# Walkeringham Primary School Computing Substantive Knowledge




## KS1

## 2026-2027

### Autumn

**Online Safety**

- Know what a 'digital footprint' means
- Know that people can use the information they put online
- Identify keywords that will give good search results
- Use a website to search information
- Begin to identify websites suitable for their age
- Know when to ask an adult for advice
- Give their opinion about a website
- Say what they like about a website
- Begin to consider who a website could be aimed at
- Identify unkind behaviour online

**Using the Internet**

- Search using the words 'for kids'
- Follow a weblink
- Locate the school website and class dojo
- Understand how to write online safely
- Identify search results that will give some useful information
- Know where to find the address of a link
- Log in to class dojo and post or comment

### Spring

**Preparing for Turtle Logo**

- Walk forward a number of steps
- Turn accurately 90 degrees (a quarter turn)
- Give and follow instructions
- Write an algorithm for a shape or a route
- Debug errors in an algorithm

**Programming Turtle Logo and Scratch**

- Draw lines of different lengths using the fd command
- Move blocks into the Scripts Area
- Snap blocks together to combine commands
- Turn the turtle using rt 90 and lt 90
- Draw squares and rectangles
- Create simples algorithms using a number of different blocks
- Use the repeat and green flag blocks to control algorithms

### Summer

**Computer Art**

- Access an appropriate program for achieving a specific task
- Switch between program tools to produce different techniques
- Alter the formatting of a tool to adjust the colour or size
- Recreate a piece of art using a computer program
- Manipulate shapes and objects to recreate an art style

**Using and Applying**

- Find and open software for creating computer art
- Retrieve/open a file from a saved location
- Select a relevant backdrop and character within scratch
- Add a second character and position on the backdrop within scratch
- Control the curser to produce different effects (dots/lines on paint)
- Make characters move within scratch

| | | | | | |
|---|---|---|---|---|---|
| • Know how to safely search for information online<br>• Choose appropriate websites for their age<br>- Covered in PSHE | | | | | • Reproduce an image using a particular artistic style<br>• Compare different styles of computer art<br>Use Microsoft PowerPoint with support |

| KS1 | | | | | |
|---|---|---|---|---|---|
| 2027-2028 | | | | | |
| **Autumn** | | **Spring** | | **Summer** | |
| **Online Safety**<br>• Type their name and date on a piece of work they have created<br>• Open a web browser<br>• Recall some SMART rules for internet safety<br>• Know who to tell if someone online asks for personal information<br>• Understand why email is a good way to communicate<br>• Make links between the online and offline world | **Computer Skills**<br>• Click and drag with a mouse or track pad<br>• Switch on and shutdown a computer independently<br>• Launch an application by double clicking it<br>• Log on and log off a computer independently<br>• Manipulate an application window by | **Word Processing Skills**<br>• Begin to type with two hands<br>• Use shift, space and enter correctly<br>• Use undo and redo<br>• Make text bold, italic or underline<br>• Save their work to a folder<br>• Edit text using backspace, delete and arrow keys<br>• Format the font<br>• Select singe words<br>• Have some knowledge of the location of letters | **Painting**<br>• Paint with different colours<br>• Paint with different brushes<br>• Create shapes<br>• Save their painting in their folder<br>• Fill and area with a colour<br>• Undo and redo<br>• Add text<br>• Format text<br>• Resize text and images | **Programming Toys**<br>• Create step-by-step instructions using pictures<br>• Write and follow detailed instructions using pictures<br>• Direct a Bee-Bot<br>• Program a Bee-Bot<br>• Say what an algorithm is<br>• Say why it is important to be precise when writing an algorithm<br>• Check their work for mistakes (debug) | **Using and Applying**<br>• Turn on a computer and open an application<br>• Type letters and symbols<br>• Format text in different ways (bold, italic, underline)<br>• Draw different shapes using paint software<br>• Use a brush in a paint application and change the size and colour<br>• Click, double-click and drag objects |

