Computing Reception overview

| Autumn | Spring | Summer |
|---|---|---|
| **Hardware/software:**<br>• To be able to hold the mouse.<br>• To be able to click on objects.<br>• To be able to load software.<br>• To be able to exit software.<br>• To be able to drag objects around the screen.<br><br>**ESafety:**<br>• To be aware of always asking a grown up before using the Internet.<br>• To be aware of not telling strangers personal information: where you live/phone number/what school you go to<br>• To be aware of not sending pictures to people you don't know<br>• To be aware of telling a grown up if you feel scared, unhappy or unsure about anything when using a computer<br>• To know strategies for keeping safe online (PHSEE)<br><br>**Databases:**<br>• To understand how a supermarket cash till works. | **Programming:**<br>• To introduce the term 'algorithm'.<br>**Databases:**<br>• To understand how a cash point works.<br><br>**Hardware/software:**<br>*Technology tour*<br>• To understand how people interact with computers.<br><br>**Presentation skills:**<br>*2Create a story*<br>• To be able to type name.<br>• To be able to use the enter key/space bar/backspace key correctly/full stop key.<br>• To be able to type sentences.<br>• To be able to insert images, actions and sounds.<br><br>**Typing skills:**<br>*2Create a story*<br>• Has an awareness of the Keyboard, lowercase alphabet and full stop. | **Databases:**<br>• To understand how a library computer works.<br><br>**Programming:**<br>*Bee bots*<br>• Introduce directional language/function of buttons<br>• To be able to move BB forwards/backwards<br>• To be able to turn right/left<br>• To be able to combine all directions in a sequence.<br><br>**Web/research skills:**<br>• Is able to identify a tab/an address bar/back button.<br><br>**Hardware/software:**<br>• To be able to load the desktop.<br>• To be able to maximise/minimise.<br>• To be able to change the view of icons from 'list' to 'large icons' (on the Reception desktop.) |
| Integrated skills throughout the year.<br>**Hardware/software:**<br>To be able to identify parts of the computer.<br>**Programming:**<br>To be able to print out work as a set of sequences. | | |

Computing Year 1 overview

| Autumn | Spring | Summer |
|---|---|---|
| **ESafety:**<br>• To be able to understand the importance of asking for help from an adult when:<br>• Pop ups appear/unknown Emails appear/anything unfamiliar on the screen appears<br>• To have an awareness of keeping personal information private.<br>• To have an awareness of extremist views and potential radicalisation.<br>• To understand what to do when concerned about content or being contacted via the internet or electrical device<br>• To know strategies for keeping safe online (PHSEE)<br><br>**Typing skills:**<br>• Has an awareness of the Keyboard – numbers, capital letters, question marks and exclamation marks.<br><br>**Programming:**<br>• To understand what is a computer.<br>• To understand how computers are used in everyday life.<br>• To understand computers have no intelligence and can do nothing unless a program is run. | **Presentation skills:**<br>*MS Word*<br>• Is able to highlight text/change the size/change the colour/change the font/insert pictures<br>• Use the caps lock key to create capital letters<br>• Is able to edit work<br><br>**Programming:**<br>• To understand the term: 'algorithm'.<br>• To be able to sequence a set of instructions (Jam sandwich/cleaning teeth/getting dressed)<br><br>*Bee bots*<br>• To be able to identify what each BB command does.<br>• To be able to create a BB world/map using: buildings/roads/pause features (traffic lights/forest/petrol station etc.)<br>• To investigate the distance BB travels with each command: fd 15cm/right turn 90°c etc<br>• To design routes/instructions using BB (without algorithms)<br>• To design routes/instructions using algorithm cards (forwards/backs etc cards.)<br>• To design routes/instructions incorporating 'pauses'.<br>• Introduce the term: **DEBUG/DEBUGGING.** | **Web/research skills:**<br>• Has an awareness of what the internet is and what it used for.<br>• Can identify web browsers (safari/explorer etc)<br>• Understands the term: 'surfing the web'.<br>• To be able to load websites.<br><br>**Programming:**<br>• To understand the term: 'pictogram'.<br>• To be able to create a variety of pictograms.<br>• To look at different ways data can be represented:<br>• Block graphs<br>• Pie charts<br>• Bar charts<br>• To be able to change data from a pictogram into a bar/block/pie chart<br>• To be able to answer questions from data in graphs<br><br>**Databases:**<br>• To understand the term: 'database'.<br>• To know that a database is a means of storing information and can be searched |
| Integrated skills throughout the year.<br>**Hardware/software:**<br>• To be able to log on/off.<br>• To be able to print to computer room printer.<br>• To be able to change the view of icons from 'list' to 'large icons' on the Y1 desktop.<br>• To be able to right-hand click. | | |

