

Year 3 Maths – week beginning 4.5.2020

Theme	Graphs Lesson 1 Drawing picture graphs	Graphs Lesson 2 Drawing bar graphs	Graphs Lesson 3 Reading bar graphs	Graphs Lesson 4 Reading bar graphs	Graphs Lesson 5 Reading bar graphs
Factual fluency (to aid fluency)	Order the numbers game Ordering – 0-999	Hit the multiples of 4 game x 4	Hit the multiples of 8 game x 8	Level 3 – Multiplication – mixed tables quiz x2,x3,x4,x5,x8,x10	Level 3 – Multiplication – mixed tables quiz x2,x3,x4,x5,x8,x10
Problem/ activity of the day	<p>Making links: In Year 2, you learnt to draw and read information from picture graphs.</p> <p>Think: Make a tally chart to find the total amount of each type of fruit.</p>  <p>Look at the different picture graphs representing the data of the amount of fruit. Two pupils are talking about the graph. Read what they are saying and decide who is correct.</p> <p>See (model below) See video clip</p> <p>Do: Use the information below to draw a picture graph. You can choose how many pieces of fruit each picture represents.</p>	<p>Making links: Yesterday you learned how to draw a picture graph.</p> <p>Think: Look at the picture graph to show the amount of pets owned in a Year 4 class. Now look at the bar graph. What similarities and differences do you notice? Which is the largest group of pets and the smallest group of pets?</p> <p>See (model below) See video clip</p> <p>Do: Use the information below to draw a bar graph.</p>	<p>Making links: Yesterday you learned how to draw a bar graph.</p> <p>Think: Look at the bar graph below showing Year 3's favourite ice-cream flavours. The class are disagreeing about the results, who do you think is correct? Can you come up with your own questions about the graph?</p> <p>See (model below) See video clip</p> <p>Do: Answer the questions about the graph.</p>	<p>Making links: Yesterday you learned how to read and analyse a bar graph where the scale was counting in 1s.</p> <p>Think: How is the bar graph below different to yesterdays? Will it be harder to read the value or easier? Think about the statements, do you agree?</p> <p>See (model below) See video clip</p> <p>Do: Answer the questions about the graph.</p>	<p>Making links: Yesterday you learnt to read bar graphs where the scale was counting in 5s.</p> <p>Think: Look at the bar graph below showing the number of pupils who like different fruits. Three pupils are talking about the graph. Read what they are saying and decide whose statements are all correct?</p> <p>See (model below) See video clip</p> <p>Do: Answer the questions about the graph.</p>
Time to check	Check the answer sheet below.	Check the answer sheet below.	Check the answer sheet below.	Check the answer sheet below.	Check the answer sheet below.

See below for resources to support you to THINK-SEE-DO

DAY 1 RESOURCES:

THINK:

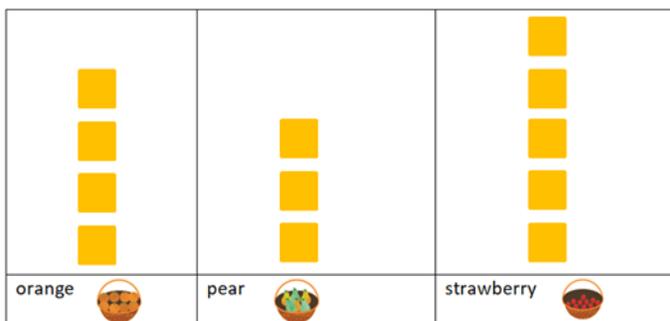
Number of Fruits in the Basket



Each stands for one fruit.

Here is a **different** picture graph to represent the data:

Number of Fruits in the Basket



Each stands for 2 fruits.

Two pupils are talking about the graph.

Naima says, "The square represents 2 fruits so there are 8 oranges."

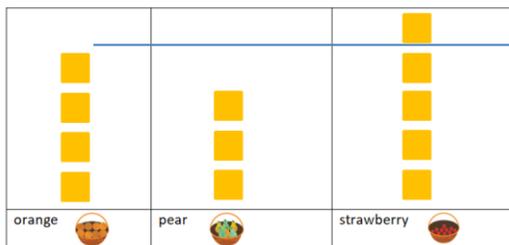
Alex says, "The square represents 2 fruits so there are 9 oranges."

Who is correct and why?

SEE: [Optional video link here](#)

Here is a **different** picture graph to represent the data:

Number of Fruits in the Basket



Each stands for 2 fruits.

Naima is correct because there are 4 squares and each square represents 2 fruits.
 $4 \times 2 = 8$ and there are 8 oranges in total.

DO:

This table shows the number of different chocolate bars bought in a shop.

Look at the table and complete the picture graph below.

Types of chocolate bars	Number of chocolate bars bought
Mars Bar	10
Twix	8
Snickers	8
Dairy Milk	2

Number of Different Chocolate Bars in a Shop



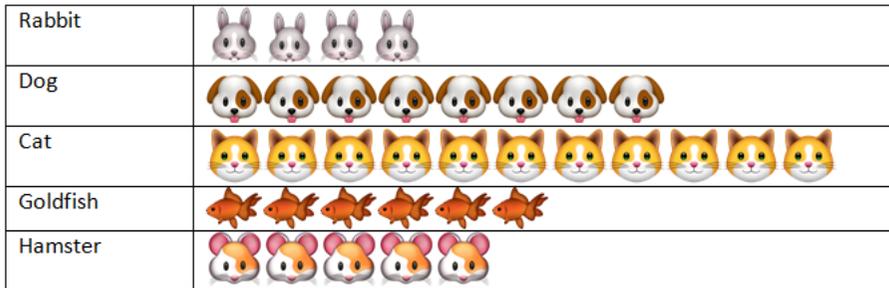
You can choose how many chocolate bars each picture stands for.

