

**Scheme of Learning****Curriculum area: BTEC DIT unit 2: Collecting, Presenting and Interpreting Data****Key Stage: KS4**

| <b>Nº</b> | <b><u>Objectives</u></b>   | <b><u>Lesson Content/Outcomes</u></b>   | <b><u>Prior learning needed</u></b>    | <b><u>Cross curricular</u></b>   | <b><u>Assessment</u><br/>±<br/><u>Resources + Remote Learning</u></b>   |
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| 1         | <ul style="list-style-type: none"> <li>Identify and understand the needs of the unit 2 coursework</li> </ul> | <ul style="list-style-type: none"> <li>Explore how data impacts on individuals and organisations.</li> <li>Develop a dashboard using data manipulation tools.</li> <li>Draw conclusions and make recommendations on data intelligence</li> </ul> <p>Go through course requirements and it is a 30% weighting coursework. It will be internally assessed. Go through the assessment criteria of pass, merit and distinction. Go through the resources available for course and the consequences of plagiarism.</p> | Understanding the course requirements. | Similar to doing internally assessed units in other subject's pupils to have understanding off the expectation when completing work. | <p>Pupils need access to following textbook to complete remote learning:</p> <p>Pearson BTEC Tech Award Digital information Technology Student Book.</p> <p><a href="https://woodgreenacademy633.sharepoint.com/sites/ComputingandICTHub/Shared%20Documents/Forms/AllItems.aspx?viewid=b554f539%2D184f%2D4f86%2Da7ac%2De659bb49fad9&amp;id=%2Fsites%2FComputingandICTHub%2FShared%20Documen">https://woodgreenacademy633.sharepoint.com/sites/ComputingandICTHub/Shared%20Documents/Forms/AllItems.aspx?viewid=b554f539%2D184f%2D4f86%2Da7ac%2De659bb49fad9&amp;id=%2Fsites%2FComputingandICTHub%2FShared%20Documen</a></p> |

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|   |  |   |   |  | <a href="#">ts%2FKS4%2FBTEC%20I</a><br><a href="#">I</a><br>Please access book from above website (sign in using teams) If still having problems email class teacher   |
| <b>Learning aim A: Investigate the role and impact of using data on individuals and organisations</b><br><b>The following lessons will be focused on learning aim A</b> |  |   |   |  |  |
| 2   | Data and information <ul style="list-style-type: none"> <li>Define the key terms data and information</li> <li>Demonstrate an understanding of real life examples of data and information</li> </ul> | Start the lesson with the starter for 10. ( <b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).<br><u>Main</u><br>Pupils need to be able to define and the key terms data and information. Go through the terms and pupils to give examples<br>Pupils will be given some data and they need to carry out the following tasks: <ol style="list-style-type: none"> <li>Using the table , make a list of the data you regularly use</li> <li>Identify how it is organised– for example, by using records and fields</li> <li>Explain what is the raw/ unprocessed data and how can that data become information</li> </ol> | Starter for 10 will be assessed to see pupil’s knowledge of Data and information. | Examples of Data and information from other subjects | Powerpoint presentation.<br><a href="http://www.bbc.co.uk/schools/gcsebitesize/ict/databases/0datainfor-ev1.shtml">http://www.bbc.co.uk/schools/gcsebitesize/ict/databases/0datainfor-ev1.shtml</a><br>Go through pages 72 and 73 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and answer questions on pg 73 |

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|   |   | <p><u>Plenary</u></p> <p>Go through lesson objectives and pupils to explain the difference between data and information.</p>   |  |   |  |
| 3 | <p><u>How to present information</u></p> <ul style="list-style-type: none"> <li>Identify different ways that information can be represented</li> <li>Explain the purpose of different methods of presenting information using real life examples</li> </ul> | <p>The focus of the lesson is how presentation affects our understanding data and information.</p> <p>List the different ways that you can view information? Paired activity (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <p>Tip: (Think about visual techniques)</p> <ul style="list-style-type: none"> <li>Text</li> <li>Numbers</li> <li>Tables</li> <li>Graphs and charts</li> <li>Infographics</li> </ul> <p>Go through the above pupils explaining the different methods of presenting information. Also go through qualitative and quantitative data. (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <p><b>Main session activity</b></p> <ul style="list-style-type: none"> <li>Students are presented with the following data about a boy in Year 10. <ul style="list-style-type: none"> <li>Sanjay has been at Greenwood Academy since he was 11 years old. He has been studying maths, English and IT since Year 7 but he only started taking German in Year 9. On average,</li> </ul> </li> </ul> | Re-cap the lesson with what is data and information. | Go through examples of how information is represented in different subjects e.g. graphs and charts in maths, geography etc. | <p>Powerpoint presentation.</p> <p><a href="http://www.bbc.co.uk/schools/gcsebitesize/ict/databases/0datainfor ev1.shtml">http://www.bbc.co.uk/schools/gcsebitesize/ict/databases/0datainfor ev1.shtml</a></p> <p>Go through pages 74 and 75 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 75</p> |

