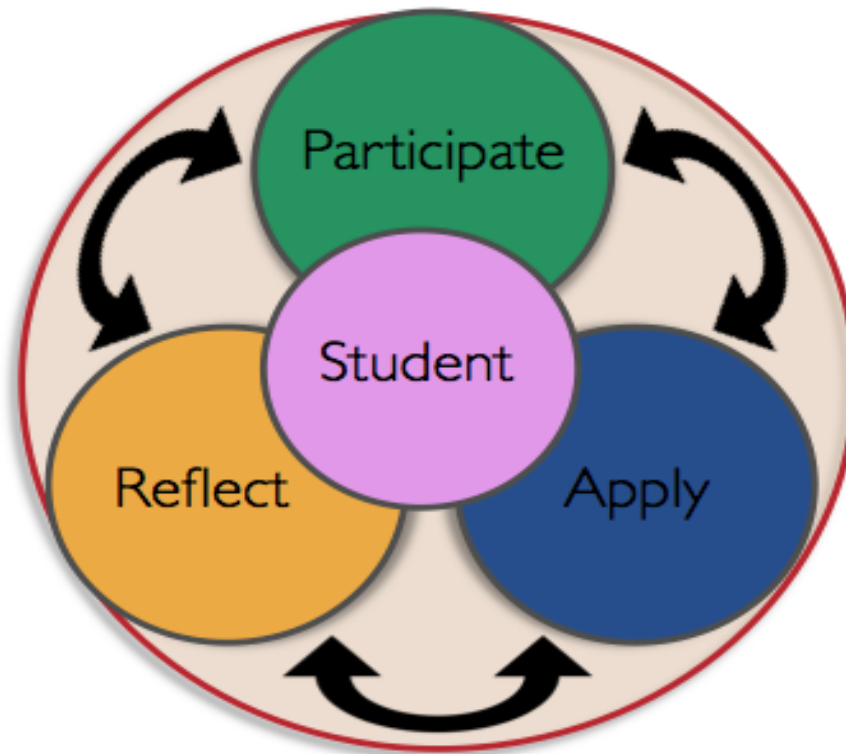
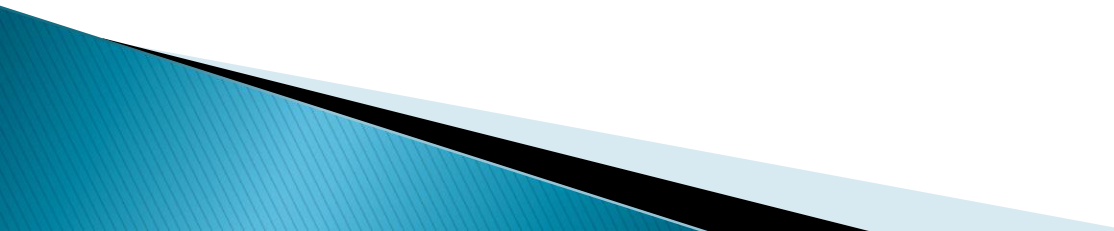