Computing Year 2 overview

| Autumn | Spring | Summer |
|---|---|---|
| **ESafety:**<br>• To understand the importance of communicating safely and respectfully online, and the need for keeping personal information private.<br>• To have an awareness of extremist views and potential radicalisation.<br>• To understand what to do when concerned about content or being contacted.<br>• To know strategies for keeping safe online (PHSEE)<br><br>**Typing skills:**<br>• Is able to use both hands when typing.<br><br>**Programming:**<br>• To be able to use the correct symbols (start/stop/action) to create an algorithmic abstract flow chart.<br>• To gain an understanding that algorithms are implemented on digital devices as programs.<br>• To understand the terms: '*Debug/Debuggin'..*<br><br>**Presentation skills:**<br>*MS Word*<br>• Is able to open a new or existing document/ overtype and manipulate text/spell-check work<br>• Is able to use the shift key/ change font size/<br>• To learn how to import images from clipart. | **Web/research skills:**<br>• Is able to understand the function of an address bar.<br>• Is able to refresh/reload from history<br>• Understands the term: 'favourites/bookmarks' and can perform procedure.<br>• Is able to carry out simple web searches to collect information.<br><br>**Presentation skills:**<br>*MS Publisher*<br>• Is able to create a blank publication/insert and colour text boxes/create Word Art objects/change orientation/ print preview/ insert and delete new pages/ insert background colours.<br><br>**Programming:**<br>*Scratch: Human Crane*<br>• To be able to create, execute and debug algorithms to solve a series of 12 challenges. | **Programming:** *Introduce Rapid router*<br><br>**Databases:**<br>*Smart Learning*<br>• To understand the terms: 'data' and 'information'.<br>• To be able to collect and sort information in an organised way<br>• To be able to explore record cards as numbers<br>• To be able to create and search simple databases<br>• To be able to use database information to create bar charts.<br><br>**Programming:**<br>*Bee bots*<br>• To be able to plan a route with limited number of cards/movements.<br>• To be able to use algorithms to plan routes from the same place: investigate which is the quickest/longest route to a particular destination?<br>• To be able to design a route to pause at every number in the 2 times table.<br>• To be able to design own challenge. |
| Integrated skills throughout the year.<br>**Hardware/software:**<br>• To be able to print in BW (black and white) and colour.<br>• To be able to save work.<br>• Understands .docx and .pubx when saving work. | | |

