# Dovedale Primary School
# Long term plan

**Computing**

| YR | | |
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| | **Autumn** | |
| | **Computer science**<br><br>**Bee-Bots** | **Vocab: program, forward, back, backwards, right, left, arrow, direction, turn, straight on, directions, route, instructions,** |
| | Required prior knowledge<br>Children should know:<br>• New learning.<br>Children need lots of time to play with the Bee-Bots before KS1. | End point<br>• To understand that Bee-Bots need to be programmed not pushed<br>• To experiment with programming a Bee-bot/Blue-bot<br>• To guide the Bee-Bots to certain points |
| | **Spring** | |
| | **Digital literacy**<br><br>**Photography** | **Vocab: iPad, photograph, camera, PicCollage app** |
| | Required prior knowledge<br>Children should know:<br>• New learning | End point<br>• To use the camera feature<br>• To take photographs<br>• To use PicCollage, add a title, name and save |
| | **Information technology**<br><br>**Technology hunt** | **Vocab: technology, photographs, appliances** |

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**Computing**

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| | Required prior knowledge<br>Children should know:<br>• New learning | End point<br>• To recognise that a range of technology is used in places such as homes and schools.<br>• To select and use technology for particular purposes. |
| | **Summer** | |
| | **Computer Science**<br><br>**Bee-Bot emulator** | **Vocab: Bee-Bot, turn, program** |
| | Required prior knowledge<br>Children should know:<br>• to follow instructions as part of practical activities and games<br>• to learn to give simple instructions<br>• to learn that an algorithm is a set of instructions to carry out a task, in a specific order<br>• to learn how to explore and tinker with hardware to develop familiarity and introduce relevant vocabulary | End point<br>• To know how to operate simple equipment.<br>• To complete a simple program on a computer.<br>• To experiment with programming a Bee-bot/Blue-bot<br>• To learn that an algorithm is a set of instructions to carry out a task, in a specific order |

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**Computing**

| Y1 | **Autumn** | |
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| | **Information Technology and Digital Literacy** | **Vocab:**<br>**Unit 1: Tab, shapes, format, image, shadow, border, glow, effect, pen, line weight, line style, resize, rotate**<br>**Unit 2: Slideshow, run show, exit, slide layout, text box, bullet image, gradient**<br>**Unit 3: Flip, image editing, capture, range, angle, pano, slo-mo, portrait, landscape, filter** |
| | Unit 1: Digital Art<br>Required prior knowledge<br>Children should know:<br>• New learning<br>• | End point<br>• To be able to access formatting tool options and navigate them using tabs<br>• To insert and format shapes in Pages to create pictures<br>• To use the touch screen to resize and rotate a shape<br>• To format images in Pages and apply special effects<br>• To use the Doodle Buddy app to create patterns using various pen and colour options |
| | Unit 2: Presentations<br>Required prior knowledge<br>Children should know:<br>New learning | End point<br>• To create a simple slideshow<br>• To add a new slide to a presentation<br>• To run and exit a show<br>• To select layout options for a slide<br>• To add and format text in a presentation<br>• To format a background in a presentation |

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| | | • To add images to a presentation |
| | Unit 3: iPad cameras<br>Required prior knowledge<br>Children should know:<br>• How to use the camera feature<br>How to take photographs | End point<br>• To use the camera on an iPad to capture photos<br>• To use 'pano' on a camera<br>• To use 'slo-mo' on a camera<br>• To use 'camera flip' to reverse a camera<br>• and simple editing options.<br>• To know and practice some photography techniques (angle, range, steady hand, focus)<br>• To capture photos in portrait and landscape view<br>• To apply filters to an image |
| | **Spring** | |
| | **Computer Science** | **Vocab:**<br>**Unit 1: Code, command, algorithm, sequence, start, stop, move, grow, shrink, repeat**<br>**Unit 2: Trigger, stop blocks, loops, movement, sprite, stage, move, upload, screenshot** |
| | Unit 1: Coding<br>Required prior knowledge<br>Children should know: | End point |

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| | • New learning | • To understand some basic coding commands (e.g. move, grow, shrink, repeat) using Daisy the Dino and Tynker Jr<br>• To know that a command is an instruction<br>• To know that computers follow (run) commands<br>• To be able to put code into a logical sequence<br>• To know that code can contain errors |
| | Unit 2: Coding<br>Required prior knowledge<br>Children should know:<br>• What an algorithm is<br>• How start and stop blocks are used in a sequence<br>• Some basic coding commands | End point<br>• To use Scratch Jr to create simple algorithms using trigger/stop blocks, loops and movement<br>• To know what the stage is<br>• To search and select backgrounds and sprites in a library and add them to the stage<br>• To be able to remove unwanted code<br>• To use logical reasoning to work out a task<br>• To create simple algorithms in a sequence |
| | **Summer** | |
| | **Digital Literacy and Information Technology** | **Vocab:**<br>**Unit 1: Online safety, report cyberbullying, lock screen, desktop, swipe, app, screenshot**<br>**Unit 2: 'Home row', delete, return, font, bold, italics, underline, alignment, colour, QR code, upload, show, hide, rename, save** |