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|   |   | <p>he has missed four school days a year through sickness. There are progress assessments in every subject twice a term.</p> <ul style="list-style-type: none"> <li>• Students consider the best way to represent data about Sanjay’s absences, and about his progress in maths since Year 7 and in German over the past three months. Students explain their chosen method of representation.</li> <li>• Optional activity – students make an infographic on a topic of their choice, or perhaps a revision infographic for a particular subject.</li> </ul> <p><b>Plenary activity</b><br/>Students give the benefits and drawbacks of presenting data in a variety of different ways, including text, tables, graphs and infographics.</p> |  |   |   |
| 4 | <p><u>Making data suitable for processing</u></p> <ul style="list-style-type: none"> <li>• Define the terms Validation and Verification</li> <li>• Explain how different types of validation can be used to make data accurate</li> </ul> | <p>Starter for 10 – to re-cap previous knowledge of keywords. (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <p>Defining the terms validation and verification. This needs to be done via examples</p> <p>Go through the following validation methods with examples, relate to data in assignment brief:</p>  | <p>Starter for 10 keywords will have keywords associated with making data suitable for processing.</p> | <p>Go through examples of how passwords are used in schools and online.</p> <p>Looking at different validation and verification methods used.</p> | <p>Powerpoint presentation.</p> <p>Go through pages 76 and 77 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 77</p> |

| Name                  | Description  | Example  |
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| <b>Type Check</b>     | Ensures that data entered is of the correct data type.               | Rejecting non-numeric characters when entering a person's age.                 |
| <b>Range Check</b>    | Ensure that data entered falls between a specific range.             | Rejecting numbers that are not between 0 and 100 when entering a percentage.   |
| <b>Length Check</b>   | Ensure that data has a specific number of characters.                | Checking that all digits of a telephone number or post code have been entered. |
| <b>Presence Check</b> | Ensure that some data has been entered (field cannot be left blank). | Checking that email address has been entered when completing a contact form.   |
| <b>Format Check</b>   | Ensure that data matches a specific format                           | e.g. postcode would have the format: LLNN NLL (Letters / Numbers)              |

Pupils to explain all the different validation methods with examples.

Imagine you are creating a web page that would help users register for an online shop.

1. What information do you think would need to be entered to register for the shop?
2. What validation and verification methods could be used to make sure the data entered is as accurate as possible?
3. Sketch out a data input form for the registration and list each of the validation methods along with meaningful error messages for each field that is validated

Plenary – identify and explain the different validation and verification methods.

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Collecting data

- Identify different types of data collection methods

Starter – ask pupils what are the different methods of collecting data?

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|  | <ul style="list-style-type: none"> <li>Explain the types of big data that is collected by organisations</li> </ul> | <p>Go through primary and secondary methods of collecting data.</p> <p>Go through the concept of 'Big data' refers to the way many organisations collect <b>large quantities of data</b>.</p> <p>Main</p> <p>Pupils to be able to discuss the data that is collected about you by social media sites, such as Facebook® or Twitter® (<b>I CAN I WILL: Drive, Risk Taking, and Initiative</b>).</p> <ol style="list-style-type: none"> <li>List <b>what data they collect</b> and <b>how they collect</b> it?</li> <li>Give <b>examples</b> of what they might <b>use the data for</b>?</li> <li>Consider how you might <b>collect data</b> in the following scenarios. You need to decide on: <ul style="list-style-type: none"> <li>the <b>type</b> of data collection (primary or secondary)</li> <li>the <b>method</b> of data collection</li> <li>the <b>size</b> of the sample</li> <li><b>who</b> is in the sample (if relevant)</li> <li><b>when</b> and <b>where</b> the data will be collected (<b>Some</b>)</li> </ul> </li> </ol> <p>Other examples of scenarios to be used:</p> <p><b>Scenarios</b></p> <p><b>A)</b> Find students' opinions about various aspects of the school.</p> | <p>For homework pupils would've looked at different types of data collection methods.</p> | <p>Look at examples of different data collection methods in different industries.</p> | <p>Powerpoint presentation.</p> <p>Go through pages 78 and 79 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 79</p> |
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|   |   | <p><b>B)</b> You are planning to develop a computer game and you want to know what type of games people play the most and what are the most popular devices for game playing.</p> <p>Plenary –</p> <p>Identify and explain the different methods of collecting data.</p>   |   |  |  |
| 6 | <p><u>Why quality is important</u></p> <ul style="list-style-type: none"> <li>Identify the importance of good quality information</li> <li>Explain the factors which affect the quality of information</li> </ul> | <p>Starter for 10 – to re-cap previous knowledge of keywords (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <p><b>Starter</b></p> <ul style="list-style-type: none"> <li>Students work in small groups and discuss what might happen if inaccurate information was used to make decisions.</li> <li>For example, an inaccurate report came out that suggested that cycling was damaging to health. What kind of decisions might be made by governments, local councils and individuals based on that inaccurate information?</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>Students research election polls to try to understand why they have sometimes been wrong.</li> <li>Students create their own poll to try to find out how people would vote on a subject (such as should the legal age of driving be increased, should the age of voting be decreased, etc.).</li> <li>Students hold a secret ballot about their choice and collate the results. Did they match their poll?</li> </ul> | Quality of information will be emphasized in the starter for 10 keywords as a start to the lesson |  | <p>Powerpoint presentation.</p> <p>T:\Department Specific\Computing and ICT\2019-2020\KS4 - option\ICT\BTEC\Component 2\L6</p> <p>Go through pages 80 and 81 of Pearson BTEC Tech Award Digital Information Technology Student Book. Make notes and complete activities on pg 81</p> |

