

Skill

Group A - Drawing bar charts

Represent the data in each table in a bar chart:

1) Students were asked what their favourite colour was:

many siblings they had:

2) Students were asked how 3) A team recorded how many goals they scored in each

match:

Colours	Frequency
Red	5
Blue	8
Green	7
Yellow	1

Number of siblings	Frequency
0	4
1	6
2	6
3	5

Number of goals	Frequency
0	6
1	7
2	3
3	1

4) A school recorded the number **5)** A school recorded the of students in each year group. number of students in each Y7 class.

Frequency Year group 7 40 60 9 80 10 70 11 50

Year group	Frequency
7A	28
7B	25
7C	26
7D	18
7E	30

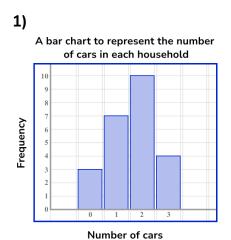
6) A student surveyed the number of pets the pupils in their school had.

Pet	Frequency
Dog	16
Cat	20
Guinea Pig	30
Rabbit	23
Hamster	7

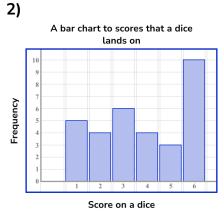


Group B - Interpreting bar charts

Answer the questions about each bar chart:

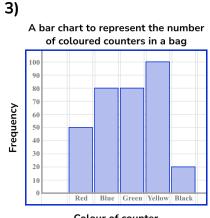


- a. How many households have 3 cars?
- b. How many cars per household is the mode?
- c. What is the range of the numbers of cars per household?

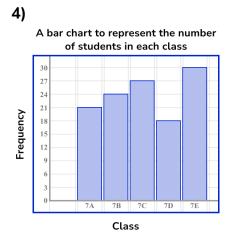


- a. Which number did the dice land on at least often?
- b. How many times was the dice rolled?
- c. Which score was the mode?
- d. Do you think this dice is biassed? Explain your answer.

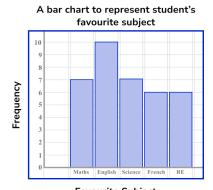
5)



- Colour of counter
- a. Which colours were there equal numbers of?
- b. Which colour was there the least of?
- c. How many counters were there altogether?

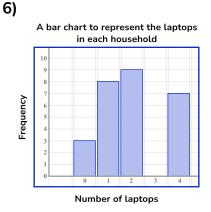


- a. Which class had the most students?
- b. How many students were in the smallest class?
- c. What is the range of the number of students?



Favourite Subject

- a. Which subjects were equally popular?
- b. How many students chose maths or English as their favourite subject?
- c. How many more students chose English as their favourite subject than RE?



- a. How many households had 3 laptops?
- b. What was the most number of laptops that a household had?
- c. How many fewer households had 0 laptops than houses with 1 laptop?



Group C - Drawing comparative bar charts

Represent the data in each table in a comparative bar chart:

Colours	Boys	Girls
Red	4	5
Blue	9	3
Green	5	5
Yellow	3	8

1) Boys and girls were asked 2) Two classes were asked what their favourite colour is: what their favourite subject is:

Subject	8A	8B
Maths	12	16
English	10	8
PE	14	14
Art	6	8

3) Two classes were asked how they travel to school:

Transport	8A	8B
Walk	16	14
Cycle	7	6
Car	13	10
Bus	2	4

4) A cafe records sales on a day in winter and a day in summer:

Item	Summer	Winter
Hot chocolate	2	18
Ice cream	19	5
Cake	11	14
Water	15	12
Crisps	8	9

5) Two shops record the sales **6)** Boys and girls record their of books in a day:

Book	Book R Us	We Love Books
Guiness book of records	18	11
Dictionary	3	2
Animal Farm	8	5
Wuthering Heights	12	13

favourite flavours of crisps:

Flavour	Boys	Girls
Ready Salted	12	15
Salt and vinegar	27	9
Cheese and onion	15	15
Smoky bacon	9	24



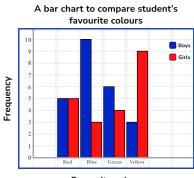
Group D - Interpreting comparative bar charts

Answer the questions about each comparative bar chart:

2)

5)

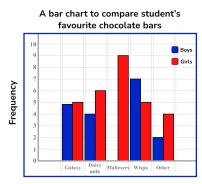
1)



Favourite colour

A bar chart to compare the colour of counters in two bags

Colour of counters



3)

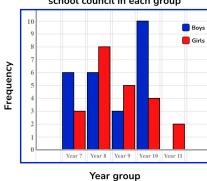
6)

Favourite Chocolate Bar

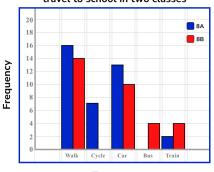
- a. Which colour is equally popular with boys and girls?
- b. How many more boys chose blue than girls?
- c. Which colour was more popular with girls than boys?
- a. Which colour has the lowest amount?
- b. Which colour was there more of in Bag B than in Bag A?
- c. How many counters were there in Bag A altogether?
- a. How many boys chose Maltesers as their favourite chocolate?
- b. How many more girls chose Dairy Milk than boys?
- c. How many students chose Wispa as their favourite chocolate?

