**Digital Technology**

**Year 7**

| SOW | Topic 1: Image Manipulation | Topic 2: Spreadsheet Modelling | Topic 3: HTML | Topic 4: DTP |
| --- | --- | --- | --- | --- |
| 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 | NodePaletteSwatchGradientSOAPVectorBitmapPixelBézierAnnotation | IncomeCostsProfitRevenueData TypeValidationFunctionFormulaExpenditureAscending | HTMLURLTagAngle BracketsBrowserHexadecimalHeaderHyperlinkFormatFont | DTPPublishingFlyerWhite SpaceLoren IpsumCopyrightIndentTabAlignmentJustification |

**Year 8**

| SOW | Topic 1: Big Data | Unit 2: Animation | Unit 3: Databases | Unit 4: Ethics |
| --- | --- | --- | --- | --- |
| 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 | DataInformationData TypeInternet of ThingsQuestionnairePrimary ResearchSecondary ResearchQuantitativeQualitativeStatistics | Concave FaceConvex FaceEdgeFaceGimbalPivot PointRenderVerticesKeyframeSmoothing | FieldData TypePrimary KeyEntityWildcardDatabaseFlat-File DatabaseRelational DatabaseQueryRecord | BiasPrejudiceHackingMalwareVirusIdentity FraudPhishingSpywareDigital DivideErgonomics |

**Year 9**

| SOW | Topic 1: Graphics | Topic 2: Augmented Reality | Topic 3: Spreadsheet Modelling | Topic 4: Cyber-Security Attacks |
| --- | --- | --- | --- | --- |
| 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 | NodePaletteSwatchGradientSOAPVectorBitmapPixelBézierAnnotation | ActionAnchorBehaviourTriggerSurfaceAugmented RealityVirtual RealityAssetLayerPrototype | COUNTIFValidationConditional FormattingIF StatementAlignmentCell ProtectionCell ReferenceParenthesesBooleanIFS Statement | MalwareSocial EngineeringHackingPharmingDDoSAdwarePolymorphic MalwareVishingBackdoorBackup |