Reasoning and Problem Solving
Step 2: Bar Charts

National Curriculum Objectives:

Mathematics Year 3: (3S1) Interpret and present data using bar charts, pictograms and tables
Mathematics Year 3: (3S2) Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Use the clues to work out the missing bars on the bar chart. Scales of 1, 2 or 10. No half intervals on bar charts.
Expected Use the clues to work out the missing bars on the bar chart. Scales of 1, 2, 5 or 10. No half intervals on bar charts.
Greater Depth Use the clues to work out the missing bars on the bar chart. Scales of 1, 2, 5 and 10. Includes half intervals on bar charts.

Questions 2, 5 and 8 (Reasoning)
Developing Use the bar chart to explain whether the statement is correct. Scales of 1, 2 or 10. No half intervals on bar charts.
Expected Use the bar chart to explain whether the statement is correct. Scales of 1, 2, 5 or 10. No half intervals on bar charts.
Greater Depth Use the bar chart to explain whether the statement is correct. Scales of 1, 2, 5 and 10. Includes half intervals on bar charts.

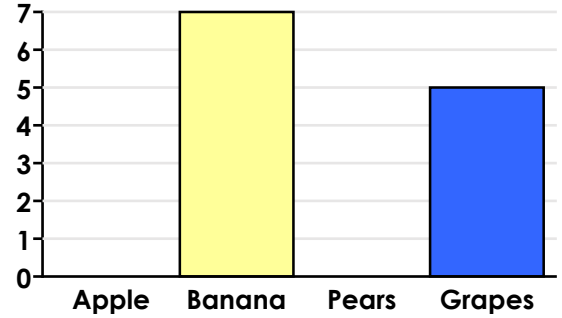
Questions 3, 6 and 9 (Problem Solving)
Developing Draw a bar chart from the given statements and partially completed pictogram. Scale given. No half intervals on bar charts.
Expected Draw a bar chart from the given statements and partially completed pictogram. Includes half pictures on pictograms, no half intervals on bar charts and independent choice of appropriate scale.
Greater Depth Draw a bar chart from the given statements and partially completed pictogram. Includes half pictures on pictograms, half intervals on bar charts and independent choice of appropriate scale.

More Year 3 Statistics resources.

Did you like this resource? Don't forget to review it on our website.

Bar Charts

1a. The bar chart shows favourite fruits.

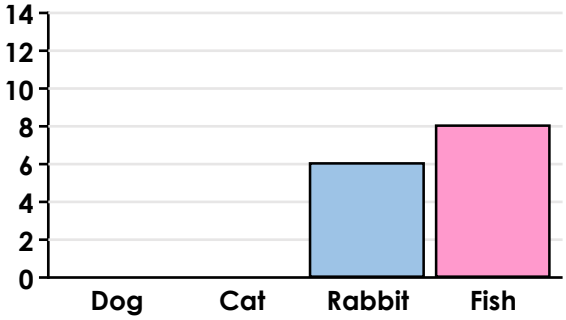


More children like apples than pears, but fewer like pears than grapes. Complete the bar chart showing how many children could like apples and pears.

D

PS

1b. The bar chart shows favourite pets.

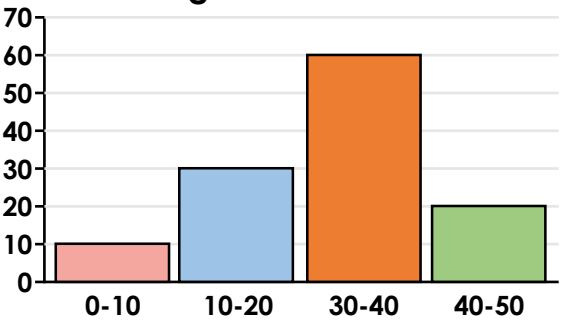


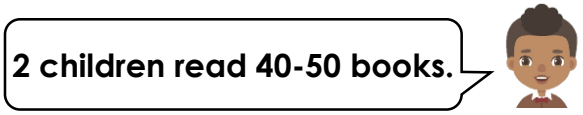
Fewer children have dogs than cats, but more children have dogs than fish. Complete the bar chart showing how many children could have dogs or cats.

