COLLECTING, ORGANISING & CLASSIFYING DATA 06 MARCH 2014

Lesson Description

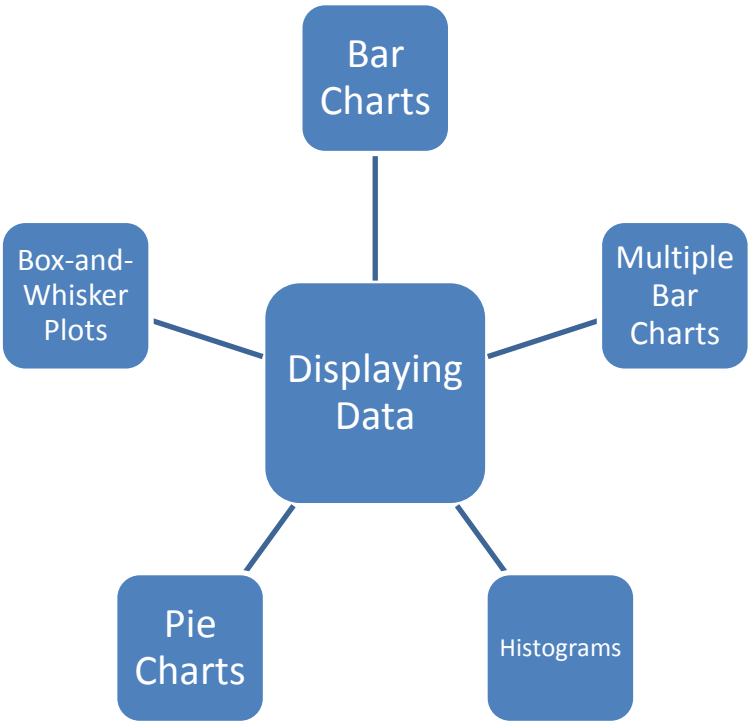
In this lesson we:

- Introduced and do questions relating to:
  - Classifying and organizing data
  - Summarizing data
  - Representing data
  - Analysing data

Summary

Frequency Table

HEIGHTs	TALLY	FREQUENCY
130 – 139	~~IIII~~ II	7
140 – 149	~~IIII~~ ~~IIII~~	10
150 – 159	~~IIII~~ ~~IIII~~ I	11
160 – 169	~~IIII~~ III	8
170 - 179	IIII	4

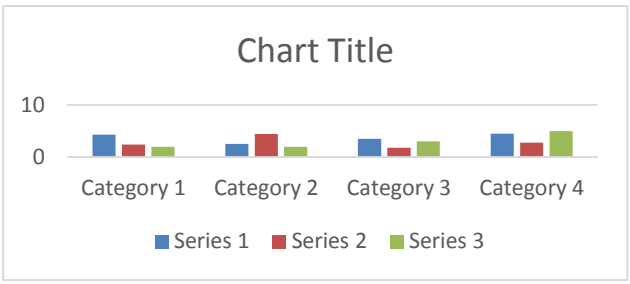


Test Yourself

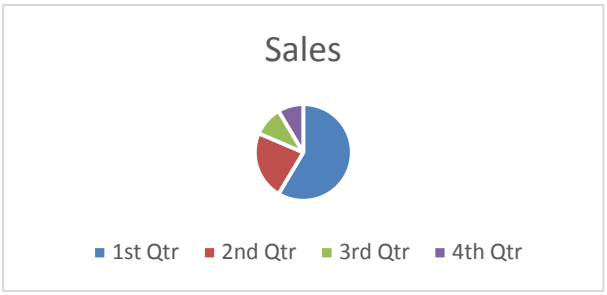
Question 1

Consider each of the graphs below when answering questions 1 to 3:

Graph 1



Graph 2



Which graph above would be used when making a comparison between two sets of data?

A Graph 1

B Graph 2

C Graph 1 and Graph 2 are possible

D Neither Graphs

Question 2

Which graph above would be used when determining the most popular food in the school tuck-shop?

A Graph 1

B Graph 2

C Graph 1 and Graph 2 are possible

D Neither Graphs

Question 3

Which graph could be used when representing the heights of various people in your class. The heights would be classified into groups. (example. 0 – 49cm; 50 – 99cm; 100 – 149cm; etc.)

A Graph 1

B Graph 2

C Graph 1 and Graph 2 are possible

D Neither Graphs

Question 4

Consider the following when answering questions 4 - 10

Mode of Transport	ABC Rural School (%)	DEF City School (%)
Walk	71,1%	10,1%
Car	2%	70,5%
Bus	6,5%	6,5%
Taxi	5,6%	10,6%
Bicycle	14,8%	A

Calculate the value of A.

A 14,8%

B 2,3%

C 100%

D 85,2%

Question 5

If there are 9000 students in ABC Rural School, how many rode a bicycle to school?

A 14 students

B 15 students

C 1 332

D 207

Question 6

What mode of transport is the same in both schools?

A Taxi

B Car

C Bus

D Bicycle

Question 7

Why should this data NOT be represented in a histogram?

A Takes too long

B The data is not continuous

C There is not enough information

D None of the above

Question 8

Do you think that a car is essential in the city? Why?

A No – Students can walk

B Yes – There is not a lot of public transport and walking can be unsafe

C Yes

D No

Question 9

How many degrees is the black shaded area if it makes up 75% of the entire circle?

A 75°

B 225°

C 262,5°

D 270°

Question 10

The angle representing the number of students who travel to school by bicycle is 67,5°. How many students does this represent if there are 16 students in the class?

