Hazlewood
Community Primary School

Level Expected at the end of EYFS

Year	Personal, Social and Emotional Development	Physical Development	Understanding the World	Expressive Arts and Design	Communication and Language
Nursery	• Remember rules without needing an adult to remind them.	• Match their developing physical skills to tasks and activities in setting.	• Explore how things work.		
Reception	• Show resilience and perseverance in the face of a challenge. • Know and talk about the different factors that support their overall health and well-being e.g. sensible amounts of 'screen time'.	• Develop their small motor skills so that they can use a range of tools competently, safely and confidently.		• Explore, use and refine a variety of artistic effects to express their ideas and feelings.	• Comment on their interests with relevant vocabulary • Ask questions to clarify. • Offer ideas when working in a small group.

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Computing Progression Map

Key Stage 1 National Curriculum Expectations	Key Stage 2 National Curriculum Expectations
Pupils should be taught to: • understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions • create and debug simple programs • use logical reasoning to predict the behaviour of simple programs • use technology purposefully to create, organise, store, manipulate and retrieve digital content • recognise common uses of information technology beyond school • use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Pupils should be taught to: • design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • use sequence, selection, and repetition in programs; work with variables and various forms of input and output • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

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Knowledge and Skills Progression: Year 1 to 6

Year Group	Computing Systems and Network	Data and Information	Coding using physical devices	Coding on screen	Presenting Information and Multi-Media
1	• Explain how technology can help us. • Locate technology in the classroom. • Name the main parts of a computer. • Click and drag objects. • Use my finger to create images. • Say what a keyboard is for. • Type my name on a keyboard. • Delete letters. • Create rules for using technology responsibly.	• Describe using labels. • Identify the label for a group of objects. • Count a group of objects. • Describe an object. • Find objects with similar properties. • Choose how to group objects. • Record my information. • Compare groups of objects	• Match a command to the outcome. • Predict the outcome of a command. • Run a command on a device. • Follow instruction. • Give direction. • Compare forwards and backwards movements. • Sequence orders. • Choose the order of commands • Debug a programme. • Identify solutions	• Compare different programming tools. • Find commands and use them to move a character. • Run a programme. • Use Start blocks in a programme. • Use more than one block by joining them together. • Change the value. • Say what happens when I change a value. • Create algorithms.	• Draw different kinds of lines. • Use different strokes and brushes. • Experiment with methods. • Begin making shapes with line. • Crop photos to focus on the subject. • Change the colour of photos to black and white. • Markup to draw on a photo. • Speak clearly into the microphone. • Record, play and delete media.

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Knowledge and Skills Progression: Year 1 to 6

Year Group	Computing Systems and Network	Data and Information	Coding using physical devices	Coding on screen	Presenting Information and Multi-Media
2	• Describe some uses of computers. • Identify examples of computers. • Identify that a computer is a part if IT. • Identify examples of IT. • Identify that IT can be used in more than one way. • Sort school IT by what it is used for. • Find examples of IT. • Talk about uses of IT. • Demonstrate how IT devices work together • Recognise common types of technology. • Say why we use technology. • List different uses of technology. • Say how rules can keep me safe. • Identify the choices that I make when using IT.	• Compare totals in a tally chart. • Record data in a tally chart. • Represent a tally count as a total. • Enter data. • Use pictograms to answer simple questions. • Explain what a pictogram shows. • Organise data in a tally chart. • Use a tally chart to create a pictogram. • Answer 'more than/less than' and 'most/least' questions about an attribute. • Give simple examples of why some information should not be shared. • Share what I have found.	• Choose a series of words that can be enacted into a sequence. • Follow instructions given by someone else. • Give clear instructions. • Use an algorithm to programme a sequence on a floor robot. • Compare my prediction to the outcome. • Follow a sequence. • Explain the choices that I make. • Create an algorithm to meet my goal. • Explain what my algorithm should achieve. • Test and debug each part of a programme.	• Explain that a sequence of commands has a start. • explain that a sequences of commands has an outcome. • Create a program using a given design. • Change a given design • Decide how my project can be improved.	• Backlight a subject for silhouette effect. • Apply filters to enhance mood. • Use markup to retouch photos. • Trim and arrange clips. • Add musical to enhance the mood. • Explore and play a variety of digital percussion instruments. • Compose and record simple rhythmic patterns while maintaining a steady beat. • Evaluate the quality of their tracks, then save and name them

