



Year 3 Maths Home Learning | Summer Term



W.C. 13th July

Use these worksheets to work from **and not on**. All you need is a piece of paper, pencil and a ruler.

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After watching the videos and having a go at the practise activities on BBC Bitesize, have a go at these activities. Depending on your confidence choose Mild, Medium or Spicy.

Maths

Deeper Learning – You may wish to deepen your learning by looking at time!

1) Use the numbers to fill in the gaps, completing the sentences. There is one number that will not be needed.

There are months in a year.

There are months in two years.

There are days in a fortnight.

There are years in a decade.

10 7 12
14 24

2) Which of the months total 61 days? There are 2 possible answers.

February and May August and June

July and January The fourth and fifth month of the year.

3) When is the next leap year after 2024?

4) Look at the dates. If each date was a week earlier, what would the dates be? Use a calendar if needed.

Hint: 2020 is a leap year.

Date	One Week Later
20 th March 2020	
23 rd February 2020	
30 th April 2020	

12

24

14

10

Aug
& June
Fourth
and
fifth
month

2028

13th

March

16th

Feb

23rd

April

Months & Years:

Extra spicy challenge!

Time

1.

Wormwell	09.47	10.39	11.55
Bankfield	10.33	11.03	12.30
Lindel	10.49	11.20	12.44
Turnley	11.08	11.34	13.12

Ben gets a train from Wormwell to Lindel at 10.39.

He hopes to be at the cinema by 11.00.

Is this the right train for him to get?

Explain your answer.



No, as the train gets in later. He would need to get the 09:47 train

We also have Maths activities on Purple Mash for you!

Monday

<https://www.bbc.co.uk/bitesize/tags/zmyxxyc/year-3-and-p4-lessons/1>

<https://whiterosemaths.com/homelearning/year-3/>

Compare capacity

Mass and Capacity		Knowledge Organiser	
Key Vocabulary	Measure and Compare Mass		
mass	Scales can be used to measure grams. A gram is a unit of measurement that is used to measure the mass of something. Grams can be written as g. 	Scales can be used to measure kilograms. A kilogram is a unit of measurement that is greater than a gram. It is also used to measure the mass of something. Kilograms can be written as kg. 1000g = 1kg 	To compare mass, we can use the words 'heavier' and 'lighter'.
gram			
kilogram			
capacity			
volume			
millilitre	Measure and Compare Capacity		
litre	Capacity is the amount of liquid a container can hold. Volume is how much liquid is in the container. Measuring cylinders can be used to measure smaller volumes. Smaller volumes are measured in millilitres. Millilitres can be written as ml. 	Measuring jugs can be used to measure larger volumes. Greater volumes are measured in litres. Litres can be written as l. 1000ml = 1l 	To compare capacities, we can use the word 'full'.
lighter			
heavier			
 visit twinkl.com			

Reading Scales	Knowledge Organiser	
Mass Each of the melons has a mass of 6kg but the arrows are all pointing at different points on the scales. This is because each of the measuring scales have different increments marked on them.  Always look carefully at how the numbers on the scales increase when reading a measurement.	Capacity Measuring containers all have different capacities.  Each of these containers contain the same volume of 100 millilitres but have different capacities and scales. Always look carefully at how the numbers on the scales increase when reading a measurement.	
Add and Subtract Mass 600g + 500g = 1100g = 1kg 100g 1kg - 300g = 1000g - 300g = 700g  twinkl visit twinkl.com	Add and Subtract Capacities 800ml + 400ml = 1200ml = 1l 200ml 1l 300ml - 200ml = 1l 100ml 	

Mild

Approximately how much water is in each jug?



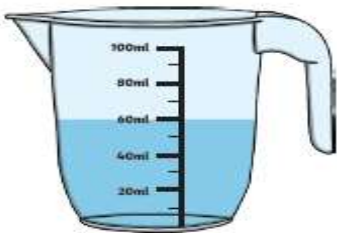
1. _____ ml



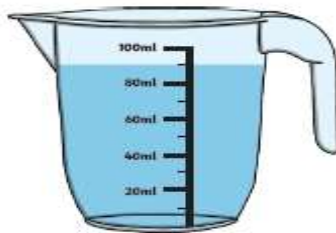
2. _____ ml



3. _____ ml



4. _____ ml



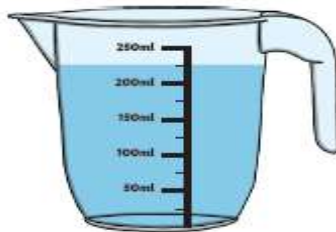
5. _____ ml



6. _____ ml



7. _____ ml



8. _____ ml



9. _____ ml

1. 20ml
2. 40ml
3. 15ml
4. 60ml
5. 90ml
6. 35ml
7. 125ml
8. 225ml
9. 50ml

How Much Does It Hold?

Can you use the words in the box to label the following bottles?

full	nearly full	empty	nearly empty	half full
------	-------------	-------	--------------	-----------



Half full
nearly empty

Full

Nearly full

Empty

Spoon

Cup

Which container holds less? Please circle.



Which container holds more? Please circle.



Capacity and Volume

Can you draw a line on each container to show the water level at the correct volume?



half full



nearly full



nearly empty



full

Which container has the smallest capacity? **Circle one.**



Which container has the greatest capacity? **Circle one.**



Which container has the greatest capacity? **Circle one.**



Which container has the smallest capacity? **Circle one.**



Capacity and Volume **Answers**

Can you draw a line on each container to show the water level at the correct volume?



half full



nearly full



nearly empty



full

Which container has the smallest capacity? **Circle one.**



Which container has the greatest capacity? **Circle one.**



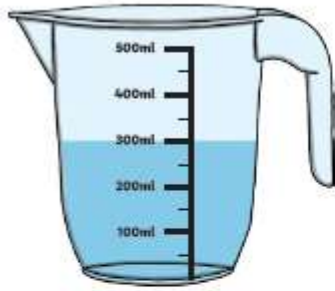
Which container has the greatest capacity? **Circle one.**



Which container has the smallest capacity? **Circle one.**



Medium



1. _____ ml



2. _____ ml



3. _____ ml



4. _____ ml



5. _____ ml



6. _____ ml



7. _____ ml



8. _____ ml



9. _____ ml

1. 300ml

2. 150ml

3. 420ml

4. 700ml

5. 150ml

6. 350ml

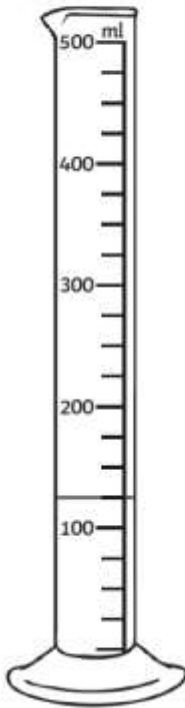
7. 950ml

8. 150ml

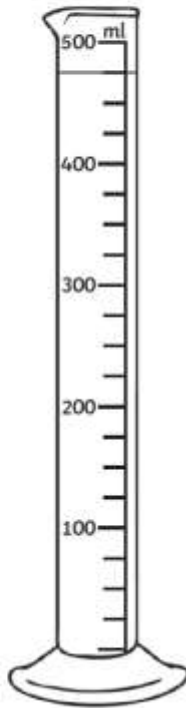
9. 375ml

How much does each cylinder contain?