D

PS

2a. Zain interprets the bar chart below about reading books.



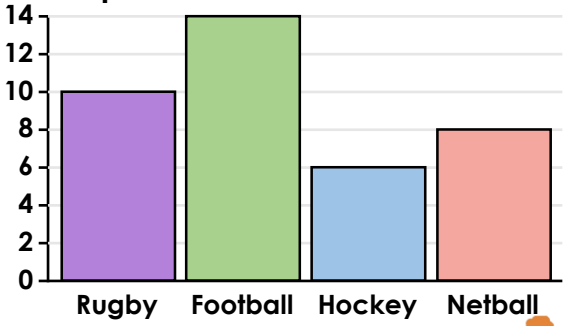


Is he correct? Explain your answer.

D

R

2b. Olivia interprets the bar chart below about sports.



Is she correct? Explain your answer.

D

R

3a. A class collects data about the traffic.

Bus	
Van	
Motorbike	
Car	

= 1 vehicle

We saw 5 more cars than vans.

We saw 1 more van than bus.

Draw a bar chart to display this information. The scale should go up in 1s.

D

PS

3b. A class collects data about pizzas.

Ham	
Cheese	
Tuna	
Veggie	

= 2 children

6 fewer children like veggie than cheese pizzas.

6 more children like cheese than ham pizzas.

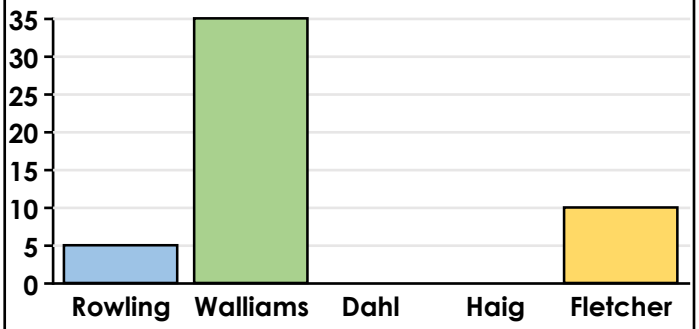
Draw a bar chart to display this information. The scale should go up in 2s.

D

PS

Bar Charts

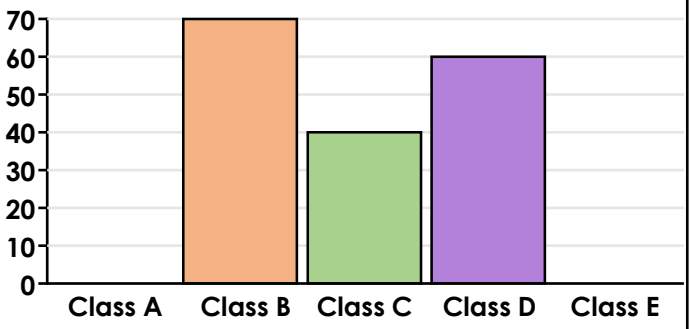
4a. The bar chart shows favourite authors.



More children like Dahl than Haig, and fewer like Haig than Walliams. Complete the bar chart showing how many children could like Dahl and Haig.

E PS

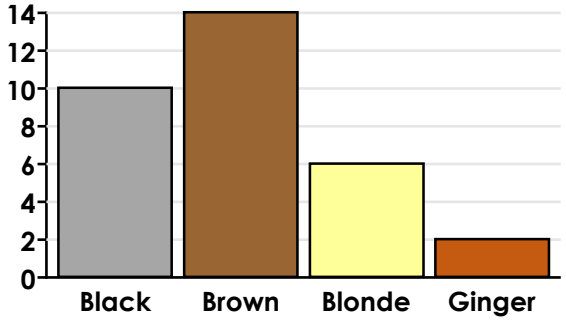
4b. The bar chart shows house points.

