**Digital Technology**

**Year 7**

| SOW | Topic 1: Image Manipulation | Topic 2: Spreadsheet Modelling | Topic 3: HTML | Topic 4: DTP |
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| Knowledge | * Know when to use and apply a range of tools in Inkscape (Shapes, Nodes, Colour, Text). * Describe the importance of annotation in a design. * Know what a visualisation diagram is. * Explain the concept of SOAP. * Why feedback is an important part of the creation of a digital product. | * Name 5 parts of a spreadsheet. * Name 4 tools that are part of a spreadsheet. * Explain what happens when you change data within a cell. * Describe how a formula works. * Understand the difference between formulae and functions. * Describe how to use the SUM formula. | * Describe why hex colour codes are used. * Explain why a picture size would need to be adjusted. * Describe the purpose of using <html>, <head>, <title> and <body>. * Define what a URL is. * How to use a range of HTML formatting tags (<b>, <h1>. <u>, <p>, hr>). | * Define the term “DTP”. * Explain why DTP is used to create promotional material. * Explain why the balance of white space is important. * Describe why Loren Ipsum is used when designing DTP documents. * How to use and apply a range of tools in appropriate DTP software (text box, images, house style, shapes, pages). |
| Skills | * Manipulate basic shapes to create an image for a given purpose. * Use appropriate colours and filters to enhance image. * Apply a variety of colour gradients to an image. * Export an image to an appropriate format. * Evaluate a completed image, explaining the choice of tools to meet the design decisions. * Be able to select and apply text so that it meets the needs of SOAP. | * Use +, - \* and / in a formula. * Use relative cell references within a formula. * Format individual cells to a specific data type. * Create a graph and add titles and labels. * Design a spreadsheet model. * Use goal seek to find out the minimum ticket price. | * Apply the tags <html>, <head>, <title> and <body> in the right order and similarly with the corresponding closing tags. * Apply a range of formatting tags (such as <b>, <h1>, <u>, <p>, <hr>) * Describe the role of each tag. * Apply colour to text using hex colour codes. * Insert an image into a webpage. * Adjust the size of the image by changing the height and the width of the picture. | * Can create appropriate documents related to the scenario (flyer, business card, leaflet). * Apply Loren Ipsum when designing DTP documents. * Use a range of features and tools in to DTP software (text box, images, house style, shapes, pages). |
| Tier 3 Vocabulary | Node  Palette  Swatch  Gradient  SOAP  Vector  Bitmap  Pixel  Bézier  Annotation | Income  Costs  Profit  Revenue  Data Type  Validation  Function  Formula  Expenditure  Ascending | HTML  URL  Tag  Angle Brackets  Browser  Hexadecimal  Header  Hyperlink  Format  Font | DTP  Publishing  Flyer  White Space  Loren Ipsum  Copyright  Indent  Tab  Alignment  Justification |