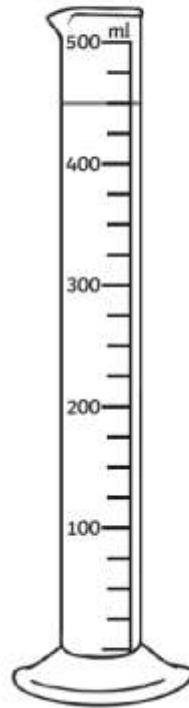
A) _____ ml



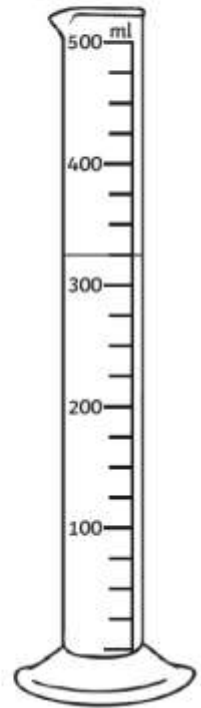
B) _____ ml



C) _____ ml



D) _____ ml



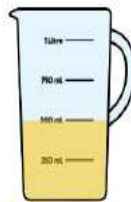
125

475

450

325

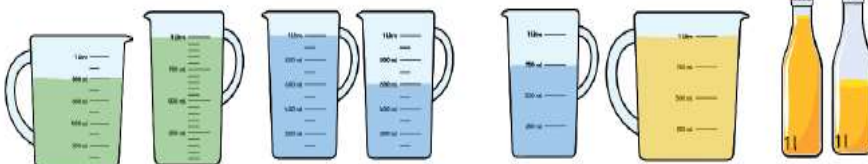
Complete the sentences.



cans of pop are equal to jug of orange juice.

1 can of pop is equal to jug of orange juice.

Use <, > or = to compare the volume of liquid in each pair of containers.



800 ml 1l

l and ml 750 ml



Whitney has 3 bottles of water with 500 ml in each.
Sophie has one bottle of water with 1 and a half litres in it.
Who has the most water?

2-1/2

1-1/4

<

>

<

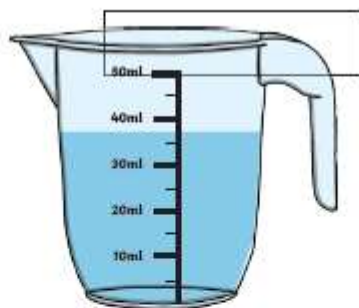
They are the same.

Spicy

Approximately how much water is in each jug?



1. _____ ml



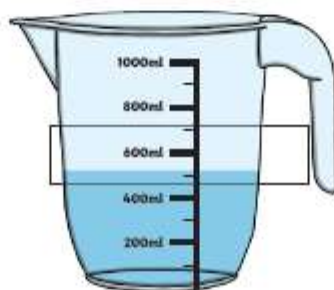
2. _____ ml



3. _____ ml



4. _____ ml



5. _____ ml



6. _____ ml

In these jugs, the numbers have been worn away. Write what the capacity of the whole jug could be and how much water there would be in each.



7. _____ ml



8. _____ ml

1. 12ml
2. 37ml
3. 235ml
4. 120ml
5. 525ml
6. 560ml

For questions 7 and 8, accept any correct answers based on the scales chosen by the children.

Rosie has a litre bottle of water.



She pours a drink for herself and two friends. Their glasses can hold up to 250 ml.



Teddy has more than Amir.
Rosie has the most.

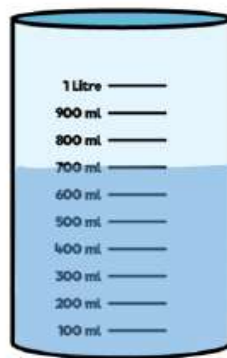
How much could each child have in their glass?

How much would be left in the bottle?

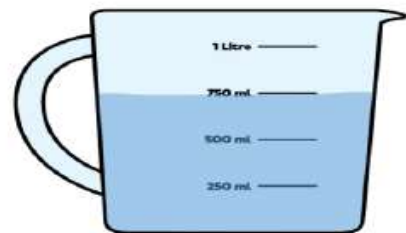


Eva

I know container 1 has more than container 2 in it because the water goes further up the side.



Container 1



Container 2

Is Eva correct? Explain your answer.

Rosie has a litre bottle of water.



She pours a drink for herself and two friends. Their glasses can hold up to 250 ml.



Teddy has more than Amir.
Rosie has the most.

How much could each child have in their glass?

How much would be left in the bottle?

There are a range of possible answers the children could find. Rosie should have the most and Amir should have the least. The total should not exceed 750 ml

Possible answer:

Rosie: 250 ml
Teddy: 200 ml
Amir: 150 ml
There is 400 ml left in the bottle.



Eva

I know container 1 has more than container 2 in it because the water goes further up the side.



Container 1



Container 2

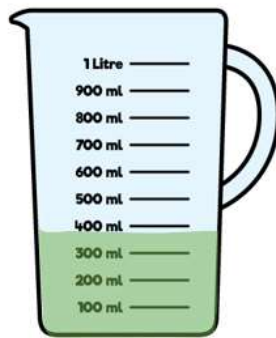
Is Eva correct? Explain your answer.

Eva is not correct. The measurements show that container 1 has 700 ml in it whereas container 2 has 750 ml in. Container 2 is wider than container 1 which is why it looks like it has less in it.

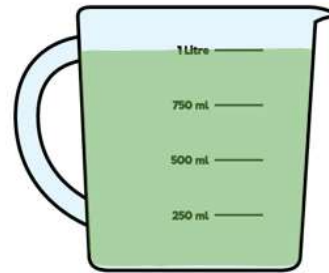
Tommy is pouring drinks using these jugs.
A drink is 125 ml.



If I pour three more drinks using jug 2,
both jugs will have the same amount of
juice in.



Jug 1



Jug 2

Is Tommy correct?

If not, how much juice will be left in jug 2?

False-there will be more left over.

Tuesday

<https://www.bbc.co.uk/bitesize/tags/zmyxxyc/year-3-and-p4-lessons/1>

<https://whiterosemaths.com/homelearning/year-3/>

Add and subtract capacity

Mild

1. Jug 2 contains 10ml more than jug 1.	
1	2
	
10ml	_____ ml

2. Jug 2 contains 10ml less than jug 1.	
1	2
	
30ml	_____ ml

3. Jug 2 contains 20ml less than jug 1.	
1	2
	
80ml	_____ ml

4. Jug 2 contains 30ml more than jug 1.

1	2
	
40ml	_____ml

5. Jug 2 contains 100ml more than jug 1.

1	2
	
50ml	_____ml

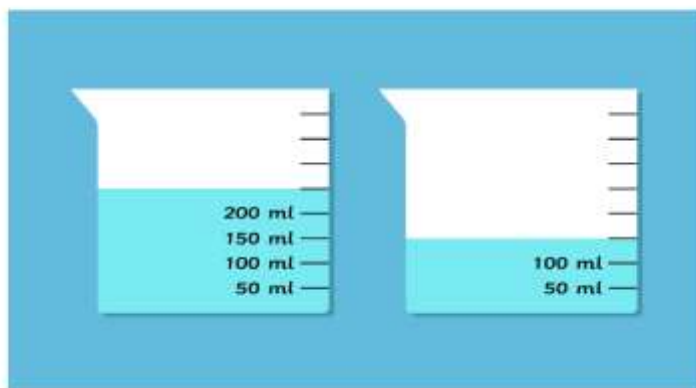
6. Jug 2 contains 100ml less than jug 1.

1	2
	
200ml	_____ml

Add and Subtract Volume Answers

1. 20ml
2. 20ml
3. 60ml
4. 70ml
5. 150ml
6. 100ml

What is the total volume of liquid in the two containers?