4)

A bar chart to compare students on the school council in each group

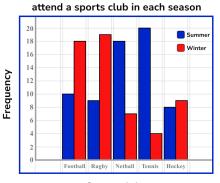


A bar chart to compare how students travel to school in two classes



Transport

A bar chart to compare the people who



Sports clubs

- a. Which year group has the most boys on the school council?
- b. How many more girls in the school council are there in Year 8 than boys in Year 8 on the council?
- c. How many students are on the council altogether?
- a. Which type of transport did only class 8A use?
- b. Which type of transport did no students in class 8A use?
- c. How many more students are in class 8A than class 8*B*?
- a. Which sports are more popular in summer than winter?
- b. How many more people attended rugby in the winter than the summer?
- c. How many more people attended football than hockey?



Group E - Compound bar charts

Represent the data in each table in a compound bar chart:

what their favourite colour is.

Colours	Boys	Girls
Blue	40%	50%
Red	50%	30%
Green	10%	20%

1) Boys and girls were asked 2) Two groups were asked preferred.

Chocolate brand	Group A	Group B
Cadbury	30%	70%
Mars	50%	50%
Nestle	40%	60%
Terry's	25%	75%

3) Men and women were which brand of chocolate they asked which supermarket they prefer to shop at.

Supermarket	Men	Women
Asda	70%	30%
Tesco	20%	80%
Sainsbury's	40%	60%
Waitrose	30%	70%

they received for Christmas in students were asked what 2019 and 2020.

Gift	2019	2020
Games console	4	2
Clothes	5	8
Games	7	3
Books	7	8

their favourite subject is.

Subject	Key stage 3	Key stage 4
Maths	5	6
English	8	7
Science	6	10
Other	3	4

4) Students were asked what 5) Key stage 3 and Key stage 4 6) Students in each year group were asked if they preferred fiction or non-fiction books.

Year group	Non-fiction	Fiction
Year 7	8	12
Year 8	10	10
Year 9	11	9
Year 10	6	14
Year 11	18	2



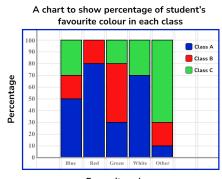
Group F - Interpreting compound bar charts

2)

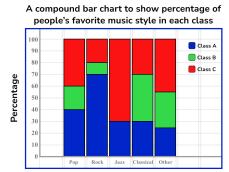
5)

Answer the questions about each chart:

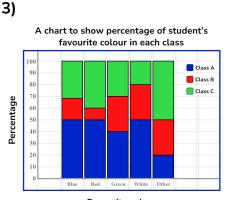
1)



Favourite colour



Style of music

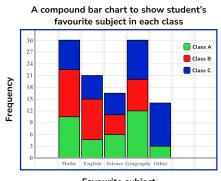


Favourite colour

- a. What percentage of students that chose blue are in class A?
- b. How many students in class C chose red?
- c. What percentage of students that chose green are in class B?
- a. What percentage of students chose classical in Class C?
- b. Which style of music was chosen by more students in Class A than the other two classes?
- c. Does this chart show that more students in Class A chose rock than jazz?
- a. What percentage of students that chose red are in class B?
- b. Which class has the highest percentage of students that chose 'other'?
- c. If Blue was chosen by 10 students, how many of those students were in class A?

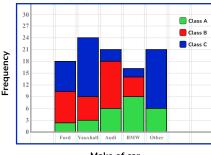
6)

4)

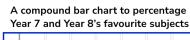


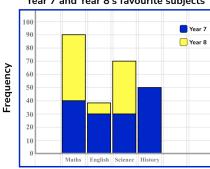
Favourite subject

A compound bar chart to show the make of car people in each class own



Make of car





Favourite subject

- a. How many students that chose English were in class C?
- b. Did more students in class A choose geography than science?
- c. Which two subjects were equally popular?
- a. Which brand of car was the least common?
- b. Which brand of car was most common with students in class A?
- c. Did any students in class B c. Which subject was most choose 'other'?
- a. How many students in Year 8 chose English?
- b. Which subject was most popular with Y8?
 - popular with year 7?

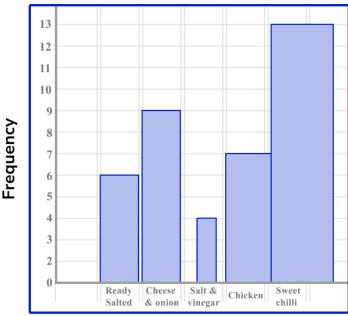


Applied

1) Boys and girls were asked what their favourite game was.