Computing Year 3 overview

| Autumn | Spring | Summer |
|---|---|---|
| **Programming:** *Rapid router*<br><br>**ESafety:**<br>• To be able to use computers safely and responsibly; knowing a range of ways to report unacceptable content and contact when online.<br>• Understands the concept of 'digital footprint'<br>• To know strategies for keeping safe online, including social media, the responsible use of ICT and mobiles.<br>• To have an awareness of extremist views and potential radicalisation.<br>• To know the importance of protecting personal information, including passwords, addresses and images. (PHSEE)<br><br>**Typing skills:**<br>*English type junior*<br>• Can place fingers in home key position and develops accuracy.<br><br>**Web/research skills**:<br>• Has an awareness of other uses of the internet: shopping/social networking/collaboration (skype etc)/blogging/wikis/podcasts.<br>• To be able to understand the term and function of 'search engines'.<br>• Has an awareness of different search engines (google, BBC find, kidsclick)<br>• To be able to use search engines.<br>• To be able to use hyperlinks<br><br>**Programming:**<br>*Unplugged: playground games*<br>• To be able to use logical reasoning to decipher how to play games in an algorithmic format.<br>• To be able to use the 'decision' symbol in an algorithmic flowchart.<br>• To be able to identify bugs and debug.<br><br>*Scratch: dressing up game.*<br>• To be able to choose a | **ESafety**: Childnet workshop<br><br>**Hardware/software:**<br>• To be able to understand the terms: **INPUT AND OUTPUT DEVICE**<br>• To be able to identify a range of input and output devices.<br>• To know that computers collect data from various input devices, including sensors and application software.<br><br>**Databases:**<br>*Smart Learning*<br>• To be able to design a database to store information.<br>• To be able to answer questions by sorting records in a database.<br><br>**Emails:**<br>• Understands the concept of electronic mail.<br>• Is able to send, receive and reply to mail.<br>• Is aware Y3 can only send/receive to/from …..@fintonhouse.org.uk when in school.<br><br>**Programming:**<br>*Scratch: smoking car.*<br>• To be able to decompose a key elements of a game.<br>• To be able to create a moving block.<br>• To be able to use mathematical degrees to program an object: up/down/left/right.<br>• To be able to create a background.<br>• To be able to use pen up/pen down.<br>• To investigate changing the colour of the line/pathway.<br>• To investigate what else can you make with the pen commands.<br>• To be able to test and evaluate the code/programming.<br>• To be able to test and evaluate the code/programming. | **Spreadsheets:**<br>*MS Excel*<br>• To be able to understand the function of a spreadsheet.<br>• To be able to identify key elements of a spreadsheet (cells, columns, rows, formula bar)<br>• To be able to input data into cells to create tables.<br>• To be able to create graphs from data.<br>• Has an understanding that data can be structured in tables to make it useful.<br><br>**Typing skills:**<br>• To be able to use the shift key when accessing the £ sign and other MS excel symbols.<br><br>**Presentation skills:**<br>*MS Publisher*<br>• Create a publication from a template/show the task pane/put borders around text boxes/drop cap/insert shapes/rotate text boxes/insert header and footer/insert tables/insert audio.<br><br>**Programming:**<br>*Scratch conversation/conversation 2*<br>• To be able to create a conversation and change it into an algorithm.<br>• To be able to use the wait command.<br>• To be able to debug errors.<br>• To be able to create a conversation between multiple users using the broadcast command.<br>• To be able to test and evaluate the code/programming.<br><br>**Presentation skills:**<br>*MS PowerPoint*<br>• Add/delete slides/change slide layout/insert slide transitions/insert custom animation text and pictures/add sounds to custom animated text and images. |

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| ‘sprite’.<br>• To be able to customise ‘costumes’.<br>• To be able to program costume to change when mouse is clicked.<br>• To be able to import a background.<br>• To be able to test and evaluate the code/programming.<br><br>*Scratch: music machine.*<br>• To be able to paint a sound button.<br>• To be able to create looped sounds.<br>• To be able to create a new sprite and code it to play two sounds when clicked.<br>• To be able to create looped notes.<br>• To be able to test and evaluate the code/programming. | | |
| Integrated skills throughout the year.<br>**Hardware/software:**<br>• Is able to use some keyboard shortcuts.<br>• To be able to print to more than 1 printer.<br>• To be able to retrieve work.<br>• To be able to create a folder<br>• Understands .pptx/.xls when saving work. | | |

Computing Year 4 overview

| Autumn | Spring | Summer |
|---|---|---|
| **Programming:** *Introduce Rapid router*<br><br>**ESafety:**<br>• Is able to recognise what is acceptable and unacceptable behaviour when using technologies and online services.<br>• To have an awareness of extremist views and potential radicalisation.<br>• To know strategies for keeping safe online, including social media, the responsible use of ICT and mobiles.<br>• To know the importance of protecting personal information, including passwords, addresses and images. (PHSEE)<br><br>**Programming:**<br>*Scratch: Slug trail*<br>• To be able to decompose key elements of a game.<br>• To be able to design a slug.<br>• To be able to program keyboard inputs to control a game.<br>• To be able to use forever loops/pen up/pen down.<br><br>**Spreadsheets:**<br>*MS Excel*<br>• To be able to alter the height and width of rows and columns<br>• To be able to manipulate cells (size, colour, font, set borders merge, copy, delete and align data)<br>• To be able to construct simple formulae (addition, subtraction, division, multiplication, percentage)<br>• To be able to construct formulae using built-in functions (average, sum,)<br>• To be able to replicate formulae<br>• To be able to sort data (single column) in a table and understands how sorting can improve searching for information.<br><br>**Emails:**<br>• To be able to attach | **ESafety**: *Childnet workshop*<br><br>**Hardware/software:**<br>• Is able to identify technology used in school/home/environment<br><br>**Web/research skills:**<br>• Is aware of the history of the web.<br>• Understands the difference between the internet and internet service e.g. world wide web..<br>• Is aware of Google advanced search.<br>• Is able to find physical places using Google maps/streetview.<br><br>**Databases:**<br>• To gain an understanding of real world databases: (Rightmove/Amazon/Tesco)<br><br>**Presentation skills:**<br>*MS PowerPoint*<br>• To be able to create action buttons to link slides.<br>• To be able to create an algorithm in flow chart form to plan a PPT quiz.<br>• To be able to create a quiz in PPT<br>• To be able to identify the use of: repetition, two-way selection i.e. if, then and else.<br>• To be able to test and evaluate the code/programming. | **Programming:**<br>*Scratch: Maths Quiz*<br>To be able to design, write and debug a maths quiz for lower KS2 children<br>To be able to use if/else/selection/variables within the quiz.<br>To be able to test and evaluate the code/programming.<br><br>**HTML:**<br>To understand what the term: HTML<br>To be able to create a static web page (KS3)<br>To be insert a title.<br>To be able to change the background colour of a static web page.<br>To be able to insert a heading.<br>To be able to insert an image.<br>Understands the terms: web page/web site/ home page/URL.<br><br>**Presentation skills:**<br>*MS Word*<br>Is able to change margins/use tabulation/insert page breaks/add page numbers/wrap text round images/indent text on a page/ insert symbols<br>Is able to edit text via: changing case/character spacing<br>Is able to insert table /add and delete rows/add and delete columns |