LESSON PLAN ON EXPERIENTIAL LEARNING TOPIC : STATISTICS

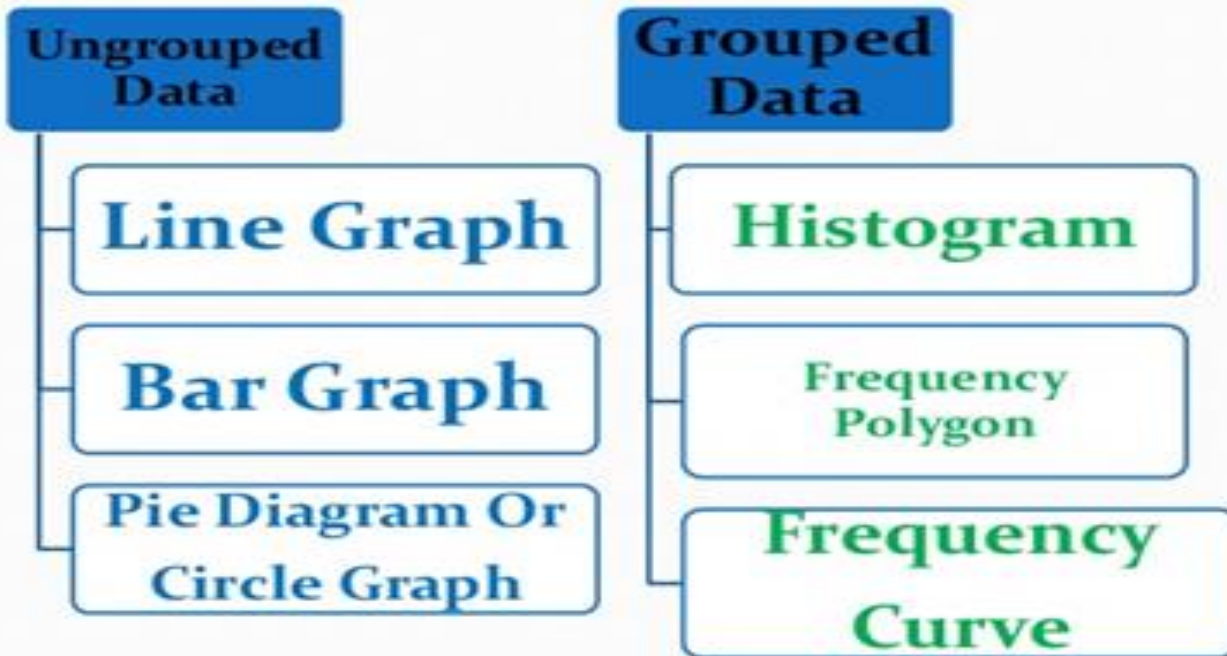


PREVIOUS KNOWLEDGE TESTING

- WHAT IS STATISTICS?
 - WHAT IS DATA?
 - WHAT IS FREQUENCY?
 - DIFFERENCE BETWEEN MEAN, MEDIAN AND MODE.
- 

SUBTOPIC: GRAPHICAL REPRESENTATION OF DATA

TYPES OF GRAPHICAL REPRESENTATION



MIND MAP

STATISTICS

INTRODUCTION

COLLECTION OF DATA

- PRIMARY DATA [more](#)
- SECONDARY DATA [more](#)

PRESENTATION OF DATA

- UNGROUPED FREQUENCY DISTRIBUTION [more](#)
- GROUPED FREQUENCY DISTRIBUTION [more](#)

GRAPHICAL REPRESENTATION OF DATA

- BAR GRAPH [more](#)
- HISTOGRAM OF UNIFORM WIDTH [more](#)
- FREQUENCY POLYGON [more](#)



MEASURES OF CENTRAL TENDENCY

- MEAN [more](#)
- MEDIAN [more](#)
- MODE [more](#)