400ml

Medium



Teddy uses Base Ten and a place value chart to add 3 l and 500 ml and 3 l and 300 ml

Use the same approach to calculate:

- 4 l and 600 ml + 2 l and 100 ml
- 7 l and 320 ml + 1 l and 125 ml
- 3 l and 950 ml – 3 l and 50 ml
- 800 ml – 375 ml

l	ml
6 l	800 ml

6l 700ml

8l 445ml

7l

425ml

Peter says, "1 litre plus 90 millilitres is equal to 190 millilitres." What has Peter done wrong?

1 l = _____ ml
+
90 ml = _____ ml

↓

190 ml

↓

?

His answer is incorrect-it should be 1l 90 ml (1090ml)

Here are the results of the first 2 rounds of the 'Fill the Teacup' event from the Trolls' Sports Day. Each team tried to fill a teacup (which holds 250ml) using teaspoons and tablespoons.

Remember: 1 teaspoon = 5ml 1 tablespoon = 15ml 1 teacup = 250ml

Team A	Round 1	Round 2	Team B	Round 1	Round 2
Player 1	teaspoon	tablespoon	Player 1	teaspoon	tablespoon
Player 2	teaspoon	tablespoon	Player 2	tablespoon	teaspoon
Player 3	teaspoon	tablespoon	Player 3	teaspoon	tablespoon
Player 4	tablespoon	tablespoon	Player 4	tablespoon	teaspoon

- 1) How many millilitres did each team have in their teacup after Round 1?

Team A _____ ml Team B _____ ml

- 2) How many millilitres did Players 3 and 4 from Team A put in their teacup together in Rounds 1 and 2?

Players 3 and 4 from Team A put _____ ml in their teacup.

- 3) How many more millilitres does Team A need to add to fill their teacup?

Team A needs _____ ml more to fill their teacup.

- 4) How many more millilitres does Team B need to add to fill their teacup?

Team B needs _____ ml more to fill their teacup.



Question	Answer
1.	How many millilitres did each team have in their teacup after Round 1? Team A 30 ml Team B 40 ml
2.	How many millilitres did Players 3 and 4 from Team A put in their teacup together in Rounds 1 and 2? Players 3 and 4 from Team A put 50 ml in their teacup.
3.	How many more millilitres does Team A need to add to fill their teacup? Team A needs 160 ml more to fill their teacup.
4.	How many more millilitres does Team B need to add to fill their teacup? Team B needs 170 ml more to fill their teacup.

Spicy

Here are some measuring cylinders.
The total liquid in all three cylinders is 400 ml.

Cylinder A has half of the total amount in it.

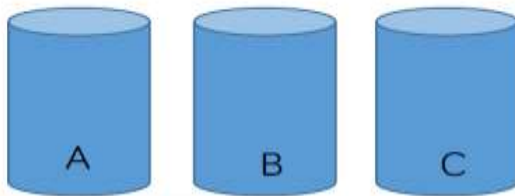
Cylinder B has 67 ml less than Cylinder A.

How much liquid does each cylinder contain?

A: 200 ml

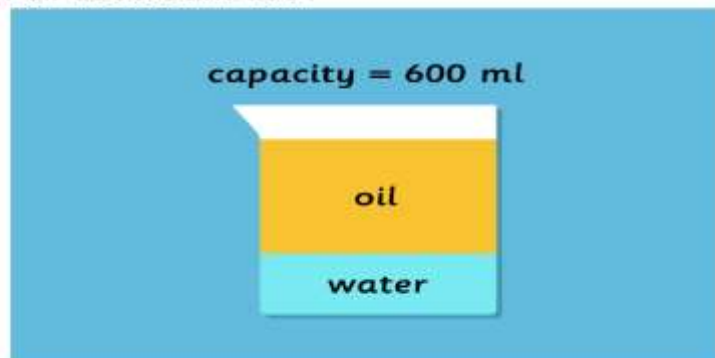
B: 133 ml

C: 67 ml



400ml

Sam fills a beaker that has a capacity of 600 millilitres (ml) with oil and water for an experiment. The amount of oil she uses is double the amount of water. How much oil does Sam use?



Capacity Challenges

Challenge 1

Janine needs to fill a bucket with 2 litres (2000ml) of water. She has bottles which hold the following amounts:

200ml, 250ml, 500ml, 750ml

Give two different ways that Janine can fill the bucket (you may use each container more than once).



Challenge 1: (2000ml)

- $200\text{ml} + 200\text{ml} + 200\text{ml} + 200\text{ml} + 200\text{ml} + 200\text{ml} + 200\text{ml} + 200\text{ml} + 200\text{ml} + 200\text{ml}$
- $250\text{ml} + 250\text{ml} + 250\text{ml} + 250\text{ml} + 250\text{ml} + 250\text{ml} + 250\text{ml} + 250\text{ml}$
- $500\text{ml} + 500\text{ml} + 500\text{ml} + 500\text{ml}$
- $750\text{ml} + 750\text{ml} + 500\text{ml}$
- $500\text{ml} + 500\text{ml} + 200\text{ml} + 200\text{ml} + 200\text{ml} + 200\text{ml} + 200\text{ml}$

Wednesday

<https://www.bbc.co.uk/bitesize/tags/zmyxxyc/year-3-and-p4-lessons/1>

<https://whiterosemaths.com/homelearning/year-3/>

Statistics: Pictograms

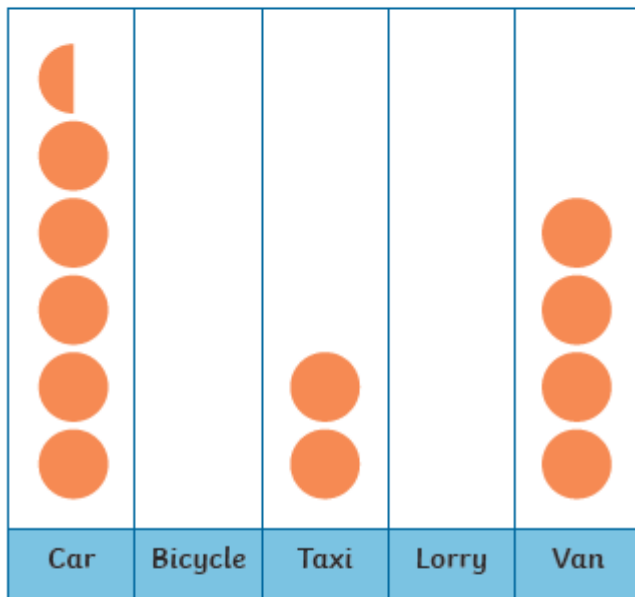
Mild

- 1) Anna counted the different types of vehicles she saw outside her school. She used a pictogram to show the data.



Different Vehicles outside School

Key  = 10 vehicles



Use this information to complete the pictogram:

- a) Anna counted 10 bicycles.
 - b) There were 5 more lorries than there were taxis.
- 2) a) How much does half a circle represent?
- b) How many cars did Anna see?
 - c) How many more vans were there than taxis?
 - d) What was the least common vehicle?
 - e) How many cars and taxis did Anna see altogether?