Deepening challenge: Can you create different picture graphs to show the same information?

DAY 2 RESOURCES:

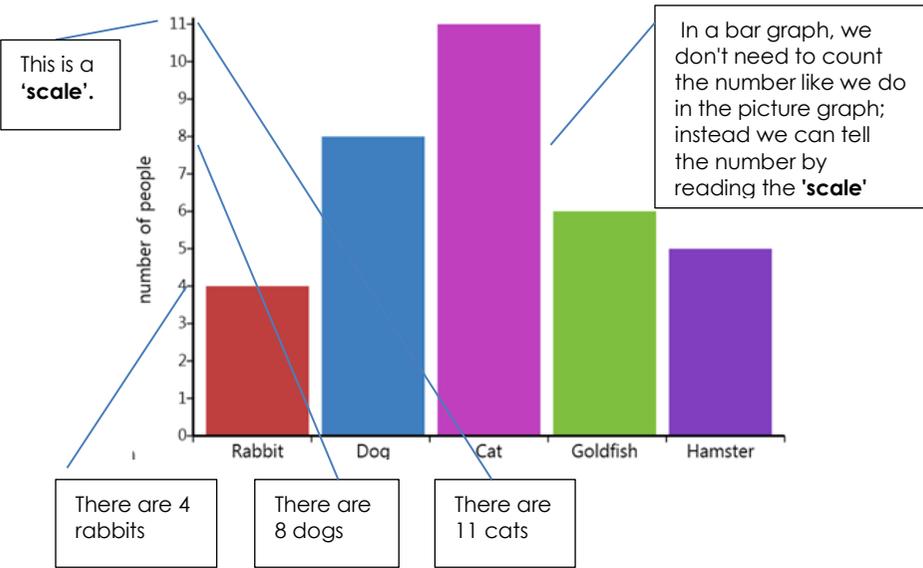
THINK:

Picture graph to show amount of pets owned in a Year 4 class



Each emoji stands for 1 pet.

Bar graph to show amount of pets owned in a Year 4 class



SEE: [Optional video link here](#)

A **similarity** between the picture graph and bar graph is that they both represent the same information.

The **difference** is that a picture graph uses pictorial objects to show data whereas a bar graph uses bars and a scale to count the amount.

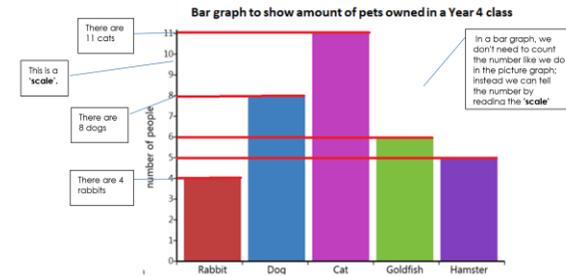
The **largest** group of pets are cats because the scale says 11 cats are owned.

The **smallest** group of pets are rabbits because the scale says 4 rabbits are owned.

Tips for reading a bar graph:

- 1) Check the scale on the graph. What does it show? On this graph it shows the number of people who own each type of pet. The scale is counting in 1s.
- 2) Use a ruler to draw a straight line from the top of each bar across to the scale.
- 3) Read off how many people own each type of pet.

Hint: The tallest bar shows the largest group. There are the most of this type of pet. The shortest bar shows the smallest group. There are the least of this type of pet.



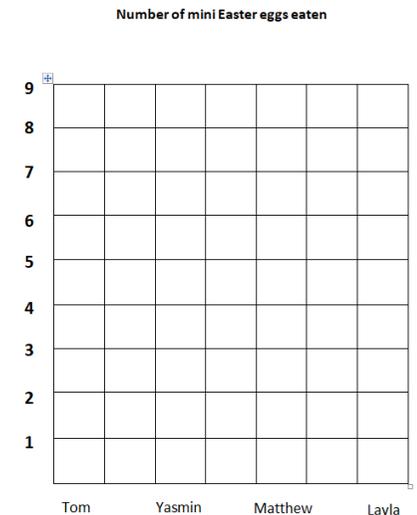
DO:

This table shows the number of mini Easter eggs eaten by each child.

Look at the table and complete the bar graph below.

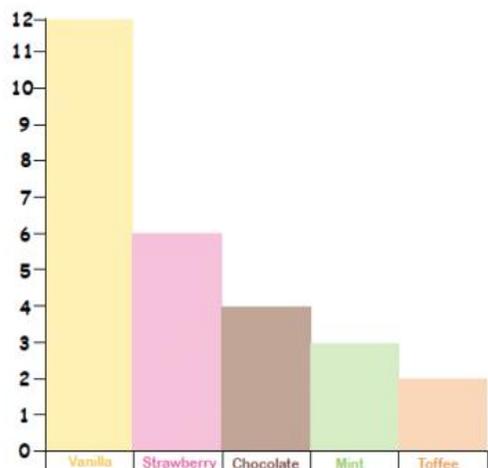
child	number of mini Easter eggs eaten
Tom	4
Yasmin	5
Matthew	3
Layla	7

Draw a bar graph to show the amount of mini Easter eggs eaten by each child.



DAY 3 RESOURCES:

THINK:



Zeynep believes that Strawberry is the most popular flavour whilst Isla thinks Vanilla is most popular. Who is correct?

Vincent thinks that more children like Strawberry than Chocolate and Mint combined. Is he correct?