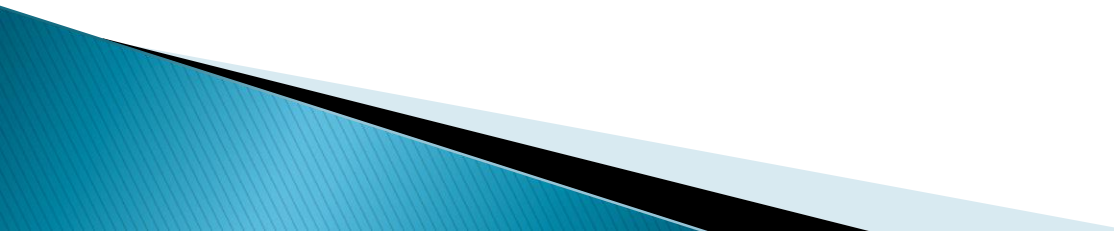
GLOSSARY

- DATA
- FREQUENCY
- MEASURES OF CENTRAL TENDENCY
- TALLY MARKS

TREASURE

1. Class mark = $\frac{\text{lower limit} + \text{upper limit}}{2}$ [more](#)

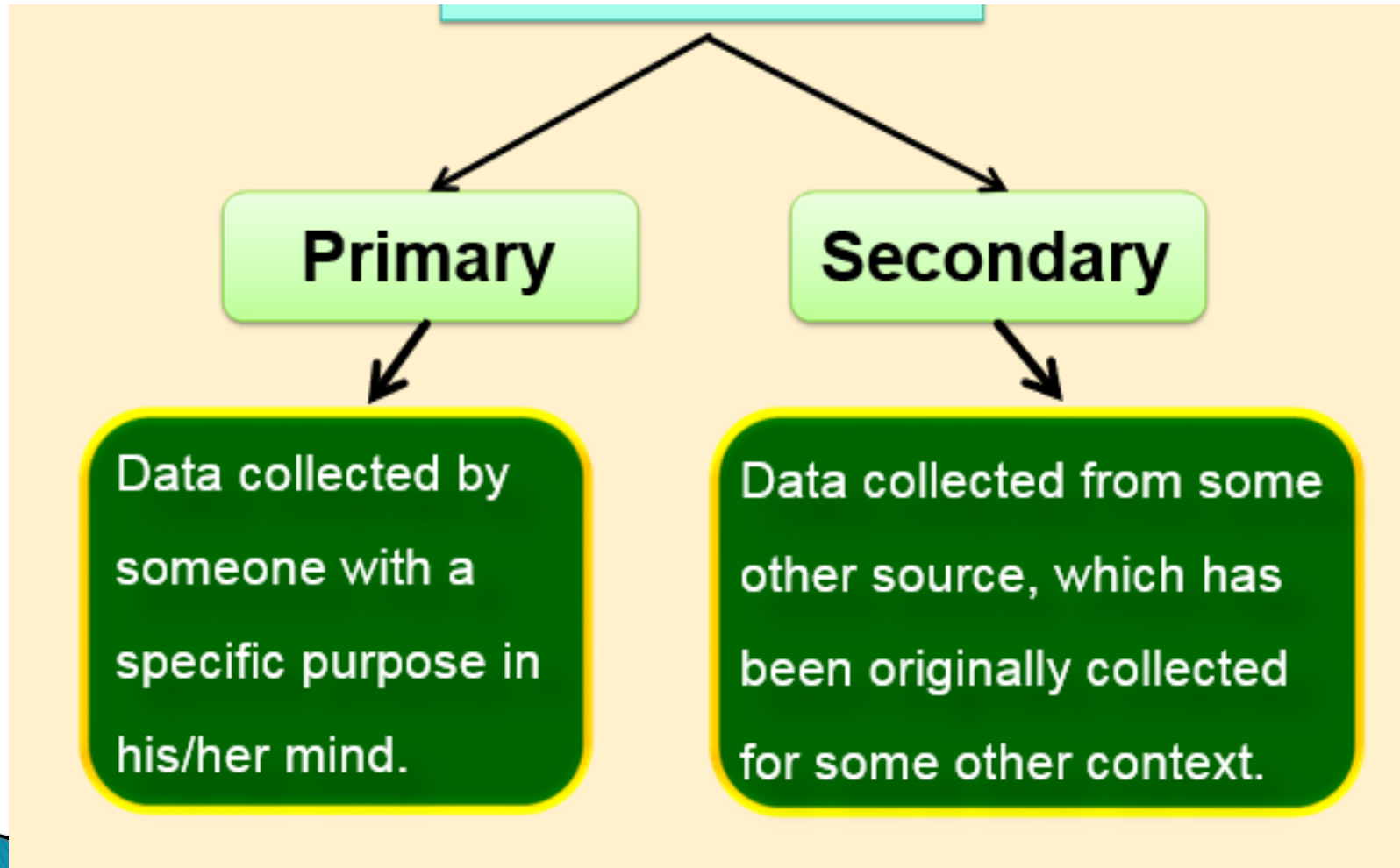
**STATISTICS IS A BRANCH
OF MATHEMATICS WORKING
WITH DATA COLLECTION,
ORGANIZATION, ANALYSIS,
INTERPRETATION AND
PRESENTATION**



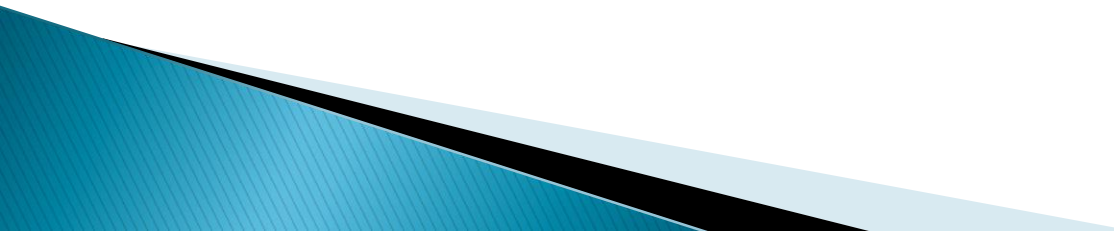
IMPORTANCE OF STATISTICS IN REAL LIFE

- ▶ STATISTICS ARE IMPORTANT IN OUR DAILY LIFE BECAUSE WE NEED TO APPLY IT FOR ORGANIZING, ARRANGING AND COUNTING DATA. BY APPLYING STATISTICS IN OUR DAILY LIFE, WE CAN BE MORE ORGANIZED IN GROUPING DATA, AND WE CAN ALSO COUNT AND SEE OUR IMPROVEMENTS, AND COUNT DAY BY DAY THAT IT WAS INCREASING OR DECREASING.