| | | | | | |
|---|---|---|---|---|---|
| • Recognise which personal information they should keep from strangers<br>• Help construct an email<br>• Save images to a folder<br>- Covered in PSHE | moving and resizing it<br>• Confidently double click with a mouse or trackpad<br>• Save their work independently to a folder | and symbols on the keyboard<br>• Select text in different ways | | • Start their programming sequence again if they need to<br>• See how a product changes when they change instructions | • Save and open files<br>• Make shapes they desire<br>• Position shapes correctly<br>• Select and compare different brush types<br>• Move, resize, minimise and restore windows<br>• Use Microsoft PowerPoint with support<br>• Select text and changes the size, type and colour<br>• Undo and redo effectively<br>• Edit text using the arrow keys and delete or backspace buttons |
| **LKS2** | | | | | |
| **2026-2027** | | | | | |
| **Autumn** | | **Spring** | | **Summer** | |
| **Online Safety**<br>• Define cyberbullying<br>• Know how to respond to a hurtful message or comment online | **Word Processing**<br>• Select, edit and manipulate text in different ways<br>• Insert an image into a document | **Animation**<br>• Explain what is meant by animation<br>• Create a series of linked fames that | **Programming Turtle Logo**<br>• Write procedures | **Scratch: Questions and Quizzes**<br>• Write a program which accomplishes a specific goal | **Using and Applying**<br>• Design and create an original character using |

| | | | | | |
|---|---|---|---|---|---|
| • Access a trusted search engine<br>• Understand that different search terms give different results<br>• Know what plagiarism is<br>• Identify which information to keep private online<br>• Explain what digital citizen ship is<br>• Identify comments or message that may be harmful to others<br>• Edit their own messages and comments to make sure they are kind<br>• Understand that search results are ranked<br>• Choose an appropriate number of words for a search term<br>• Explain how to use other people's work respectfully | • Format an image<br>• Use formatting tools to improve the layout<br>• Use the spellcheck tool<br>• Insert a simple table<br>• Change the size of the page<br>• Change the layout by using the column tool<br>• Change the orientation of the page<br>• Copy the URL that they need<br>• Use some of the main keyboard shortcuts<br>• Apply specific effects to an image<br>• Add a spelling to the spelling dictionary<br>• Add or delete rows or columns in a table | can be played as a short animation<br>• Control and adjust a time slider to locate a different point in a film clip<br>• Insert images to create a simple stop motion animation short film clip<br>• Evaluate the advantages and disadvantages of some animation software<br>• Describe one or more traditional methods of animation<br>• Make slight changes to an image using onion skinning, understanding the term<br>• Edit and refine images in a stop motion animation short film clip | using simple algorithms<br>• Change the colour of the pen<br>• Write text using the label command<br>• Draw shapes using applications<br>• Fill shapes in different colours<br>• Draw arcs of different sizes as required<br>• Create sophisticated algorithms and procedures<br>• Include procedures with variables | • Create a program that includes a logical sequence<br>• Debug a program they have written<br>• Use repetition and selection<br>• Work with variables and adjust these depending on the effect they wish to create<br>• Understand and use the duplicate function<br>• Demonstrate that they understand how to combine a range of different effects to create their own quiz | appropriate software<br>• Use appropriate software to tell a story involving their new cartoon character<br>• Use other software to create an additional description or other material linked to their character<br>• Combine software to present information about their character |