Cyril believes that twice as many children like Chocolate than children like Toffee. Is he correct?

What is the difference between how many children like Mint compared to Vanilla? Lisa thinks the answer is 8.

SEE: (see optional [video clip](#))

First, using a ruler or a folded piece of paper, work out the value of each bar.

Vanilla = 12, Strawberry = 6, Chocolate = 4, Mint = 3, Toffee = 2.

Write these down to help you solve the questions.

Popular means the one that the **most** people like. 12 children prefer Vanilla, and only 6 children prefer Strawberry. Therefore, Isla is correct.

Let's look at Vincent's problem. 6 children like Strawberry. 4 like Chocolate and 3 like Mint so $4 + 3 = 7$.

$6 < 7$ so Vincent is incorrect.

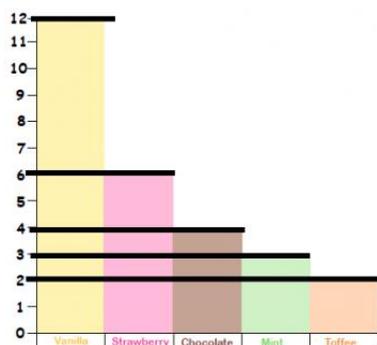
Let's look at Cyril's problem. 4 children like Chocolate when 2 like Toffee. 4 is twice as many as 2, so Cyril is correct.

'What is the difference' can be tricky! You could also say 'how many more children like' Vanilla compared to Mint.

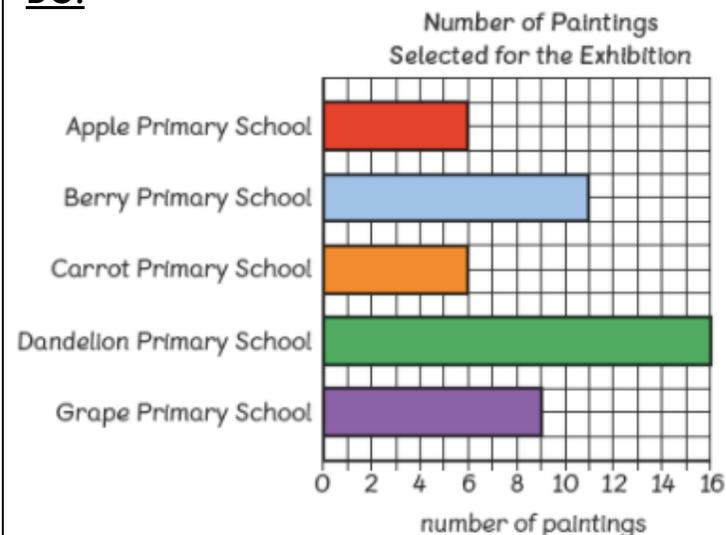
12 children prefer Vanilla, whilst 3 children like Mint.

$12 - 3 = 9$

Lisa is incorrect, the difference between the two is 9.



DO:



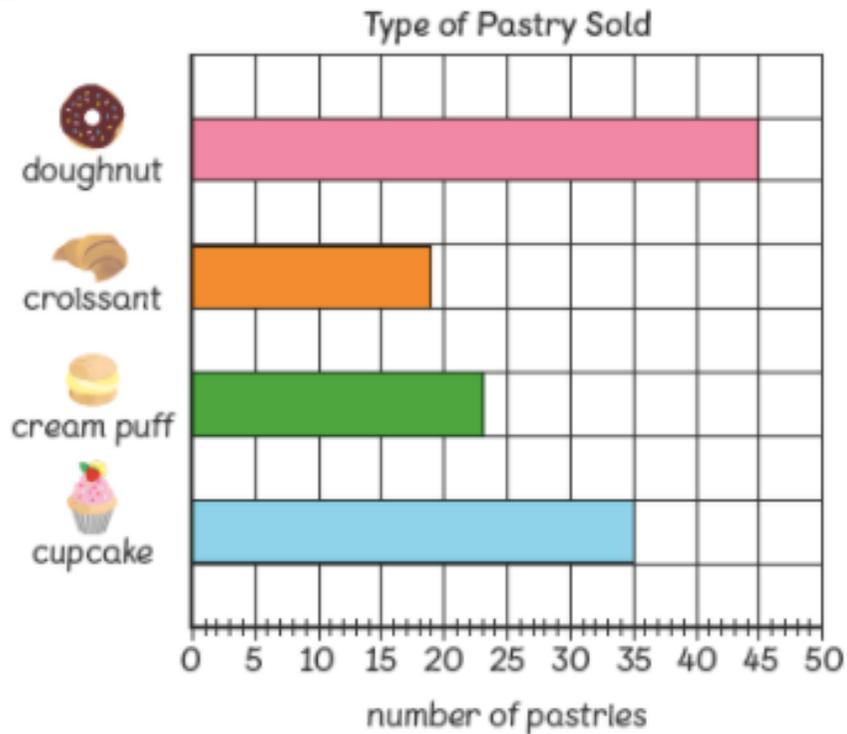
1. There are missing numbers on the x axis (the 'number of paintings' line). Can you add them in? How much is the scale counting in?
2. How many paintings does Carrot Primary have at the exhibition?
3. Which school has the fewest amount of paintings at the exhibition?
4. How many paintings do Apple Primary and Berry Primary have at the exhibition?
5. What is the difference between the amount of paintings Grape Primary has at the exhibition compared to Carrot Primary?



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DAY 4 RESOURCES:

THINK:



How is this bar chart different to yesterday?

