

# Long Term Plan and Progression in Computing

## Nether Edge Primary 2020/2021



### Long term Plan

- Cycle 1:** Online safety and fundamentals
- Cycle 2:** Online safety and fundamentals  
Multimedia
- Cycle 3:** Online safety and fundamentals  
Technology in our lives
- Cycle 4:** Online safety and fundamentals  
Coding and computational thinking

### Progression in Computing

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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# Progression in Computing

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<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Fundamentals</p>	<ul style="list-style-type: none"> <li>Use a computer mouse to drag with control and click on objects</li> <li>Turn off the computer screen</li> <li>Drag objects using the mouse</li> <li>Click on objects to select it</li> </ul> <p><b>Software:</b></p> <ul style="list-style-type: none"> <li>Publisher (introduce)</li> </ul>	<ul style="list-style-type: none"> <li>Use a computer mouse and laptop touchpad to draw simple shapes and develop an association with hand movement and action on the screen</li> <li>Safely switch on and shutdown a computer</li> <li>Name the main components of a computer: <i>Monitor, PC unit, keyboard, mouse, speaker, touchpad,</i></li> <li>Save a file (which has already been saved)</li> </ul> <p><b>Software:</b></p> <ul style="list-style-type: none"> <li>Publisher</li> <li>Word (introduce)</li> </ul>	<ul style="list-style-type: none"> <li>Use a computer mouse and laptop touchpad with increasing confidence and accuracy to open programmes and documents, drag objects and resize objects.</li> <li>Turn on, log in, log off or safely shutdown a PC or laptop</li> <li>Open saved work, edit text and understand the difference between 'save' and 'save as'</li> <li>Begin to show an awareness of where letters are on a keyboard when typing</li> <li>Format text (select font type, change colour, change size, bold, underline)</li> </ul> <p><b>Software:</b></p> <ul style="list-style-type: none"> <li>Publisher</li> <li>Word</li> <li>Powerpoint (introduce)</li> </ul>	<ul style="list-style-type: none"> <li>Use and distinguish shortcuts paste, cut and copy, and how to use ctrl c, x and v</li> <li>Use caps lock when required</li> <li>Use bullet points/numbering for lists</li> <li>Insert and format text boxes</li> <li>Insert/copy and paste and format images</li> <li>Align text left or central when appropriate</li> <li>Type with a minimum of 15 words per minute</li> </ul> <p><b>Software:</b></p> <ul style="list-style-type: none"> <li>Publisher (focus)</li> <li>Word</li> <li>Powerpoint</li> </ul>	<ul style="list-style-type: none"> <li>Send documents to the correct printer</li> <li>Use special characters such as ? ! " £ @ using 'shift'</li> <li>Save documents on the pupilshare area of the server, select appropriate names for file saves and rename files if necessary</li> <li>Type with a minimum of 20 words per minute with 90% accuracy</li> </ul> <p><b>Software:</b></p> <ul style="list-style-type: none"> <li>Publisher</li> <li>Word</li> <li>Powerpoint</li> <li>Excel (introduce)</li> </ul>	<ul style="list-style-type: none"> <li>Select which software (Word, PowerPoint and Publisher) is best for different purposes</li> <li>Insert hyperlinks</li> <li>Using PowerPoint:             <ul style="list-style-type: none"> <li>Create a branching story</li> <li>Add transitions and animations</li> <li>Insert video and audio</li> <li>Type with a minimum of 30 words per minute with 90% accurately</li> </ul> </li> </ul> <p><b>Software:</b></p> <ul style="list-style-type: none"> <li>Publisher</li> <li>Word</li> <li>Powerpoint (focus)</li> <li>Excel</li> </ul>	<ul style="list-style-type: none"> <li>Select from a range of software, decide and evaluate which is best for different purposes (including Word, PowerPoint, Publisher, Excel)</li> <li>Using Excel:             <ul style="list-style-type: none"> <li>-add, edit and enter data and formulas into a spreadsheet</li> <li>-order and present data</li> <li>-design and use a spreadsheet for a specific purpose or problem</li> </ul> </li> </ul> <p><b>Software:</b></p> <ul style="list-style-type: none"> <li>Publisher</li> <li>Word</li> <li>Powerpoint</li> <li>Excel (focus)</li> </ul>
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<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Online safety Please refer to the Sheffield Online Safety Curriculum Overview 2019</b></p>	<ul style="list-style-type: none"> <li>• Why do we need to get enough sleep?</li> <li>• How do I decide what to play on?</li> <li>• Know that we can communicate online</li> <li>• Understand what we do if we don't feel safe online</li> <li>• Understand that some information is private</li> <li>• Why is it important to be kind?</li> </ul>	<ul style="list-style-type: none"> <li>• (L1) - Understand a healthy balance of online and offline activities</li> <li>• (L2) How to choose what to do and what not to do online</li> <li>• (S2) What makes a good friend online and offline</li> <li>• (S3) Communicating online and offline with people</li> <li>• (P2) What do we do if we feel uncomfortable online?</li> </ul>	<ul style="list-style-type: none"> <li>• (L1) Understand a healthy balance of online and offline activities</li> <li>• (L2) How to choose what to do and what not to do online</li> <li>• (S1) How do we keep our information safe?</li> <li>• (P1) Who can you trust online?</li> <li>• (P3) - How to search safely</li> <li>• (C1) – Do you need a password in Y2?</li> <li>• (C2) – What is the Internet?</li> <li>• (C3) – Understand what to do if messages pop up on our devices</li> <li>• (N1) – Understand anyone can put something online (fakenews)</li> </ul>	<ul style="list-style-type: none"> <li>• (L1) Understand a healthy balance of online and offline activities can affect our well-being</li> <li>• (L2) Getting enough sleep is related to your well-being</li> <li>• (S1) Understand friends should behave appropriately and kindly at all time</li> <li>• (P2) Keeping your personal information safe</li> <li>• (C1) – How do adverts target us?</li> <li>• (C2) – Understand websites store a lot of our information</li> <li>• (C5) – Secure, strong passwords are important</li> <li>• (N1) – Develop digital literacy and analyse digital content</li> </ul>	<ul style="list-style-type: none"> <li>• (L1) Understand a healthy balance of online and offline activities can affect our well-being</li> <li>• (L3) How do you decide what is appropriate for your age?