STATISTICAL DATA



QUESTIONS ASKED FROM STUDENTS IN ORDER TO CONNECT THEM WITH A PARTICULAR TOPIC: FREQUENCY POYGON

- ▶ HOW TO COMPARE PERFORMANCE OF TWO SECTIONS IN A PARTICULAR SUBJECT?
 - ▶ COMPARISON OF TWO CRICKET TEAMS PLAYING WORLD CUP – 2019.
- 

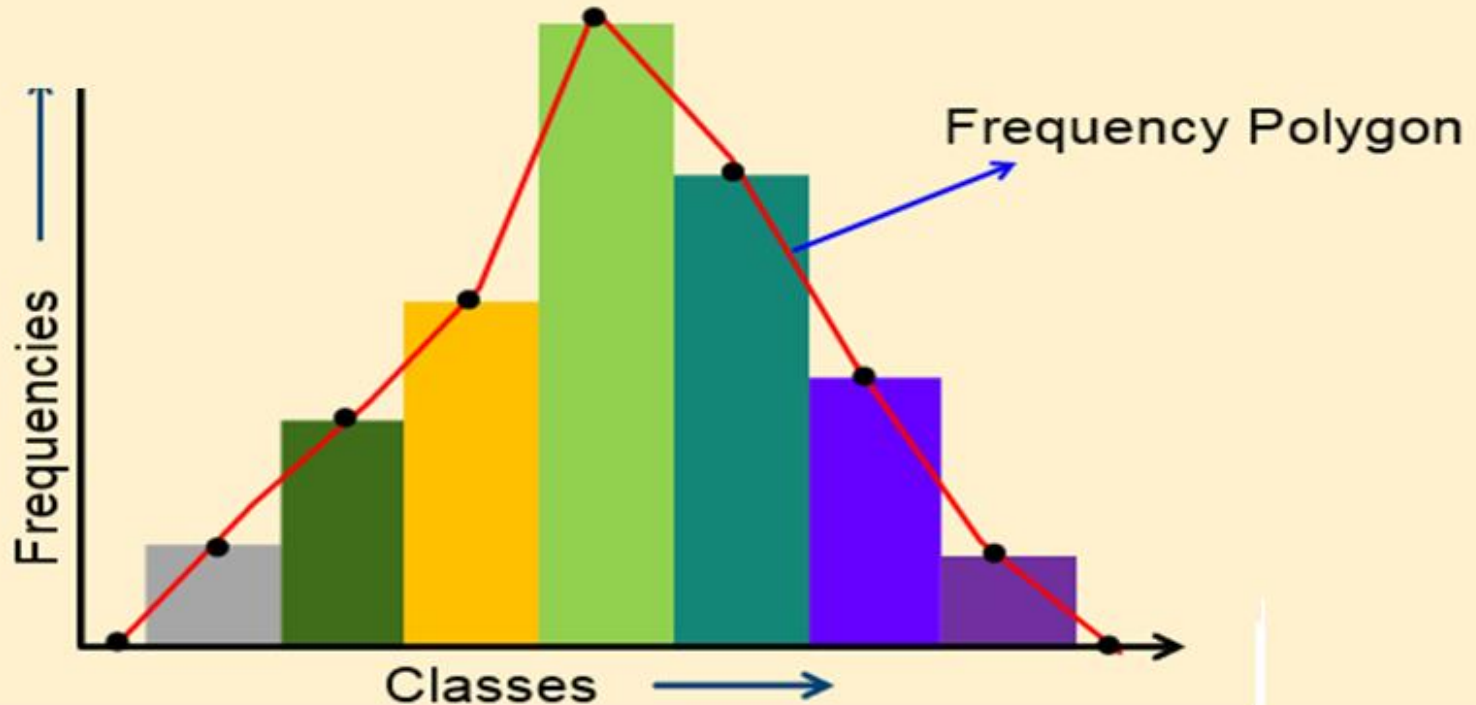
FREQUENCY POLYGON

- ▶ A FREQUENCY POLYGON IS A GRAPHICAL FORM OF REPRESENTATION OF DATA. IT IS USED TO DEPICT THE SHAPE OF THE DATA AND TO DEPICT TRENDS. IT IS USUALLY DRAWN WITH THE HELP OF A HISTOGRAM BUT CAN BE DRAWN WITHOUT IT AS WELL.