1)

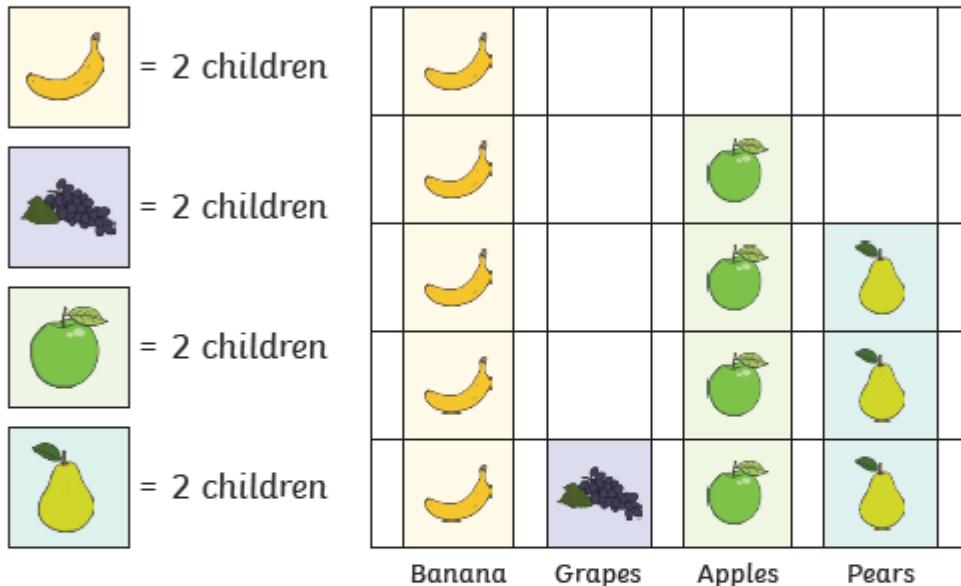
Car	Bicycle	Taxi	Lorry	Van

- 2)
- a) 5 vehicles
 - b) 55 cars
 - c) 20 more vans
 - d) bicycle
 - e) 75

Interpreting Scaled Pictograms

Learning Objective: I can interpret scaled pictograms

Favourite Fruit



Answer the following questions.

What is the favourite fruit? _____

How many children chose apples as their favourite fruit? _____

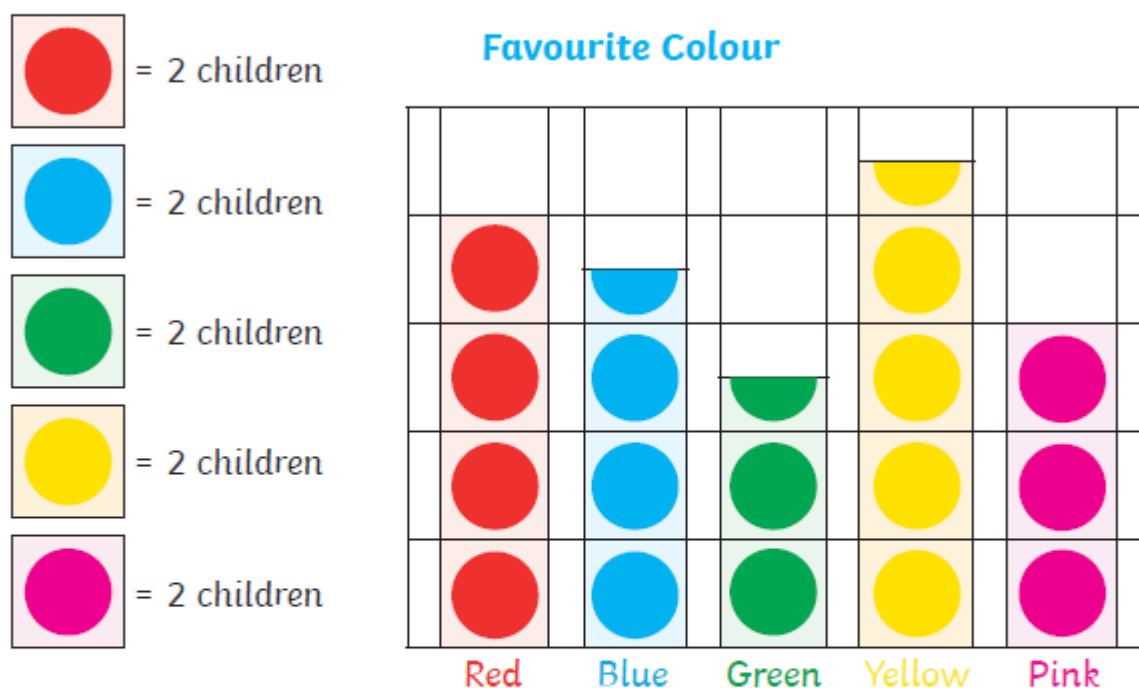
How many more children chose bananas than grapes, as their favourite fruit? _____

How many children chose apples or pears as their favourite fruit? _____

Write your own questions for a friend.

Interpreting Scaled Pictograms

Learning Objective: I can interpret scaled pictograms



Answer the following questions.

What is the least favourite colour? _____

How many children chose yellow as their favourite colour? _____

How many fewer children chose green than blue as their favourite colour? _____

How many children chose pink and red as their favourite colour? _____

Write your own questions for a friend.

Interpreting Scaled Pictograms **Answers**

Favourite Fruit

What is the favourite fruit? **banana**

How many children chose apples as their favourite fruit? **8**

How many more children chose bananas than grapes, as their favourite fruit? **8**

How many children chose apples or pears as their favourite fruit? **14**

Favourite Colour

What is the least favourite colour? **green**

How many children chose yellow as their favourite colour? **9**

How many fewer children chose green than blue as their favourite colour? **2**

How many children chose pink and red as their favourite colour? **14**

Medium

Complete the pictogram using the information.

- Group 2 collected 40 apples.
- Group 4 collected half as many apples as Group 1
- Group 5 collected 20 more apples than Group 3

How many apples did each group collect?



Group	Apples
1	
2	
3	
4	
5	

5 apples should be drawn

2 apples

2 1/2 apples

1=32

2=40

3=12

4=16

5=32

Class 3 are counting the colour of cars that pass the school.

Red	Blue	Black	Silver	White	Other
12	6	14	10	14	2

Draw a pictogram to represent their findings.

Create a key

Label colour of cars

Represent using a picture of a car

Whitney and Teddy are making pictograms to show how many chocolate eggs each class won at the school fair.



Class	Number of eggs
1	
2	
3	
4	
5	
6	

Key
 = 5 eggs



Class	Number of eggs
1	
2	
3	
4	
5	
6	

Key
 = 10 eggs

What's the same and what's different about their pictograms?

Whose pictogram do you prefer and why?

The Key- The second pictogram is set out better as the key is a greater making the pictogram easier to read.

Answer the questions about the data below.



= 2 goals

4 teams take part in a football match.
The goals have been recorded.

Teams	Goals
Team 1	
Team 2	
Team 3	
Team 4	

How many goals did team 2 score?

How many goals did team 3 score?

How many goals did team 1 score?

Which team scored the most goals?

Which team scored the least goals?

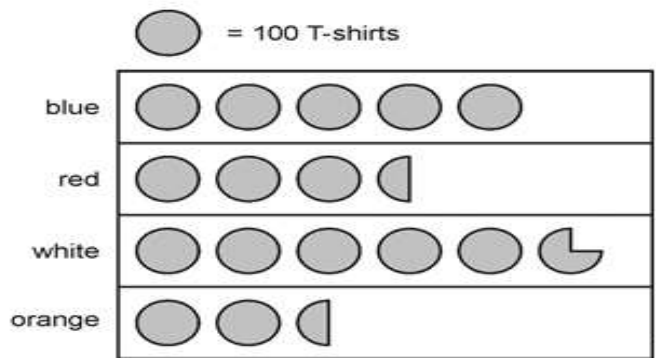
Answers: 2, 12, 9, team 3, team 2

Spicy

Q1.

A shop sells T-shirts.

This chart shows how many T-shirts were sold in a month.



Write the colours of the T-shirts that sold **more than 400** in the month.

How many red T-shirts and orange T-shirts were sold **altogether**?

How many **more** white than blue T-shirts were sold?

Answers: blue, white

$$350 + 250 = 600$$

175

 = 10 books

4 classes are having a competition and recording how many books they can read in one week. Here are the results.

   	 	   	  
Class 1	Class 2	Class 3	Class 4

How many books did class 4 read?

How many books did class 2 read?

How many books did class 3 read?

