SUBJECT: MATHEMATICS

TOPIC: DATA PRESENTATION SERIES 1

SUBTOPIC: EVERYDAY STATISTICS

CLASS: JSS2

OBJECTIVE

- Prevent data in an ordered form.
- Construct frequency tables from any given data.
- Solve practical questions

In statistics, the four main stages of data handling are:

1. Collecting the data
2. Organizing the data
3. Summarizing the data
4. Presenting the data.

Data Collection

Data collection

Data collection is gathering the facts and figures (the data) to use in statistical calculations. Some of the main ways of collecting data are listed below.

1. Asking questions: You can either ask questions in person (an interview), or using a written set of questions (a questionnaire), or you can ask everyone one in a specific group, such as a school or in a country (a census).

2. Observing and recording what happens: Observations are the best method of collecting data when you need to look at behaviours or record events. You can observe and record what happens without asking questions.

3. Using existing data: We can use someone else's databases that they have already organized and presented online, or in books, newspapers or magazines.

Question 1

Temitope's school is concerned about the safety of their students when they walk to school at the beginning of the school day, and home again at the end of the school day. They decide to find out how many cars pass the school at the beginning and the end of the school day.

They decide to find out how many cars pass the school at the beginning and the end of the school day.

1. Should the school collect data about the number of cars passing the school by doing a census?

2. Should the school use existing data to answer this question?

3. Should Halima collect data by observing and recording the number of cars?

Solution

Step 1: Decide whether the school will be able to find out how many cars pass the school doing a census.

In a census, data is collected about every car in a neighbourhood or a town or a country.

Answer: A census would not be the best way for the school to find out how many cars pass the school at the beginning and the end of the school day.

Step 2: Decide whether the school should use existing data to find out how many cars pass the school at the beginning and the end of the school day.

We use existing data when we want to analyze data that has already been collected and has been published either online or in a publication.

Answer: Using existing data is not a good way of finding out how many cars pass the school at the beginning and the end of the school day.

Step 3: Decide whether the school should have data collectors outside the school recording the number of cars passing to find out how many cars pass the school at the beginning and the end of the school day.

Observations are the best method of collecting data when you need to look at behaviours or record events.

Answer: The school should have data collectors outside the school recording the number of cars passing to find out how many cars pass the school at the beginning and the end of the school day.

Data Organization

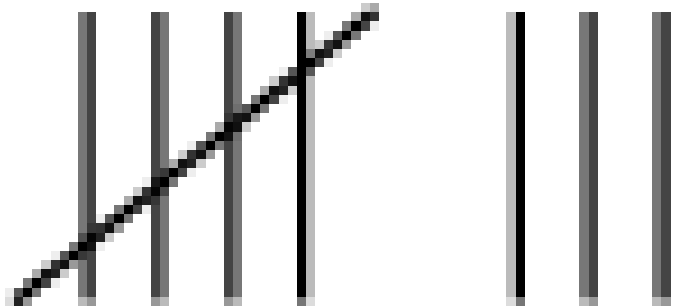
After data has been collected, the next step is organizing the data, by bringing it together in a systematic way that makes it easier to read. Organize data by using tallies and frequency tables.

How to count using tallies

Tallies are short vertical lines that are used to record items quickly as you count them.

Add up all the tally marks, we know the **frequency** (how many times something happened).

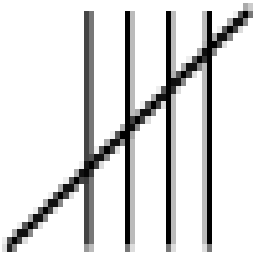
When counting more than 4 objects, we make 4 vertical strokes. The fifth object or observation is represented by a diagonal line crossing the previous 4.



Question 2

Daniel counted the number of students playing tennis, and used tally marks to record the total.

What is the frequency?



The frequency of students playing tennis is 5.

Organizing data in frequency tables

Frequency is the number of times something happens, so a frequency table shows the number of times something happened.

To draw a frequency table, write the data in order, count up the various parts, and then show the data in a table.

You could organize the data in a vertical frequency table or a horizontal frequency table.

This is an example of a vertical frequency table.

Score	Frequency
1	3
2	2
3	5
4	0
5	2
6	5

Question 3

Fifteen students each had one chance to throw a die, and you recorded their scores.

This is your score sheet: 1; 5; 5; 1; 4; 5; 2; 4; 2; 3; 3; 4; 3; 2; 2

1.Write the data in ascending order.

2.Complete the following vertical frequency table:

The data arranged in ascending order is: 1; 1; 2; 2; 2; 2; 3; 3; 3; 4; 4; 4; 5; 5; 5

Count how many times each number occurs and write the totals in the frequency table.

Score	Frequency
1	2
2	4
3	3
4	3
5	3
6	0

Question 4

Yomi recorded the scores from 15 students each having one chance to throw a die as follows:

2; 2; 5; 1; 5; 4; 6; 3; 5; 2; 2; 3; 4; 2; 5

1.Write the scores in ascending order.

2.Complete the following horizontal frequency table:

Arranging into the table 2; 2; 5; 1; 5; 4; 6; 3; 5; 2; 2; 3; 4; 2; 5

Score	Frequency
1	1
2	5
3	2
4	2
5	4
6	1

Evaluation

Lekan recorded the scores from 20 students each having one chance to throw a die as follows:

2; 2; 5; 1; 5; 4; 6; 3; 5; 2; 2; 3; 4; 2; 5; 6; 1; 4; 1; 5

1.Write the scores in ascending order.

2.Complete the following horizontal frequency table:

– Thank You –