Favourite game	Boys	Girls
Monolopy	8	5
Cluedo	9	10
Scrabble	3	8
Snake and ladders	7	2

- (a) Represent this information in a suitable chart.
- **(b)** Explain why you chose that type of chart.
- Here is a bar chart showing the favourite flavour of crisps from a sample of people.



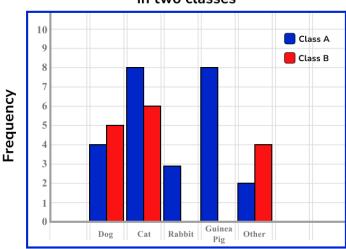
Favourite Flavour

- (a) Give two reasons why this is a misleading graph.
- **(b)** Represent the data in an accurate bar chart.



3) This chart represents the number of pets in two classes.

A bar chart to show the number of pets in two classes



Type of pet

Students in class B have 8 guinea pigs.

- (a) Complete the chart to represent this information.
- **(b)** How many pets do students in class A and class B have altogether?

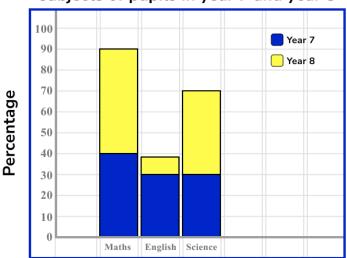


4) Students in Year 7 and Year 8 were asked what their favourite subject was and this table shows the results.

Subject	Year 7	Year 8
Maths	40%	50%
English	30%	10%
Science	30%	40%

This data has been displayed in this chart.

A compound bar chart to show the favourite subjects of pupils in year 7 and year 8



Favourite subject

(a) An error has been made. Identify the error.

Sam says:

'More students preferred maths in Year 8 than Year 7 because the bar is higher'.

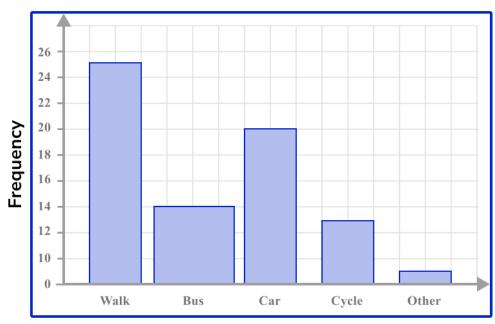
(b) Explain why Sam might be wrong.



Bar Charts - Exam Questions

1) This bar chart shows how students get to school.

How do students get to school?



Mode of Transport

Give two reasons why this chart is not correct.

Reason I	 	
Reason 2	 	

(2 marks)

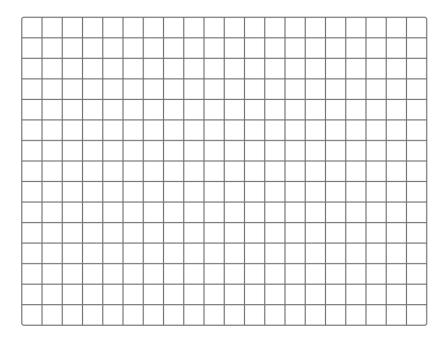


Bar Charts - Exam Questions

2) Some people were asked if they liked football, netball or hockey. The table shows the results for the males and the results for the females.

	Football	Netball	Hockey
Male	8	3	5
Female	4	7	5

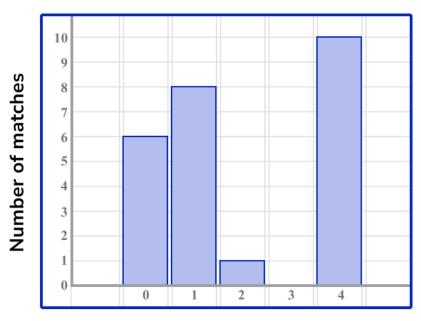
On the grid, draw a bar chart to show this information.



(4 marks)

Bar Charts - Exam Questions

3) This graph shows the number of goals scored by a hockey team.



Number of goals

(a) Which number of goals is the mode?

(1)

(b) How many matches did the hockey team play altogether?

(2)

(c) What is the range of the number of goals they scored?

(2)

(5 marks)



	Question		An	Answer		
	Skill	. Questions				
Group A	bar (resent the data in chart:				
	'	Students were asl favourite colour w		1)	Г	A bar chart to represent student's favourite colour
		Colours	Frequency			9 8
		Red	5		ıncy	7
		Blue	8		Frequency	5
		Green	7		ūΪ	3
		Yellow	1			1
					L	Red Blue Green Yellow Favourite colour
	l '	Students were asl siblings they had:	ked how many	2)	۲	A bar chart to represent the number of siblings that students have
		Number of siblings	Frequency			9 8
		0	4		ncy	7
		1	6		Frequency	5
		2	6		ᇤ	3
		3	5			1
					L	Number of siblings
		A team recorded h they scored in eac		3)	Г	A bar chart to represent the number of goals a team scored in each match
		Number of goals	Frequency			9 8
		0	6		JCY	7
		1	7		Frequency	5
		2	3		3	
		3	1			2
					L	Number of goals

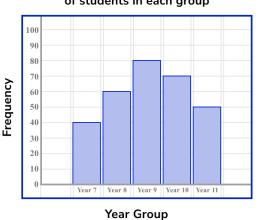


Group A contd

4) A school recorded the number of students in each year group.