| | | | | | |
|---|---|---|---|---|---|
| **LKS2** | | | | | |
| **2027-2028** | | | | | |
| **Autumn** | | **Spring** | | **Summer** | |
| **Online Safety**<br>• Recognise cyberbullying and know what to do if they experience or witness it<br>• Identify a safe person to tell if they encounter cyberbullying<br>• Know that cyberbullying can happen via a range of devices<br>• Identify adverts online<br>• Identify targeted adverts<br>• Assess the reliability of online information<br>• Create a strong password<br>• Explain why a strong password is important<br>• Explain what privacy settings are<br>• Know what kind of information is personal and should not be shared online. | **Internet Research and Communication**<br>• Identify what the intent is and how it works<br>• Identify how packets of data move along routes and the different connections that can be used<br>• Use a search engine to find information and implement strategies to improve results when searching online, including key words<br>• Know how to cross-reference using tabs and can identify reliable links through looking for a secured padlock in the URL address bar | **Word Processing**<br>• Use undo and redo<br>• Make text bold, italic and underline<br>• Select text in different ways<br>• Change case<br>• Align text<br>• Select single words<br>• Cut, copy and post<br>• Format the font<br>• Insert images<br>• Copy a screenshot into another application use a secure password<br>• Use <ctrl> keyboard shortcuts<br>• Use an effective layout<br>• Use the snipping tool | **Programming Turtle Logo and Scratch**<br>• Create and debug algorithms to draw regular polygons using the repeat command/ block (Turtle Logo and Scratch)<br>• Draw shapes with spaces between using penup and pendown (Turtle Logo)<br>• Change and later the pen settings (Scratch)<br>• Draw regular polygons using Logo to calculate the angle (Turtle Logo)<br>• Create and debug algorithms to draw patterns by repeating regular polygons (Scratch) | **Drawing and Desktop Publishing**<br>• Draw objects<br>• Insert text boxes<br>• Order and group objects<br>• Move, resize and arrange text boxes and images effectively<br>• Manipulate objects<br>• Create a layout of objects with no unnecessary space using colour and font effectively | **Using and Applying**<br>• Draw and design images and import them to other software such as word processing, desktop publishing and paint<br>• Research and use appropriate information and images using the internet<br>• Use effective design and layout in a Microsoft PowerPoint presentation<br>• Present information on a particular subject including accompanying materials |

| | | | | | |
|---|---|---|---|---|---|
| • Discuss email as a form of communication<br>• Identify an email they should not open<br>• Write an email with an address and subject<br>• Know how to safely send and receive and email.<br>• Identify online communities they are part of<br>• Identify different forms of online communication<br>• Discuss positives and negatives of the internet and online communities<br>• Explain ways to communicate safely online and identify ways to get support if they do not feel safe | • Know how to bookmark or favourite appropriate web pages<br>• Use a search engine to copy and paste images across a blank document | | | | |

| UKS2 | | | | | |
|---|---|---|---|---|---|
| **2026-2027** | | | | | |
| **Autumn** | | **Spring** | | **Summer** | |
| **Online Safety**<br>• Identify a spam email<br>• Explain what to do with spam email<br>• Understand why they should cite a source | **Radio Station**<br>• Record and play their own sounds in recording software<br>• Import an existing sound | **Flowol**<br>• Follow written instructions to draw a simple flowchart<br>• Insert symbols into a flowchart | **Scratch: Developing Games**<br>• Move and edit blocks as part of an algorithm | **3D Modelling: Sketch Up**<br>• Draw 2D shapes or lines<br>• Draw simple 3D models | **Using and Applying**<br>• Use search engines safely to research a new bedroom design |

| | | | | | |
|---|---|---|---|---|---|
| • Explain the rules for creating a strong password<br>• Create a strong password using a set of rules<br>• Know that not everything they seen online is true<br>• Explain how to stay safe online<br>• Identify unsafe online behaviour<br>• Identify a dangerous spam email<br>• Create multiple strong passwords for use across different platforms<br>• Sport citations online<br>• Alter photographs | file into recording software to play<br>• Choose appropriate software for sound recording<br>• Plan and record a radio advert<br>• Listen to and improve their own recordings by re-recording<br>• Locate and download existing sound files to be imported into recording software<br>• Combine two or more tracks to make a new, original recording<br>• Plan and record appropriate audio content for a podcast<br>• Evaluate what features makes good quality audio content | • Add inputs into a flowchart<br>• Identify conventional symbols, understanding the process of each stage<br>• Create a program to control a simple sequence<br>• Modify symbols in a flowchart for effect<br>• Create flowcharts for multiple inputs and outputs<br>• Use decisions and subroutines<br>• Program inputs and outputs | • Program an algorithm as a sequence of game instructions with actions and consequences<br>• Add additional effects and features, such as sound or point scoring, to enhance the appeal of the game they make | • Manipulate 2D shapes into 3D shapes<br>• Import 3D models from the 3D warehouse<br>• Use a range of SketchUp tools including shape, push, pull, orbit, pan, zoom, erase and fill<br>• Draw and manipulate 3D models independently<br>• Use inference points to draw lines and shapes<br>• Use a wide range of SketchUp tools and concepts including: the dimensions toolbar and guides, tape measure, zoom extents and the 3D warehouse | • Use appropriate software to create and present plans for a new bedroom |