FREQUENCY POLYGON

A frequency polygon is a graph, which is constructed by joining the midpoints of the top of all the rectangles of a

1.



SURVEY AND COLLECTION OF DATA

EXPERIENTIAL LEARNING

Draw a frequency polygon from the following data giving the age of the doctors working in a hospital of a city.

Age (in years)	No. of doctors
25 – 30	40
30 – 35	60
35 – 40	50
40 – 45	35
45 – 50	20

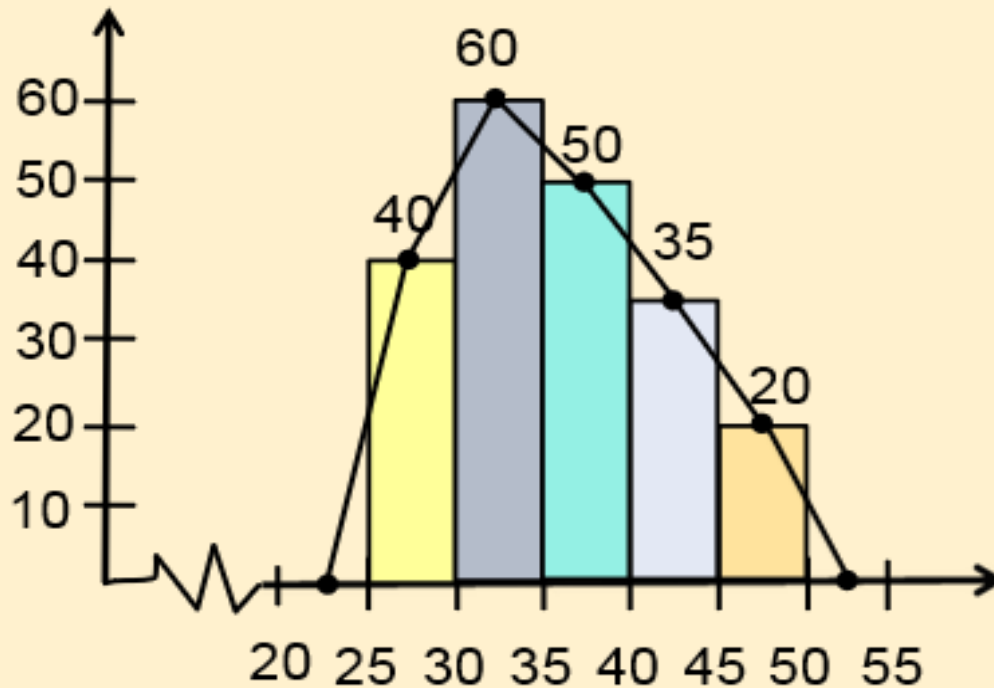
STEPS TO DRAW (FORMULA USED)

- ✓ First, we will calculate the **mid-points** of the class intervals.
- ✓ These mid-points are called **class marks**.
- ✓ Class marks can be calculated as:

$$\text{Class Marks} = \frac{\text{Upper limit} + \text{Lower limit}}{2}$$

GRAPHICAL REPRESENTATION

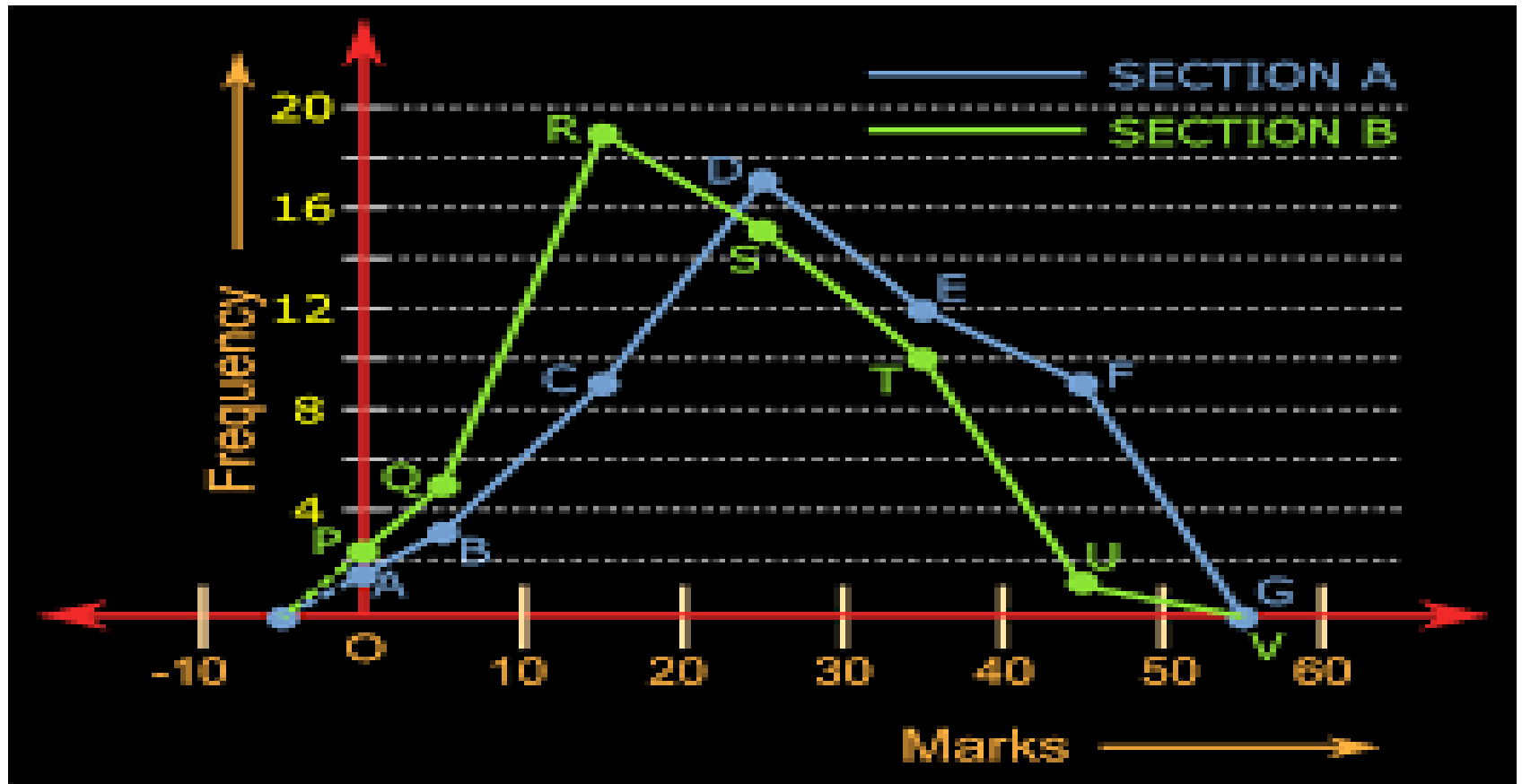
The required frequency polygon is shown in the following figure:



ADVANTAGE OF A FREQUENCY POLYGON

- ▶ THE MAIN ADVANTAGE OF A FREQUENCY POLYGON, COMPARED WITH A HISTOGRAM, IS THAT YOU CAN SUPERIMPOSE TWO OR MORE FREQUENCY POLYGONS ON THE SAME AXES AND MAKE COMPARISONS BETWEEN THE SETS OF DATA.