</li> <li>• (S1) Understand friends should behave appropriately and kindly at all time</li> <li>• (P1) People aren't always who they say they are</li> <li>• (P2) – Keeping information safe</li> <li>• (C3) – Understand copyright and that it can be illegal</li> <li>• (C4) – Recognising suspicious messages and what to do</li> <li>• (N2) – What does bias mean?</li> <li>• (N3) – Echo chambers – what are they?</li> </ul>	<ul style="list-style-type: none"> <li>• (L1) Understand social media anxiety</li> <li>• (L2) Body image and self-esteem</li> <li>• (L5) – Understand that online stereotypes can influence us</li> <li>• (L6) – Understand why we have PEGI ratings</li> <li>• (S1) We have control and consent of our online and offline world</li> <li>• (P3) – Understand attention can be healthy and unhealthy</li> <li>• (P4) – Understand the dangers and signs of strangers online</li> <li>• (C1) – Online adverts and understanding how money is made online</li> <li>• (C5) – Understand in-app purchases and what to look for</li> <li>• (C5) – Secure, strong passwords are important</li> <li>• (N1) – Become digitally literate and analyse content</li> <li>• (N3) – Understand it is easy to edit images and 'Fake News'</li> <li>• (N5) – How echo chambers affect the views and opinions we see</li> </ul>	<ul style="list-style-type: none"> <li>• (L1) Understand social media anxiety</li> <li>• (L2) Body image and self-esteem</li> <li>• (L3) – Recognise accurate and inaccurate health information</li> <li>• (L4) – Is there a digital '5 a day'?</li> <li>• (S2) – Understand some people's behavior is different online and how to deal with it</li> <li>• (P1) – Protecting our identity including sensitive information such as opinions and emotions</li> <li>• (P2) – Protecting the images of us online</li> <li>• (C2) – Understanding how our information is used, and how Ts and Cs do</li> <li>• (N2) – Understand things can be misleading and unbiased; perspective is needed</li> <li>• (N4) – How can we verify online information?</li> </ul>
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Computational thinking		<ul style="list-style-type: none"> <li>I can give instructions to a friend and physically follow their instructions</li> <li>I can describe what happens when I press buttons</li> <li>I can say what actions I will need to do to make something happen, and talk about this as the algorithm</li> <li>Begin to predict what will happen in a short sequence of instructions</li> </ul>	<ul style="list-style-type: none"> <li>Discuss devices that have been programmed and need code such as games, apps, domestic appliances</li> <li>Solve larger problems, and talk about them as algorithms</li> <li>Predict what will happen in longer sequences of instructions</li> </ul> <p><b>Databases</b></p> <ul style="list-style-type: none"> <li>I can begin to understand what a branching database is and sort objects</li> <li>I can think about when and why to use a branching database</li> </ul>	<ul style="list-style-type: none"> <li>Explore loops and repeats to shorten lines of code and instructions</li> <li>Plan, create and debug instructions to achieve specific outcomes</li> </ul> <p><b>Databases</b></p> <ul style="list-style-type: none"> <li>I can draw flow diagrams (algorithms) to show how everyday things work</li> <li>Investigate how everyday devices use inputs and outputs e.g. kettle, traffic lights</li> </ul>	<ul style="list-style-type: none"> <li>I can create, test and debug algorithms to carry out a specific task</li> <li>I can include loops and 'if' conditional to shorten my code</li> </ul> <p><b>Databases (Excel introduction)</b></p> <ul style="list-style-type: none"> <li>I can search a ready-made database to answer specific questions</li> <li>I can collect data and add to a database, reorganise the data and think about how best to present the data</li> </ul>	<ul style="list-style-type: none"> <li>I can test and find errors and improve given code (debug), evaluate explain the process</li> <li>Build code to control a device or game including inputs and outputs using sensors and output values</li> <li>Refine procedures to improve desired outcomes through loops and repeats</li> </ul> <p><b>Databases (Excel)</b></p> <ul style="list-style-type: none"> <li>I can collect data and add to a database, reorganise the data and think about how best to present the data</li> <li>Plan, create and search a database to answer questions</li> </ul>	<ul style="list-style-type: none"> <li>Undertake creative projects to achieve specific goals across the curriculum</li> <li>Explain the purpose and function of the code, variables etc in the project</li> <li>Compare and contrast different coding languages e.g. Espresso Coding, Scratch, Flowol, WER software flowchart or C-coding</li> </ul>
Coding		<p><b>Espresso Coding Level 1</b></p> <ul style="list-style-type: none"> <li>Knowing that code is a set of instructions for a computer</li> <li>Make things move on screen using start events and click events to make things happen</li> <li>Create a scene and game where things move, and design items and backgrounds for scene</li> <li>Check for mistakes and debug</li> </ul>	<p><b>Espresso Coding Level 2</b></p> <ul style="list-style-type: none"> <li>Use code to make things happen using keyboard keys and create a program where things move</li> <li>Make my own app/program combining objects that move using clicks, swipes and the keyboard</li> </ul>	<p><b>Espresso Coding</b></p> <ul style="list-style-type: none"> <li>Begin to use timing in programming to sequence actions</li> <li>Use commands to make items appear and disappear</li> <li>Begin to use conditional (if) when creating a game</li> <li>Look for mistakes and debug my work</li> </ul>	<p><b>Espresso Coding</b></p> <ul style="list-style-type: none"> <li>I can learn and practise how to use a loop to do something repeatedly (and repeat infinitely) and create a timer</li> <li>I can explore how to use variables to keep track of a score in a game</li> </ul>	<p><b>Espresso Coding or Scratch</b></p> <ul style="list-style-type: none"> <li>I can set values in code to program the speed of objects, and change their direction</li> <li>Set friction to effect speed and movement (e.g. making a car game)</li> <li>Code a game that uses random number generation, and random movement of objects</li> </ul>	<p><b>Espresso Coding or Scratch</b></p> <ul style="list-style-type: none"> <li>I can program my own app/game where objects move, and collect further information and set object parameters</li> <li>I can use variables and formulae in code to convert one measure to another</li> <li>Use variables in more complex ways to make a unit conversion app</li> </ul>