| | | | | | |
|---|---|---|---|---|---|
| **UKS2** | | | | | |
| **2027-2028** | | | | | |
| **Autumn** | | **Spring** | | **Summer** | |
| **Online Safety**<br>• Explain the benefits and risks of the internet and why it is important to look after their own digital wellbeing<br>• Say what bullying and cyberbullying are<br>• Say how people should deal with cyberbullying<br>• Understand why they should ask an adult if they are unsure<br>• Identify the warning signs that a website might not be secure<br>• Explain that not all online information is true<br>• Identify personal information | **Scratch: Animated Stories**<br>• Select appropriate sprites to fit within a scene and use costume changes for motion effect<br>• Use the broadcast message and receive block to structure and control the timing of events<br>• Insert the show and hide block into a algorithm and locate the correct place to make a sprite appear visible<br>• Select appropriate sprites and | **Spreadsheets**<br>• Enter text and numbers into a spreadsheet<br>• Identify and refer to cells by row and column<br>• Begin to enter formulae with the SUM function<br>• Edit data and discuss the effect on results<br>• Use further functions including AVERAGE, MIN and MAX<br>• Create graphs<br>• Design their own spreadsheet for a specific purpose | **Kodu Programming**<br>• Open Kodu and navigate the programming environment using keyboard or mouse<br>• Add objects to a word and program them using When and Do instructions<br>• Plan and design the features of an original virtual environment<br>• Program a character to move around a tract<br>• Create a path for a character to follow<br>• Follow instructions | **Film Making**<br>• Plan and write a script using appropriate software<br>• Search for relevant information using appropriate websites<br>• Use a device to record<br>• Plan suitable questions to ask an interviewee<br>• Import video files into video editing software<br>• Plan additional elements for film-making such as locations and props<br>• Evaluate whether information is reliable or not | **Using and Applying**<br>• Present research on game types to inform planning<br>• Use Scratch or Kodu to create a simple game<br>• Design appropriate materials to launch or promote a product using spreadsheets, film-making, Microsoft PowerPoint and Word |

| | | | | | |
|---|---|---|---|---|---|
| • Identify the risks and benefits of social media<br>• Recognise the signs of inappropriate and harmful online relationships<br>• Explain what to do if they are asked or told something online that makes them uncomfortable<br>• Explain some of the dangers of revealing personal information to an online friend<br>• Choose an appropriate action online to stay safe<br>• Identify a situation they should be careful in online<br>• Understand how a stereotype can be harmful<br>• Look in the address bar of a website to check for security<br>• Explain why someone might have an online friendship | backdrops and plan a sequence of an animated story using timings<br>• Order a series of backdrops to create a story narrative and narrate events required timings<br>• Record a sound to enhance an animated story and insert blocks to play the recorded sound | | • Describe the actions of a sequence<br>• Use tools to change the size of the ground and raise or lower the landscape<br>• Decompose code into smaller parts and explain it in their own words | • Speak clearly into the camera when being recorded<br>• Frame an appropriate filming shot when interviewing<br>• Arrange video files to form a complete film | |

| | | | | | |
|---|---|---|---|---|---|
| • Explain what the SMART acronym means<br>• Explain what a stereotype is<br>• Compare gender stereotypes | | | | | |