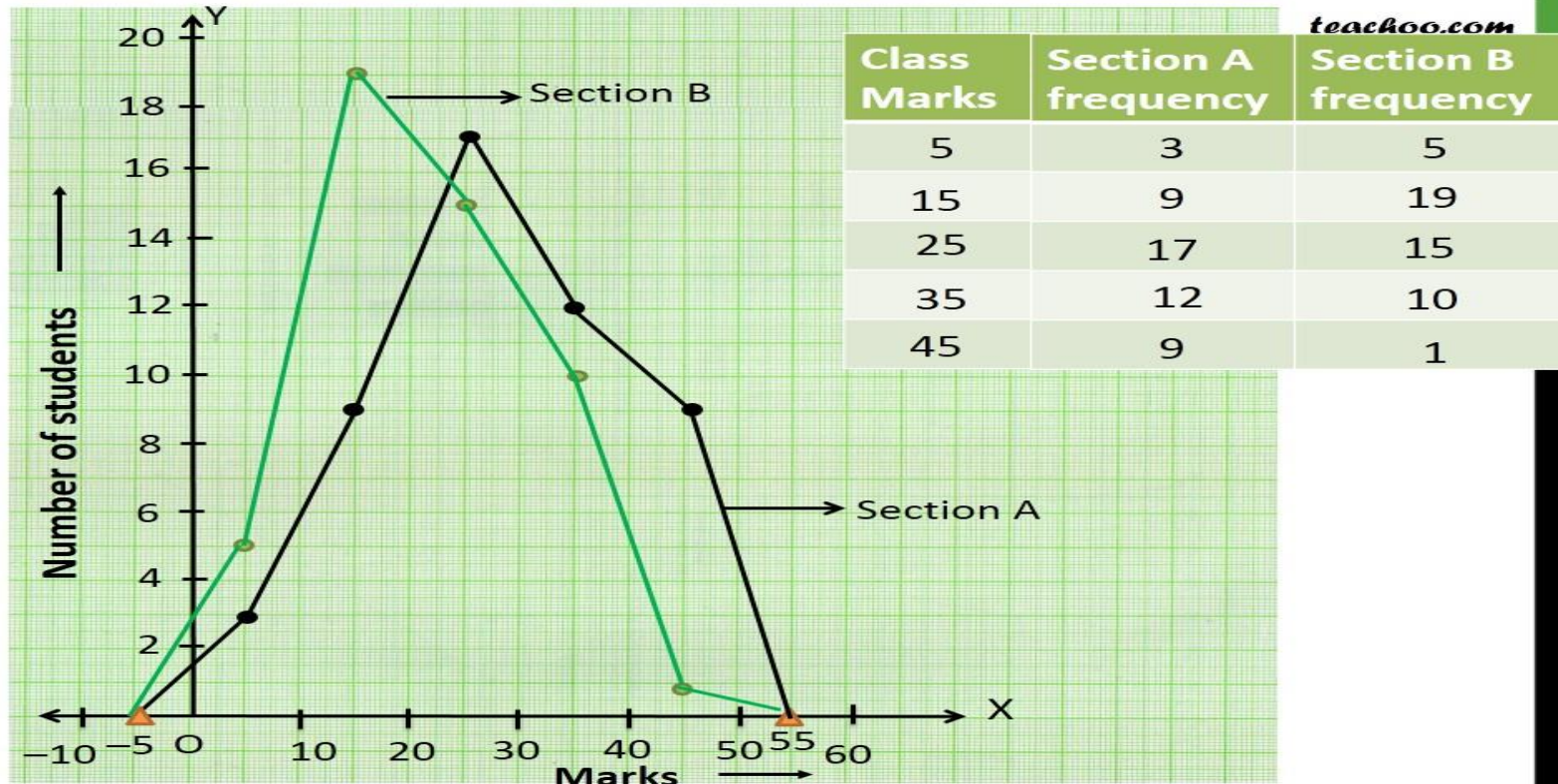
FEW EXAMPLES OF FREQUENCY POLYGON FROM NCERT BOOK



EXAMPLES OF FREQUENCY POLYGON

Section A		Section B	
Marks	Frequency	Marks	Frequency
0-10	3	0-10	5
10-20	9	10-20	19
20-30	17	20-30	15
30-40	12	30-40	10
40-50	9	40-50	1