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Multimedia		<ul style="list-style-type: none"> <li>Use technology to collect information, including photos, videos and sounds</li> <li>Be creative with different technology tools</li> <li>Use technology to create and present ideas/work</li> </ul>	<ul style="list-style-type: none"> <li>Create a simple stop/start motion animation</li> <li>Create a computer generated animation with a voice over</li> </ul>	<ul style="list-style-type: none"> <li>I can use technology to organise and present my ideas in different ways</li> <li>I can use a range of art tools to create different effects to create a piece of artwork</li> </ul>	<ul style="list-style-type: none"> <li>I can use sounds to create atmosphere when presenting to different audiences</li> <li>Begin to use samples, loops and your own voice recordings</li> <li>Write a ringtone/song</li> </ul>	<ul style="list-style-type: none"> <li>Use appropriate software and other tools effectively to present a written script</li> <li>Use digital recording devices to film and import into video editing software to create a finished short film to present</li> </ul>	<ul style="list-style-type: none"> <li>I can make an animation and evaluate which software/resource was most appropriate</li> <li>I can make short film and evaluate which software/resource was most appropriate</li> <li>I can write and record a song and evaluate which software/resource was most appropriate</li> </ul>
Technology in our lives		<ul style="list-style-type: none"> <li>Talk about, explore and demonstrate how everyday objects and devices can be controlled through remote control e.g. TV, DVD, cameras, projectors, screens...</li> </ul>	<ul style="list-style-type: none"> <li>I can search the Internet using 1-2 key words suitable for children safely online</li> <li>Search the Internet to find information and results</li> <li>Follow links to another web page</li> <li>Use a camera to take photographs which would be safe to use online</li> </ul>	<ul style="list-style-type: none"> <li>I can identify how word order affects search results</li> <li>Explain how searches and how Google search works</li> <li>I can explain how and why I need to be responsible online when searching</li> </ul>	<ul style="list-style-type: none"> <li>I can explain where documents and software are saved in school (server), and access school files independently</li> <li>I can explain what a network is and the devices that make up the school network</li> <li>I can explain how the school network system is similar and different to 'the cloud'</li> </ul>	<ul style="list-style-type: none"> <li>Use search engines to find appropriate information and check its reliability</li> <li>I can explain and understand what cookies are</li> <li>Understand basic copyright laws when finding and using online information</li> <li>Name the different components to a computer and how it works including disk drives, motherboards, memory disk drives and removable devices such as flashdrives</li> </ul>	<ul style="list-style-type: none"> <li>I can explain the ways in which websites and apps advertise products to me</li> <li>I know that websites can use my data to make money and target their advertising</li> <li>Understand copyright and legal property of my own data I post</li> <li>Be aware of different settings on devices and apps such as location, brightness, allowing other devices/apps to access camera, contacts, mic...</li> </ul>