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| **Year 3 – Autumn – What did Prehistoric people yabba dabba do?*** Read and write binary code for letters and numbers

DL3 CS3 | **Key vocabulary:**Binary: language understood by computers using 0s and 1sAscii: code written using binaryDecipher: Interpret informationPlace value: maths link Ones, Tens etc.Identify: Find informationCommands: parts of an algorithm that explain what to doCode: commands put together to create an algorithm using a piece of software | Unit 1 of 2 |
| **Objective and Success Criteria**  | **Coverage** | **Key Questions**  | **Children should be able to** | **Resources** |
| To understand binary code | * Understand what binary code if used for
* Understand that computers don’t understand language in the same way as humans
* Understand how the code is used to create commands
 | What uses binary code?How can you create commands using binary? | * Recognise binary code strings
* Known when and why they are used
 | [Twinkl binary resources](https://www.twinkl.co.uk/resource/cfe2-d-57-computer-coding-resource-pack)[Binary numbers](https://kids.kiddle.co/Binary_number)[Practical lesson](https://kidssteamlab.com/birthday-binary-code-kids/) |
| To read and write using binary letter code | * WRITE:
* Identify binary code for letters
* Create strings of code to represent commands
* READ:
* Identify where to create breaks in the code
* Identify the 8 digit codes
* Identify the letter represented by the code
 | What are the 8 digit blocks?How can you identify the letters from the blocks?How do you create a command using binary code strings? | * Break binary code strings into blocks and read them
* Create binary blocks and create strings to program commands
 |
| To read and write using binary number code | * Understand the difference between base 10 and base 2 in place value
* Identify the place value of each digit
* Identify the numbers represented in the code
* Add together the numbers to find the binary code number
* Break down numbers into place values and create binary code
 | What are the place values?How can you read the number?What place values can you use to create a number? | * Identify the place values in a binary block
* Identify the numbers to add together and find the value of the block
* Break numbers into place values and add 0 or 1 to a binary block to represent a number
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| **Assessment Questions**Can you read and write binary code in blocks and strings?Can you identify place values and add them to identify a binary number? |

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| **Year 3 – Autumn – What did Prehistoric people yabba dabba do?*** Record digital images
* Upload them and ask for feedback from the audience
* Evaluate the effectiveness of the feedback

DL1 IT2 SO4 | **Key vocabulary:**Network: two or more computers linked so they can share filesUpload: Adding a file to the internetNavigate: moving around a digital system to find informationSearch: Finding digital information using a digital requestCreate: use a digital device to make a fileDecipher: Interpret informationCommunicate: passing of information between people of devices | Unit 2 of 2 |
| **Objective and Success Criteria**  | **Coverage** | **Key Questions**  | **Children should be able to** | **Resources** |
| To use a device to record a digital image | * Use a digital device to record photographs of art work
* Explore different angles and lights to understand how they impact on the quality of the picture
 | How can you record the image?Which image will give the audience the most information about your work? | * Take a photograph using a digital device (one that can connect to the internet e.g. IPad)
* Take numerous photographs and then evaluate which is best for viewing the work
 | IPadsTwitter |
| To upload a digital image to the internet | * Access the website from the digital device
* Understand how to access the area of the site to upload the photograph
* Understand how to add information to the photograph to explain to the audience the purpose of the upload
 | How can you retrieve the image?What part of the site do you need to access to upload the image?How do you upload the image?What additional information do you need to include? | * Upload the image to a website or internet based program (e.g. Twitter or Purple Mash)
* Add information explaining to the audience why you have uploaded it
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| To navigate an internet based site for information | * Explore the website for information left by users
* Evaluate the usefulness of the feedback left by users
* Share the information gained with others
 | How can you identify the information left by other users?Is the information useful for adapting your work?How can you share that with others? | * Identify their image from others
* Read the feedback and decide if it is practical to follow it
* Share information with other children as to how effective the feedback was
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| E-SafetySkill: Online behaviourHarm: Grooming, unsafe communication, online vs offline behaviour | * Discuss why people communicate differently in person than online
* Discuss how people may attempt to make inappropriate contact with children over the internet and how to recognise this
* Discuss how strangers may try to create a personal connection
 | Would your comment be acceptable to say in front of other people?Is the person asking for information from you that they don’t need? | * Identify when someone is asking for inappropriate information.
* Identify when someone is trying to make a personal connection
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| **Assessment Questions**Can you take a digital image that allows the audience to clearly see your work?Can you upload it to a website and read the feedback given by the audience?Evaluate the effectiveness of feedback given? |