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| documents to emails.<br>• Is aware Y4 can only send/receive to/from …..@fintonhouse.org.uk when in school. | | |

Integrated skills throughout the year.

**Typing:**

- Is able to type with increasing speed and accuracy.
- Is able to use some keyboard shortcuts.

**Hardware/software:**

- To be able to print to different areas around school.
- Is able to use the snipping tool.
- To be able to create screen shots.
- To be able to change the screen resolution.
- Has an awareness of the date and time folders were created/modified
- Understands .pdf when saving files.
- To be able to create sub folders

Computing Year 5 overview

| Autumn | Spring | Summer |
|---|---|---|
| **Programming:** *Introduce Rapid router*<br><br>**ESafety:**<br>• To demonstrate responsible use of technologies and online services, and knows a range of ways to report concerns.<br>• To understand the concept of 'digital shadow'<br>• To have an awareness of extremist views and potential radicalisation.<br>• To know strategies for keeping safe online, including social media, the responsible use of ICT and mobiles.<br>• To know the importance of protecting personal information, including passwords, addresses and images. (PHSE)<br><br>**Emails:**<br>• To be aware Y5 can only send/receive to/from …..@fintonhouse.org.uk inside and outside school.<br><br>**Programming:**<br>*Scratch: Crab maze game*<br>• To be able to decompose key elements of a game.<br>• To be able to program a simple crab animation.<br>• To be able to use variables/loops/conditional selection.<br>• To be able to import and use an xy grid.<br>• To be able to test and evaluate the code/programming.<br><br>**Programming:**<br>*Binary*<br>• To be able to understand the term: binary<br>• To know how computers use binary to create images.<br><br>**Spreadsheets:**<br>*MS Excel*<br>• To know what is a bar, pie and line chart/graph and when to use<br>• To be able to create graphs and insert/delete/amend | **ESafety:** *Childnet workshop*<br><br>**Hardware/software:**<br>• Has an awareness of data storage in the form of 1 byte/1megabyte etc.<br>• Has an awareness of the amount of data in folders Eg 1Gb.<br>• Knows the names of hardware e.g. hubs, routers, switches<br><br>**Web/research skills:**<br>• Understands that each computer has a unique address called an IP address and can identify their computers IP address and situations when it is needed.<br><br>**Programming:**<br>*Scratch: Perimeter*<br>• To be able to create a program to work out the perimeter or regular 2D shapes.<br>• To be able to investigate a formula to calculate the perimeter of a shape.<br>• To gain an understanding of the term GENERALISATION<br>• To be able to use generalisation to adapt solutions to work out other regular 2D shapes.<br>• To be able to test and evaluate the code/programming.<br><br>**Programming:**<br>• To be able to identify the main functions of the operating system: the core program that controls and organises the general operation of the computer.<br>• To discuss the difference between humans and computers (eg humans have emotions, computers perform tasks far more quickly than humans)<br>• To be able to identify tasks best completed by humans (caring for a baby) and computers (calculating a complex sum) | **HTML:**<br>• To be able to use the 'href' tag correctly to link a series of web pages<br>• To insert 1 hyperlink to another web site.<br><br>**Programming:**<br>• To discuss the difference between humans and computers (eg humans have emotions, computers perform tasks far more quickly than humans)<br>• To be able to identify tasks best completed by humans (caring for a baby) and computers (calculating a complex sum)<br><br>**Presentation skills:**<br>*MS Publisher*<br>• To be able to layer text and objects/send back text and objects/bring forward text and objects.<br><br>**Databases:**<br>• To be able to sort and search real world databases. |

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| legends and titles.<br>• To be able to sort multiple columns of data in a table.<br>• To be able to create and use custom list in a table (days of the week or months of the year)<br>• To be able to use auto filter.<br>• To be able to analyse and evaluate data and information.<br>• To be able to identify that poor quality data leads to unreliable results, and inaccurate conclusions. | | |
| Integrated skills throughout the year.<br>**Hardware/software:**<br>• To be able to complex print: print on both sides/certain pages/landscape/portrait/1 page per sheet up to multiple pages.<br>• To be able to access emails from school website.<br>• Understands .gif/.zip when saving files.<br>**Typing:**<br>• Is able to type with increasing speed and accuracy.<br>• Increases typing cadence and knows function of the shift key.<br>• Is able to use keyboard shortcuts. | | |

Computing Year 6 overview

| Autumn | Spring | Summer |
|---|---|---|
| **Programming:** *Introduce Rapid router*<br><br>**ESafety:**<br>• To know strategies for keeping safe online, including social media, the responsible use of ICT and mobiles.<br>• To have an awareness of extremist views and potential radicalisation.<br>• To know the importance of protecting personal information, including passwords, addresses and images. (PHSE)<br><br>**Programming:**<br>*Scratch: music machine.*<br>• To be able to paint a sound button.<br>• To be able to create looped sounds.<br>• To be able to create a new sprite and code it to play two sounds when clicked.<br>• To be able to create looped notes.<br>• To be able to test and evaluate the code/programming.<br>*Scratch music score:*<br>• To be able to convert a piece of music into scratch code.<br>*Scratch: music as code*<br>• To be able to convert a piece of music into an algorithm then convert the algorithm into a program.<br>• To be able to understand the term ABSTRACTION (irrelevant detail) and identify all the elements that won't help programming the musical notes.<br>• To be able to test and evaluate the code/programming.<br><br>**Hardware/software:**<br>• Understands the term 'networked computers'<br>• Understands .bit/.exe./.mp3/.mp4 when saving files.<br><br>**Web/research skills:**<br>• To understand how search engines rank search results. | **ESafety:** *Childnet workshop*<br><br>**Programming:**<br>• To know how computers use binary to create numbers and text.<br><br>**Web/research skills:**<br>*Binary*<br>• To understand how images and text is sent via the internet and emails (packet switching.)<br><br>**HTML:**<br>Is able to construct a static website using HTML and enhance using CSS.<br><br>**Programming:**<br>*Scratch times table game*<br>• To be able to decompose a game.<br>• To be able to use variables/loops<br>• To be able to use: pick random/hide/show/change/set blocks.<br>• To be able to test and evaluate the code/programming. | **Programming:**<br>• To be able to identify the difference between physical, wireless and mobile networks.<br><br>**Spreadsheets:**<br>*MS Excel*<br>• To be able to plan a residential trip to France using spreadsheets, timetables and bookings.<br><br>**Presentation skills:**<br>• Is aware of the advantages and disadvantages of presentation applications.<br>• To able to discuss which applications would be suited to particular purposes eg PPT– presentations, PUB and WORD – documentation.<br><br>**Hardware/software:**<br>• Understands data transmission between digital computers over networks, including the internet i.e. IP addresses and packet switching. |

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| Integrated skills throughout the year.<br>**Typing:**<br>• Is able to type with increasing speed and accuracy.<br>• Uses numeric keypad and ctrl commands (ctrl-c, ctrl-v etc)<br>• Is able to use keyboard shortcuts.<br>**Hardware/software:**<br>• Is able to insert and remove USB correctly and safely.<br>• Can identify the USB drive 'E' or 'F'.<br>• Is able to personalise their USB drive.<br>• Understands the function 'save as type'.<br>• Is able to save work in rich text format in order to transfer onto Macs.<br>**Emails:**<br>• Is aware internal/external emails can be sent and received. | | |