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**Computing**

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| | | **Unit 3: Web browser, search engine, key word search, rank, sponsored ads, search results, tab** |
| | Unit 1: iPad basics and online safety<br>Required prior knowledge<br>Children should know:<br>• How to access the camera feature using an iPad<br>• How to identify different ways to stay safe online<br>• What cyberbullying is | End point<br>• To know the basics of handling an iPad (open/close apps, navigate desktop, search apps, identify common apps, lock screen, save/open files, take a screenshot)<br>• To understand the SMART principles: (**S**tay safe, Don't **M**eet up, **A**ccepting files, **R**eliable, **T**ell someone)<br>• To focus on Meeting, Accepting and Telling |
| | Unit 2: IT basics<br>Required prior knowledge<br>Children should know:<br>• New learning | End point<br>• To understand what the 'home row' is and be able to position their fingers correctly on a keyboard<br>• To learn some Word Processing basics (font, formatting, and text alignment)<br>• To learn how to use the return and delete keys<br>• To be able to 'show' and 'hide' the keyboard on an iPad<br>• To be able to type some words in a document<br>• To learn how to scan a QR code and upload a photo to an online platform<br>• To be able to rename a Pages document<br>• |

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| | <u>Unit 3: Internet skills</u><br><u>Required prior knowledge</u><br>Children should know:<br>• New learning | | <u>End point</u><br>• To know what a web browser is<br>• To know what a search engine is<br>• To use a search engine to perform a key word search<br>• To understand search results (category tabs, ranking filters)<br>• To recognise sponsored ads<br>• To find information and images online | |
| **Adaptive Learning** | **Communication & Interaction** | **Cognition & Learning** | **S/E/M Health** | **Physical & Sensory Needs** |
| | • Clear instructions given every lesson<br>• Use of projector screen to demonstrate skills (teacher to stand in front to point out icons etc)<br>• All technical vocabulary should be clearly explained<br>• Start lessons with Q&A to ensure consolidation of knowledge from prior lesson<br>• Circulate the room regularly to monitor progress and interact with students<br>• Ensure all children are keeping up to pace during teacher-led demonstrations. Always ensure children are ready before moving on to the | • Good use of classroom displays to showcase expected end product<br>• Key words displayed around the room to reinforce technical language<br>• Appropriate use of user-friendly apps with very visual interfaces eg pictorial icons<br>• Use multimedia to teach eg videos and sound<br>• Make full use of seesaw functions to enable children to express their own understanding through drawing and recorded audio<br>• Many lessons involving multiple apps to help | • Encourage positive feedback on one another's work through seesaw comments<br>• Seating plans in place to support less able children<br>• Peer support encouraged during skills-based lessons (principle: if you know how to do something and your partner doesn't, help them before they request help from teacher). This creates a very nurturing environment in the room<br>• Use headphones in lessons involving sound as noise levels can cause anxiety from | • A very practical subject that allows children to constantly work with their hands, listen to sounds etc<br>• Use of keyboards, tablets, apple pencils and headphones -all very practical and sensory<br>• Headphones with volume control to suit children's needs<br>• Strategically choose class monitors to help collect equipment or hand things out to get a movement break. |

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| | next stage and encourage peer support in this | children remain focused – wide range of activities | some children, whilst others are calmed by the musical accompaniment in certain apps | |

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**Computing**

| Y2 | Autumn | |
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| | **Information Technology and Digital Literacy** | **Vocab:**<br>**Unit 1: Annotation tools, text box, border, font options, upload, draw, emoji**<br>**Unit 2: Pop-ups, chatrooms, block, report, reliability**<br>**Unit 3: Shapes, text boxes, alignment, special effects, wrap text** |
| | Unit 1: IT skills in SeeSaw<br>Required prior knowledge<br>Children should know:<br>• How to access SeeSaw using their class QR code<br>• How to upload content to SeeSaw | End point<br>• To use the 'drawing' interface in Seesaw to practice using the inbuilt annotation tools<br>• To use the 'notes' feature in Seesaw to develop typing skills<br>• To access the emoji keyboard to add illustrations |
| | Unit 2: Online Safety<br>Required prior knowledge<br>Children should know:<br>• The SMART rules of online safety | End point<br>• To know the dangers of pop-ups, web content and online chatrooms.<br>• To understand how to block and report cyberbullies<br>• To recognise that websites are not always reliable or trustworthy<br>• To know that anyone can create a website |
| | Unit 3: Word processing<br>Required prior knowledge<br>Children should know: | End point<br>• To create and rename a document in Pages<br>• To add text and images to a document |