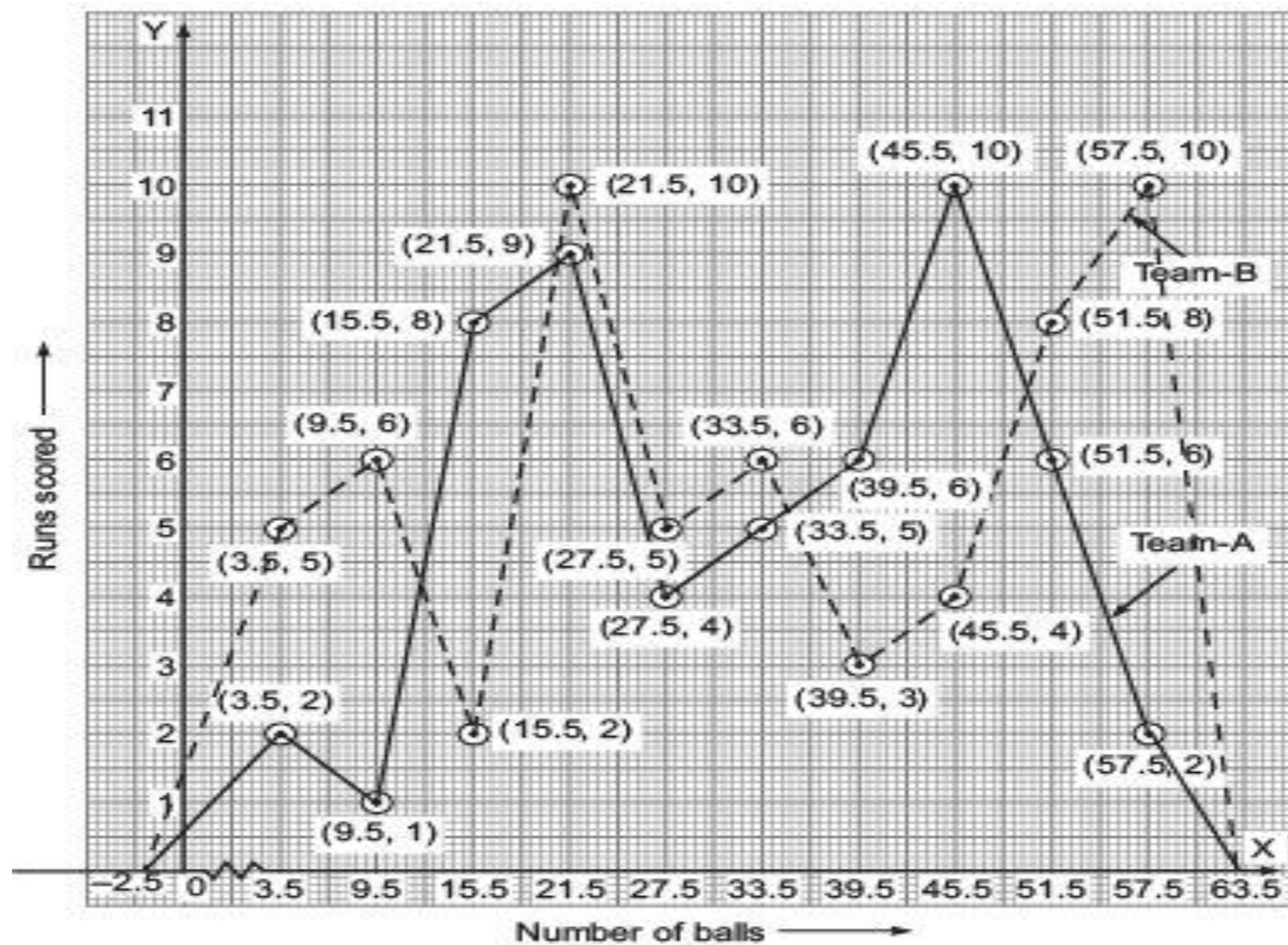
GRAPHICAL COMPARISON



Since Section A is to the right of section B,
more students of section A has higher marks

RUN SCORED BY TWO TEAMS ON FIRST 60 BALLS IN A CRICKET MATHS

Number of balls	Team A	Team B
1 - 6	2	5
7 - 12	1	6
13 - 18	8	2
19 - 24	9	10
25 - 30	4	5
31 - 36	5	6
37 - 42	6	3
43 - 48	10	4
49 - 54	6	8
55 - 60	2	10



SUMMARY

➤ The process of gathering information is called **collection of data**.

➤ The way to present the collected data in an understandable and meaningful form is called **presentation of data**.

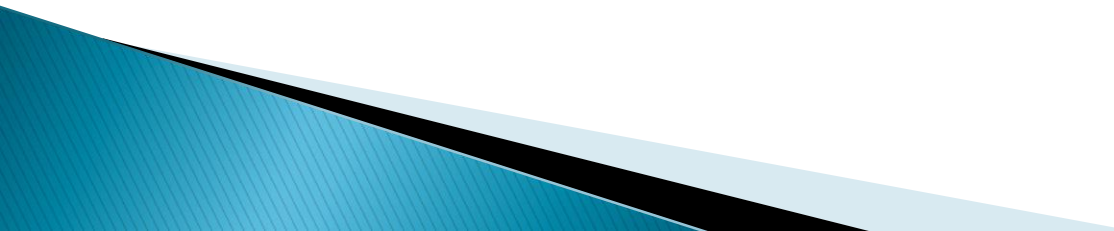
➤ The number of times an observation occurs is called **frequency** of that observation.

➤ **Class Interval**: In grouped frequency distribution table, the groups of observations made are called **class intervals**.

➤ **Class Size**: The size of the class interval is called **class size** or **class width**.

➤ **Grouped Frequency Distribution**: While forming this frequency table, the observations are categorised into groups, with defined class interval and class size.

HOME ASSIGNMENT

- ▶ GIVE FIVE EXAMPLES OF DATA THAT YOU CAN COLLECT FROM YOUR DAY-TO-DAY LIFE.
 - ▶ MAKE A FREQUENCY POLYGON ON THE DATA FOR THE SPECIFIC TRACK MEET EVENTS HELD IN YOUR SCHOOL ON SPORTS DAY FOR BETTER UNDERSTANDING.
- 

Thank
you!