Year group	Frequency
7	40
8	60
9	80
10	70
11	50

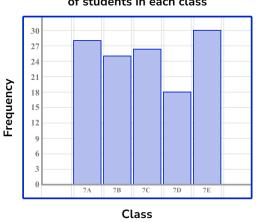
4) A bar chart to represent the number of students in each group



5) A school recorded the number of students in each *Y7* class.

Year group	Frequency
7A	28
7B	25
7C	26
7D	18
7E	30

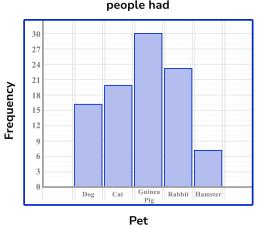
5) A bar chart to represent the number of students in each class



6) A student surveyed the number of pets the pupils in their school had.

Pet	Frequency
Dog	16
Cat	20
Guinea Pig	30
Rabbit	23
Hamster	7

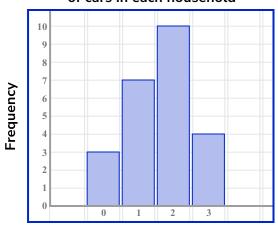
A bar chart to represent which pets people had



Group B

Answer the questions about each bar chart:

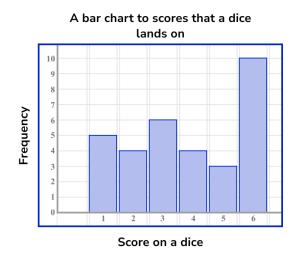
1) A bar chart to represent the number of cars in each household



Number of cars

- **a.** How many households have 3 cars?
- **b.** How many cars per household is the mode?
- **c.** What is the range of the numbers of cars per household?

2)



- **a.** Which number did the dice land on at least often?
- **b.** How many times was the dice rolled?
- c. Which score was the mode?
- **d.** Do you think this dice is biassed? Explain your answer.

1)

- **a.** 4
- **b.** 2
- **c.** 3 0 = 3
- 2)

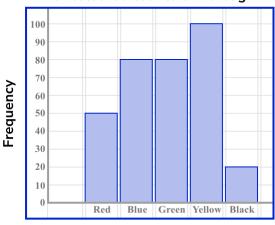
- **a.** 5
- **b.** 5 + 4 + 6 + 4 + 3 + 10 = 32
- **c.** 6

Yes because it landed on '6' significantly more times than any other number.



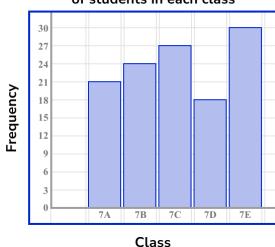
Group B contd

3) A bar chart to represent the number of coloured counters in a bag



Colour of counter

- **a.** Which colours were there equal numbers of?
- **b.** Which colour was there the least of?
- **c.** How many counters were there altogether?
- 4) A bar chart to represent the number of students in each class



- **a.** Which class had the most students?
- **b.** How many students were in the smallest class?
- **c.** What is the range of the number of students?

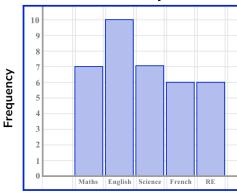
- a. Blue and green
- **b.** Black
- **c.** 50 + 80 + 80 + 100 + 20= 330
- 4)

- a. 7*E*
- **b.** 18
- **c.** 30 18 = 12



Group B contd

5) A bar chart to represent student's favourite subject



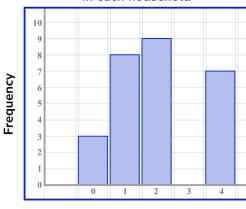
a. Which subjects were equally popular?

Favourite Subject

b. How many students chose maths or English as their favourite subject?

c. How many more students chose English as their favourite subject than RF?

A bar chart to represent the laptops in each household



Number of laptops

a. How many households had 3 laptops?

b. What was the most number of laptops that a household had?

c. How many fewer households had 0 laptops than houses with 1 laptop? 5)

a. French & RE and Maths & English

b. 7 + 10 = 17

c. 10 - 6 = 4

6)

a. 0

b. 4

c. 8 - 3 = 5



Group C

Represent the data in each table in a comparative bar chart:

1) Boys and girls were asked what their 1) favourite colour is:

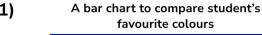
Colours	Boys	Girls
Red	4	5
Blue	9	3
Green	5	5
Yellow	3	8

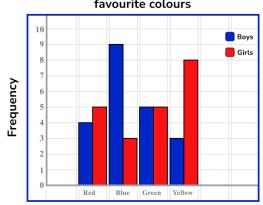
2) Two classes were asked what their favourite subject is:

Subject	8A	8B
Maths	12	16
English	10	8
PE	14	14
Art	6	8

3) Two classes were asked how they travel to school.

