COMPUTING
KNOWLEDGE AND SKILLS PROGRESSION

Hursthead Junior School

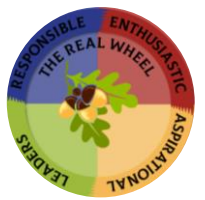| Skills	Year 3	Year 4	Year 5	Year 6
E-SAFETY (supported and enhanced by reactive PSHE and SID)	Pupils can work within the internet safety rules, understand why they are in place and abide by them. Pupils are aware of some of the consequences of their online actions and be able to explain the importance of balancing game and screen time with other parts of their lives.	Pupils can explain how to keep themselves safe online. Pupils demonstrate respect towards others on the internet. Pupils understand the reasons for using strong passwords. Pupils are aware of ways in which we interact with online communities and be able to suggest and use strategies for dealing with cyberbullying.	Pupils can demonstrate an understanding of responsible social media use, including knowledge of their digital footprint, sharing information and images, and communication with others. Pupils can demonstrate an understanding of the risks of online gaming and know strategies for healthy online behaviours.	Pupils can develop and understand a suitable code of conduct for internet use, and explain what to do in cases of cyberbullying. Pupils can demonstrate an understanding of media bias and strategies for ensuring a balanced view, including gender stereotypes. Pupils can explain how to develop positive online relationships and have strategies to prevent and stop negative situations and manage their private information.
KEY SKILLS	Pupils can use more than one hand to enter text, using the keyboard. Pupils can use cut, copy and paste tools by right clicking or using the edit toolbar. Pupils can, with support, save work effectively navigating a folder system e.g. Shared Drive, iPad camera roll, Google Drive or OneDrive. Pupils can, when using a mouse or trackpad, use left/right/double click and scroll.	Pupils can use more than two fingers to enter text. Pupils know and can use keyboard function keys e.g. shift, caps lock, num lock, space bar, return. Pupils can rename a previously saved digital document or file appropriately. Pupils can, if appropriate, print a document.	Pupils can hold two hands over different halves of the keyboard and use more than two fingers to enter text. Pupils know and can use more advanced keyboard function keys e.g. insert, delete, ctrl+c, ctrl+v, ctrl+z. Pupils can navigate a folder system to move files or work to a suitable location within e.g. Shared Drive, iPad camera roll, Google Drive or OneDrive. Pupils can, if appropriate, change print properties to affect the appearance of a printed document	Pupils can use more than two fingers to enter text, with increasing speed and accuracy. Pupils can use more advanced keyboard function keys e.g print screen, ctrl+a, ctrl+b, ctrl+t, ctrl+shift+t Pupils can independently create suitably named folders to organise documents, using appropriate file paths.
COMPUTER SCIENCE	Pupils can sequence a list of commands/blocks to produce an output e.g. a light comes on or a robot follows a defined route. Pupils can use 'repeat' and 'repeat until' loops when appropriate. Pupils can use simple conditional statements (if and when commands) and understands the importance of time within a program (e.g. using wait), with support.	Pupils can design, test and amend programs to achieve an intended objective, including controlling an external output. Pupils can use nested loops to increase the efficiency of a program. Pupils can use and change a pre-written function. Pupils understand a wider range of 'events' such as sprite interactions and button presses, and can use them within programs.	Pupils can use decomposition when solving problems (break the code/problem into smaller parts). Pupils can explain what happens when a variable changes and can use this within a computer program to manipulate data. Pupils show an understanding of when to use 'while', 'repeat until' and 'forever if' loops to make programs shorter and more efficient and can use them appropriately (understanding the differences between them).	Pupils can use logical operations (not, or, and) to alter and control the outcome of a series of commands. Pupils can use variables efficiently. Be able to create their own variable and use this within a computer program to manipulate data. Pupils can demonstrate an understanding of what subroutines (e.g. functions and procedures) are, and be able to create them within a