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|   |  | <p>Ensure to focus on following areas on quality:<br/>Why quality is important: source, accuracy, age, completeness, amount of detail, format/presentation and volume</p> <p><b>Plenary activities</b></p> <ul style="list-style-type: none"> <li>• Students think about data that they and their family regularly encounter, such as bank statements, mobile phone bills, gas and electricity bills, Facebook posts, mapping and navigation records, etc.</li> <li>• Students make a list of how the data could be used to make decisions and how the quality of the data might affect those decisions.</li> </ul> |  |   |   |
| 7 | <p>Who uses data modelling?</p> <ul style="list-style-type: none"> <li>• Identify the meaning of the term data modelling</li> <li>• Explain the uses of data models using real life scenarios</li> </ul> | <p>Starter (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <ol style="list-style-type: none"> <li>1. What is a data/ spreadsheet model?</li> <li>2. How could you use a data model to help you buy an expensive item like a new smartphone?</li> </ol> <p>Whilst going through the answers focus on the concept of data modelling.</p> <p>Main</p> <ol style="list-style-type: none"> <li>1. Select one of the sectors from the list below and imagine it needs to make a decision of some kind:<br/><b>(Transport, Education, Banking, Entertainment, Healthcare,</b></li> </ol>                    | <p>Pupils had to research data modelling from last lesson.</p> | <p>Go through how different subject and industries use data modelling.</p> <p>How weather forecasts are done is explained on the Met Office website: <a href="http://www.metoffice.gov.uk">www.metoffice.gov.uk</a></p> | <p>Powerpoint presentation.</p> <p>Go through pages 82 and 83 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 83</p> |



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|   |   | <p><b>Construction, Communication, Health &amp; Safety, Retail &amp; Government) (All)</b></p> <ol style="list-style-type: none"> <li>2. Make a list of the types of data the organisation might want to collect to help it make a decision</li> <li>3. For each item of information you need to list and explain the data collection methods</li> </ol> <p><u>Plenary</u></p> <p>Pupils to identify and explain different data models.</p>   |   |  |   |
| 8 | <p>Threats to Data</p> <ul style="list-style-type: none"> <li>• Assess the impact that misuse of data may have on individuals and organisations</li> <li>• Explain how the GDPR act protects the data of individuals</li> <li>• Understand how identity theft can cause issues for individuals</li> </ul> | <p>Starter for 10 – to re-cap previous knowledge of keywords (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <p>Starter – what are the threats to data?</p> <p>There are many threats to data, these include Privacy, Fraud, Targeting vulnerable groups and inaccurate data.</p> <p>Data is one of the most value sources out there.</p> <p><b>Task:</b> Presentation (2 -3 people all must participate)</p> <p>Find some case studies (looking at the above headings) and suggest how they have impacted on individuals.</p> | <p>Threats to data covered in e-safety and will be covered in unit 3.</p> |  | <p>Powerpoint presentation.</p> <p>Go through pages 84 and 85 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 85</p> |

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|    |  | <p>As above but suggest how these people/organisations can be protected e.g. GDPR Act</p> <p>Evaluate the impact that fraud (data) can have on individuals and organisations.</p> <p>Plenary – what are the different threats to data?</p>  |  |  |   |
| 9  | <p>Data security for individuals</p> <ul style="list-style-type: none"> <li>Identify different types of personal data</li> <li>Demonstrate an understanding of Data protection laws</li> </ul> | <p>Starter</p> <p>How can we protect individuals from threats online?</p> <p>What is Personal Data? Examples?</p> <p>What is GDPR &amp; its requirements?</p> <ol style="list-style-type: none"> <li>1. Research the current <b>data protection</b> law (GDPR) and produce a <b>poster</b> to explain its main requirements</li> <li>2. Explain what <b>Personal data</b> is?</li> <li>3. Explain what <b>GDPR</b> is?</li> <li>4. Explain the <b>main requirements</b> of GDPR?</li> </ol> <p>Plenary – go through lesson objectives</p> | <p>Pupils knowledge of GDPR from previous lesson</p> |  | <p>Powerpoint presentation.</p> <p>Research the current <b>data protection</b> law (GDPR) and produce a <b>poster</b> to explain its main requirements.</p> |
| 10 | <p>Preparation for assessment: recap of Learning aim A</p>   | <p><b>Starter</b></p> <ul style="list-style-type: none"> <li>Teacher recaps topics covered in Learning aim A.</li> </ul> <p><b>Main session activity</b></p>  | <p>Keywords from previous lesson to</p>              |  |   |

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|       |   | <ul style="list-style-type: none"> <li>● <b>Suggested activity 1:</b> evaluate the data collection methods and features used in two different sectors Holiday and super market data. For each chosen sector, students assess the use of primary and secondary data collection methods and data collection features, including: <ul style="list-style-type: none"> <li>○ size of sample</li> <li>○ who was in the sample</li> <li>○ where and when the data was collected</li> <li>○ the methods used.</li> </ul> </li> <li>● In small groups, students make a list of the data that is likely to be collected in the two sectors. For each data item or group of items, students should say how the data is collected and list the features of the data; they should also think of at least one way the data could be used to help the organisation make decisions. (<b>I CAN I WILL: Drive, Risk Taking, and Initiative</b>).</li> </ul> <p><b>Plenary activities</b><br/>Students reflect on how they approached the practice activities, including areas they enjoyed and areas they found more difficult.</p> | check understanding                                  |  | Go through notes made in all previous lessons                            |
| 11-20 | <ul style="list-style-type: none"> <li>● Learning aim A Assignment</li> </ul> | <p><b>Starter</b></p> <ul style="list-style-type: none"> <li>● Teacher introduces assignment brief for Learning aim A and discusses the criteria, explaining the command words used.</li> <li>● Teacher leads a check on understanding of key terminology.</li> </ul>   | Keywords from previous lesson to check understanding |  | Learning Aim assignment brief: A<br><br>Email your class teacher for the |