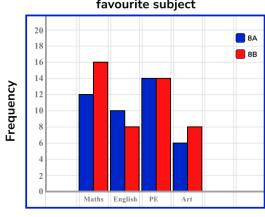
Transport	8A	8B
Walk	16	14
Cycle	7	6
Car	13	10
Bus	2	4





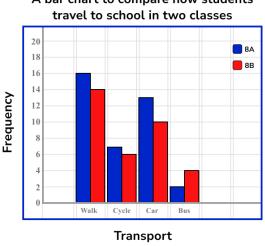
Favourite colour

2) A bar chart to compare student's favourite subject



Favourite subject

A bar chart to compare how students





Group C contd

4) A cafe records sales on a day in winter and a day in summer:

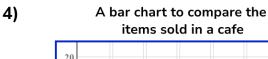
Item	Summer	Winter
Hot chocolate	2	18
Ice cream	19	5
Cake	11	14
Water	15	12
Crisps	8	9

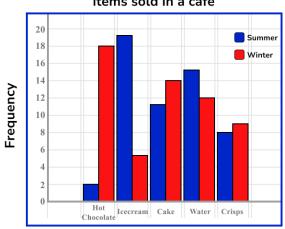
5) Two shops record the sales of books in a day:

Book	Book R Us	We Love Books
Guiness book of records	18	11
Dictionary	3	2
Animal Farm	8	5
Wuthering Heights	12	13

6) Boys and girls record their favourite flavours of crisps:

Flavour	Boys	Girls
Ready Salted	12	15
Salt and vinegar	27	9
Cheese and onion	15	15
Smoky bacon	9	24



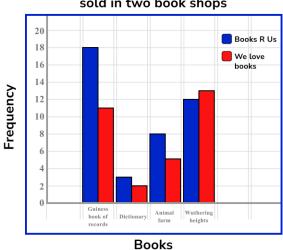


Item in cafe

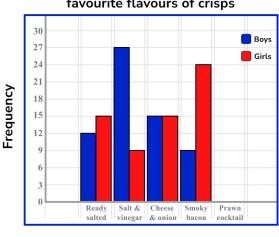
A bar chart to compare the books sold in two book shops

5)

6)



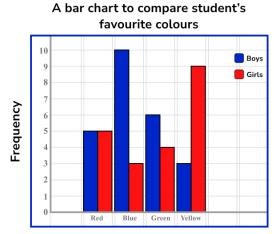
A bar chart to compare student's favourite flavours of crisps



Favourite flavour of crisps

Group D Answer the questions about each comparative bar chart:

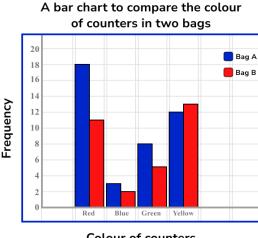
1)



Favourite colour

- Which colour is equally popular with boys a. and girls?
- How many more boys chose blue than b. girls?
- c. Which colour was more popular with girls than boys?

2)



Colour of counters

- Which colour has the lowest amount? a.
- Which colour was there more of in Bag B b. than Bag A?
- How many counters were there in Bag A altogether?

1)

Red

10 - 3 = 7

Yellow

2)

Blue a.

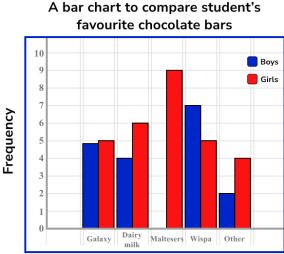
Yellow

18 + 3 + 8 + 12= 41



Group D contd

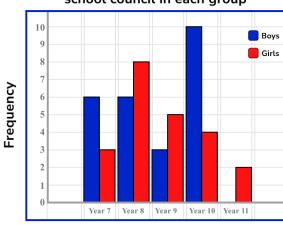
3)



Favourite Chocolate Bar

- **a.** How many boys chose Maltesers as their favourite chocolate?
- **b.** How many more girls chose Dairy Milk than boys?
- **c.** How many students chose Wispa as their favourite chocolate?

4) A bar chart to compare students on the school council in each group



Year group

- **a.** Which year group has the most boys on the school council?
- **b.** How many more girls are there in Year 8 than boys in Year 8 on the council?
- **c.** How many students are on the council altogether?