Write your own questions for this data.

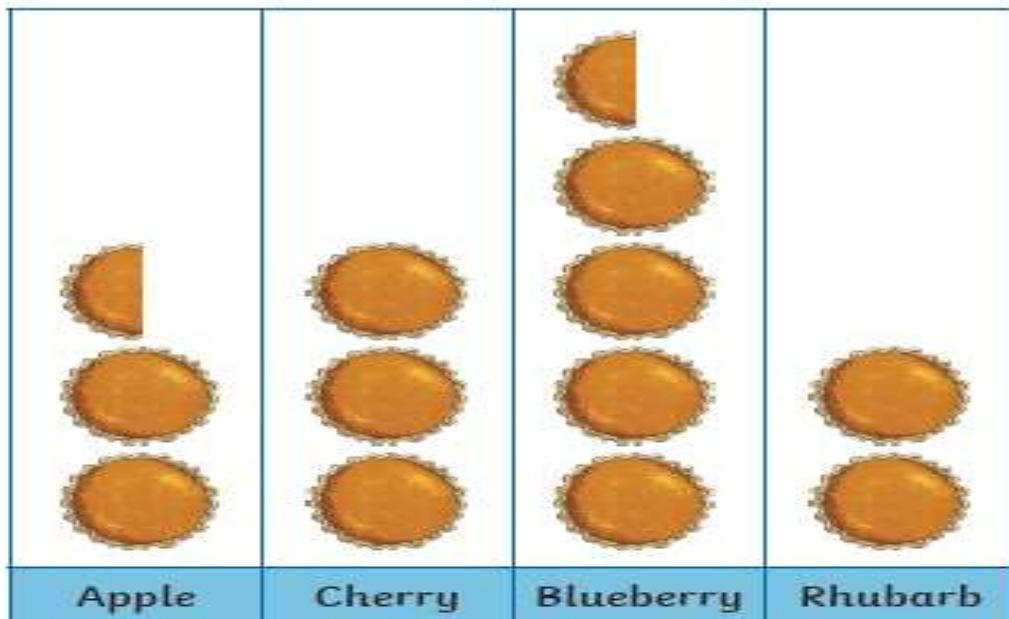
Answers: 30, 20, 40

How many more books did class 1 read to class 2?

- 1) Year 3 children at Pear Tree School voted for their favourite pie fillings.



They drew a pictogram to show the information.



- a) 24 children chose cherry. What is the scale of the pictogram?

 = children

- b) How many fewer children chose blueberry than all the children who chose cherry or apple put together?
- c) If 4 more children voted for cherry, what would the most popular filling be?
- d) How could you improve this pictogram?
- e) Write 2 of your own questions that could be answered using this pictogram.

Answers: 8, 8, Blueberry, layout could change/Title/Key.
How many children voted altogether.

Thursday

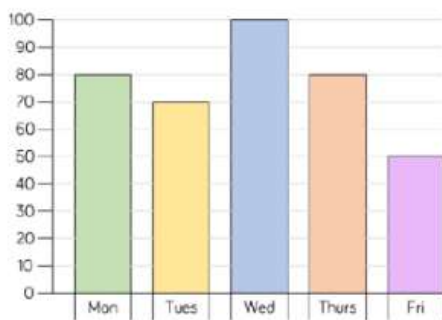
<https://www.bbc.co.uk/bitesize/tags/zmyxxyc/year-3-and-p4-lessons/1>

<https://whiterosemaths.com/homelearning/year-3/>

Statistics: Bar Charts

Mild

The bar chart shows how many children attend after school clubs.



Which day is the most popular?

Which day is the least popular?

What is the difference between the number of children attending on Tuesday and on Thursday?

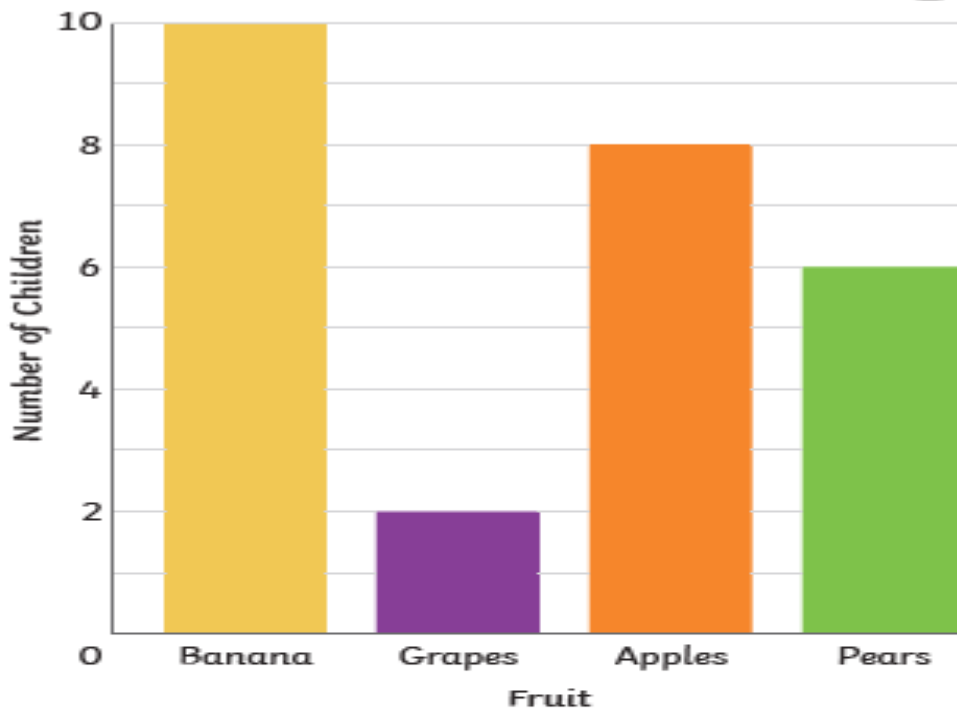
What information is missing from the bar chart?

Wed

Friday

10

Title

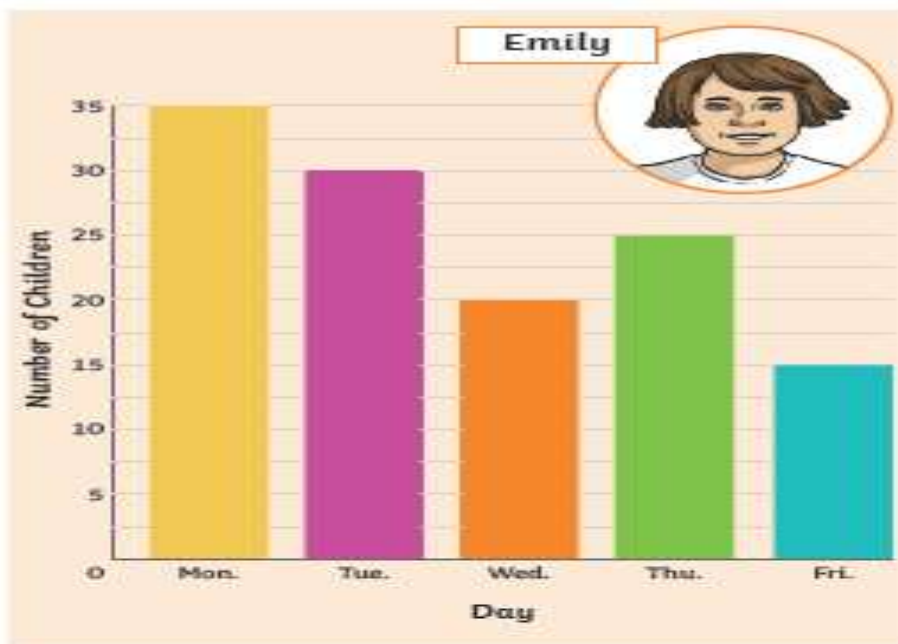


- 1) The children in Class A carried out a survey to find their favourite fruits. They presented the data in a bar chart.
- a) Which fruit is the most popular?
 - b) How many children chose pears as their favourite?
 - c) What is the least popular fruit?
 - d) How many more children chose bananas than apples?
 - e) How many children chose apples and pears altogether?
 - f) Write a title for the bar chart.