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| **Year 3 – Spring – Could we exist without water?*** Decide on information to be recorded
* Input the information in the database
* Evaluate information

IT1 IT3 | **Key vocabulary:**Information: data that is recordedRecording: saving data for use laterCategories: groups created from characteristicsStandard format: data recorded in the same way to allow comparisonDatabase: program to store, access, search and manipulate informationRow: groups of cells from left to rightColumn: groups of cells from top to bottomCells: one part of the database where information can be recorded or calculations createdEvaluate: think about and discuss what the data tells the user |
| **Objective and Success Criteria**  | **Coverage** | **Key Questions**  | **Children should be able to** | **Resources** |
| To understand what information needs to be recorded | * Linked to DT
* Discuss the different materials that could be used to create the boats
* Identify their properties and create categories (e.g. rigidity)
* Develop a standard way of recording the information (e.g. scale of 0 to 3)
* Explore why information needs to be stored and why it needs to be stored in a standard format
 | What information needs to be recorded?How are you going to record it?Why do you need to record it using a standard format? | * Identify categories for the materials
* Create a standard format for recording the information
* Explain why they need to record the information in a standard format
 | Microsoft Excel |
| To enter information into a database | * Create a database using the categories as columns and materials in rows
* Evaluate the materials using the different categories
* Decide on what information will be recorded on the database
* Identify the correct material row and category column, then enter the information
 | What is a column and what is a row?What information are you recording?How are you going to enter the information? | * Create a database with columns and rows labelled
* Identify correct columns and rows
* Enter information into cells
 |
| To evaluate information in a database | * Identify a category you want to evaluate
* Compare the information recorded
* Create statements based on the data (e.g. paper is more rigid than felt)
* Create predictions based on the statements (e.g. as paper is more rigid than felt I think that it will retain the shape of the boat better)
* Use the evaluations to decide which materials to use in building a boat
 | What category are you going to evaluate?What statement can you make from the data?What prediction can you make from the data? | * Identify categories and compare the information for each material
* Create statements and predictions from the data
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| **Assessment Questions**Why do you need to record information in a standard format?How can you use the information to help design a product? |

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| **Year 3 – Summer – How can we help protect our planet*** Prepare the message
* Create a new email
* Enter the sending information accurately
* Sending an email

DL2 DL3 | **Key vocabulary:**Message: Information to be passed to another personEmail: Electronic messageServer: A computer designed to store information and connect to user’s computersUser interface: the part of the software that the user interacts withRecipient: the person the message / email is intended for |
| **Objective and Success Criteria**  | **Coverage** | **Key Questions**  | **Children should be able to** | **Resources** |
| To understand how emails work | * Explore the basic principles of email
* Explore the @ address and how this is used to direct the email to the correct server
* Explore how the server knows who the email is directed to e.g. bob@work.com
* Explore how users contact the server to access their emails
 | How does an email travel from one account to another? | * Explain the basic principles of how emails are sent and received
 | [How email works](https://www.howtogeek.com/56002/htg-explains-how-does-email-work/)Children’s email accounts or year group account |
| To communicate via email | * Explore the user interface of an email account and discuss how to compose a message
* Compose the message
* Ensure the sending address is correct before sending
 | How do you compose a message?How do you ensure it is sent to the correct recipient | * Compose an email
* Send it to a recipient
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| **Assessment Questions**How do emails work?How do you send an email to a recipient |