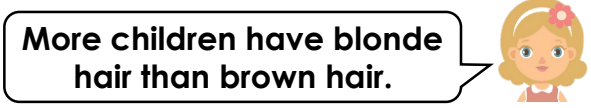


Class A have fewer points than Class E, but Class E have more than Class C. Complete the bar chart showing how many points Classes A and E could have.

E PS

5a. Maleeha interprets the bar chart below about hair colour.

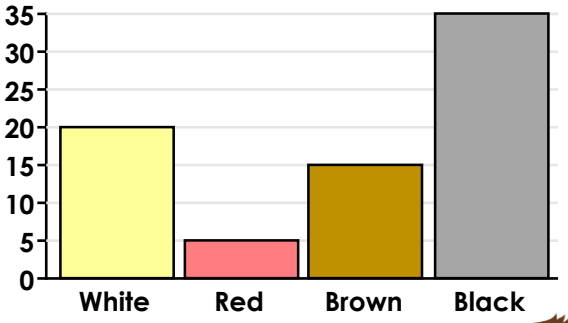


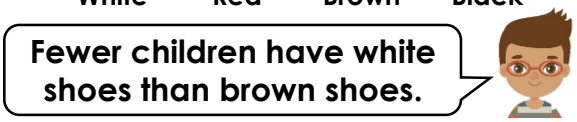


Is she correct? Explain your answer.

E R

5b. Jakub interprets the bar chart below about shoes.





Is he correct? Explain your answer.

E R

6a. A class collects data about pets.

Hamsters	
Rabbits	
Cats	
Dogs	

= 10 pets

There are 10 more cats than dogs

There are 20 more dogs than rabbits.

Draw a bar chart to display this information. Choose a suitable scale.

E PS

6b. A class collects data about bugs.

Slug	
Worm	
Ladybird	
Butterfly	

= 2 bugs

We saw 6 fewer slugs than worms.

We saw 12 more worms than ladybirds.

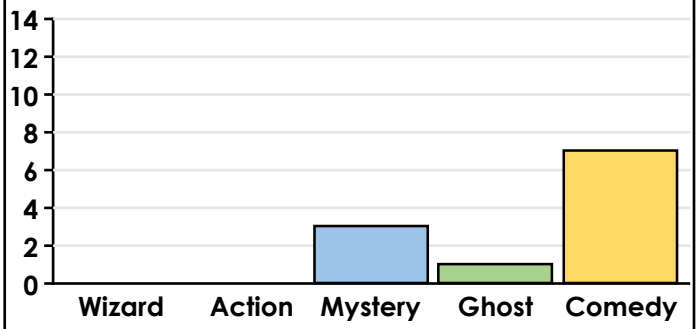
Draw a bar chart to display this information. Choose a suitable scale.

E PS

Bar Charts

Bar Charts

7a. The bar chart shows favourite stories.

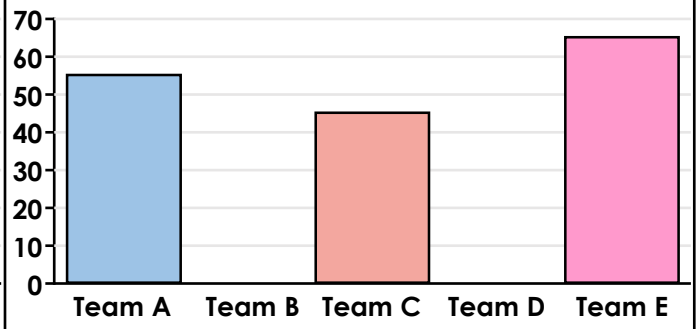


Fewer children like action than wizards, but more like action than comedy. Complete the bar chart to show how many children could like wizards and action.

GD

PS

7b. The bar chart shows quiz scores.

