

## **STA MATHS LESSON NOTE FOR JS ONE**

**DATE:** 27<sup>th</sup> APRIL, 2020

**TOPICS:** PRESENTATION OF DATA/ ORGANISATION OF DATA

**SUB-TOPICS:** ORGANISING DATA IN TALLY/ FREQUENCY SYSTEM,

**OBJECTIVES:** At the end of the lessons, Students should be able to:

- 1 explain what tallies are,
2. count/ find total tallies,
3. organise data in frequency table.

### **INTRODUCTION**

After the collection of data, the next step is organising the data. This is done by bringing it together in a systematic way that makes it easier to read. Data can be organised by using tallies and frequency tables.


### **TALLIES**

Tally marks are a useful way to collect data. Tallies are short vertical lines that are used to record items quickly as you count them. When all tally marks are added up, we then know the **frequency** (how many times something happened).

**Example 1:** When we are counting more than 4 objects, we make **4 vertical strokes**. The fifth object or observation is represented by a diagonal line crossing the four vertical strokes 4.







**Example 2:** Count 8 using tally marks

#### **Solution**

We draw 4 vertical strokes. The fifth object is represented by a diagonal line crossing the previous 4 and then another 3 vertical strokes. So we write 8 as 

### **FREQUENCY**

This is how many times an event occurred. Some examples of correct tally markings are listed below.

3	
4	
5	
8	
10	
12	

### WORKED EXAMPLE: FINDING THE TOTAL TALLY

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



What is the frequency?

1. **Step 1: Count the number tally marks.**



2. **Step 2: Use multiplication to find the answer.**

$$(5 \times 1) + 0 = 5 = (5 \times 1) + 0 = 5 \therefore \text{ans} = 5$$

3. **Step 3: The frequency is the number of times an event occurred. In this case, it is the number of students who are playing tennis. Write your answer in a sentence.**

4. **The frequency of students playing tennis is 5.**

### Organising 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, and then show the data in a table.

\*The data can be organised 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

Here is the same data given in a horizontal frequency table.

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

### WORKED EXAMPLE: DRAWING UP A FREQUENCY TABLE

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

**Score sheet:** 1; 5; 5; 1; 4; 5; 2; 4; 2; 3; 3; 4; 3; 2; 2

#### Solution

1. Write the data in ascending order.
2. Complete the following vertical frequency table:

Score	Frequency
1	
2	
3	
4	
5	
6	

When you throw a die, there are 6 possible events (numbers the die can land on): 1, 2, 3, 4, 5 and 6.

- 1. Step 1: Write the data in ascending order, which is from smallest to largest.**  
To help you arrange your data in order, cross out a number once you have counted it.  
The data arranged in ascending order is: 1; 1; 2; 2; 2; 2; 3; 3; 3; 4; 4; 4; 5; 5; 5
- 2. Step 2: Count how many times each number occurs and write the totals in the frequency table. Eg 1 appeared twice, 2 appeared 4 times, etc**

#### Solution

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

#### Assignment

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

Nwanne's score sheet looked like this: 2; 3; 1; 6; 5; 4; 4; 1; 1; 4; 2; 2; 3; 4; 1

- a. Write the scores in ascending order.
- b. Complete the following vertical frequency table: