

Subject: BTEC DIT	Year 11 2023-24	Ability Mixed
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Component 2: Collecting, Presenting and Interpreting Data: Learning Aim A: Understand how data is collected and used by organisations and its impact on individuals

Terms	A1: HT1	A2: HT1	A3: HT1	A4: HT2	A5: HT2	A6: HT2	A7: HT2
Topic	Component 2: A1 Characteristics of data and information Learning Aim, A: Understand how data is collected and used by organisations and its impact on individuals	Component 2: A2 Representing information Learning Aim, A: Understand how data is collected and used by organisations and its impact on individuals	Component 2: A3 Ensuring data is suitable for processing Learning Aim, A: Understand how data is collected and used by organisations and its impact on individuals	Component 2: A4 Data collection Learning Aim, A: Understand how data is collected and used by organisations and its impact on individuals	Component 2: A5 Quality of information Learning Aim, A: Understand how data is collected and used by organisations and its impact on individuals	Component 2: A6 Sectors that use data modelling Learning Aim, A: Understand how data is collected and used by organisations and its impact on individuals	Component 2: A7 Threats to individuals Learning Aim, A: Understand how data is collected and used by organisations and its impact on individuals
Topic overview Students will learn...	The concepts of data and how to convert it into information.	The different ways of representing information and how they are used in different situations.	The methods that can be used to ensure data input is suitable and within boundaries.	The different types of data collection methods and how data collection features affect its reliability.	The factors that affect the quality of information	How different types of data are used by organisations for data modelling.	How different threats that individuals face who have data stored about them.
Components	Students will learn the characteristics of data and information in order to understand how data becomes information. They will learn about: <ul style="list-style-type: none"> • Meaning • Context • Structure • Processed 	Students will learn the different ways to represent data in order to understand the benefits and drawbacks of the different forms of data representation applied to certain circumstances. These include: <ul style="list-style-type: none"> • Text • Numbers • Tables • Graphs / charts • Sparklines • Infographics 	Students will learn how to ensure a user gives data in the way that we want in order to be able to use the data to provide accurate information. Students will learn about: <ul style="list-style-type: none"> • Validation methods: range check, type check, presence check length check • Verification methods: proof reading and double entry. 	Students will learn about primary and secondary sources in order to learn the benefits and drawbacks of both methods. For primary sources, students will learn about: <ul style="list-style-type: none"> • Interviews • Questionnaires • Surveys For secondary sources, students will learn about: <ul style="list-style-type: none"> • Online research • Books and journals • Booking systems and internal documents Students will learn the features of good data collection in order to irradicate issues with data such as bias or inaccurate data. This will include:	Students will learn how the factors that distinguish good quality information from bad in order to ensure good decisions are made with the information. These factors include: <ul style="list-style-type: none"> • Source, age and accuracy • Completeness, amount of detail and volume • Format / presentation 	Students will learn about the different types of data used for data modelling in order to understand how organisations use it to inform decisions. They will look at how data modelling is used in one of business sectors: <ul style="list-style-type: none"> • Transport • Education • Retail • Banking • Entertainment • Government • Health care • Construction • Communication • Health and safety • Sport and fitness 	Students will learn how data held about individuals can easily be misused by businesses in order to know the threats to individuals including: <ul style="list-style-type: none"> • Invasion of privacy • Fraud • Targeting vulnerable groups of people • Inaccurate data could be stored

				<ul style="list-style-type: none"> • Size of sample • Who was in the sample? • Where the sample was collected • When the sample was collected • Methods used. 			
What students should already know (Prior learning components)	Students have covered the following at KS3: Collecting and analysing data to meet the needs of the user. The related area is covered in the Yr 9 Data Science unit.	Students have covered the following at KS3: Collecting and analysing data to meet the needs of the user. The related area is covered in the Yr 9 Data Science unit. Students should also have studied the previous topic, A1, on characteristics of data and information	Students have covered the following at KS3: Collecting and analysing data to meet the needs of the user. The related area is covered in the Yr 9 Data Science unit. Students should also have studied the previous topic, A2, on data types.	Students have covered the following at KS3: Collecting and analysing data to meet the needs of the user. The related areas are covered in the Yr. 9 Data Science unit and Yr. 8 Data Handling.	Students have covered the following at KS3: Collecting and analysing data to meet the needs of the user. The related area is covered in the Yr. 9 Data Science unit. Students should also have studied the previous topics, A3 and A4, on Ensuring data is suitable for processing and Data collection.	Students have covered the following at KS3: Collecting and analysing data to meet the needs of the user. The related area is covered in the Yr. 9 Data Science unit. Students should also have studied all the previous topics in this section.	Students have covered the following at KS3: Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy. This is covered in the Yr. 9 Cyber Security unit and the Yr. 9 Data Science unit. Students should also have studied all the previous topics in this section.
Transferrable knowledge (skills)	Analysing data and adding context and meaning to create information.	Creating tables, graphs, charts and sparklines and using these to create infographics	Validation and verification check to ensure error free data.	Creating questionnaires, surveys and conducting interviews and using both primary and secondary sources in research tasks.	Understand how to research the Internet for accurate information and how to avoid fake news.	Being able to discuss and analyse data for different organisations and demographics	Understand personal threats to security from being online.
Key vocabulary pupil will know and learn	Data, information, context, structure, processed	Text, numbers, qualitative, quantitative, tables, charts, infographics, sparklines	Validation, verification, range check, type check, lookup check, data type check, presence check, length check, proofreading double entry	Primary data, secondary data, sample size, interviews, questionnaires, surveys.	Source/Collection method, accuracy, age, format, source comparison	Data modelling, trend, taxes, demographics, risks.	Invasion of privacy, phishing, stalking, blackmail, identity fraud, bank fraud, vulnerable groups, inaccurate.
Assessment activities	Formative –verbal assessment through in class questioning and discussion. Recall activities through class discussion and completion of in-class worksheets Completion of homework units designed f to apply their knowledge in real-life	Formative - as for A1 MS Teams Topic 2 Homework 2	Formative - as for A1 MS Teams Topic 3 Homework 3	Formative - as A1 MS Teams Topic 4 Homework 4	Formative - as for Section A MS Teams Topic 5 Homework 5	Formative - as for Section A MS Teams Topic 6 Homework 6	Formative - as for Section A MS Teams Topic 7 Homework 7 Summative This assessment will cover Task 1 in the controlled assessment. Students will analyse data collection method for a specific purpose and produce a report on the suitability of

	<p>situations and check understanding. Homework 1 of Topic 1.</p> <p>These will consist of short answer / matching type questions and then on longer exam style question based around the subjects covered in that topic.</p> <p>S:\Computing\BTEC DIT 2022\Comp 2 LAA\Topic 1 – Data vs Information\Topic 1 Homework 1</p>						<p>the data collection methods covering the following:</p> <ul style="list-style-type: none"> • The strengths and weaknesses of the given data collection methods • How the features of data collection affect the quality of the data • The factors that might affect the quality of the data • Ways that the collection of data could be improved • Possible threats to users who have data stored about them. <p>(12 marks) (1 lesson)</p>
Resources available	Pearson Student Textbook Pearson Student Resources on Ms Teams Topic 1 - Data vs Information	Pearson Student Textbook Pearson Student Resources on Ms Teams Topic 2 - Representing Information	Pearson Student Textbook Pearson Student Resources on Ms Teams Topic 3 - Suitable Data	Pearson Student Textbook Pearson Student Resources on Ms Teams Topic 4- data Collection	Pearson Student Textbook Pearson Student Resources on Ms Teams Topic 5 - Quality of information	Pearson Student Textbook Pearson Student Resources on Ms Teams Topic 6 - Data modelling	Pearson Student Textbook Pearson Student Resources on Ms Teams Topic 7 - Threats
Notes Why this topic is important...	<p>The whole basis of this component of work is about the use of data and information so students must have a good understanding of the differences between these and how to convert data into information before they can continue with the other topics in this component.</p>	<p>Now that students have learnt about data and information, they now need to be able to choose the best form of presentation for a particular set of data, so this topic covers the different types of presentation techniques, when to use them and why. For subsequent units they will see data in different formats and must be able to choose the presentation of the data for a given situation.</p>	<p>Data presented in any format is useless if it contains inaccuracies so students must know how to validate data on computers and verify data in other formats to ensure the data they use is as accurate as possible.</p>	<p>Students now have an understanding of how to present data and ensure accuracy. Students now look at the different ways that data is collected the benefits and drawbacks of each, and which methods are most suitable in a given situation and why.</p>	<p>Once the data has been collected, students must now learn how to look at factors that might affect the quality of the information.</p> <p>Students must be able to explain what might happen if inaccurate information is used for decision making such as the wrong sample size / demographic mix etc</p>	<p>Students now apply the knowledge on data collection, presentation and accuracy to industries and organisations that use data modelling. This gives students the opportunity to understand how data is used in real life scenarios to model situations that can be used for decision making in actual organisations.</p>	<p>Students look at data collected by organisations studied in the previous topic but focus on how much data is stored, where it is stored and if it being misused.</p> <p>Students then look at how data can be stored safely.</p>