**Year 8**

| SOW | Topic 1: Big Data | Unit 2: Animation | Unit 3: Databases | Unit 4: Ethics |
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| Knowledge | * Define the term “Data”, “Information” & “Big Data”. * Describe the process Data turns into Information. * Describe one example of how Big Data is used by society. * Describe the four different types of questions that can be used in a questionnaire. * Describe the use of questionnaires, email, sensors, interviews, consumer panels, & loyalty schemes to collect data. * Describe the use of barcode readers, QR codes, wearable tech. * Explain how the data can be stored using the cloud. | * Describe how an animation is made of keyframes. * Explain that frames are combined using a process called tweening. * Describe two advantages of using computerised animation. * Describe two disadvantages of using computerised animation. * Describe the use of a range of tools in Blender (Mesh, Surface, Text, Camera). | * Describe the components of a database, e.g., records and fields. * Define the term “database”. * Describe two advantages of using a database. * Describe two disadvantages of using a database. * Explain the role of a primary key. * Describe the difference between a flat-file database and a relational database. | * Describe what GDPR is and how it protects our data. * Describe what the Computer Misuse is. * Define the term “Digital Footprint”. * Describe two ways technology can affect our wellbeing. * Describe two ways technology can impact our culture. * Describe two ways technology can change the way we work. |
| Skills | * Create a suitable questionnaire using a range of question types. * Analyse the results of a questionnaire describing any potential issues. | * Insert basic shapes and move then on the x, y and z axis. * Apply colour and textures to shapes. * Manipulate a basic shape to create an animation. * Insert frames and edit the tween. | * Set up a database on my own. * Use keywords effectively to search the database. * Allocate a field to be the primary key. * Allocate appropriate datatypes to the fields. | * Create a simple site with 6 pages. * Insert text, videos and images with a clear layout to meet the criteria. * Create a menu so that the viewer can easily navigate the site. |
| Tier 3 Vocabulary | Data  Information  Data Type  Internet of Things  Questionnaire  Primary Research  Secondary Research  Quantitative  Qualitative  Statistics | Concave Face  Convex Face  Edge  Face  Gimbal  Pivot Point  Render  Vertices  Keyframe  Smoothing | Field  Data Type  Primary Key  Entity  Wildcard  Database  Flat-File Database  Relational Database  Query  Record | Bias  Prejudice  Hacking  Malware  Virus  Identity Fraud  Phishing  Spyware  Digital Divide  Ergonomics |

**Year 9**

| SOW | Topic 1: Graphics | Topic 2: Augmented Reality | Topic 3: Spreadsheet Modelling | Topic 4: Cyber-Security Attacks |
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| Knowledge | * Know when to use and apply a range of tools in Inkscape (Shapes, Nodes, Opacity, Text). * Describe the importance of annotation in a design. * Know what a visualisation diagram is. * Why feedback is an important part of the creation of a digital product. | * Describe the difference between AR and VR. * Describe how AR can be used for two different purposes and includes an example with each purpose. * Describe two advantages of using AR. * Describe two disadvantages of using AR. * Explain what a visualisation diagram is. * How to use and apply a range of tools in XR+ (scenes, states, actions, animations) | * Describe the difference between a formula and a function * Describe the purpose of a range of formulae and functions in a spreadsheet (COUNTIF, IFS, IF) * Describe two benefits of applying conditional formatting to cells in a spreadsheet. * Describe one way cell protection is applied in a spreadsheet. | * Explain three different methods of performing a cyber-security attack. * Explain four different malware types including how they work. * Explain two different social engineering methods including how they work. * Describe how three different vulnerabilities can be exploited using examples. * Explain three different methods of preventing a cyber-security attack using relevant examples. * Discuss the impact of cyber-security attacks from two different perspectives. * Describe one strength and one weakness of three different methods of preventing data leaks. |
| Skills | * Manipulate complex shapes to create an image for a given purpose. * Edit and apply appropriate colours and filters to enhance an image. * Export an image to an appropriate format. * Evaluate a completed image, explaining the choice of tools to meet the design decisions. | * Use appropriate triggers to enhance a prototype. * Import and manipulate images to create a prototype. * Preview your prototype to ensure it looks suitable on all three axes. * Create a suitable visualisation diagram for a prototype. | * Apply a range of functions to a spreadsheet (COUNTIF, IF, IFS). * Apply conditional formatting to selected cells in a spreadsheet. * Import images into a spreadsheet. * Apply cell protection to selected cells in a spreadsheet. | * Create a suitable site. * Insert text, videos and images with a clear layout to meet the criteria. * Create an interactive menu that links to pages so that the viewer can easily navigate the site. |
| Tier 3 Vocabulary | Node  Palette  Swatch  Gradient  SOAP  Vector  Bitmap  Pixel  Bézier  Annotation | Action  Anchor  Behaviour  Trigger  Surface  Augmented Reality  Virtual Reality  Asset  Layer  Prototype | COUNTIF  Validation  Conditional Formatting  IF Statement  Alignment  Cell Protection  Cell Reference  Parentheses  Boolean  IFS Statement | Malware  Social Engineering  Hacking  Pharming  DDoS  Adware  Polymorphic Malware  Vishing  Backdoor  Backup |