

4. 4. 3 Data Handling Dimension (Key Stage 4)

Unit	Learning objectives	Suggested time ratio
Analysis and Interpretation of Data		
Measures of Dispersion	<ul style="list-style-type: none"> ● recognize range, inter-quartile range and standard deviation as measures of dispersion for a set of data ● find range from a given set of data ● find inter-quartile range from the cumulative frequency polygon ● construct box-and-whisker diagrams and use them to compare the distributions of different sets of data ● interpret the basic formula of standard deviation and be able to find the standard deviation for both grouped and ungrouped data set ● compare the dispersions of different sets of data using appropriate measures ● <u>explore and make conjecture on the effect of the dispersion of the data such as</u> <ol style="list-style-type: none"> i. <u>removal of a certain item from the data;</u> ii. <u>adding a common constant to the whole set of data;</u> iii. <u>multiplying the whole set of data by a constant;</u> iv. <u>insertion of zero in the data set.</u> 	13
Simple Statistical Surveys		
Uses and Abuses of Statistics	<ul style="list-style-type: none"> ● <u>recognize different techniques in choosing samples and the criteria in choosing data collection method</u> ● <u>investigate methods in which statistical surveys are used and misused in various daily-life activities</u> ● <u>discuss the strengths and weaknesses of statistical investigations presented in different sources such as news media, advertisements, etc including methods of collecting, presenting and analysing data etc.</u> ● <u>recognize the complexity in conducting surveys</u> 	11

Note: The objectives with asterisk (**) are exemplars of **enrichment topics**.

The objectives underlined are considered as **non-foundation** part of the syllabus.

Unit	Learning objectives	Suggested time ratio
Simple Statistical Surveys		
Conducting Surveys**	<ul style="list-style-type: none"> • **conduct statistical investigations including <ol style="list-style-type: none"> i. formulating key questions to investigate problems relating to their experience; ii. deciding appropriate data collection method which may involve designing simple questionnaire; iii. applying sampling techniques in collecting data; iv. conducting the investigations; v. making interpretation on the data collected and analyzing their findings; vi. presenting the investigations to other. 	
Probability		
More about Probability	<ul style="list-style-type: none"> • <u>recognize the basic laws in probability</u> • <u>apply the addition or multiplication laws in a wide variety of activities including real-life problems</u> • <u>recognize the notion of conditional probability and the notation of $P(A B)$</u> <p><u>Note: The Bayes' Theorem need not be introduced.</u></p>	11

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 The objectives underlined are considered as **non-foundation** part of the syllabus.