- 1) a) *banana*
b) *6 children*
c) *grapes*
d) *2 children*
e) *14 children*
f) *Children write a title that appropriately describes what the chart represents. For example, 'A Bar Chart to Show Class A's Favourite Fruits'.*
- 2) *Children demonstrate the correct drawing of a bar chart, including separate bars, and choose an appropriate scale.*

- 1) Emily and Ben have both drawn bar charts to show how many children go to after-school club each day.



- What is the same?
- What is different?
- Which bar chart do you think represents the data best? Why?

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- 1) a) They are both representing the same data. They have put the days of the week in the same order.
b) The scales are different. The colours of the bars are different.
c) Children could choose either as long as they explain with a mathematical reason relating to the scale.



Medium

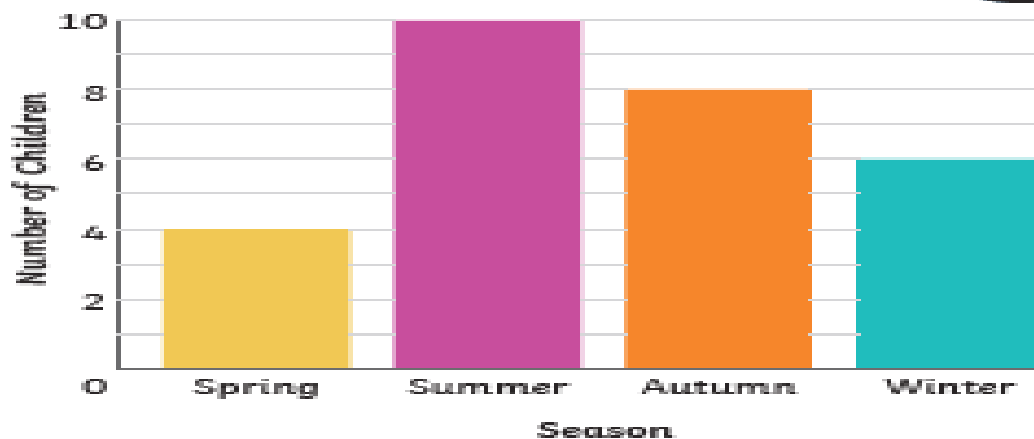
- 2) The table shows how many children in Class A attend each after-school club.

Club	Art	Football	Drama	Music
Total	11	12	8	9

On squared paper or in your book, draw a bar chart to represent the information in this table.

Think carefully about the scale you will choose.

- 1) The bar chart shows what seasons the children from Class A were born in.



- 2 children have birthdays in the spring. True or false? Explain your reasons.
 - Does the bar chart tell us how many birthdays are in July? Convince me.
 - What's the difference between the number of children born in autumn and winter?
 - How many children are in Class A altogether?
- 2) On squared paper or in your book, create a bar chart to show who was born in what season in your class
- Use what you know about bar charts to help you.



- 1) a) False - the scale is in twos so there are four children with spring birthdays.
b) No - the bar chart tells us how many birthdays there are in the summer. Although July is a summer month, there are other summer months as well. Therefore, the bar chart doesn't tell us how many birthdays there are in July.
c) 2 children
d) 28 children
- 2) Children demonstrate the correct drawing of a bar chart, including separate bars, and they choose an appropriate scale.

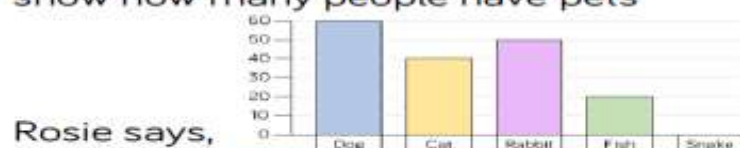
Here is a tally chart showing the number of children in each sports club.

Draw a bar chart to represent the data.

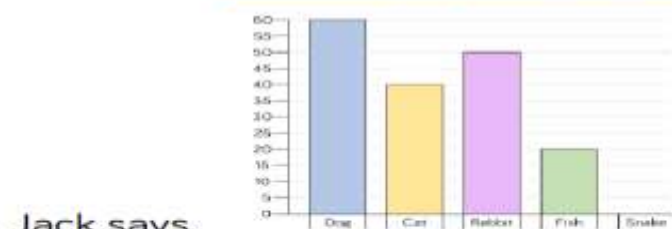
Sport	Tally	Total
Football		15
Tennis		
Rugby		
Cricket		
Basketball		

Spicy

Rosie and Jack have drawn bar charts to show how many people have pets



I asked more people because my scale goes up in larger jumps.



I asked more people because my bars are taller.

Who is correct? Explain why.

Possible answer:

They are both incorrect as they asked the same amount of people but they have just used different scales on their bar charts. Children could discuss which scale is more efficient.

Which would be more suitable to represent this information, a bar chart or a pictogram?
Explain why.

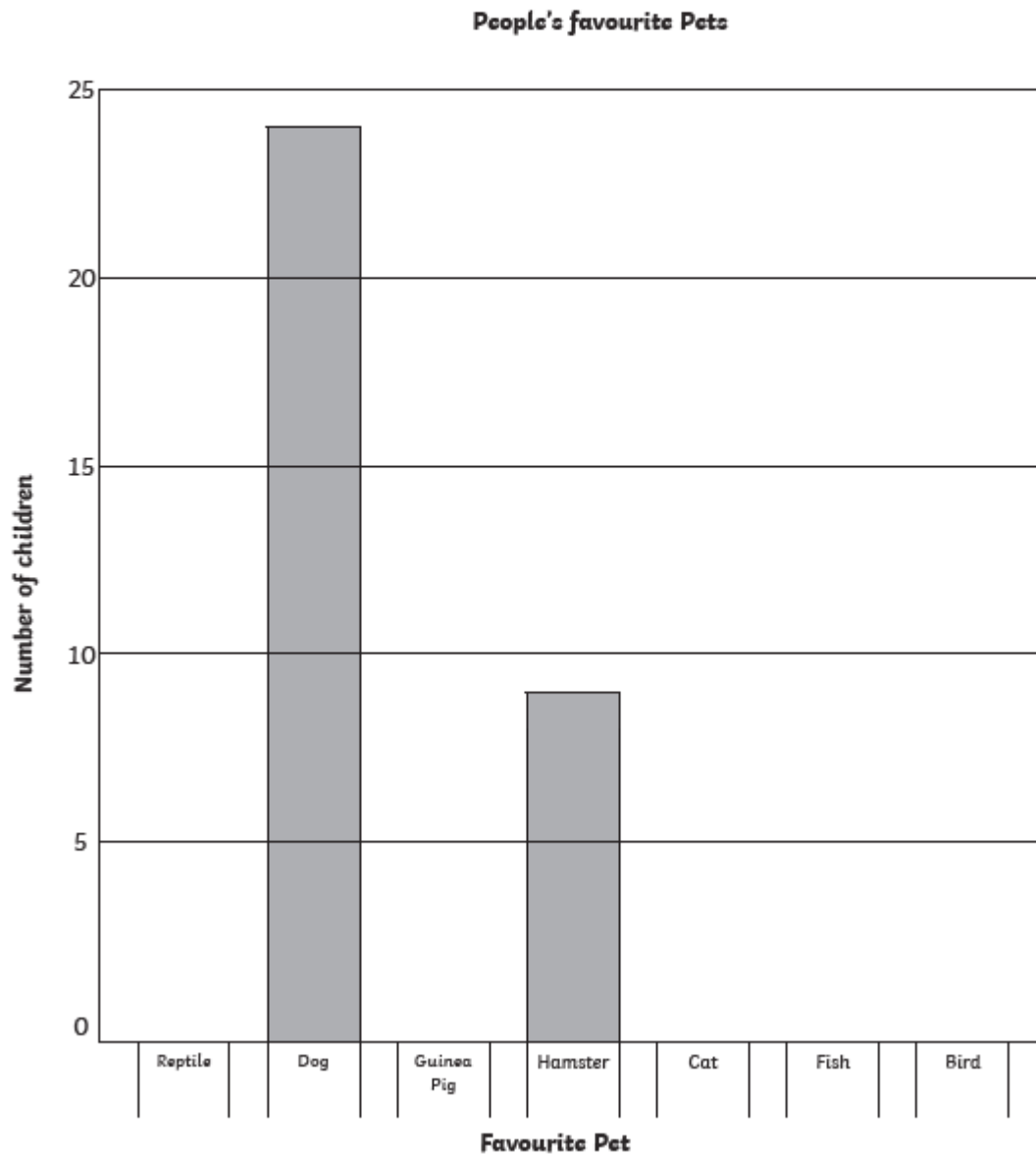
Child	Number of Skips in 30 Seconds
Teddy	12
Annie	15
Whitney	17
Ron	8