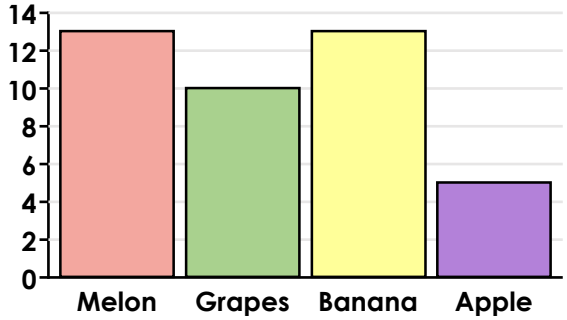


Team B have more points than Team D, and Team D have fewer than Team C. Complete the bar chart to show how many points Teams B and D could have.

GD

PS

8a. Blake interprets the bar chart below about fruit.



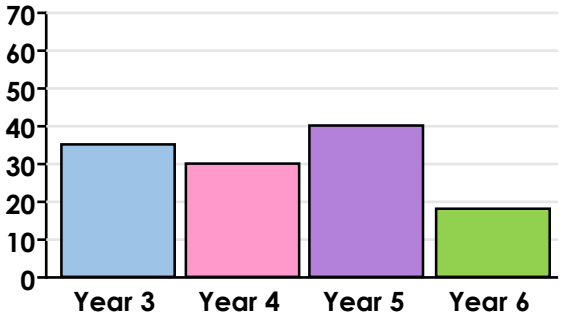
We sold more apples than bananas.

Is he correct? Explain your answer.

GD

R

8b. Julia interprets the bar chart below about school dinners.



10 more Year 5 children have school dinners than Year 3.

Is she correct? Explain your answer.

GD

R

9a. A class collects data about cakes.

Chocolate	
Red Velvet	
Rainbow	
Vanilla	

= 2 cakes

= 4 cakes

We sold 3 more chocolate cakes than vanilla cakes.

We sold 6 fewer vanilla cakes than rainbow cakes.

Draw a bar chart to display this information. Choose a suitable scale.

GD

PS

9b. A class collects data about goals.

Team A	1
Team B	
Team C	
Team D	

= 2 goals

= 4 goals

Team B scored 5 fewer goals than Team C.

Team C scored 10 more goals than Team D.

Draw a bar chart to display this information. Choose a suitable scale.

GD

PS

Reasoning and Problem Solving
Bar Charts

Developing

1a. Various answers, for example: 1 child likes pears and 7 children like apples.

2a. No, the scale goes up in tens so 20 children have read between 40-50 books.

3a. An accurate bar chart showing 3 for bus, 4 for van, 2 for motorbike and 9 for car. The scale should have intervals of 1.

Expected

4a. Various answers, for example: 30 children like Dahl and 5 like Haig.

5a. No, 6 children have blonde hair and 14 children have brown hair.

6a. An accurate bar chart showing 10 for hamsters, 15 for rabbits, 45 for cats and 35 for dogs.

Greater Depth

7a. Various answers, for example: 8 children like action stories and 14 like wizard stories.

8a. No, the chart shows that they have sold 5 apples and 13 bananas.

9a. An accurate bar chart showing 6 for chocolate, 10 for red velvet, 9 for rainbow and 3 for vanilla.

Reasoning and Problem Solving
Bar Charts

Developing

1b. Various answers, for example: 9 children have dogs and 13 have cats.

2b. No, the scale goes up in twos so 6 children like hockey.

3b. An accurate bar chart showing 4 for ham, 10 for cheese, 2 for tuna and 4 for veggie. The scale should have intervals of 2.

Expected

4b. Various answers, for example: Class E have 50 points and Class A have 10.

5b. No, 20 children have white shoes and 15 children have brown shoes.

6b. An accurate bar chart showing 10 for slug, 16 for worm, 4 for ladybird and 1 for butterfly.

Greater Depth

7b. Various answers, for example: Team D have 20 points and Team B have 60.

8b. No, the chart shows 35 Year 3 children and 40 Year 5 children have school dinners.

9b. An accurate bar chart showing 5 for Team A, 25 for Team B, 30 for Team C and 20 for Team D.