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|  |  | <ul style="list-style-type: none"> <li>Teacher reminds students that the assignment is formal and must be their own work. Once it has been submitted it cannot be revised or modified. The teacher suggests students make notes to plan their response.</li> </ul> <p><b>Main session activity</b></p> <p>Students complete an assignment in class or for homework.</p>  |  |   | assignment brief and complete. You will also need holiday and supermarket data to complete this  |
| <p><b>Learning aim B: Create a dashboard using data manipulation tools</b></p> <p><b>The following lessons will be focused on learning aim B and spreadsheet practical skills which pupils need for their assignment. More than one lesson can be done together to show skills</b></p> |  |  |  |   |  |
| 2 1  | <p>What is a dashboard?</p> <ul style="list-style-type: none"> <li>Describe the purpose of a Dashboard</li> <li>Create a dashboard design which could be used to display key data</li> </ul> | <p><u>Collect in assignment A</u></p> <p>Hand out starter for 10 keywords for learning aim B.</p> <p>Pupils need to understand what a dashboard is. Going through examples with pupils and explaining to pupils they will be creating a dashboard for learning aim B.</p> <ul style="list-style-type: none"> <li>Discuss the essential features of a dashboard and what benefits they have over other methods of presenting data. Why do people use dashboards? What makes a good dashboard?</li> </ul> <p>Main</p> <ol style="list-style-type: none"> <li>Go to: <a href="https://visual.is/">https://visual.is/</a> &amp; create a free account (First Name &amp; last name initial &amp; School email address)</li> </ol> | At the start of the lesson show pupils images of dashboards. This would lead into the discussion for the lesson. | Dashboards used in maths. Think about the charts and graphs created in maths. | <p>Powerpoint presentation.</p> <p><a href="https://visual.is/">https://visual.is/</a></p> <p>Go through pages 88 and 89 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 89 using excel</p> |

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|     |   | <p>2. Develop a design for a dashboard of your own displaying data on a subject of your choice e.g. for a <b>sports team</b></p> <p>3. <u>Include data such as:</u><br/> The score from the last game they played,<br/> A few recent games presented in a table,<br/> Position in the league table,<br/> The points they have<br/> The details of the next game they will play.</p> <p>By the end of the lesson all pupils should've created a dashboard and understood what a dashboard is and it is used.</p> <p>Plenary – question pupils on what a dashboard is.</p> |   |   |  |
| 2 2 | <p>Importing Data</p> <ul style="list-style-type: none"> <li>Describe different ways we can import data from files</li> <li>Import data using CSV files into a spreadsheet</li> </ul> | <p><u>Starter for 10</u></p> <p>Then start the lesson in discussion to what a dashboard is and what it enables you to do? As this will be the focus for assignment B.</p> <p>Before importing data into a spreadsheet. Pupils to think about following:</p> <p><u>What are the differences between the following?</u></p> <ol style="list-style-type: none"> <li>A Text file</li> <li>A Word file</li> <li>A Spreadsheet file</li> </ol>   | Re-cap from Dashboards from previous lesson | Go through how the following files are used in different subject areas: <ol style="list-style-type: none"> <li>A Text file</li> <li>A Word file</li> <li>A Spreadsheet file</li> <li>What is a CSV file?</li> </ol> | <p>Powerpoint presentation.</p> <p>Go through pages 90 and 91 of Pearson BTEC Tech Award Digital Information Technology Student Book. Make notes and complete activities on pg 91 using excel</p> <p>Using excel in O365 go through following tutorials:</p> |

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|     |   | <p>4. What is a CSV file?</p> <p>Demonstrate how to import data into a spreadsheet file and why we do it.</p> <p>Import data using CSV files into a spreadsheet</p> <p>Students write a step-by-step list on how to import a text file into spreadsheet software. (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <p><u>Plenary</u></p> <p>Discuss how to import data using CSV files into a spreadsheet. Pupils to demo at the front.</p> |   |  | <p><a href="https://edu.gcfglobal.org/en/excel2016/getting-started-with-excel/1/">https://edu.gcfglobal.org/en/excel2016/getting-started-with-excel/1/</a></p> <p><a href="https://edu.gcfglobal.org/en/excel2016/understanding-onedrive/1/">https://edu.gcfglobal.org/en/excel2016/understanding-onedrive/1/</a></p> <p><a href="https://edu.gcfglobal.org/en/excel2016/creating-and-opening-workbooks/1/">https://edu.gcfglobal.org/en/excel2016/creating-and-opening-workbooks/1/</a></p> <p><a href="https://edu.gcfglobal.org/en/excel2016/saving-and-sharing-workbooks/1/">https://edu.gcfglobal.org/en/excel2016/saving-and-sharing-workbooks/1/</a></p> |
| 2 3 | <p>Spreadsheet formulae</p> <ul style="list-style-type: none"> <li>Identify the basic features of a spreadsheet</li> <li>Demonstrate the use of formulas to carry out calculations</li> </ul> | <p>Starter</p> <p>Pupils to make a list of all the spreadsheet formulae and functions are you already familiar with? (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <p>Go through key parts of spreadsheet and using operators to work out formulae.</p>  | <p>Pupils will have knowledge and skills of spreadsheets from previous core lessons</p> | <p>Using formulae to work things out e.g. shopping lists</p> | <p>Powerpoint presentation.</p> <p>Go through pages 92 and 93 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete</p>   |