Bar chart-a clear scale can be set out-it would be difficult to visually show.

1. A group of children record their favourite pets. Here are the results. Complete the following bar chart and table from the given information.

Favourite Pet	Reptile	Dog	Guinea Pig	Hamster	Cat	Fish	Bird
Number of Children	11		16		21	10	9

How many children were asked about their favourite pets?



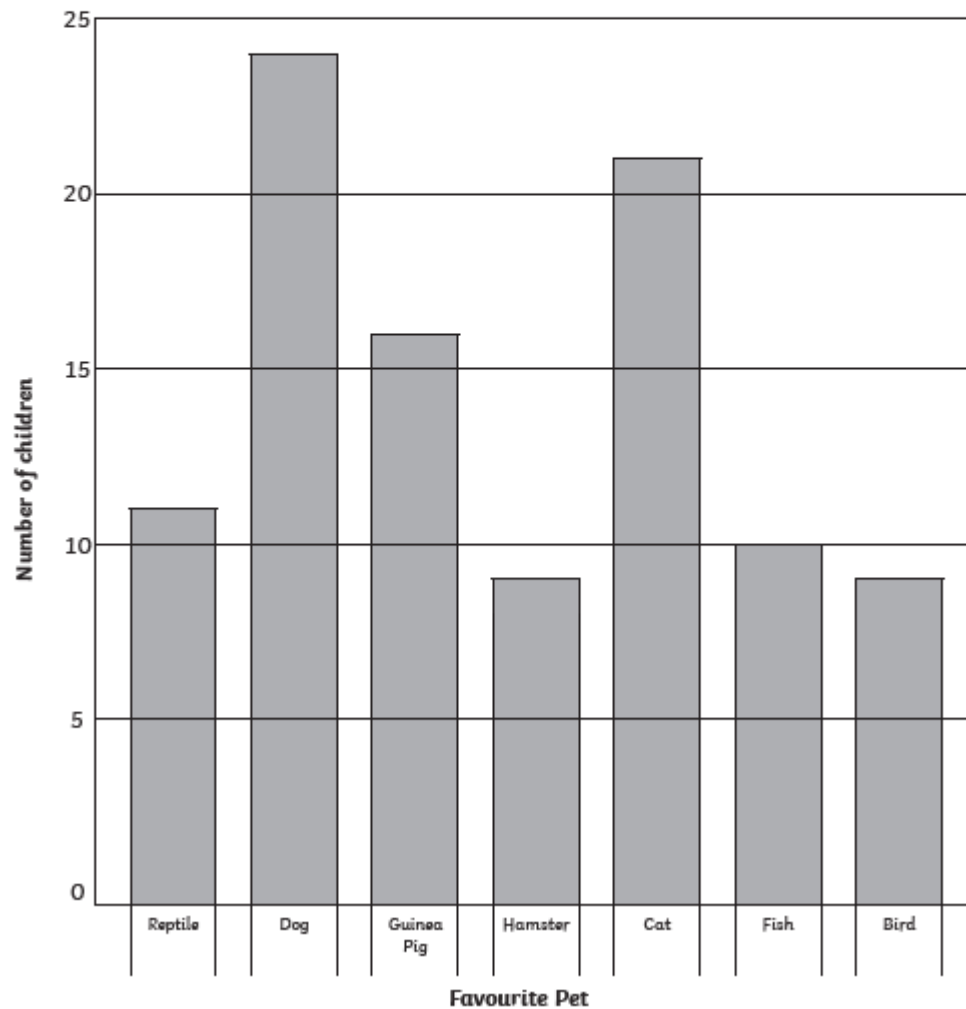
1. A group of children record their favourite pets. Here are the results. Complete the following bar chart and table from the given information.

Favourite Pet	Reptile	Dog	Guinea Pig	Hamster	Cat	Fish	Bird
Number of Children	11	24	16	9	21	10	9

How many children were asked about their favourite pets?

100

People's favourite Pets



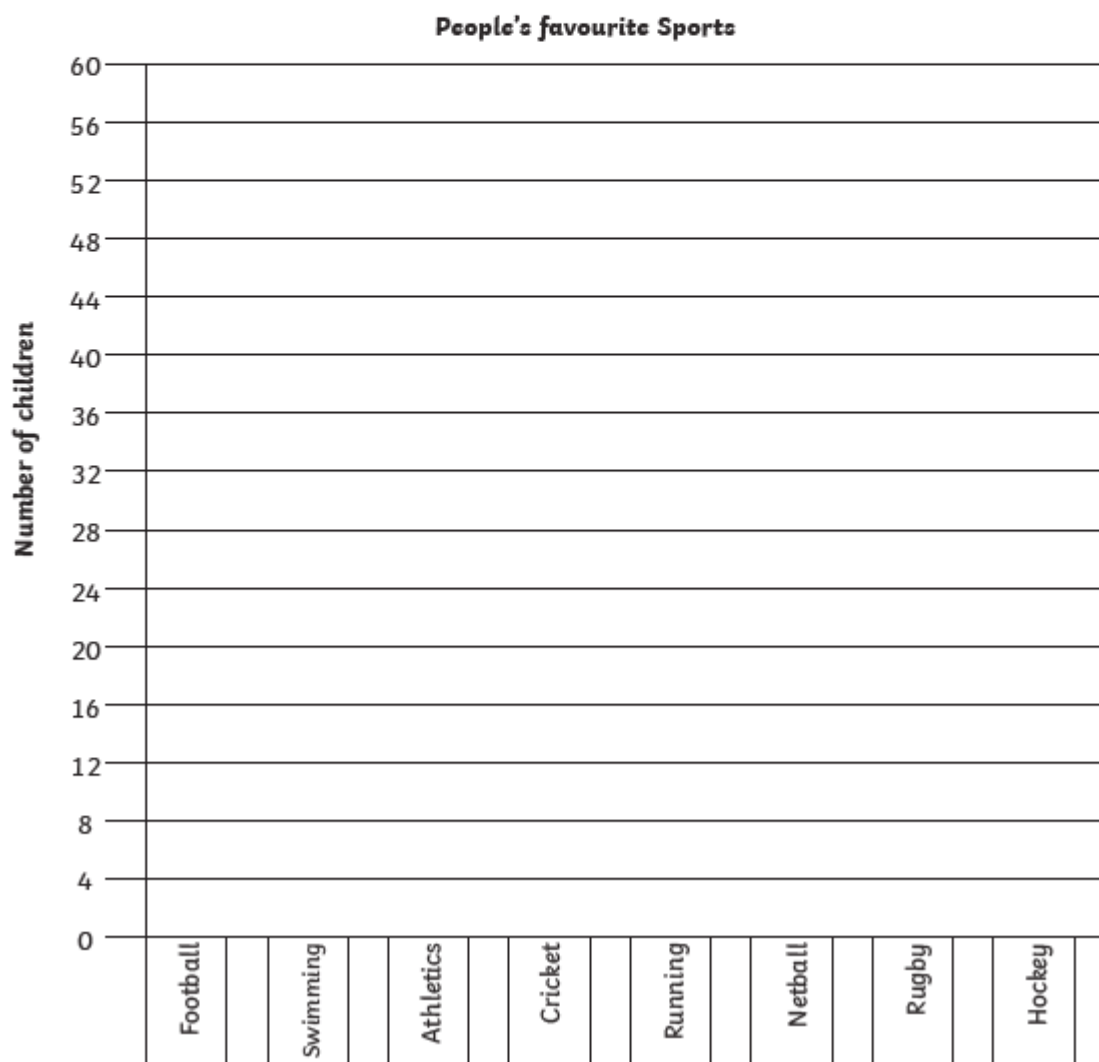
2. The favourite sport of 200 children is recorded.

