



	Autumn 1		Autumn 2		Spring 1		Spring 2		Summer 1		Summer 2			
Reporting Y10		CfCs		BfL & Grades		CfCs		BfL & Grades				BfL & Report		
Year 10					<p>1. The collection of data</p> <p>1(a) Planning</p> <ul style="list-style-type: none"> Hypotheses Designing investigations Strategies to deal with potential problems <p>1(b) Types of data</p> <ul style="list-style-type: none"> Describing data Raw data, quantitative, qualitative, categorical, ordinal, discrete, continuous, ungrouped, grouped, bivariate and multivariate Advantages and implications of merging/grouping data Primary/secondary data Advantages and disadvantages <p>1(c) Population and sampling</p> <ul style="list-style-type: none"> Population, sample frame and sample Judgment, opportunity (convenience) and quota sampling <p>2(h) Estimation</p> <ul style="list-style-type: none"> Use summary statistics to make estimates of population characteristics Use sample data to predict population proportions Know that sample size has an impact on reliability and replication Apply Petersen capture recapture formula to calculate an estimate of the size of a population 		<p>1(d) Collecting data</p> <ul style="list-style-type: none"> Collection of data Experimental (laboratory, field and natural), simulation, questionnaires, observation, reference, census, population and sampling Reliability and validity Collecting sensitive content matter Random response Questionnaires and interviews Leading questions, avoiding biased sources, time factors, open/closed questions, different types of interview technique Problems with collected data Missing data, non-response, 'cleaning' data Controlling extraneous variables Control groups <p>2. Processing, representing and analysing data</p> <p>ASSESSMENT</p> <p>2(a) Representing data</p> <ul style="list-style-type: none"> Population pyramid Choropleth map Comparative pie chart Interpret and compare data sets represented pictorially Cumulative frequency (discrete and grouped) charts Histograms (equal class width) 		<p>2(a) Representing data</p> <ul style="list-style-type: none"> Histograms unequal class widths Frequency density Interpret and compare data sets displayed in histograms <p>2(a) Representing data</p> <ul style="list-style-type: none"> Justify appropriate form to represent data Graphical misrepresentation Determine skewness by inspection Interpreting a distribution of data with reference to skewness Calculating skewness Comparing data sets represented in different formats 		<p>2(b) Measures of central tendency</p> <ul style="list-style-type: none"> Averages from raw or grouped data Mean, median, mode Weighted mean Geometric mean Justify appropriate average to use in context <p>2(c) Measures of dispersion</p> <ul style="list-style-type: none"> Range, quartiles, interquartile range (IQR), percentiles Interpercentile range, interdecile range Standard deviation Identifying outliers by inspection Identifying outliers by calculation Comment on outliers in context Compare data sets using appropriate measure of central tendency and measure of dispersion <p style="text-align: right;">ASSESSMENT</p>		Work Experience Week	
Reporting Y11		CfCs & Grades		Rep & Grades		CfCs & Grades		BfL & Grades						

<p>Year 11</p>	<p>2(e) Scatter diagrams and correlation</p> <ul style="list-style-type: none"> • Explanatory (independent) variables and response (dependent) variables • Correlation <ul style="list-style-type: none"> o Positive, negative, zero, weak, strong o Distinction between correlation and causation • Line of best fit o Using the regression equation $y = a + bx$ • Calculate Spearman's rank correlation coefficient • Interpret Spearman's rank in context • Interpret Pearson's product moment correlation coefficient (PMCC) in context • Understand the distinction between Spearman's rank correlation coefficient and Pearson's product moment correlation coefficient (PMCC) 	<p>2(f) Time series</p> <ul style="list-style-type: none"> • Moving averages • Identifying trends • Interpreting seasonal and cyclical trends in context • Mean seasonal variation o Predictions using average seasonal effect <p>3. Probability</p> <p>3. Experimental and theoretical probability</p> <ul style="list-style-type: none"> • Likelihood • Expected frequency of a specified characteristic within a sample or population • Use collected data and calculated probabilities to determine and interpret risk • Compare experimental data with theoretical predictions • Understand that increasing sample size generally leads to better estimates of probability and population parameters • Use two-way tables, sample space diagrams, tree diagrams and Venn diagrams to represent all the different outcomes possible for at most three events <p>ASSESSMENT</p>	<p>3. Experimental and theoretical probability</p> <ul style="list-style-type: none"> • Independent events • Conditional probability • Difference in terms of bias <p>2. Processing, representing and analysing data</p> <p>2(d) Further summary statistics</p> <ul style="list-style-type: none"> • Index numbers / weighted index numbers o Retail price index (RPI) o Consumer price index (CPI) o Gross domestic product (GDP) • Interpret data related to rates of change over time when given in graphical form • Calculate and interpret rates of change over time from tables using context specific formula 	<p>3. Probability distributions</p> <ul style="list-style-type: none"> • Binomial distribution <ul style="list-style-type: none"> o Notation $B(n, p)$ o Conditions that make binomial model suitable o Mean (np) o Calculation of binomial probabilities • Normal distribution <ul style="list-style-type: none"> o Notation $N(\mu, \sigma^2)$ o Characteristics of Normal distribution o Conditions that make Normal model suitable o Approximately 95% of the data lie within two standard deviations of the mean and that 68% (just over two thirds) lie within one standard deviation of the mean <p>2(c) Measures of dispersion</p> <ul style="list-style-type: none"> • Standardised scores <p>2(g) Quality assurance</p> <ul style="list-style-type: none"> • Know that a set of sample means are more closely distributed than individual values from the same population. • Control charts <ul style="list-style-type: none"> o Use action and warning lines in quality assurance sampling applications. <p>ASSESSMENT</p>	<p>Revision for Paper 1 and Paper 2</p>	
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