Femi has been baking up a storm this month! He showed this bar graph to his brother to show what he had baked.

His brother thinks that Femi has baked 40 doughnuts and 35 cupcakes. He also believes that the item he baked the least of was croissant.

Is Femi's brother correct?

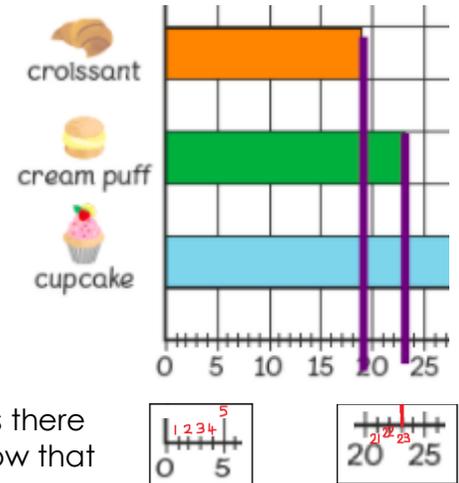
He wants to know how many more cupcakes Femi made than cream puffs.

SEE:

(see optional [video clip](#) here)

The scale of this bar graph is counting in 5s rather than 1s. Use the lines of the graph to find out how many doughnuts and cupcakes Femi baked. I can read off how many doughnuts and cupcakes there are easily. Doughnuts 45 and Cupcakes 35. Femi's brother was wrong about the doughnuts.

To find out how many croissants and cream puffs Femi baked, I need to know what each small increment (or small line) represents. By drawing a line down to the x axis, you can work out how much each bar represents.



I thought each of the small lines could show 1 pastry, so I started at 0 and tried counting 1, 2, 3, 4, 5 as I pointed to each little line. It worked! As there are 5 small lines between 0 and 5, I know that each small increment represents 1.

I drew a line from the end of the cream puff bar down to the scale.

I can see that there are more than 20 cream puffs so I started at 20 and counted each small increment... 21, 22, 23.

Femi made 23 cream puffs.

I did the same for the croissants. Femi made 19 croissants. Femi did bake the least croissants.

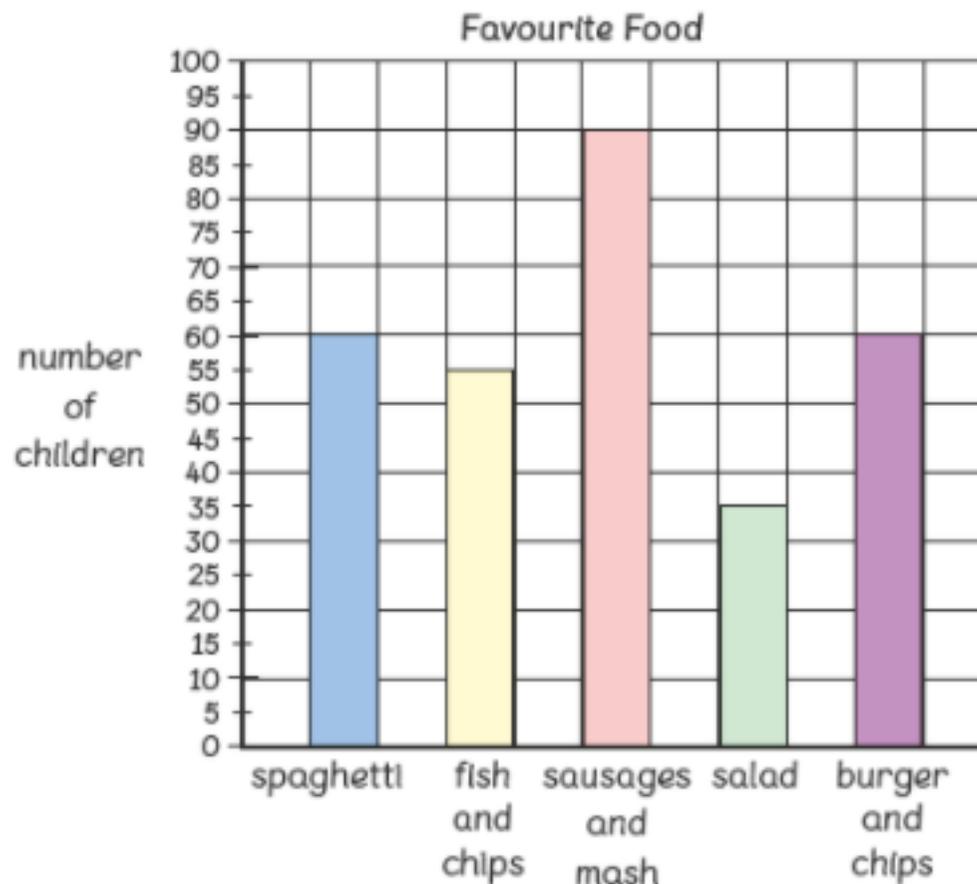
If Femi baked 35 cupcakes and 23 cream puffs, how many more cupcakes did he bake?

$$35 - 23 = 12$$

Femi baked 12 more cupcakes than cream puffs.