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|  |  | <ol style="list-style-type: none"><li>1. Identify the basic features of a spreadsheet</li><li>2. Demonstrate the use of formulas to carry out calculations</li><li>3. Create a simple spreadsheet to solve problems using formulas (Activity 2)</li></ol> <p><b>Pupils to complete task sheets</b></p> |  |  | <p>activities on pg 93 using excel</p> <p>Using excel in O365 go through following tutorials:</p> <p><a href="https://edu.gcfglobal.org/en/excel2016/cell-basics/1/">https://edu.gcfglobal.org/en/excel2016/cell-basics/1/</a></p> <p><a href="https://edu.gcfglobal.org/en/excel2016/modifying-columns-rows-and-cells/1/">https://edu.gcfglobal.org/en/excel2016/modifying-columns-rows-and-cells/1/</a></p> <p><a href="https://edu.gcfglobal.org/en/excel2016/formattin-g-cells/1/">https://edu.gcfglobal.org/en/excel2016/formattin-g-cells/1/</a></p> <p><a href="https://edu.gcfglobal.org/en/excel2016/understan-ding-number-formats/1/">https://edu.gcfglobal.org/en/excel2016/understan-ding-number-formats/1/</a></p> <p><a href="https://edu.gcfglobal.org/en/excel2016/working-with-multiple-worksheets/1/">https://edu.gcfglobal.org/en/excel2016/working-with-multiple-worksheets/1/</a></p> <p><a href="https://edu.gcfglobal.org/en/excel2016/using-find-replace/1/">https://edu.gcfglobal.org/en/excel2016/using-find-replace/1/</a></p> |
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| <p><b>2 4</b></p> | <p>Cell referencing</p> <ul style="list-style-type: none"> <li>Describe the term cell referencing</li> <li>Demonstrate the use of absolute and relative cell referencing</li> </ul> | <p>Starter for 10 - (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <p>Re-cap the different functions and operators we looked at last lesson. Pupils to demonstrate at the front</p> <p>Teacher demonstrates and explains the differences between relative and absolute addressing.</p> <p>Pupils will be able to:</p> <ol style="list-style-type: none"> <li>Describe the term cell referencing</li> <li>Demonstrate the use of relative cell referencing</li> <li>Demonstrate the use of absolute cell referencing</li> <li>Demonstrate the replicate function</li> </ol> <p><b>Pupils to complete task sheets in folder</b></p> <p>Plenary – pupils to demonstrate absolute and relative cell references</p> | <p>Pupils will have knowledge and skills of spreadsheets from previous core lessons</p> |  | <p>Powerpoint presentation.</p> <p>Go through pages 94 and 95 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 95 using excel</p> <p>Using excel in O365 go through following tutorials:</p> <p><a href="https://edu.gcfglobal.org/en/excel2016/intro-to-formulas/1/">https://edu.gcfglobal.org/en/excel2016/intro-to-formulas/1/</a></p> <p><a href="https://edu.gcfglobal.org/en/excel2016/creating-more-complex-formulas/1/">https://edu.gcfglobal.org/en/excel2016/creating-more-complex-formulas/1/</a></p> <p><a href="https://edu.gcfglobal.org/en/excel2016/relative-and-absolute-cell-references/1/">https://edu.gcfglobal.org/en/excel2016/relative-and-absolute-cell-references/1/</a></p> |
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| <p>2 5</p> | <p>Decision making functions</p> <ul style="list-style-type: none"> <li>Describe the purpose of IF Functions</li> <li>Create IF functions to solve problems in specific scenarios</li> </ul> | <p>Re-cap the different functions and operators we looked at last lesson. Pupils to demonstrate at the front. (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <ul style="list-style-type: none"> <li>You make choices all the time;</li> <li>If it is raining I will take the bus; if it's not I will walk.</li> </ul> <p>Think of three choices that a shopkeeper might make about the stock and prices in their shop?</p> <ul style="list-style-type: none"> <li>How low should the stock level drop before ordering more?</li> <li>How close to the sell by date should items be discounted?</li> <li>Making choices is a key part of programming a computer and forms part of all automated systems.</li> </ul> <p>Teacher will explain and demonstrate the IF and SUMIF function:</p> <ol style="list-style-type: none"> <li>Pupils will be able to Describe the purpose of IF Functions</li> <li>Pupils will be able to Create IF functions to solve problems in specific scenarios</li> </ol> | <p>Pupils will have knowledge and skills of spreadsheets from previous core lessons</p> | <p>If concept covered in computer science and decision making which takes place everyday</p> | <p>Powerpoint presentation.</p> <p>Go through pages 96 and 97 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 97 using excel</p> <p>Using excel in O365 go through following tutorials:</p> <p><a href="https://www.youtube.com/watch?v=Zs9NuYw-F7k">https://www.youtube.com/watch?v=Zs9NuYw-F7k</a></p> <p><a href="https://www.youtube.com/watch?v=s-QK8Za5Sjl">https://www.youtube.com/watch?v=s-QK8Za5Sjl</a></p> |
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|     |  | <p>3. Pupils will be able to Explain the difference between the IF &amp; SUM IF Functions</p> <p><b>Pupils to complete task sheets in folder</b></p> <p>Plenary – pupils to demonstrate IF function and its purpose</p>   |   |   |   |
| 2 6 | <p>Lookup functions</p> <ul style="list-style-type: none"> <li>Describe the purpose of VLOOKUP functions</li> <li>Demonstrate the use of VLOOKUP functions in Microsoft Excel</li> </ul> | <p>Starter for 10</p> <p>Re-cap – pupils to demonstrate the if function from last lesson and its’ purpose.</p> <p>Start the lesson with following discussion:</p> <p>In small groups, discuss what <b>sort of data</b> you commonly deal with in <b>school or at home</b> that you might want to <b>search for specific things</b> in?</p> <p>From the answers given move on to LOOKUP functions we can use in a spreadsheet.</p> <p>Teacher to demonstrate VLOOKUP and HLOOKUP functions.</p> <p>Then pupils to complete the tasks to demonstrate skills in creating VLOOKUP and HLOOKUP. (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <p><u>Plenary</u></p> | <p>Some pupils will have knowledge and skills of VLOOKUPs fom previous core lessons</p> | <p>Pupils will be familiar with the concept of looking up data. However, not using VLOOKUP and HLOOKUP.</p> | <p>Powerpoint presentation.</p> <p>Go through pages 98 and 99 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 99 using excel</p> <p>Using excel in O365 go through following tutorials:</p> <p><a href="https://www.youtube.com/watch?v=E7gQ-PgYkMc">https://www.youtube.com/watch?v=E7gQ-PgYkMc</a></p> |