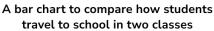
- **a.** 0
- **b.** 6 4 = 2
- c. 7 + 5 = 12
- 4)

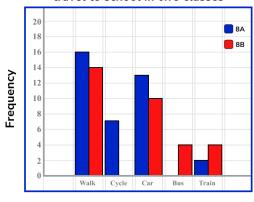
- **a.** Year 10
- **b.** 8 6 = 2
- **c.** 6+3+6+8+3+5+10+4+2=47



Group D contd

5)

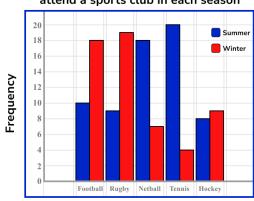




Transport

- **a.** Which type of transport did only class 8A use?
- **b.** Which type of transport did no students in class 8A use?
- c. How many more students are in class 8A than class 8B?

A bar chart to compare the people who attend a sports club in each season



Sports clubs

- **a.** Which sports are more popular in summer than winter?
- **b.** How many more people attended rugby in the winter than the summer?
- **c.** How many more people attended football than hockey?

- a. Cycle
- **b.** Bus
- c. Class 8A: 16 + 7 + 13 + 2 = 38Class 8B: 14 + 10 + 4 + 4 = 3238 - 32 = 6
- 6)

- a. Netball and Tennis
- **b.** 19 9 = 10
- c. Football: 10 + 18 = 28Hockey: 8 + 9 = 1728 - 17 = 11



Group E

Represent the data in each table in a compound bar chart:

1) Boys and girls were asked what their favourite colour is:

Colours	Boys	Girls
Blue	40%	50%
Red	50%	30%
Green	10%	20%

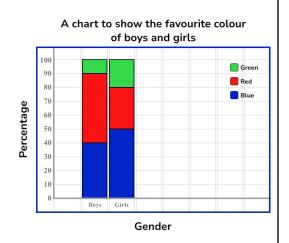
2) Two groups were asked which brand of chocolate they preferred:

Chocolate brand	Group A	Group B
Cadbury	30%	70%
Mars	50%	50%
Nestle	40%	60%
Terry's	25%	75%

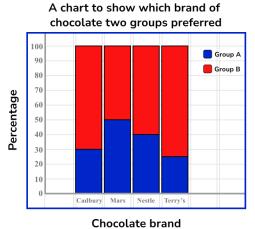
3) Men and women were asked which supermarket they prefer to shop at:

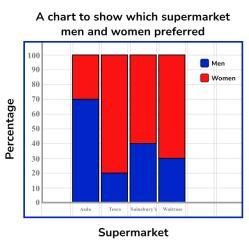
Supermarket	Men	Women
Asda	70%	30%
Tesco	20%	80%
Sainsbury's	40%	60%
Waitrose	30%	70%

1)



2)







Group E contd

4) Students were asked what they received for Christmas in 2019 and 2020:

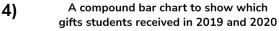
Gift	2019	2020
Games console	4	2
Clothes	5	8
Games	7	3
Books	7	8

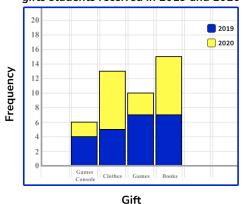
5) Key stage 3 and Key stage 4 students were asked what their favourite subject is:

Subject	Key stage 3	Key stage 4
Maths	5	6
English	8	7
Science	6	10
Other	3	4

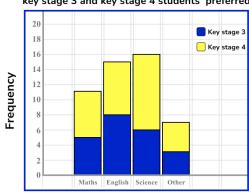
6) Students in each year group were asked if they preferred fiction or non-fiction books:

Year group	Non-fiction	Fiction		
Year 7	8	12		
Year 8	10	10		
Year 9	11	9		
Year 10	6	14		
Year 11	18	2		



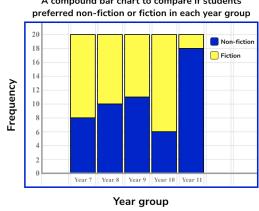


A compound bar chart to compare which subjects key stage 3 and key stage 4 students preferred



Subject

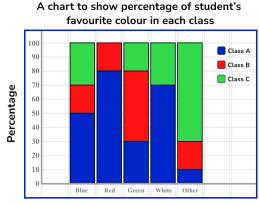
A compound bar chart to compare if students



Group F

Answer the questions about each chart:

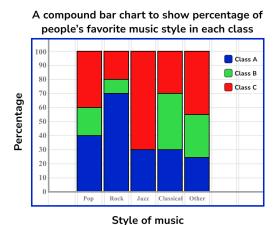
1)



Favourite colour

- **a.** What percentage of students that chose blue are in class A?
- **b.** How many students in class C chose red?
- **c.** What percentage of students that chose green are in class B?

2)



- **a.** What percentage of students chose classical in class C?
- **b.** Which style of music was chosen by more students in Class A than the other two classes?
- **c.** Does this chart show that more students in Class A chose rock than jazz?

