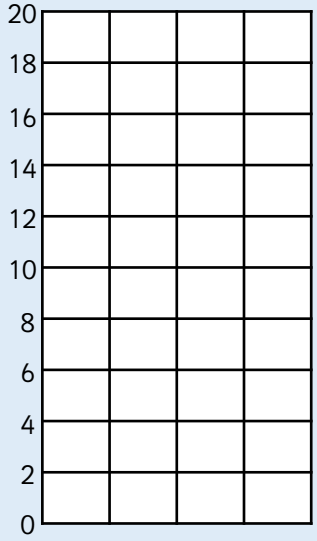
Data Set 3

Player	Points
1	30
2	35
3	80
4	20

Reasoning - 1 Block Diagrams

Here are three tables of data.

Block Diagram



Pictogram = 10

Tally Chart

Which set of data could you display using the block graph?
Which could use the pictogram?
Which could use the tally chart?
Explain your reasoning.

Reasoning - 1 Block Diagrams

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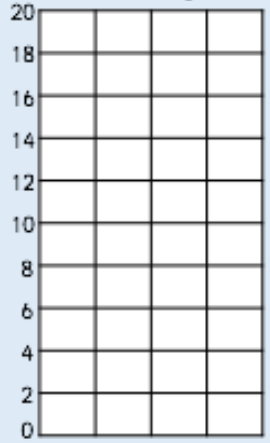
Block Diagram



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Reasoning - 1

Block Diagrams

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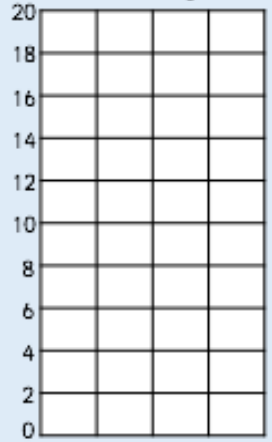
Block Diagram



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Tally Chart

Reasoning - 1 Block Diagrams

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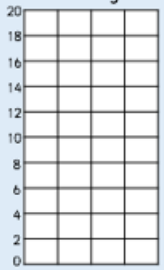
Block Diagram



Pictogram = 10

Tally Chart

Data Set 1 would best suit the block diagram because the numbers are all under 20.

Data Set 3 would best suit the pictogram because the numbers are all larger but all multiples of 5 or 10.

Data Set 2 would best suit the tally chart because some numbers are larger 20 but not all multiples of 5 or 10.

Reasoning - 2 Block Diagrams

Split into groups.
Everyone needs to write their name on a sticky note.

Use your sticky notes to create a block diagram to answer each question.

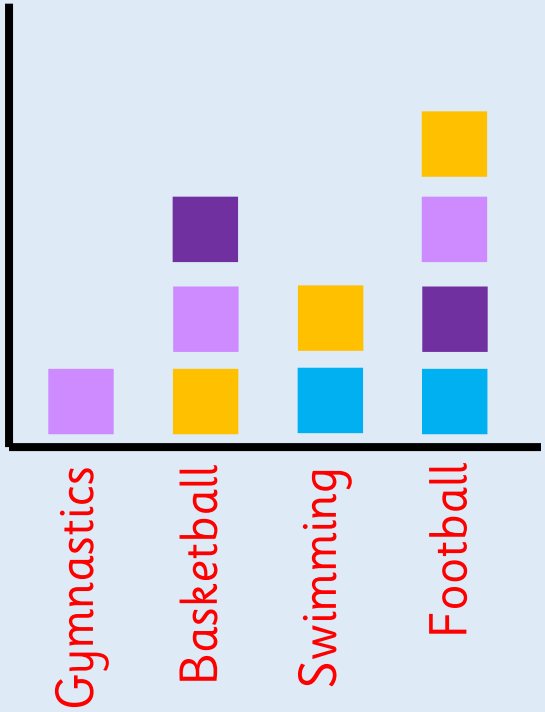
- What is your favourite sport?
- How many boys and how many girls are there in your group?
- Which month has the most birthdays for you group?

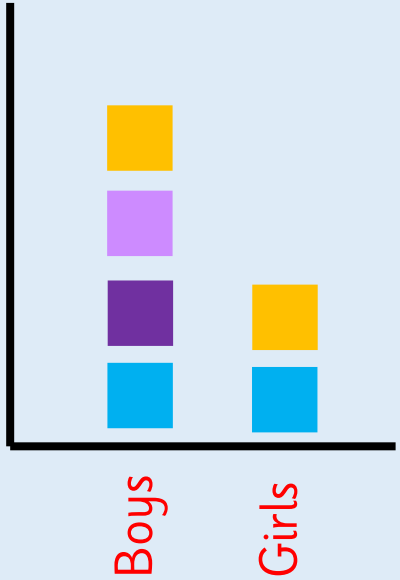
What other information about your group could you show?

Reasoning - 2 Block Diagrams

Split into groups.
Everyone needs to write their name on a sticky note.

Possible examples:





Discussion

Block Diagrams

Can you draw a block diagram to represent the data?
What will each block be worth?

Can you make a block diagram to show favourite colours in your class?

Can you create your own questions to ask about the block diagram?