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Year Group	Computing Systems and Network	Data and Information	Coding using physical devices	Coding on screen	Presenting Information and Multi-Media
3	• Explain that digital devices accept inputs. • Explain that digital devices produce outputs. • Classify inputs and outputs. • Describe a simple process. • Design a digital build. • Explain how I use digital devices for different purposes. • Recognise similarities between using digital and non-digital devices. • Discuss why we need a network switch. • Explain how messages are produced through multiple connections. • Demonstrate how information can be passed between devices. • Explain the role of the switch, server and wireless access points. • Identify how devices in a network are connected.	• Create two groups of objects separated by an attribute. • Investigate questions with yes/no answers. • Arrange objects into a tree structure. • Create a group of objects within an existing group. • Select an object to arrange in a branching database. • Test branching databases to see if they work. • Compare branching database structures. • Create a physical version of a branching database. • Suggest real-world uses for branching databases.	• Practice refactoring code. • Define and use loops. • Create and execute a Blocks program.	• Choose why keys to use for actions and explain choices. • Explain the relationship between an event and an action. • Identify a way to improve a program. • Program a movement. • Choose blocks to set up a programme. • Consider the real world when making design choices. • Build more sequences of commands to make a design work. • Match a piece of code to an outcome. • Modify a programme.	• Take and select photos using Burst mode. • Apply the long exposure effect. • Animate your photos. • Customise a virtual drummer's performance using Drummer. • Recognise note lengths and common percussion instruments. • Programme drum sounds to create a drumbeat using the Beat Sequencer.

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Year Group	Computing Systems and Network	Data and Information	Coding using physical devices	Coding on screen	Presenting Information and Multi-Media
4	• Demonstrate how information is shared across the internet. • Describe the internet as a network of networks. • Discuss why the internet needs protecting. • Describe networked devices and how they connect. • Explain that the internet is used to provide services. • Recognise that the World Wide Web contains websites and web pages. • Describe how to access the WWW. • Describe where websites are stored when uploaded to the WWW. • Recognise that I can add content to the WWW. • Explain that there are rules to protect content. • Explain that not everything on the WWW is true.	• Choose a data set to answer a given question. • Identify data that can be gathered over time. • Explain what data can be collected using sensors. • Identify the intervals used to collect data. • Recognise that a data logger collects data at given points. • Explain that there are different ways to view data. • Sort data to find information. • Plan how to collect data using a data logger. • Use a data logger to collect information. • Draw conclusions from data collected.	• Define and use conditionals, including if/then/else statements. • Create and execute a Blocks program.	• List everyday tasks as a set of instructions including repetition. • Modify a snippet of code to create a given outcome. • Choose when to use a count-controlled and infinite loop. • Modify loops to produce a given outcome. • Choose which action will be repeated for each object. • Evaluate the effectiveness of repeated sequences. • Identify the part of a loop which can be change.	• Build a single composition with multiple photos and other graphic elements. • Hide parts of photos using Instant Alpha. • Crop, mask, edit and layer photos. • Use your camera's manual controls to change focus and exposure. • Set up and record an interview. • Put together a rough edit of your story with transitions and titles.

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Year Group	Computing Systems and Network	Data and Information	Coding using physical devices	Coding on screen	Presenting Information and Multi-Media
5	• Describe that a computer system features inputs, processes and outputs. • Explain that a computer system communicates with other devices. • Explain that systems are build using a number of parts. • Explain the benefits of a given computer system. • Identify tasks that are managed by computer systems. • Compare results from different search engines. • Make use of a web search to find specific information. • Explain why we need tools to find things online. • Explain that a search engine follows rules to rank results. • Give example of criteria used by search engines.	• Create a database using cards. • Explain how information can be recorded. • Order, sort and group data cards. • Choose which field to sort data. • Explain what a field and a record is in a database. • Combine grouping and sorting to answer specific questions. • Group information using a database. • Choose multiple criteria to answer a given question. • Explain the benefits of using a computer to create charts. • Refine charts by a filter.	• Use a gyroscope to calculate rotational velocity. • Learn what absolute value is. • Create and execute a Block program.	• Understand and use the following coding concepts: - Commands - Functions - For loops - Variables - Conditional code - Types and initialisation - Functions with parameters - Logical operators - While loops - Arrays and refactoring	• Create trick effects using simple edits. • Adjust the colour of clips to create custom looks. • Use green-screen effects • Understand basic chord structures and progressions. • Play and record chords and melodies using Touch Instruments. • Layer multiple instruments with drums to create full songs.

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Year Group	Computing Systems and Network	Data and Information	Coding using physical devices	Coding on screen	Presenting Information and Multi-Media
6	• Describe how computers use addresses to access websites. • Explain that internet devices have addresses. • Recognise that data is transferred using agreed methods. • Explain that data is transferred in packets. • Identify and explain the main parts of a data packet. • Explain that the internet allows different media to be shared. • Explain how the internet enables effective collaboration.	• Collect data. • Enter data into a spreadsheet. • Suggest how to structure my data. • Apply an appropriate format to a cell. • Choose an appropriate format for a cell. • Explain what an item of data is. • Construct a formula in a spreadsheet. • Explain which data types can be used in calculations. • Apply a formula to multiple cells by duplicating it. • Calculate data using different operations.	• Create code from pseudocode. • Define and use variables, conditionals, loops, random within bounds, and data types. • Create and execute a Blocks program.	• Understand and use the following coding concepts: - Objects in views - Events and handlers - Arrays - Functions as arguments - Return types and outputs - Classes and components.	• Write a story in screenplay format. • Design a floor plan for camera placement. • Add and control audio and sound effects in iMovie. • Change the appearance of a photo over time using Keynote transitions. • Make a stop-motion animation. • Add motion to a photo.