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|     |   | <p>Question pupils what VLOOKUP's and HLOOKUPs are used for? Relate to coursework.</p> <p>Students write a step-by-step guide showing how to use both VLOOKUP and HLOOKUP functions, using examples.</p>   |   |   |  |
| 2 7 | <p>Count functions</p> <ul style="list-style-type: none"> <li>Describe the purpose of different COUNT functions</li> <li>Demonstrate the use of COUNT functions in Microsoft Excel</li> </ul> | <p>Re-cap</p> <p>Make a list of all the functions you have previously learned in excel</p> <p>Start the lesson asking pupils what the count function does? Its purpose</p> <p>Then go through its purpose and how demo how to use it.</p> <p>Pupils to complete tasks in folder on count, countblank and count if. (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <p>Plenary</p> <p>Students write a brief description explaining how the COUNT, COUNTIF and COUNTBLANKS functions work.</p> | <p>This would be new function that the pupils would learn</p> | <p>The word Count would enable pupils to understand what the function does.</p> | <p>Powerpoint presentation.</p> <p>Go through pages 100 and 101 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 101 using excel</p> <p>Using excel in O365 go through following tutorials:</p> <p><a href="https://www.youtube.com/watch?v=GHRfXCFUdm8">https://www.youtube.com/watch?v=GHRfXCFUdm8</a></p> |
|     | <p>Logical operators</p> <ul style="list-style-type: none"> <li>Describe the purpose of different Logical</li> </ul>  | <p>Starter for 10</p> <p>Working in pairs, discuss a situation where you might need to apply more than one test or criteria in a particular situation.</p>   | <p>This would be new function that the pupils would learn</p> | <p>AND, OR, NOT operators covered in Computer Science, Maths, D+T</p>           | <p>Powerpoint presentation.</p> <p>Go through pages 102 and 103 of Pearson BTEC</p>  |

|                   | <p>Operators (AND, OR, NOT)</p> <ul style="list-style-type: none"> <li>Demonstrate the use of Logical Operators (AND, OR, NOT) in Microsoft Excel</li> </ul> | <p><u>For Example</u></p> <p>If you are planning a trip to the cinema you need to consider several things:</p> <ul style="list-style-type: none"> <li>Do you have enough money?</li> <li>Can you find a film that everyone likes?</li> </ul> <p>Ask pupils what are Logical Operators? Purpose?</p> <table border="1" data-bbox="595 501 1200 644"> <thead> <tr> <th>Operator</th> <th>Example</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>AND</td> <td>=AND(B3&gt;10, B4&lt;5)</td> <td>Will display TRUE if <i>both</i> B3 is greater than 10 and B4 is less than 5</td> </tr> <tr> <td>OR</td> <td>=OR(B3&gt;10, B4&lt;5)</td> <td>Will display TRUE if <i>either</i> B3 is greater than 10 or B4 is less than 5</td> </tr> <tr> <td>NOT</td> <td>=NOT(B2&gt;10)</td> <td>Will display FALSE if B2 is greater than 10</td> </tr> </tbody> </table> <p>Pupils will be able:</p> <ol style="list-style-type: none"> <li>Describe the purpose of different Logical Operators (AND, OR, NOT)</li> <li>Demonstrate the use of Logical Operators (AND &amp; OR) in Microsoft Excel</li> <li>Demonstrate the use of the NOT operator to solve problems in real life scenarios</li> </ol> <p><u>Plenary</u></p> <p>Pupils to demo the logical operators on the board</p> | Operator | Example                            | Description                     | AND | =AND(B3>10, B4<5) | Will display TRUE if <i>both</i> B3 is greater than 10 and B4 is less than 5 | OR | =OR(B3>10, B4<5) | Will display TRUE if <i>either</i> B3 is greater than 10 or B4 is less than 5 | NOT | =NOT(B2>10) | Will display FALSE if B2 is greater than 10 |  |  | <p>Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 103 using excel</p> <p>Using excel in O365 go through following tutorials:</p> |
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| Operator          | Example  | Description   |          |                                    |                                 |     |                   |  |    |                  |   |     |             |   |  |  |  |
| AND               | =AND(B3>10, B4<5)  | Will display TRUE if <i>both</i> B3 is greater than 10 and B4 is less than 5  |          |                                    |                                 |     |                   |  |    |                  |   |     |             |   |  |  |  |
| OR                | =OR(B3>10, B4<5)   | Will display TRUE if <i>either</i> B3 is greater than 10 or B4 is less than 5   |          |                                    |                                 |     |                   |  |    |                  |   |     |             |   |  |  |  |
| NOT               | =NOT(B2>10)  | Will display FALSE if B2 is greater than 10   |          |                                    |                                 |     |                   |  |    |                  |   |     |             |   |  |  |  |
| <p><b>2 8</b></p> | <p>Sorting Data</p> <ul style="list-style-type: none"> <li>Describe the purpose of Sorting data</li> </ul>   | <p>Starter</p> <ul style="list-style-type: none"> <li>Imagine a library.</li> </ul>   |          | <p>Pupils would understand the</p> | <p>Powerpoint presentation.</p> |     |                   |  |    |                  |   |     |             |   |  |  |  |

