



ARAB UNITY SCHOOL

CURRICULUM OVERVIEW

YEAR 10

2019 – 2020

A guide for Parents and Students

SUBJECT: STATISTICS

## Overview of the year:

The curriculum for Statistics aims to ensure what a teacher may expect to teach and what a student may expect to experience and learn. These aims suggest how the student may be changed by the learning experience.

The aims of curriculum are to encourage and enable students to:

- Enjoy statistics, develop curiosity and begin to appreciate its elegance and power
- Develop an understanding of the principles and nature of statistics
- Communicate clearly and confidently in a variety of contexts
- Develop logical, critical and creative thinking
- Develop confidence, perseverance, and independence in statistical thinking and problem-solving
- Develop powers of generalization and abstraction
- Apply and transfer skills to a wide range of real-life situations, other areas of knowledge and future developments
- Appreciate how developments in technology and statistics have influenced each other
- Appreciate the moral, social and ethical implications arising from the work of statisticians and the applications of Statistics.
  
- Appreciate the international dimension in Statistics through an awareness of the universality of Statistics and its multicultural and historical perspectives
- Appreciate the contribution of Statistics to other areas of knowledge
- Develop the knowledge, skills and attitudes necessary to pursue further studies in Statistics.
- Develop the ability to reflect critically upon their own work and the work of others



	<ul style="list-style-type: none"> <li>➤ Drawing and interpreting histograms with equal class intervals and learning how to draw and interpret frequency polygons.</li> <li>➤ Drawing and interpreting cumulative frequency step polygons for discrete and grouped data.</li> <li>➤ Learning how to choose an appropriate format to represent data and explaining our choice.</li> <li>➤ Inspecting the data for skewness to identify the type of skewness.</li> </ul>	<p>that in different pictorial representations like Pictogram, tally and Venn Diagram, and also graph their data in any of the two graphs like bar chart, stem or leaf and pie charts.</p> <p>Students would have to collect the data on any topic of their choice from the real life and submit the assignment as per the secret given above.</p> <p><b>LEARNING OUTCOME:</b> This will make the students handy at pictorial representation of data.</p>	
<p><b>TERM TWO</b></p> <p>Main topic, skills and content:</p>	<p><u>Summarizing Data:</u></p> <ul style="list-style-type: none"> <li>➤ Learning what is an average and what are the types of average.</li> <li>➤ Understanding how to calculate the measures of central tendency ( Mean , Median and Mode)</li> <li>➤ Learning how to calculate average from frequency tables</li> <li>➤ Understanding how to do transformation of data</li> <li>➤ Learning about the geometric mean and weighted mean and their applications in real life.</li> <li>➤ Understanding the concepts related to measures of dispersion and their application in regular life on discrete data and grouped data.</li> <li>➤ Learning how to calculate different measures of spread/dispersion (i.e. range, quartiles, percentiles and inter quartile range.</li> <li>➤ Learning about box plots and outliers</li> <li>➤ Understanding the concepts related to skewness and determining the positively skewed data negatively skewed types of curves.</li> <li>➤ Understanding how to decide that which average must be used for the most efficient results.</li> <li>➤ Learning how to compare data sets and making estimates of data.</li> <li>➤ Learning how to calculate different measures of spread/dispersion (i.e. range,</li> </ul>	<p><b>Topic: Measures of Central Tendency</b> <b>LEARNING SKILL: SECRET</b> Students would have to find online real life examples from the field of engineering or business or Bio etc. and will make a poster presentation of the case studied relating to the measures of central tendency and they have to present their findings in the class in groups.</p> <p>Students are needed to take a comprehensive example to apply all the measures of central tendency on discrete and grouped data.</p> <p><b>LEARNING OUTCOME:</b> This will make the students understand the importance of the measures of central tendency and how to calculate these.</p> <p><b>Topic: Measures of Dispersion</b> <b>LEARNING SKILL: SECRET</b> Students are supposed to apply the concepts of</p>	<p><b>ASSESSMENT 1:</b> (Measures of Central Tendency) Mean, Median and Mode ( grouped and ungrouped data)</p> <p><b>ASSESSMENT 2:</b> Measures of Dispersion or spread</p>

	<p>quartiles, percentiles and inter quartile range.</p>	<p><b>measures of dispersion and explain their importance and application in real life.</b>  Students are needed to take some data from online source and submit the work done as specified above.</p> <p><b>LEARNING OUTCOME:</b>  This will strengthen the concepts of the students and their real life implications.</p>	
<p><b>TERM THREE</b></p> <p>Main topic, skills and content:</p>	<p><b>Scatter Diagrams:</b></p> <ul style="list-style-type: none"> <li>➤ Learning how to draw a scatter diagram and how to recognize whether or not two variables are associated.</li> <li>➤ Understanding what is the difference between an explanatory (independent) variable and a response (dependent) variable.</li> <li>➤ Learning what correlation is and how to recognize where there is a positive, negative or no correlation.</li> <li>➤ Describing and making comparisons of strong and weak correlation.</li> <li>➤ Understanding what is meant by a causal relationship and knowing that correlation does not imply causation.</li> <li>➤ Learning how to draw a line of best fit by eye and by drawing through a calculated double mean point.</li> <li>➤ Interpreting spearman’s rank correlation coefficient by considering real life problems.</li> <li>➤ Learning how to calculate Spearman’s rank correlation coefficient.</li> <li>➤ Learning about Pearson’s product moment correlation coefficient.</li> </ul>	<p><b><u>Topic: Scatter Diagram and correlation</u></b>  <b><u>LEARNING SKILL: SECRET</u></b>  <b>Students are supposed to write a comprehensive note on the importance of scatter diagram and correlation, and have to elaborate it by using some real life examples.</b>  Students are needed to search online and different from different books the above said requirement.</p> <p><b>LEARNING OUTCOME:</b>  This will make the students much involved in the subject statistics and its importance.</p>	<p><b>ASSESSMENT 1: Scatter Diagram</b></p> <p><b>ASSESSMENT 2: Revision</b></p>