DO:

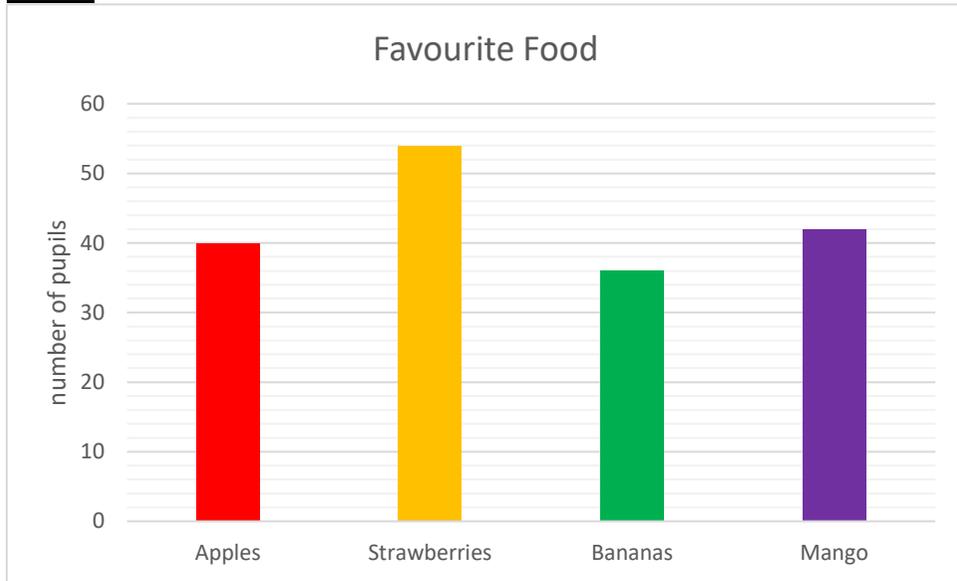
The bar graph shows the amount of children who prefer each food type.



1. Which type of food is the most popular?
2. How many children like salad?
3. How many children prefer fish and chips?
4. Do more children like spaghetti or salad? How many more?
5. Which two food groups do children like the same amount?
6. Twice as many children like sausages and mash compared to salad. Is this statement correct? Explain your answer.

DAY 5 RESOURCES:

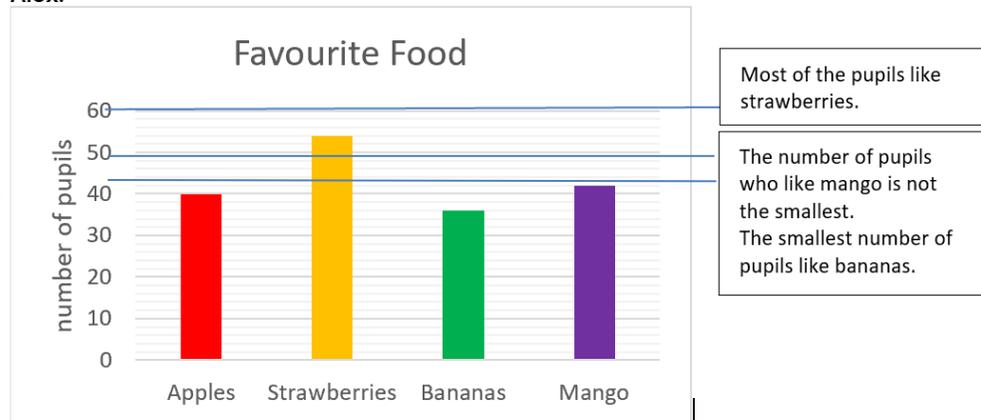
THINK:



Three pupils are talking about the graph.
 Alex says, "Most of the pupils like strawberries. The smallest number of pupils like mango."
 Margaret says, "14 more pupils like strawberries than like apples. Fewer than 40 pupils like bananas."
 Zahir says, "38 pupils like bananas. More pupils like apples than like bananas."
 Whose statements are all correct?

SEE: [Optional video clip here](#)

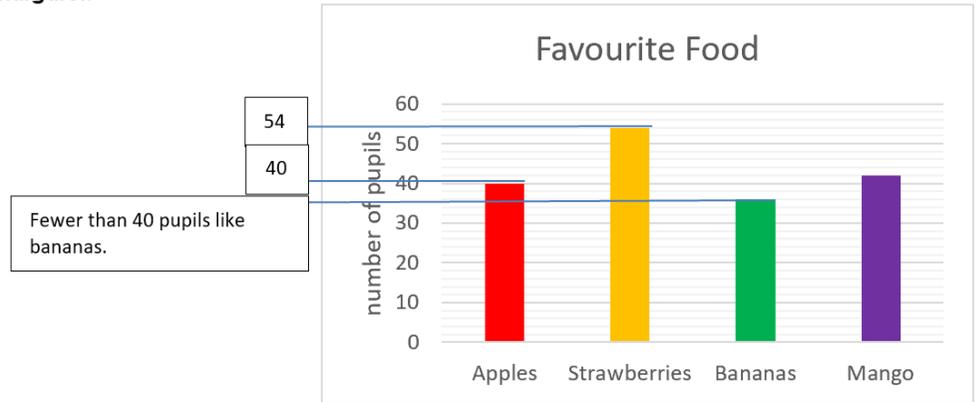
Alex:



Alex's statements are not all correct.

SEE:

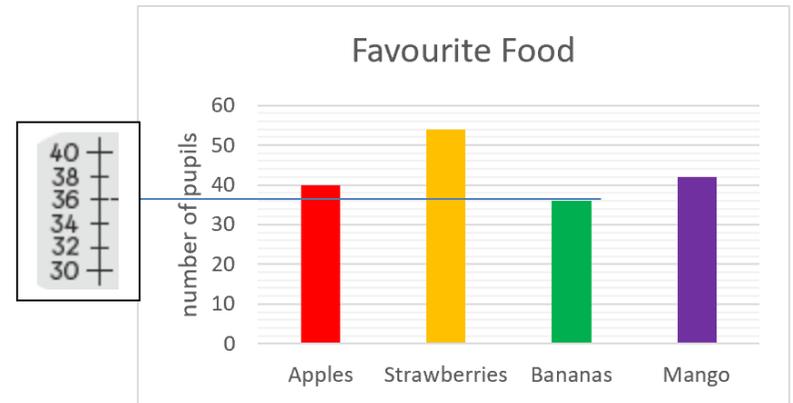
Margaret:



$54 - 40 = 14$
 14 more pupils like strawberries than like apples.

