Every time we see a rainbow in the sky, we can remember that God loves us and will always look after us.

Naburn CE Primary School

Computing Skills Progression

NABURN C of E PRIMARY SCHOOL

Strand	KS1		LKS2		UKS2	
Information Technology • **Data Handling** • **Multi-media**	**Data Handling** • Talk about the different ways in which information can be shown. • Use technology to collect information including photos, video and sound. • Begin to present information in different ways. • Add information to a photograph. **Multi-media** • Be creative with different technology tools. • Use technology to create and present my ideas. • Use the keyboard on my device to enter text and begin to use capital letters. • Save my work and retrieve it again.	**Data Handling** • Talk about the different ways I use technology to collect information including a camera or sound recorder. • Make and save a chart or graph using the data I collect. • Talk about the data that is shown in my graph. **Multi-media** • Use technology to organise and present my ideas in different ways. • Use the keyboard on my device to add, delete and space text for others to read including capital letters. • Save and open files on the device I use.	**Data Handling** • Talk about the different ways data can be organised. • Search a readymade database to answer questions. • Collect data to help me answer a question. • Add to a database. • Use information I have found to create a graph. **Multi-media** • Design and create a piece of work which accomplishes a given goal. • Create different effects using different technology tools. • Combine a mixture of text graphics and sound to share my ideas and learning. • Use appropriate keyboard commands to amend text on my device including making use of a spellchecker. • Evaluate my work and improve its effectiveness.	**Data Handling** • Organise data in different ways. • Evaluate data and be able to pick out a trend. **Multi-media** • Use photos, videos and sound to present my work. • Change the appearance of text to increase its effectiveness. • Create, modify and present documents for a particular purpose. • Use a keyboard confidently and make use of a spellchecker.	**Data Handling** • Organise data by designing fields and records in a database, with support. • Be able to design questions using keywords, to search a large pre-prepared database. • Add simple formulae to spreadsheets, such as SUM, MAX, MIN and AVERAGE, enter data and use filters to sort information. • Use a spreadsheet to produce bar and pie charts. **Multi-media** • When word processing, can format the text to indicate relative importance, including bold, italic, underline and strikethrough. • Include a range of media in documents, including images and sound. • Use modelling software to create virtual environments or simulations. • Select sounds, text, movie clips and other effects to suit purpose and audience. • Use a range of editing techniques and filters to improve photographs and digital art. • Layer and edit sounds in appropriate sound editing software.	**Data Handling** • Organise data by independently designing fields and records in a database. • Query a large pre-prepared database using 'greater and less than', 'equal to' and 'contains'. • Add data validation to spreadsheets, including drop down lists and conditional formatting. • Export and analyse continuous data from data logging and present in graph form. **Multi-media** • Make appropriate use of hyperlinks to produce a non-linear presentation or document. • Create, edit and refine media to ensure quality. • Import sounds into sound editing software, layering and editing to refine their work.

Strand	KS1		LKS2		UKS2	
Digital Literacy • **Internet Safety** • **Using Technology**	**Internet Safety** • Keep my password private. • Tell you what personal information is. • Tell an adult if something worries me online. • Follow the schools internet safety rules. **Using Technology** • Use technology safely and respectfully. • Recognise ways we use technology in our classroom. • Recognise ways that technology is used in my home. • Follow a link to a website. • Begin to identify some of the benefits of using technology.	**Internet Safety** • Explain why I need to keep my password and personal information private. • Describe the things that happen online that I must tell an adult about. • Talk about why I should go online for a short amount of time. • Know that not everyone is who they say they are on the internet. • Know where to go for help when I have a concern about something I see online. **Using Technology** • Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • Tell you why I use technology in the classroom/home. • Identify benefits of using technology including finding information creating and communicating. • Use search technologies to find a piece of information.	**Internet Safety** • Understand what behaviour is acceptable and unacceptable online. • Talk about what makes a secure password and why they are important. • Understand that I should not share my personal information online. • Use the safety features of a website as well as reporting concerns to an adult. • Recognise websites and games appropriate for my age. • Make good choices about how long I spend online. • Ask an adult before downloading files and games from the internet. **Using Technology** • Use technology safely, respectfully and responsibly. • Save and retrieve work on the internet and my own device.	**Internet Safety** • Choose a secure password and username when I am using a website. • Talk about the ways I can protect myself and my friends from harm online. • Report concerns to an adult or use the report button on a website. • Understand what personal information is and if shared online can be seen by anyone. • Talk about why I need to ask a trusted adult before downloading files and games from the internet. **Using Technology** • Use search tools to find and use an appropriate website. • Understand that not all images found on the internet can be used in my work.	**Internet Safety** • Demonstrate an understanding of the rules for personal internet safety, including social media and search engine use. **Using Technology** • Search the internet for specific information using tools such as Google Advanced Search. • Check information for accuracy and bias. • Save media from the internet to be used in further work. • Is aware that some media is copyrighted and cannot be used without permission. • Upload/download informative and interesting content to and from a learning platform, including various media. • Take part in a range of digital surveys and quizzes to communicate and collaborate with others. • Use modelling and simulation software to create realistic or fantasy representations of the real world.	**Internet Safety** • Develop and understand a suitable code of conduct for internet use, and explain what to do in cases of cyberbullying. **Using Technology** • Search the internet for specific information using tools such as Google Advanced Search, discerning how results are ranked. • Identify irrelevant, implausible and inappropriate information, checking for bias. • Show an awareness that some media is copyrighted and cannot be used without permission. • Initiate and take part in collaborative learning using a variety of digital platforms. • Use modelling software to create detailed virtual environments or simulations.