	Pupils can make use of an input 'event' within a simple program e.g. when start button is clicked. Pupils can find errors in a simple program, and successfully debug to make the program work.	Pupils can find errors in a program of their own design, and successfully debug to achieve a specific goal.	Pupils can use and change a pre-written function as part of a longer program or sequence. Pupils can use a greater range of conditionals (selection) including "whilst", "if else", "repeat until".	computer program to store and retrieve data. Pupils can use a wider range of events (such as broadcasts) and use them efficiently within programs to start and stop scripts. Pupils can use abstraction when debugging to filter out extraneous detail and debug the program.
INFORMATION TECHNOLOGY	Pupils can format the text to indicate relative importance, including bold, italic, underline and strikethrough. Pupils can select and use appropriate editing tools in an image-editing package for a specific purpose. Pupils can sequence still images, video, audio clips and text to create a video presentation. Pupils can locate, record, save and retrieve sounds in multimedia software. Pupils can use data loggers to collect snapshot information and use information from a given source. Pupils can enter data into a graphing package and use it to create a range of graphs.	Pupils can use a range of features of layout and design such as text boxes, columns and borders, to control the layout and presentation of a document. Pupils can make use of a range of visual effects such as filters, hues, saturation, contrast and combining images to give different effects. Pupils can create and add text, video, sound and other graphic effects to a video presentation for an audience, using editing techniques such as crop and trim. Pupils can layer sounds using music composition software. Pupils can collect snapshot data from data loggers, selecting the appropriate tool to generate graphs or charts. Pupils can create a branching database to sort and identify objects.	Pupils can independently plan and structure the layout of multimedia presentations, drawing on a range of different techniques and styles as appropriate for the task. When using digital art software, pupils can select and change options within the creation tools to alter the effect or transform an image e.g. line width, opacity, blur, iterations, etc. Pupils can include a range of media in documents or presentations, including images, video and sound, embedded media and hyperlinks. Pupils can layer and edit sounds in appropriate sound editing software. Pupils can, with support, organise data by designing fields and entering records in a database, checking for accuracy. Pupils can query a database using keywords and filters to search a large database, for example using 'greater than', 'equal to' and 'contains'. Pupils understand that spreadsheets perform calculations. Explore the effect of changing the cell values in a pre-prepared spreadsheet.	Pupils can make appropriate use of text and hyperlinks to produce a non-linear presentation or document. Pupils can use layers within a digital art package to allow more detailed creation, refining the use of tools to create increasingly purposeful digital artworks. Pupils can create videos that include green screen or animated footage. Edit footage with different effects such as slow motion, cutaway, picture in picture. Pupils can import sounds into audio editing software, layering and editing to refine their work. Pupils can export and analyse continuous data from data logging and present in graph form. Pupils can add simple formulae to their own spreadsheets, such as SUM, MAX, MIN and AVERAGE. Enter data and use filters to sort information. Pupils can use a spreadsheet to produce bar and pie charts.
DIGITAL LITERACY	Pupils can identify and use keywords for effective Internet searches to answer specific questions.	Pupils can, when searching for information online, be able to evaluate how appropriate a website is. Pupils can work collaboratively with others online, with support.	Pupils can search the internet for specific information using tools such as Boolean search or Google Advanced Search. Pupils can engage in online communication with teachers and other pupils, making use of a growing range of	Pupils can identify irrelevant, implausible and inappropriate information, when searching for information online.

	Pupils can independently share suitable pictures and work on an online platform. Pupils can, independently, use a suitable search engine to search for information to answer questions. Pupils can enter data into a computer simulation, change data and observe changes in results.	Pupils can search for and select relevant information (pictures and text) to use in other software, sorting by text, pictures, sound and video. Pupils can predict the effect(s) of changing the variables in digital simulations and observe the results.	available features within the online platform. Pupils can search using more than one search term, adapting the search terms to refine search results. Pupils can use modelling and simulation software to explore or create realistic or fantasy representations of the real world.	Pupils can work with others to create an online collaborative project for a specific purpose, sharing and appropriately setting permissions for other group members. Pupils can show an awareness that some media is copyrighted and cannot be used without permission. Pupils can use modelling software to explore and create detailed virtual environments or simulations.