Margaret's statements are all correct.

Zahir:



36 pupils like bananas, not 38.
 More pupils like apples than like bananas.

Zahir's statements are not all correct.

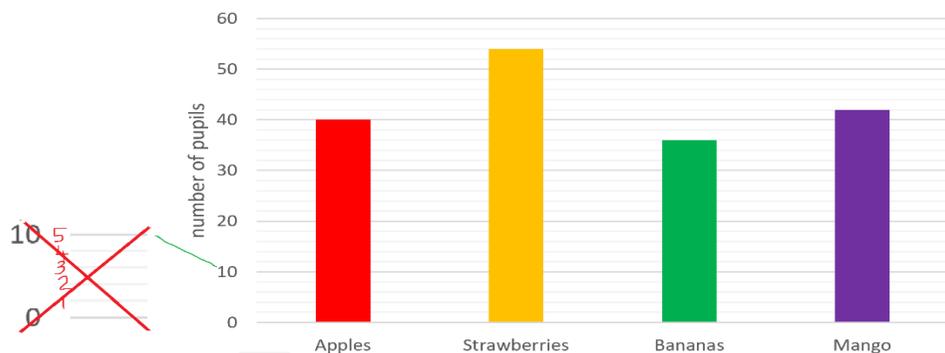
DAY 5 SUPPORT:

SEE:

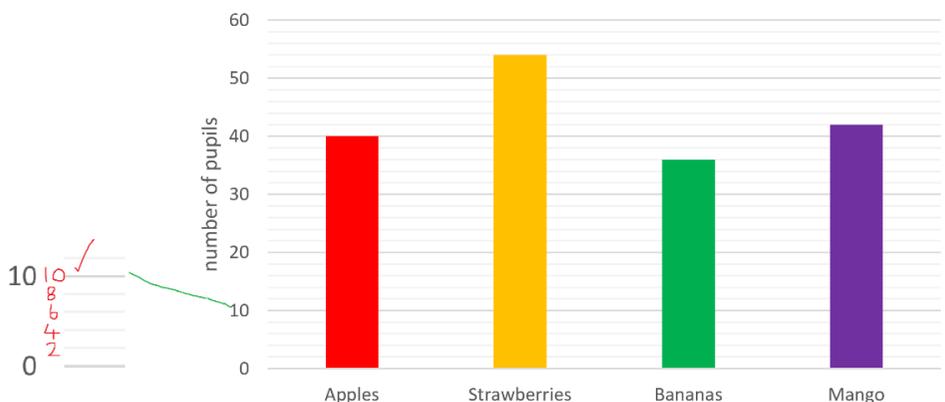
Tips for reading this bar graph:

- 1) This time the scale is counting in 10s. I can read off how many apples there are easily but to find out how many other fruits there are I need to know what each small increment (or small line) represents.
- 2) At first, I thought each small line might show 1 fruit, so I started at 0 and tried counting 1, 2, 3, 4, 5 as I pointed to each little line. However, when I had counted to 5, the scale said 10 so I knew that wasn't right.
- 3) I tried counting in 2s instead. This worked! As there are 5 small lines between 0 and 10, I know that each small increment represents 2.

Favourite Food

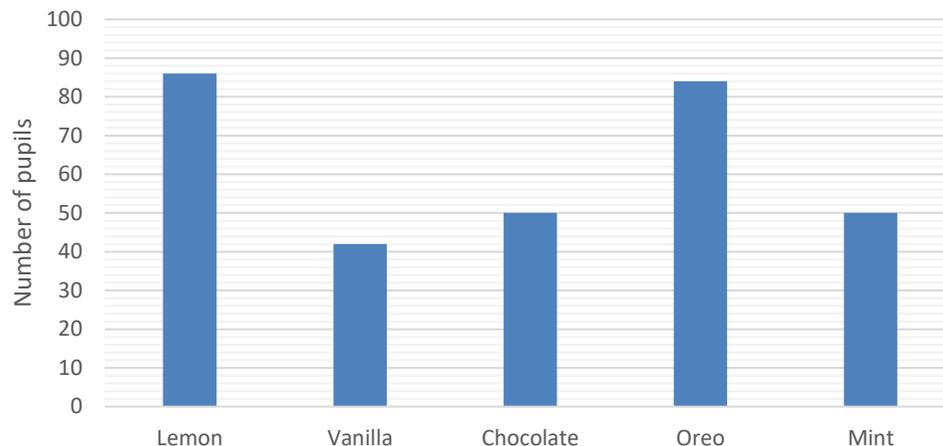


Favourite Food



DO:

Favourite Flavours of Ice Cream



1. How many children prefer vanilla ice cream?
2. How many children like oreo ice cream?
3. How many children like lemon and mint ice cream altogether?
4. Which flavour do most children prefer?
5. Which flavour do the least children prefer?
6. As many children like as like
7. more children prefer oreo ice cream than chocolate ice cream.
8. fewer children prefer oreo ice cream than lemon ice cream.
9. Twice as many children like as
10. How many children were asked their favourite flavour of ice cream altogether?