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| | • What the 'home row' is<br>• How to change the font style, size and colour and add emphasis to text<br>• How to use the return and delete keys when word processing<br>• How to add a shape to a document<br>• How to resize and rotate objects | • To add text to a shape<br>• To format a document with colour, font options and designs options (shadow, border, line style, line weight)<br>• To use zoom to oversee a document layout<br>• To make effective use of white space<br>• To create posters using images, shapes and text<br>• To know and use alignment options |
| | **Spring** | |
| | **Computer Science** | **Vocab:**<br>**Unit 1: Coding, algorithm, sprite, stage, background, grid, shrink, grow, flip, speech, speed, trigger**<br>**Unit 2: Coding, command, run, debug, format, slideshow, screenshot, import, transition** |
| | Unit 1: Coding<br>Required prior knowledge<br>Children should know:<br>• How to create simple algorithms in Scratch Jr using start / stop blocks and movement blocks<br>• How to select backgrounds and sprites in Scratch Jr | End point<br>• To know that an algorithm is a set of step-by-step instructions<br>• To use Scratch Jr to create an animation<br>• To learn new commands to resize, flip, add speech, and change the speed of movement<br>• To add additional scenes to an animation<br>• To enable and disable stage gridlines to calculate distance<br>• To set the start trigger to 'on tap' |

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**Computing**

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| | Unit 2: Presentations and Coding<br>Required prior knowledge<br>Children should know:<br>• How to create algorithms using a variety of commands in a logical sequence<br>• How to create a simple slideshow with text and images | End point<br>• To add screenshots of code (from Coding Safari) to a presentation and annotate them using text boxes<br>• To format a presentation with effective fonts and use of colour.<br>• To apply transition effects to a slideshow |
| | **Summer** | |
| | **Information Technology and Computer Science** | **Vocab:**<br>**Unit 1: Comic, book, square, frames, gutters, speech, text, images, format, full screen**<br>**Unit 2: Screenshot, upload, coding, algorithm, comment, annotate** |
| | Unit 1: Book Creator<br>Required prior knowledge<br>Children should know:<br>• New learning | End point<br>• "Animal Madness". To create a simple comic using Book Creator.<br>• To use frames, speech/thought bubbles, text and images.<br>• To format the gutters by adding colour and create images for the comic using backgrounds and sprites in the Scratch Jr library. |
| | Unit 2: Coding<br>Required prior knowledge<br>Children should know:<br>• How to use a range of trigger blocks and basic end blocks | End point<br>• To complete coding tasks in Tynker Jr and on Hour of Code<br>• To screenshot code and upload to Seesaw<br>• To use the annotation tools and 'comment' features in Seesaw to show understanding. |

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**Computing**

| Adaptive Learning | Communication & Interaction | Cognition & Learning | S/E/M Health | Physical & Sensory Needs |
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| | • Clear instructions given every lesson<br>• Use of projector screen to demonstrate skills (teacher to stand in front to point out icons etc)<br>• All technical vocabulary should be clearly explained<br>• Start lessons with Q&A to ensure consolidation of knowledge from prior lesson<br>• Circulate the room regularly to monitor progress and interact with students<br>• \Ensure all children are keeping up to pace during teacher-led demonstrations. Always ensure children are ready before moving on to the next stage and encourage peer support in this | • Good use of classroom displays to showcase expected end product<br>• Key words displayed around the room to reinforce technical language<br>• Appropriate use of user-friendly apps with very visual interfaces eg pictorial icons<br>• Use multimedia to teach eg videos and sound<br>• Make full use of seesaw functions to enable children to express their own understanding through drawing and recorded audio<br>• Many lessons involving multiple apps to help children remain focused – wide range of activities | • Encourage positive feedback on one another's work through seesaw comments<br>• Seating plans in place to support less able children<br>• Peer support encouraged during skills-based lessons (principle: if you know how to do something and your partner doesn't, help them before they request help from teacher). This creates a very nurturing environment in the room<br>• Use headphones in lessons involving sound as noise levels can cause anxiety from some children, whilst others are calmed by the musical accompaniment in certain apps | • A very practical subject that allows children to constantly work with their hands, listen to sounds etc<br>• Use of keyboards, tablets, apple pencils and headphones -all very practical and sensory<br>• Headphones with volume control to suit children's needs<br>• Strategically choose class monitors to help collect equipment or hand things out to get a movement break. |

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# Long term plan

**Computing**

| Y3 | Autumn | |
|---|---|---|
| | **Information Technology and Digital Literacy** | **Vocab:**<br>**Unit 1: Format, font, font style, effects, Bluetooth, keyboard, touch typing, home row**<br>**Unit 2: Logo, text box, pen, pencil, erase, magic pen, background, shapes, emoji, style, edit, delete**<br>**Unit 3: Slide, run show, image, text, copy, paste, transparent, search filter, custom animation, transition, gradient** |
| | Unit 1: Typing skills<br>Required prior knowledge<br>Children should know:<br>• What the 'home row' is<br>• How to change the font style, size and colour and add emphasis to text<br>• How to use the return and delete keys when word processing | End point<br>• To use Bluetooth keyboards and understand that they use a wireless connection<br>• To learn the basics of touch typing and the home row<br>• To use an online learning site and follow audio and written instructions<br>• To develop typing skills (finger positioning, speed, accuracy)<br>• To use a keyboard to type up sentences in Pages<br>• To format sentences to show a range of different font styles and effects |

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**Computing**

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| | <u>Unit 2: SeeSaw</u><br><u>Required prior knowledge</u><br>Children should know:<br>• How to use the 'drawing' interface to practice using the inbuilt annotation tools.<br>• How to use the 'notes' feature to develop typing skills by writing a short story.<br>• How to access the emoji keyboard to add illustrations. | <u>End point</u><br>• To use the 'drawing' program to design a new class logo<br>• To edit the style options of a text box<br>• To use the 'notes' feature to type up a short story |
| | <u>Unit 3: Presentations (and the internet)</u><br><u>Required prior knowledge</u><br>Children should know:<br>• How to create a basic Keynote presentation<br>• How to perform simple online searches<br>• That not all websites are reliable | <u>End point</u><br>• To create a sports presentation and apply custom animations to text and images<br>• To set a background colour to 'gradient' and adjust the direction<br>• To apply custom animation to objects<br>• To format images by applying special effects<br>• To use the internet to research a topic<br>• To copy and paste resources from the internet<br>• To know what 'transparent' images are and understand their benefits<br>• To use the search engine tools to filter transparent images |

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**Computing**

| | Spring | |
|---|---|---|
| | **Computer Science** | **Vocab:**<br>**Unit 1: Coding, algorithm, loop, IF statements, syntax**<br>**Unit 2: Sequences, debugging, loops, repeat**<br>**Unit 3: Wait commands, broadcast, sequence, parallel coding** |
| | Unit 1: Coding in Tynker<br>Required prior knowledge<br>Children should know:<br>• How to create simple algorithms in Scratch Jr using start / stop blocks and movement blocks<br>• How to select backgrounds and sprites in Scratch Jr<br>• How to complete coding tasks in Tynker Jr | End point<br>• To be able to define an algorithm<br>• To understand the importance of syntax and accuracy in coding<br>• To understand the importance of detail in coding e.g. direction<br>• To learn different loop options<br>• To understand when and how IF statements are used<br>• To develop debugging skills by fixing incorrect code |
| | Unit 2: Coding in Lightbot<br>Required prior knowledge<br>Children should know:<br>• How to complete a range of coding activities in Space Cadets.<br>• The different loop options and how to use IF statements<br>• How to develop debugging skills by fixing incorrect code | End point<br>• To use logical reasoning to design coding sequences<br>• To use loops in coding<br>• To be able to define 'debugging' |

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**Computing**

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| | Unit 3: Coding in Scratch Jr<br>Required prior knowledge<br>Children should know:<br>• How to create simple algorithms in Scratch Jr using start/stop blocks and movement blocks<br>• How to select backgrounds and sprites in Scratch Jr<br>• How to complete coding tasks in Tynker Jr | End point<br>• To use wait commands to alter the timings of an animation<br>• To use broadcasts within coding to trigger an action<br>• To create coded animations that use parallel block sequences |
| | **Summer** | |
| | **Information technology and Digital Literacy** | **Vocab:**<br>**Unit 1: Import, sketch, transparent canvas, fill options (solid, linear, radial, pattern), opacity, RGB, palette, slider, undo, history, FX, blend mode**<br>**Unit 2: Range, focus, angle, foreground, background, frame, stickers, animation, layout, template, contrast** |
| | Unit 1: Digital art<br>Required prior knowledge<br>Children should know:<br>• How to use a range of pen options within digital art<br>• How to edit colours and pen size<br>• How to use an eraser | End point<br>• To be able to undo last action and undo history<br>• Know how transparency is represented in digital art (checked pattern)<br>• To know what a canvas is and a range of canvas options<br>• To be able to import a background onto a blank canvas To edit clipart by adjusting colour FX (effects) and blend mode settings<br>• To design and edit complex shapes using settings sliders and colour options (radial, linear, pattern, solid) |

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**Computing**

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| | <u>Unit 2: Photography using iPads</u><br><u>Required prior knowledge</u><br>Children should know:<br>• How to use an iPad to capture images<br>• Some basic image editing options to improve picture | | <u>End point</u><br>• To develop photography skills to capture a range of related images<br>• To access design templates within a software package<br>• To add stickers and text boxes to a collage<br>• To edit textbox options, including style, size and colour<br>• To understand the need for colour contrasts when layering objects<br>• To save an online project to a device | |
| **Adaptive Learning** | **Communication & Interaction** | **Cognition & Learning** | **S/E/M Health** | **Physical & Sensory Needs** |
| | • Clear instructions given every lesson<br>• Use of projector screen to demonstrate skills (teacher to stand in front to point out icons etc)<br>• All technical vocabulary should be clearly explained<br>• Start lessons with Q&A to ensure consolidation of knowledge from prior lesson<br>• Circulate the room regularly to monitor progress and interact with students | • Good use of classroom displays to showcase expected end product<br>• Key words displayed around the room to reinforce technical language<br>• Appropriate use of user-friendly apps with very visual interfaces eg pictorial icons<br>• Use multimedia to teach eg videos and sound<br>• Make full use of seesaw functions to enable children to express their own understanding through | • Encourage positive feedback on one another's work through seesaw comments<br>• Seating plans in place to support less able children<br>• Peer support encouraged during skills-based lessons (principle: if you know how to do something and your partner doesn't, help them before they request help from teacher). This creates a very nurturing environment in the room | • A very practical subject that allows children to constantly work with their hands, listen to sounds etc<br>• Use of keyboards, tablets, apple pencils and headphones -all very practical and sensory<br>• Headphones with volume control to suit children's needs<br>• Strategically choose class monitors to help collect equipment or hand things out to get a movement break. |

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| | • Ensure all children are keeping up to pace during teacher-led demonstrations. Always ensure children are ready before moving on to the next stage and encourage peer support in this | drawing and recorded audio<br>• Many lessons involving multiple apps to help children remain focused – wide range of activities | • Use headphones in lessons involving sound as noise levels can cause anxiety from some children, whilst others are calmed by the musical accompaniment in certain apps | |

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**Computing**

| Y4 | Autumn | |
|---|---|---|
| | **Information Technology and Digital Literacy** | **Vocab:**<br>**Unit 1: Home row, speed, touch type, accuracy, typo**<br>**Unit 2: Network, PAN/LAN/WAN, ethernet, fibre-optic, satellite, bandwidth, byte, binary, data transfer, topologies, IP address, URL**<br>**Unit 3: input, output, process, devices, components, presentation, multimedia** |
| | Unit 1 – Typing skills<br><u>Required prior knowledge</u><br>Children should know:<br>• The general layout of a QWERTY keyboard<br>• How to position their fingers on the 'home row'<br>• How to use common function keys | <u>End point</u><br>• To be able to type more letters/words whilst looking at the monitor<br>• To increase typing speed<br>• To improve typing accuracy |
| | Unit 2 – Networks<br><u>Required prior knowledge</u><br>Children should know:<br>• What the internet is an how to access it<br>• That computers can view websites through the internet | <u>End point</u><br>• To know what a network is and that computers can communicate with other devices<br>• To know the difference between PANs, LANs and WANs |

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| | | • To know that digital data is transmitted via ethernet cables, fibre optic cables and satellites<br>• To know some common network topologies (ring/bus/star/mesh)<br>• To understand that computers communicate using binary code<br>• To know various data sizes (byte, KB, MB, GB, TB) |
| | Unit 3 – PC basics<br><u>Required prior knowledge</u><br>Children should know:<br>• That there are a variety of computing devices and peripherals<br>• How to create a multi-media slideshow presentation | <u>End point</u><br>• To know the difference between input, process and output<br>• To identify common input and output devices e.g. mouse, keyboard, monitor, printer<br>• To understand the difference between hardware and software<br>• To know some of the components that are found inside a computer e.g. motherboard, sound card and graphics card<br>• To create a multimedia presentation using Keynote<br>• To effectively use background colour, fonts, tables, images, transition effects and animation effects<br>• To conduct effective and relevant image searches using tool options in Safari<br>• To copy online images into a presentation |
| | **Spring** | |
| | **Computer Science & Information Technology** | **Vocab:**<br>**Unit 1: Coding, algorithm, sprite, stage, flip, loop, parallel coding, freehand draw** |

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**Computing**

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| | | **Unit 2: Coding, debugging, rotate, stage coordinates, costumes, trigger, broadcast, wait, resize, switch, forever** |
| | Unit 1: Coding and Book Creator<br>Required prior knowledge<br>Children should know:<br>• The key features of Coding<br>• How to create a project using Scratch Jr | End point<br>• To create and edit a range of sprites and backgrounds<br>• To use the paint editing tools in Scratch Jr to add shapes and freehand drawing<br>• To create a multi-scene animation using 'go to scene' end blocks<br>• To insert screenshots into a digital book<br>• To format a book effectively<br>• To edit document detail settings |
| | Unit 2: Further Coding in Scratch 3.0<br>Required prior knowledge<br>Children should know:<br>• New learning (online version) | End point<br>• To have a good understanding of common terms used in coding<br>• To browse and select sprite costumes in an animation using 'switch costume' blocks<br>• To understand how to position a sprite using coordinates<br>• To be able to rotate and resize sprites<br>• To use forever loops in an algorithm |
| | **Summer** | |
| | **Information Technology and Computer Science** | **Vocab:**<br>**Unit 1: Pair, tools, pen, sketch, crayon, highlighter, pixel, RGB, opacity, pen-to-** |

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| | | **text, freehand, typeface, shape recognition**<br>**Unit 2: Operators, variables, score, ask and wait, if/else, show/hide** |
| | Unit 1: Apple Pencil<br>Required prior knowledge:<br>Children should know:<br>• New learning | End point<br>• To pair an Apple Pencil to an iPad<br>• To access and use the drawing tools in Apple notes<br>• To know what pixels are<br>• To rotate an Apple pencil to adjust eraser size<br>• To know what opacity is and adjust opacity settings for a pen<br>• To use the pen-to-text tool to convert freehand to typeface<br>• To use shape recognition to create perfect shapes |
| | Unit 2: Quizzes (in Scratch 3.0 and kahoot)<br>Required prior knowledge:<br>Children should know:<br>• How to use sprites and backgrounds<br>• How to use movement and speech commands<br>• How to switch sprite costumes | End point<br>• To design and create a quiz in Scratch 3.0<br>To use conditionals within code<br>• To add a score variable to an algorithm<br>• To use operators within an algorithm<br>• To use operators and variables to calculate a score<br>• To create an interactive project that enables a user to enter data |

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**Computing**

| Adaptive Learning | Communication & Interaction | Cognition & Learning | S/E/M Health | Physical & Sensory Needs |
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| | • Clear instructions given every lesson<br>• Use of projector screen to demonstrate skills (teacher to stand in front to point out icons etc)<br>• All technical vocabulary should be clearly explained<br>• Start lessons with Q&A to ensure consolidation of knowledge from prior lesson<br>• Circulate the room regularly to monitor progress and interact with students<br>• Ensure all children are keeping up to pace during teacher-led demonstrations. Always ensure children are ready before moving on to the next stage and encourage peer support in this | • Good use of classroom displays to showcase expected end product<br>• Key words displayed around the room to reinforce technical language<br>• Appropriate use of user-friendly apps with very visual interfaces eg pictorial icons<br>• Use multimedia to teach eg videos and sound<br>• Make full use of seesaw functions to enable children to express their own understanding through drawing and recorded audio<br>• Many lessons involving multiple apps to help children remain focused – wide range of activities | • Encourage positive feedback on one another's work through seesaw comments<br>• Seating plans in place to support less able children<br>• Peer support encouraged during skills-based lessons (principle: if you know how to do something and your partner doesn't, help them before they request help from teacher). This creates a very nurturing environment in the room<br>• Use headphones in lessons involving sound as noise levels can cause anxiety from some children, whilst others are calmed by the musical accompaniment in certain apps | • A very practical subject that allows children to constantly work with their hands, listen to sounds etc<br>• Use of keyboards, tablets, apple pencils and headphones -all very practical and sensory<br>• Headphones with volume control to suit children's needs<br>• Strategically choose class monitors to help collect equipment or hand things out to get a movement break. |

# Dovedale Primary School
# Long term plan

**Computing**

| Y5 | Autumn | |
|---|---|---|
| | **Information Technology and Digital Literacy** | **Vocab:**<br>**Unit 1: Touch typing, 'home row', accuracy, speed, alternate keys, characters**<br>**Unit 2: Cyberbullying, likes/dislikes, positive and negative impact, scroll addiction, text box, table, cell-formatting, header, footer**<br>**Unit 3: Timings, multiple-choice, true/false, settings, embed video, trim** |
| | Unit 1 – Typing skills<br>Required prior knowledge<br>Children should know:<br>• The general layout of a QWERTY keyboard<br>• How to position their fingers on the 'home row'<br>• How to use common function keys | End point<br>• To be able to type more letters/words whilst looking at the monitor<br>• To increase typing speed<br>• To improve typing accuracy |
| | Unit 2 – Digital wellbeing<br>Required prior knowledge<br>Children should know:<br>• That online habits affect people in different ways<br>• How to identify strategies for developing healthy online habits | End point<br>• To understand the positive and negative impact of technology on health, relationships, work and the environment.<br>• To create an information sheet on Digital Wellbeing using text boxes, word art, tables, images, headers and footers<br>• To format a document using a range of styles and techniques to make it more presentable<br>• To add a header and footer to a document |

# Dovedale Primary School
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**Computing**

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| | Unit 3 – Digital quizzes (Kahoot)<br>Required prior knowledge<br>Children should know:<br>• How to play quizzes in Kahoot!<br>• How to browse online videos and images | End point<br>• To create a digital quiz using both multiple choice and true/false question options<br>• To search for and insert relevant online images and videos to illustrate questions<br>• To set appropriate timings for a quiz<br>• To test the quiz on peers and understand the importance of audience feedback<br>• To trim videos from YouTube |
| | **Spring** | |
| | **Computer Science** | **Vocab:**<br>**Unit 1: Algorithm, sequence, functions, decomposition, iteration, abstraction**<br>**Unit 2: 'Go to' coordinates, sensor touching colour, conditional statements, forever loop, stop all, variables** |
| | Unit 1: Coding in Tynker<br>Required prior knowledge<br>Children should know:<br>• How to create algorithms<br>• How to debug code<br>• How to sort code into a sequence | End point<br>• To use computational thinking when creating algorithms<br>• To use decomposition and abstraction to improve coding<br>• To create functions for an algorithm |
| | Unit 2: Advanced Coding<br>Required prior knowledge<br>Children should know:<br>• How to use sprites and backgrounds effectively | End point<br>• To create an interactive pong game in Scratch 3.0<br>• To use sensors within a game |

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| | • How to use if statements<br>• How to use continual loops | • To use IF statements within a game to allow for multiple outcomes<br>• To use 'wait until' commands to provide a condition to an algorithm<br>• To use audio commands within an algorithm<br>• To control multiple sprites within an animation |
| | **Summer** | |
| | **Information Technology & Digital Literacy** | **Vocab:**<br>**Unit 1: Pair, sketch, pen, select, erase, design, fill, canvas, blend, layer, pipette**<br>**Unit 2: Frame, speed, play back, onion layers, convert, MP4, duplicate** |
| | <u>Unit 1: Digital art using Apple pencils</u><br><u>Required prior knowledge</u><br>Children should know:<br>• How to pair an Apple pencil to an iPad<br>• How to use the touch sensitive tip effectively | <u>End point</u><br>• To use additional pen options such as calligraphy, fur, sketchy and stamp.<br>• To drag and drop colours on to a canvas using an Apple pencil<br>• To use the blend feature to manipulate a drawing<br>• To understand the various colour palette options in Procreate and their individual benefits<br>• To know what a pipette is and how to use it<br>• To add layers to a piece of artwork |

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**Computing**

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| | <u>Unit 2: Animation</u><br><u>Required prior knowledge</u><br>Children should know:<br>• New learning (animation) | | <u>End point</u><br>• To create a simple animation using several frames (photo stills) in Stop Motion<br>• To create simple animations using animation assist in Procreate<br>• To adjust the speed of an animation<br>• To know what an onion layer is<br>• To adjust the number of visible onion layers when designing an animation<br>• To duplicate a layer and understand the benefits of this feature<br>• To convert an animation into an MP4 video | |
| **Adaptive Learning** | **Communication & Interaction** | **Cognition & Learning** | **S/E/M Health** | **Physical & Sensory Needs** |
| | • Clear instructions given every lesson<br>• Use of projector screen to demonstrate skills (teacher to stand in front to point out icons etc)<br>• All technical vocabulary should be clearly explained<br>• Start lessons with Q&A to ensure consolidation of knowledge from prior lesson<br>• Circulate the room regularly to monitor | • Good use of classroom displays to showcase expected end product<br>• Key words displayed around the room to reinforce technical language<br>• Appropriate use of user-friendly apps with very visual interfaces eg pictorial icons<br>• Use multimedia to teach eg videos and sound<br>• Make full use of seesaw functions to enable children to | • Encourage positive feedback on one another's work through seesaw comments<br>• Seating plans in place to support less able children<br>• Peer support encouraged during skills-based lessons (principle: if you know how to do something and your partner doesn't, help them before they request help from teacher). This creates a very | • A very practical subject that allows children to constantly work with their hands, listen to sounds etc<br>• Use of keyboards, tablets, apple pencils and headphones -all very practical and sensory<br>• Headphones with volume control to suit children's needs<br>• Strategically choose class monitors to help collect equipment or |

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| | progress and interact with students<br>• Ensure all children are keeping up to pace during teacher-led demonstrations. Always ensure children are ready before moving on to the next stage and encourage peer support in this | express their own understanding through drawing and recorded audio<br>• Many lessons involving multiple apps to help children remain focused – wide range of activities | nurturing environment in the room<br>• Use headphones in lessons involving sound as noise levels can cause anxiety from some children, whilst others are calmed by the musical accompaniment in certain apps | hand things out to get a movement break. |

# Dovedale Primary School
# Long term plan

**Computing**

| Y6 | Autumn | |
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| | **Information Technology and Digital Literacy** | **Vocab:**<br>**Unit 1: Touch typing, 'home row', accuracy, speed, alternate keys, characters**<br>**Unit 2: Digital footprint, hyperlinks, transition, animation, social media, cyberbullying, block, report, privacy settings, scroll addiction, grooming, subscriptions, SPAM, catfishing, notifications, locator services, disable, enable** |
| | Unit 1 – Typing skills<br>Required prior knowledge<br>Children should know:<br>• The general layout of a QWERTY keyboard<br>• How to position their fingers on the 'home row'<br>• How to use common function keys | End point<br>• To be able to type more letters/words whilst looking at the monitor<br>• To increase typing speed<br>• To improve typing accuracy |
| | Unit 2 – Presentations and online safety | End point<br>• To understand what a digital footprint is |