Complete the table using the information below.

Favourite Sport	Football	Swimming	Athletics	Cricket	Running	Netball	Rugby	Hockey
Number of Children		17			21	14		

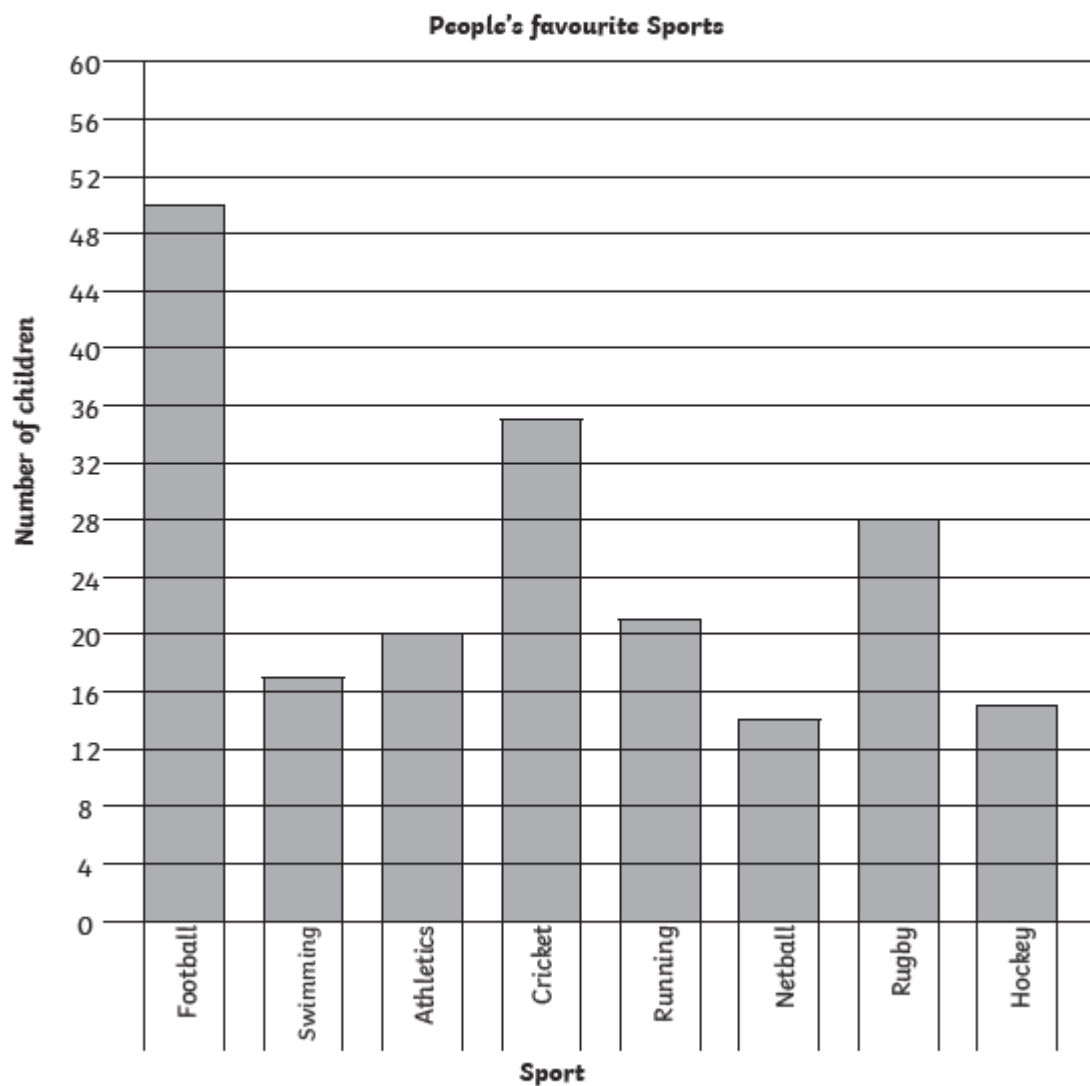
- One quarter of the children chose football as their favourite sport.
- As many children who chose running and netball chose cricket.
- Twice as many children chose rugby as chose netball.
- Five more children chose athletics than hockey.

Use the information in the table to draw a bar chart.



2.

Favourite Sport	Football	Swimming	Athletics	Cricket	Running	Netball	Rugby	Hockey
Number of Children	50	17	20	35	21	14	28	15



3. Answers will vary.



Times Table Rockstars

Have a go at your times tables on TTRockstars this week. Maybe you could battle with one of your friends? We can't wait to see how much your times tables have improved!

Quiz

Mild:

Medium/Spicy:

C: Measure and Geometry

21. Tim has fifty pence (25p). Tick the coins that have the same value.



22. Sam has seventy five pence (75p). He buys a comic for twenty pence (20p). How much change does Sam get?



23. What time does this clock show?



24. The way pupils get to school is shown in this block diagram.

4			
3			
2			
1			

Walk Bike Bus

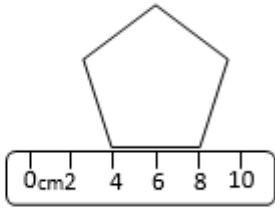
3 pupils travel by bus. Show this on the diagram.

25. How many pupils were asked in total?

C: Measure and Geometry

23. A cake weighs 2 kilograms. It is cut into 4 equal pieces. How many grams does each piece weigh?

22. What is the perimeter of this regular pentagon?



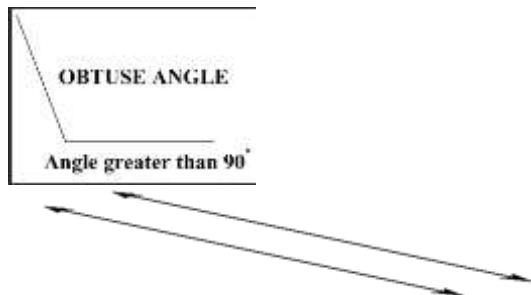
23. Ian turns through a full turn. How many degrees has he turned through?



24. Draw an angle that is bigger than a right angle.

25. Draw a pair of parallel lines.

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 50p 20 minutes to 4 3 bars to colour 9	500g 24 360 
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