A 10

B 11

C 3

D None of the above

Improve your Skills

Question 1

A very bored Grade 11 students sat at the school gate and counted the different colour cars that drove past and the sex of the driver. (M=Male ; F=Female). The results were as follows:

white(M)	red(F)	red(F)	red(M)	green(M)	white(M)	white(F)
green(F)	red(M)	red(M)	green(F)	red(M)	white(F)	white(M)
white(F)	blue(M)	green(F)	white(M)	blue(F)	blue(M)	
blue(M)	red(F)	blue(M)	yellow(F)			

Copy and complete the following table:

COLOUR	MALES		FEMALES	
	Tally	Frequency	Tally	Frequency
Red				
White				
Blue				
Green				
Yellow				

1.1 How many cars came past the students?
1.2 What is the most popular colour car?
1.3 Which colour/s is favoured among the women?
1.4 Which colour/s is favoured among the men?

Question 2

Consider the Cumulative Frequency Table below which is a summary of the results after a class of boys were asked: "Which is your favourite colour?"

COLOUR	TALLY	FREQUENCY	CUMULATIVE FREQUENCY
BLUE		6	6
RED	IIII		
GREEN	II		
YELLOW	IIII		

2.1 On the table above complete the Cumulative Frequency Table by filling in all the open gaps.

2.2 Draw a bar graph using the set of axes on the axes provided.

Question 3

A class of 24 students, made up of 16 boys and 8 girls were asked which sport they enjoy (the most) watching on television. The following results were recorded:

	Rugby	Soccer	Ice-Skating	Athletics	Swimming	Hockey
Boys	9	4	0	A	1	0
Girls	1	0	2	1	B	2

3.1 How many boys enjoying watching Athletics the most? (The value of A)

3.2 How many girls enjoy watching Swimming the most? (The value of B)

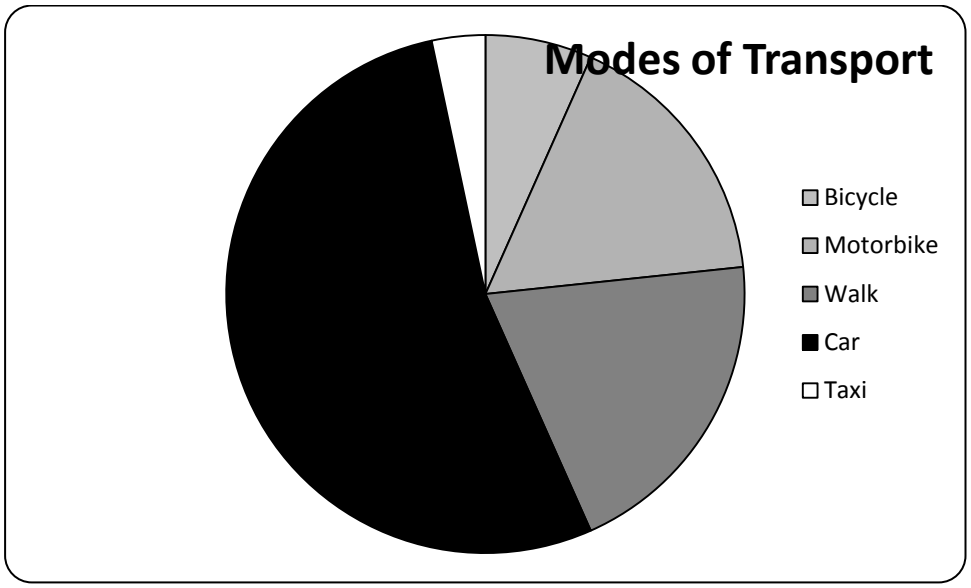
3.3 Use the data above (including the values of A and B) to draw a double bar graph.

Question 4

When asked how a group of students get to school, they answered as follows:

Form of Transport	Frequency
Bicycle	2
Motorbike	5
Walk	7
Car	15
Taxi	1

The data was presented on a pie chart as follows:



4.1 If you had drawn the pie chart, how many degrees would you have made "Car"? Show all your working.

4.2 The survey was to include a further 14 students of which 7 said they go to school by car.

4.2.1 Would the size of "Car" in the pie chart change?

4.2.2 If so, show how many degrees "Car" would now be on the pie chart. If your answer to 4.2.1 above was "NO", explain your reasoning. (Show your working where necessary).

Question 5

The heights of 40 learners are given below:

142	**170**	**162**	**131**	**145**	**146**	**147**	**160**	**159**	**150**
141	**132**	**169**	**172**	**139**	**146**	**152**	**154**	**140**	**145**
161	**163**	**156**	**157**	**171**	**168**	**166**	**151**	**152**	**132**
142	**150**	**161**	**138**	**170**	**132**	**149**	**150**	**138**	**152**

5.1 Complete the following Frequency table.

HEIGHTs	TALLY	FREQUENCY
130 – 139		
140 – 149		
150 – 159		
160 – 169		
170 - 179		

5.2 Draw a Histogram

Question 6

Consider the Cumulative Frequency Table below which is a summary of the results after a class of boys were asked: "Which is your favourite colour?"

COLOUR	TALLY	FREQUENCY	CUMULATIVE FREQUENCY
BLUE		6	6
RED	IIII		
GREEN	II		
YELLOW	IIII		

6.1 Complete the Cumulative Frequency Table by filling in all the open gaps.

6.2 Draw a frequency bar graph using the set of axes...

6.3 How many students are in the class?