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| | <u>Required prior knowledge</u><br>Children should know:<br>• That online platforms present risks<br>• That people can be bullied online<br>• How to create a multimedia presentation with text, images, tables and transitions | • To identify a range of social media applications, including WhatsApp, SnapChat, YouTube and Instagram<br>• To identify some potential risks when using social media, such as cyberbullying, unwanted subscriptions, grooming and catfishing privacy settings<br>• To know what targeted marketing is<br>• To know what notifications are and the advantages/disadvantages of enabling/disabling them<br>• To know there are laws regarding social media, including age restrictions age<br>• To customise animation setting in a presentation (automatic/click/with/after/ timer)<br>• To create text and image hyperlinks to navigate a presentation |
| | **Spring** | |
| | **Computer Science** | **Vocab:**<br>**Unit 1: Algorithm, sequence, functions, decomposition, iteration, nested loops**<br>**Unit 2: Logical reasoning, computational thinking, screenshots, caption** |
| | <u>Unit 1 - Coding in swift</u><br><u>Required prior knowledge</u><br>Children should know:<br>• How to create complex algorithms using functions and loops<br>• How to test and debug their code | <u>End point</u><br>• To use a touchscreen to navigate an online world<br>• To understand the benefits of eliminating unnecessary code<br>• To create complex functions to complete multiple tasks<br>• To use nested loops in an algorithm<br>• To use IF statements in an algorithm |
| | <u>Unit 2 – Coding in SpriteBox</u> | <u>End point:</u> |

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**Computing**

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| | <u>Required prior knowledge</u><br>Children should know:<br>• How to create complex algorithms using functions and loops<br>• How to test and debug their code<br>• How to create a book in Book Creator using backgrounds, text and images | • To complete several coding challenges in SpriteBox using computational thinking and logical reasoning<br>• To design an avatar<br>• To design and create a user guide in Book Creator<br>• To add and delete pages in an e-Book<br>• To use titles and captions to add text to a page |
| | **Summer** | |
| | **Information Technology and Computer Science** | **Vocab:**<br>**Unit 1: Digital art, blur, noise, liquify**<br>**Unit 2: Trailer, edit, screen record, storyboard, trim, clip, drop down menu, close-up, wide, action, landscape**<br>**Unit 3: Pair, connect, flash, reset, LED** |
| | <u>Unit 1: Procreate (advanced)</u><br><u>Required prior knowledge</u><br>Children should know:<br>• How to use the touch sensitive tip effectively<br>• How to use various pen tools<br>• How to use the blend feature and colour palette | <u>End point</u><br>• To develop digital art skills by creating more complex designs in procreate.<br>• To use a range of adjustment options to blur, add noise and liquify a drawing |
| | <u>Unit 2: Making iMovies</u><br><u>Required prior knowledge</u><br>Children should know:<br>• How to capture video using an iPad | <u>End point</u><br>• To create a movie trailer in iMovie using the video camera and online screen record<br>• To enable screen record within the control centre of an iPad |

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| | | | • To mute/unmute the microphone when using screen record<br>• To use the screen record feature to copy clips from online videos<br>• To use trim to remove unwanted video at the start/end of a clip<br>• To edit the 'outline' text for a trailer and use drop down menus to access further options<br>• To insert video files from a device into a storyboard<br>• To know a range of clip options (close-up, landscape, wide, action) | |
| | <u>Unit 3: Programming Micro:Bits</u><br><u>Required prior knowledge</u><br>Children should know:<br>• New learning | | <u>End point</u><br>• To pair a Micro:Bit to an iPad<br>• To connect the essential components of a Micro:Bit<br>• To program a Micro:Bit using various triggers and commands<br>• To flash messages to a Micro:Bit<br>• To control LED lights and operate a traffic light model through code commands | |
| **Adaptive Learning** | **Communication & Interaction** | **Cognition & Learning** | **S/E/M Health** | **Physical & Sensory Needs** |
| | • Clear instructions given every lesson<br>• Use of projector screen to demonstrate skills (teacher to stand in front to point out icons etc) | • Good use of classroom displays to showcase expected end product<br>• Key words displayed around the room to reinforce technical language<br>• Appropriate use of user-friendly apps with | • Encourage positive feedback on one another's work through seesaw comments<br>• Seating plans in place to support less able children<br>• Peer support encouraged during | • A very practical subject that allows children to constantly work with their hands, listen to sounds etc<br>• Use of keyboards, tablets, apple pencils and headphones -all |

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