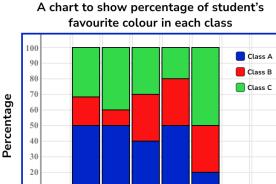
1)

- **a.** 50%
- **b.** 0
- c. 80 30 = 50%

- a. 30%
- **b.** Rock
- **c.** No, it only shows a greater percentage, not the amount of students.

Group F contd

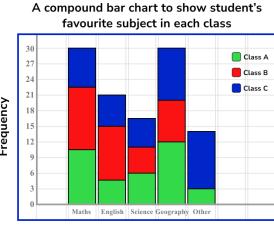
3)



Favourite colour

- **a.** What percentage of students that chose red are in class B?
- **b.** Which class has the highest percentage of students that chose 'other'?
- **c.** If Blue was chosen by 10 students, how many of those students were in class A?

4)



Favourite subject

- **a.** How many students that chose English were in class C?
- **b.** Did more students in class A choose geography than science?
- **c.** Which two subjects were equally popular?

3)

a. 10%

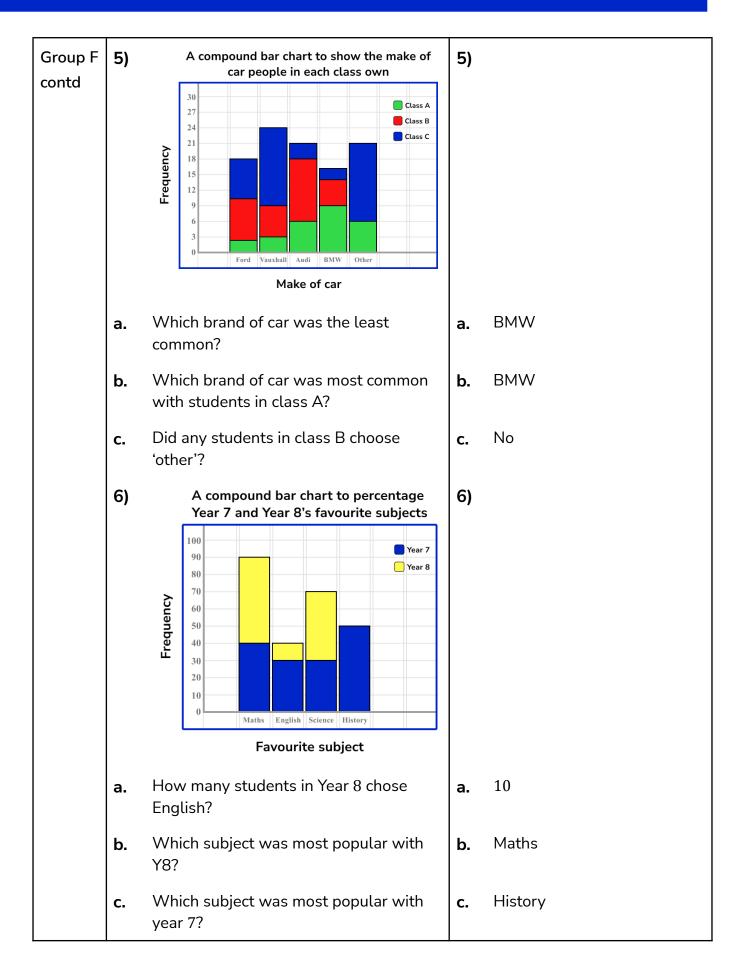
b. Class C

c. 5

a.
$$21 - 15 = 6$$

- **b.** Yes, because the bar is taller.
- c. Maths and Geography were both chosen by a total of 30 students.