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|            | <ul style="list-style-type: none"> <li>Demonstrate the use of Sorting data in Microsoft Excel</li> </ul>   | <ul style="list-style-type: none"> <li>A library has a lot of books for people to read.</li> <li>But how do they know where each book is?</li> <li>In pairs, discuss how a library might organise it's books so that they are easy to locate. (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</li> </ul> <p>Main</p> <p>Demonstrate how to sort data and pupils to practise the skill of sorting on the task sheets provided</p> <p>Plenary</p> <p>What is sorting? Why do we sort data?</p>                   | <p>Pupils will have covered this skill in core lessons</p> | <p>concept of sorting as they would sort data in everyday tasks</p>  | <p>Go through pages 104 and 105 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 105 using excel</p> <p>Using excel in O365 go through following tutorials:</p> <p><a href="https://edu.gcfglobal.org/en/excel2016/sorting-data/1/">https://edu.gcfglobal.org/en/excel2016/sorting-data/1/</a></p> |
| <p>2 8</p> | <p>Filtering Data</p> <ul style="list-style-type: none"> <li>Describe the purpose of Filtering data</li> <li>Demonstrate the use of Filtering data in Microsoft Excel</li> </ul> | <p>Starter for 10</p> <p><u>Starter Activity – in pairs</u></p> <p>Working in small groups, students discuss how they might create a dashboard that displays the units, assignments and grades they have to achieve on this qualification and what kind of data they might what to filter and extract to create the dashboard. (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <p>Main</p> <p>Demonstrate how to filter data and pupils to practise the skill of filtering on the task sheets provided</p> | <p>Pupils will have covered this skill in core lessons</p> | <p>Pupils would understand the concept of filtering as they would filter data and use what they need to.</p> | <p>Powerpoint presentation.</p> <p>Go through pages 106 and 107 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 107 using excel</p> <p>Using excel in O365 go through following tutorials:</p>  |

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|     |   | <p>Plenary</p> <p>What is filtering? Why do we filter data?</p>   |                  |  | <p><a href="https://edu.gcfglobal.org/en/excel2016/filtering-data/1/">https://edu.gcfglobal.org/en/excel2016/filtering-data/1/</a></p>   |
| 2 9 | <p>Editing Text and using outlines</p> <ul style="list-style-type: none"> <li>• Demonstrate the use of Editing Text in Excel</li> <li>• Demonstrate the use of Grouping in Excel</li> </ul> | <p>Starter</p> <p>Spreadsheets can get very cluttered and makes it difficult to find information.</p> <p>Discuss with the person next you how this issue could be resolved.</p> <p>Go through the following four functions on manipulating data</p> <ul style="list-style-type: none"> <li>• <b>LEFT</b></li> <li>• <b>RIGHT</b></li> <li>• <b>LEN</b></li> <li>• <b>FIND</b></li> </ul> <p>Teacher to demonstrate the functions and pupils to practise the skills in the worksheet tasks</p> <p>Plenary</p> <p>Pupils to come to the front and demonstrate the skill</p> | New skill taught | Familiar with function from computer science | <p>Powerpoint presentation.</p> <p>Go through pages 108 and 109 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 109 using excel</p> |

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| 30-31 | Macros | <p>Starter</p> <p>Computer Games all have Unique control sets. Each button or key is set to do a certain thing.</p> <p>What are the advantages of having a control set? (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <p>Main</p> <p>Demonstrate macros and pupils will understand how they work and their purpose</p> <p>Task 1</p> <ul style="list-style-type: none"> <li>● Students create a spreadsheet with four worksheets. The first will be the menu sheet.</li> <li>● Students record or create three macros, which will swap from the menu sheet to Sheet 2, 3 and 4.</li> <li>● Students create three buttons on the menu sheet labelled 'Go to Sheet 2', 'Go to Sheet 3 and 'Go to Sheet 4', and assign the correct macro to each.</li> <li>● Students test the menu works correctly by clicking each button in turn and check that it takes them to the correct sheet. Add a button to each of Sheets 2, 3 and 4 which will return the student to the menu sheet (Sheet 1).</li> </ul> <p>Pupils then to create macros on the activity sheet provided</p> <p>Plenary</p> | New skill taught | Familiar with function from computer science | <p>Powerpoint presentation.</p> <p>Go through pages 110 and 111 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 111 using excel</p> <p>Using excel in O365 go through following tutorials:</p> <p><a href="https://www.youtube.com/watch?v=t3IGUQBNOIs">https://www.youtube.com/watch?v=t3IGUQBNOIs</a></p> |
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|            |  | What is a macro? Why is it used? Demo  |  |  |  |
| <b>3 2</b> | <p>Data Validation</p> <ul style="list-style-type: none"> <li>Describe the term data validation</li> <li>Demonstrate the skill data validation</li> </ul>        | <p>Starter – what is data validation? Where can it be used?</p> <p>Teacher to demo different data validation methods</p> <p>Pupils to practise and complete the tasks</p> <p>Plenary</p> <p>What is data validation?</p> | Pupils will be familiar with the concept data validation from learning aim A | Familiar with function from computer science | <p>Powerpoint presentation.</p> <p>Go through pages 112 and 113 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 113 using excel</p> |
| <b>3 3</b> | <p>Linking spreadsheets</p> <ul style="list-style-type: none"> <li>Explain why we link worksheets</li> <li>Demonstrate the skill linking spreadsheets</li> </ul> | <p>Starter – recall the different validation methods</p> <p>Teacher to demo linking worksheets</p> <p>Pupils to practise and complete the tasks</p> <p>Plenary</p> <p>What is data validation?</p>                       | New skill  |  | <p>Powerpoint presentation.</p> <p>Go through pages 114 and 115 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 115 using excel</p> |