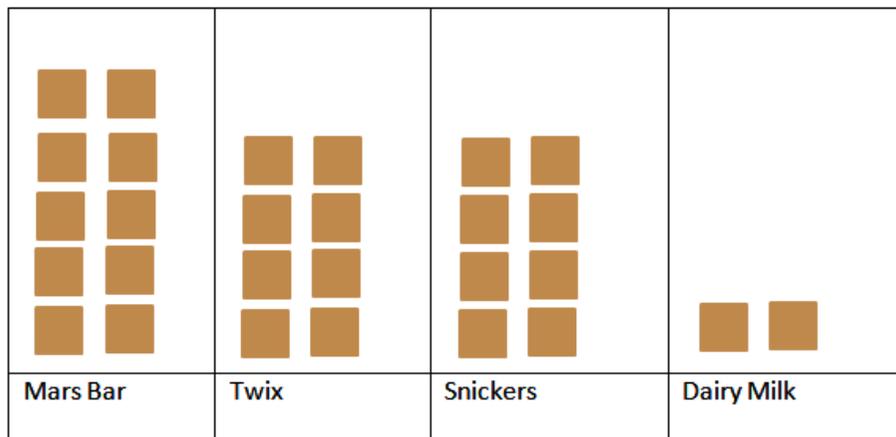
DAY 1 ANSWERS:

This table shows the number of different chocolate bars bought in a shop.

Look at the table and complete the picture graph below.

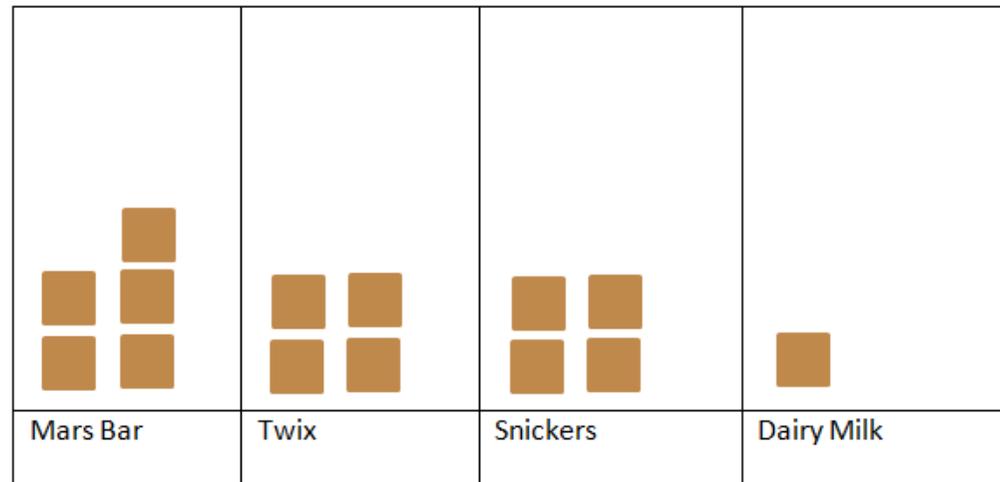
Types of chocolate bars	Number of chocolate bars bought
Mars Bar	10
Twix	8
Snickers	8
Dairy Milk	2

Number of Different Chocolate Bars in a Shop



Each  stands for 1 chocolate bar.

Number of Different Chocolate Bars in a Shop

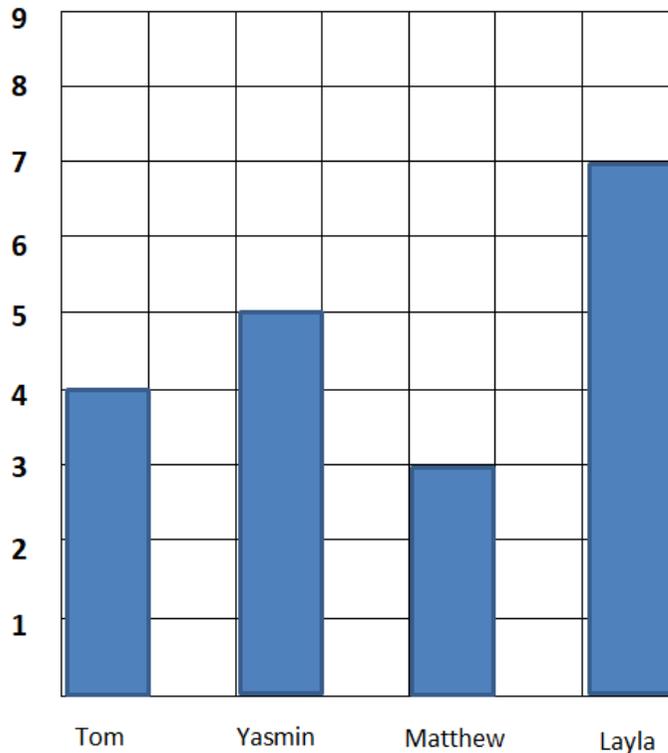


Each  stands for 2 chocolate bars.