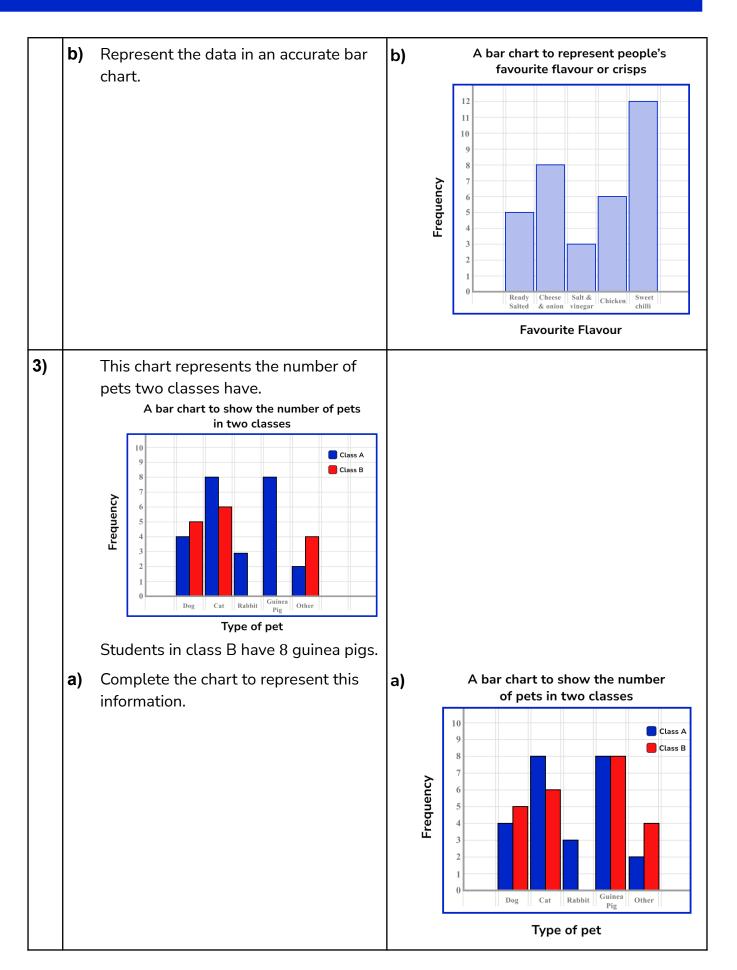






	Question						Ar	nswer
	Applied Questions							
1)	Boys and girls were asked what their favourite game was.							
		F	avourite game	Boys	Girls			
			Monolopy	8	5			
			Cluedo	9	10			
		Cn	Scrabble lake and ladders	3 7	2			
		Sr	lake and ladders	/	2			
	a)		sent this inf	ormation i	n a suitable	:	a)	A bar chart to compare boys and girls favourite board games
		chart.						Favourite games Tavourite board games Boys Girls Favourite game
	b)	Explai	n why you c	hose that	type of cha	rt.	b)	Two data sets are being compared.
2)			s a chart shor of crisps o	f a sample				
	Favourite Flavour							
	а)	a) Give two reasons why this is a misleading graph.			a)	The bars do not have equal width. The numbers on the frequency axis do not have equal intervals.		



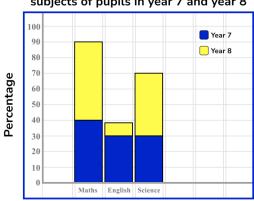


- **b)** How many pets do students in class A and class B have altogether?
- b) Class A: 4 + 8 + 3 + 8 + 2 = 25Class B: 5 + 6 + 8 + 4 = 2325 + 23 = 4848 pets altogether.
- 4) Students in Year 7 and Year 8 were asked what their favourite subject was and this table shows the results.

Subject	Year 7	Year 8		
Maths	40%	50%		
English	30%	10%		
Science	30%	40%		

This data has been displayed in this chart.

A compound bar chart to show the favourite subjects of pupils in year 7 and year 8



Favourite subject

a) An error has been made. Identify the error

The bars should be labelled as Year 7 and Year 8, and divided into the three subjects so both bars reach 100%.

- Sam says: 'More students preferred maths in Year 8 than Year 7 because the bar is higher'.
- b) Sam might be wrong as we only know the percentage that preferred maths, not the exact number of students.
- **b)** Explain why Sam might be wrong.

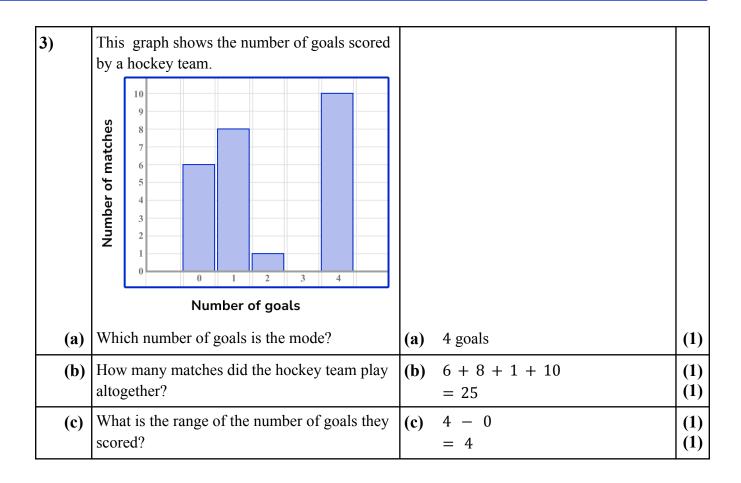


Bar Charts - Mark Scheme

	Questio	n			Answer		
	Exam Qu	estions					
1)	This bar chart shows how students get to school. How do students get to school? Company Co			Other	The bars are different widths oe The frequency axis does not increase in equal steps (0-10, 10-12) oe		
2)	Some people were asked if they liked football, netball or hockey. The table shows the results for the males and the results for the females. Football Netball Hockey				Axes drawn and labelled One bar drawn to the correct height All bars drawn to the correct height Correct key		
	Male Female	4	7	5 5	A chart to show the sports males and females liked		
	On the grid information	l, draw a ba n.	r chart to sh	now this	According to the second of the		



Bar Charts - Mark Scheme



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