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| 3 4 | <p>Conditional formatting</p> <ul style="list-style-type: none"> <li>Describe the purpose of Conditional Formatting</li> <li>Demonstrate the use of Conditional Formatting in Excel</li> </ul> | <p>Starter - Discuss the benefits of data being colour coordinated. (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <p>Teacher to demo conditional formatting</p> <p>Pupils to practise and complete the tasks</p> <p>Plenary</p> <p>What is conditional formatting?</p>   | <p>This skill has been covered in core lessons</p> |  | <p>Go through pages 116 and 117 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 117 using excel</p> <p>Using excel in O365 go through following tutorials:</p> <p><a href="https://edu.gcfglobal.org/en/excel2016/conditional-formatting/1/">https://edu.gcfglobal.org/en/excel2016/conditional-formatting/1/</a></p> |
| 3 5 | <p>Presentation features and pivot tables/charts</p> <p>Identify the different presentation features</p> <p>Demonstrate the use of pivot tables/charts</p>                                     | <p>Starter - Discuss the different presentation features. (<b>I CAN I WILL:</b> Drive, Risk Taking, and Initiative).</p> <p>Teacher to demo presentation features: font size/style/colour, cell borders/shading, graphics, axis label and titles</p> <p>Then ask pupils what pivot tables are and why we use them?</p> <p>Demo pivot tables</p> |  |  | <p>Go through pages 117 and 118 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on pg 118 using excel</p> <p>Using excel in O365 go through following tutorials:</p>  |

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|       |  | <p>Pupils to practise and complete the tasks on pivot tables</p> <p>Plenary</p> <p>What are pivot tables and why are they used?</p>   |  |  | <p><a href="https://edu.gcfglobal.org/en/excel2016/intro-to-pivottables/1/">https://edu.gcfglobal.org/en/excel2016/intro-to-pivottables/1/</a></p> <p><a href="https://edu.gcfglobal.org/en/excel2016/doing-more-with-pivottables/1/">https://edu.gcfglobal.org/en/excel2016/doing-more-with-pivottables/1/</a></p> |
| 36-50 | <p>Re-cap skills in excel</p> <ul style="list-style-type: none"> <li>Recap excel topics</li> <li>Demonstrate the use of variety of functions in Excel</li> </ul> | <p>In this session pupils to re-cap the different skills learnt in excel</p> <p>Complete tasks independently in preparation for learning Aim B – assignment</p>   |  |  | <p>Contact class teacher for assignment brief B and data</p>  |
|       | <p>Learning Aim B – Assignment</p>   | <ul style="list-style-type: none"> <li>Teacher introduces assignment brief for Learning aim B and discusses the criteria, explaining the command words used.</li> <li>Students should bear in mind that in Learning aim C they will be asked to outline the trends, draw conclusions and make recommendations from their dashboards.</li> <li>Teacher leads a check on understanding of key terminology.</li> <li>Teacher reminds students that the assignment is formal and must be their own work. Once it has been submitted it cannot be revised or modified. Teacher suggests students make notes to plan their response.</li> </ul> |  |  |   |

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|  |   | <p><b>Main session activity</b></p> <p>Students complete an assignment in class or for homework.</p>  |  |  |   |
| <p><b>Learning aim C: Draw conclusions and review data presentation methods</b></p> <p><b>The following lessons will be focused on learning aim C:</b></p> |   |   |  |  |   |
| 5 0  | <ul style="list-style-type: none"> <li>• Drawing conclusions</li> <li>• Making recommendations</li> <li>• Explain how presentation affects understanding</li> </ul> | <p>Assignment C will be about the following :</p> <ul style="list-style-type: none"> <li>• Drawing conclusions from the dashboard</li> <li>• Making recommendations from the graphs</li> <li>• Explain how presentation affects understanding</li> </ul> <p>Therefore in lesson you must go through the following:</p> <ul style="list-style-type: none"> <li>• draw conclusions, make recommendations and review data presentation methods used in your Dashboard</li> </ul> <p>As you go through the powerpoint you can talk through these areas with the pupils.</p> |  |  | <p>Go through pages 130 and 135 of Pearson BTEC Tech Award Digital information Technology Student Book. Make notes and complete activities on each of the pages</p> |
| 51-60  | <p>Assignment C</p> <p>Formal assignment</p>  | <p><b>Starter</b></p> <ul style="list-style-type: none"> <li>• Teacher introduces assignment brief for Learning aim C and discusses the criteria, explaining the command words used.</li> <li>• Teacher leads a check on understanding of key terminology.</li> <li>• Teacher reminds students that the assignment is formal and must be their own work. Once it has been submitted it</li> </ul>   |  |  |   |

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|  |  | <p>cannot be revised or modified. They suggest students make notes to plan their response.</p> <p><b>Main session activity</b></p> <p>Students complete an assignment in class or for homework.</p> |  |  |  |
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