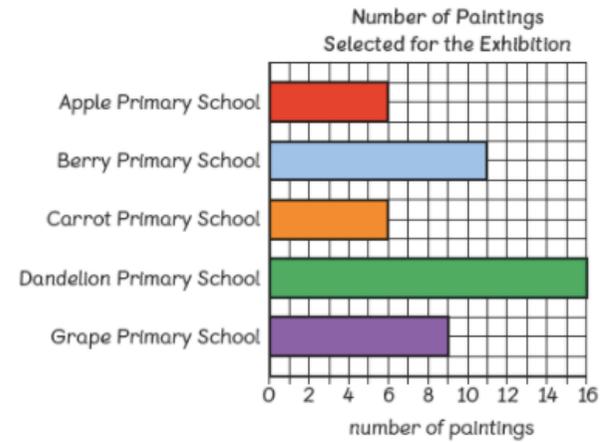
DAY 2 ANSWERS:

child	number of mini Easter eggs eaten
Tom	4
Yasmin	5
Matthew	3
Layla	7

Number of mini Easter eggs eaten



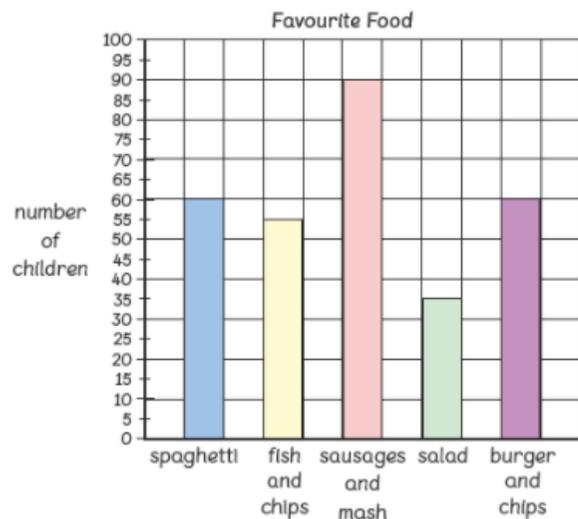
DAY 3 ANSWERS:



1. There are missing numbers on the x axis (the 'number of paintings' line). Can you add them in? How much is the scale counting in? **1, 3, 5, 7, 9, 11, 13, 15. The scale is counting in 1s, but only even numbers were written.**
2. How many paintings does Carrot Primary have at the exhibition? **6 paintings**
3. Which school has the most amount of paintings at the exhibition? **Dandelion Primary**
4. How many paintings do Apple Primary and Berry Primary have at the exhibition? **$6 + 11 = 17$ paintings**
5. What is the difference between the amount of paintings Grape Primary has at the exhibition compared to Carrot Primary? **Grape = 9 and Carrot = 6. $9 - 6 = 3$ paintings.**

DAY 4 ANSWERS:

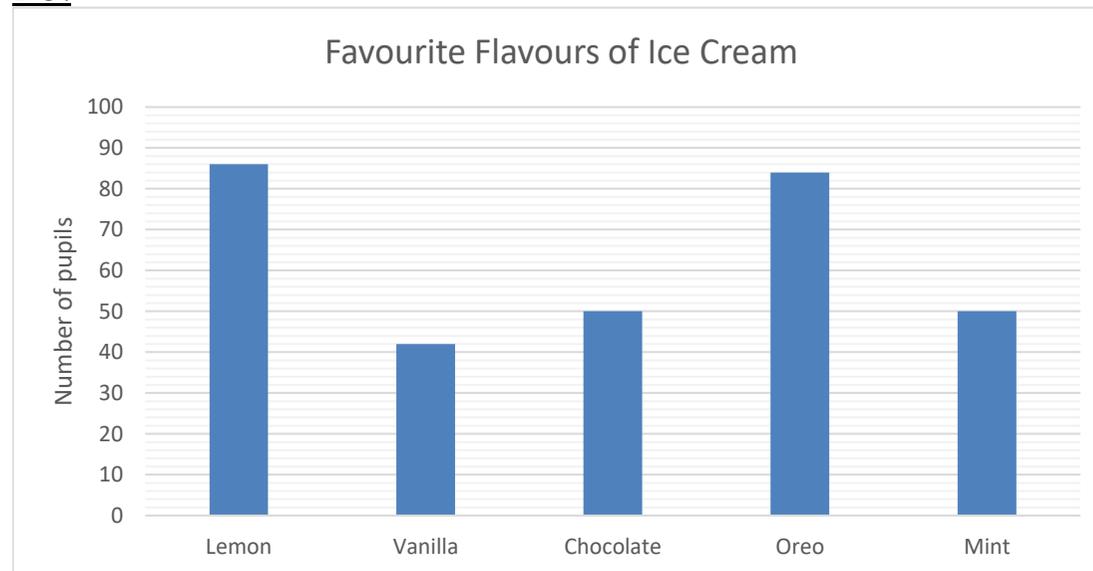
DO: The bar graph shows the amount of children who prefer each food type.



1. Which type of food is the most popular?
Sausages and mash
2. How many children like salad? **35**
3. How many children prefer fish and chips? **55**
4. Do more children like spaghetti or salad?
How many more? **More children like spaghetti. $60 - 35 = 25$. 25 more**
5. Which two food groups do children like the same amount? **Spaghetti and burger and chips**
6. Twice as many children like sausages and mash compared to salad. Is this statement correct? Explain your answer.
The statement is not correct. $35 \times 2 = 70$ when 90 children like sausages and mash.

DAY 5 ANSWERS:

DO:



1. How many children prefer vanilla ice cream? **42**
2. How many children like oreo ice cream? **84**
3. How many children like lemon and mint ice cream altogether?
136
4. Which flavour do most children prefer? **Lemon**
5. Which flavour do the least children prefer? **Vanilla**
6. As many children like **chocolate ice cream** as like **mint ice cream**.
7. **34** more children prefer oreo ice cream than chocolate ice cream.
8. **2** fewer children prefer oreo ice cream than lemon ice cream.
9. Twice as many children like **oreo ice cream** as **vanilla ice cream**.
10. How many children were asked their favourite flavour of ice cream altogether? **312**