Strand	KS1		LKS2		UKS2	
Computer Science • **Programming** • **Computer (Hardware/ Networks)**	**Programming** • Give instructions to my friend and follow their instructions. • Describe what happens when I press buttons. • Press buttons in the correct order to make a simple programme. • Understand what an algorithm is. • Predict what will happen for a short sequence of instructions. • Begin to use software/Apps to create movement and patterns on a screen. • Begin to correct mistakes in a programme (debug). **Computer Hardware/networks** • Begin to understand the main parts of a computer. • Begin to understand what sort of data can be saved on a computer.	**Programming** • Give instructions to my friend (forward, backward and turn) and physically follow their instructions. • Tell you the order I need to do things to make something happen and talk about this as an algorithm. • Programme a robot or software to do a particular task using precise instructions. • Look at an algorithm and tell you what will happen. • Watch a programme execute and spot where it goes wrong so that I can debug it. • Understand how algorithms are implemented as programs on digital devices. **Computer Hardware/networks** • Know what the different parts of a computer are. • Begin to understand how the different parts of a computer work. • Know what different types of data are stored on the computer.	**Programming** • Use sequence, selection, and repetition in programs. • Use logical reasoning to explain how some simple algorithms work. • Detect and correct errors in algorithms and programs. • Put programming commands into a sequence to achieve a specific outcome. • Use repeat commands. **Computer Hardware/networks** • Talk about the parts of a computer. • Describe the WWW as the part of the internet that contains websites. • Understand that the computers in a school are connected together in a network. • Know why computers are networked. • Understand the difference between the Internet and the World Wide Web (WWW).	**Programming** • Use logical thinking to solve problems by decomposing them into smaller parts. • Use an efficient procedure to simplify a programme. • Know that I need to keep testing my programme whilst I am putting it together. • Use a variety of tools to create a programme. • Recognise an error in a programme and debug it. • Recognise that using algorithms will also help solve problems in other learning. **Computer Hardware/networks** • Understand how computer networks work, including the internet. • Understand that servers on the Internet are located across the planet. • Understand how email is sent across the Internet	**Programming** • Use decomposition when solving problems (break the code/problem into smaller parts). • 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). • Explain what happens when a variable changes and can use this within a computer program to manipulate data. • Use and change a pre-written function as part of a longer program or sequence. • Use a greater range of conditionals (selection) including whilst, if else, repeat until. **Computer Hardware/networks** • Learn that external devices can be programmed by a separate computer • Learn the difference between ROM and RAM • Learning the vocabulary associated with data: data and transmit • Learning how the data for digital images can be compressed • Understand how bit patterns represent images as pixels	**Programming** • When debugging, use abstraction to filter out extraneous detail and debug the program. • Use variables efficiently. Be able to create their own variable and use this within a computer program to manipulate data. • Use logical operations (not, or, and) to alter and control the outcome of a series of commands. • Use a wider range of events (such as broadcasts) and use them efficiently within programs to start and stop scripts. • Demonstrate an understanding of what subroutines (e.g. functions and procedures) are and be able to create them within a computer program to store and retrieve data **Computer Hardware/networks** • Learn about the history of computers and how they have evolved over time • Understand and identify barcodes and QR codes and identify devices that use these • Acknowledge that corruption can happen within data during transfer (for example when downloading, installing, copying and updating files) • Understanding that computer networks provide multiple services