

Hitherfield Curriculum Overview: Computing

Year 1 Term 1	Year 1 Term 2	Year 1 Term 3	Year 1 Term 4	Year 1 Term 5	Year 1 Term 6
Computing systems and networks – Technology around us <ul style="list-style-type: none"> - identify technology - identify a computer and its main parts - use a mouse in different ways - use a keyboard to type on a computer - use the keyboard to edit text - create rules for using technology responsibly 	Creating media – Digital painting <ul style="list-style-type: none"> - describe what different freehand tools do - use the shape tool and the line tools - make careful choices when painting a digital picture - explain why I chose the tools I used - use a computer on my own to paint a picture - compare painting a picture on a computer and on paper 	Programming – Moving a robot <ul style="list-style-type: none"> - explain what a given command will do - act out a given word - combine forwards and backwards commands to make a sequence - combine four direction commands to make sequences - plan a simple program - find more than one solution to a problem 	Data and information – Grouping data <ul style="list-style-type: none"> - label objects - identify that objects can be counted - describe objects in different ways - count objects with the same properties - compare groups of objects - answer questions about groups of objects 	Creating media – Digital writing <ul style="list-style-type: none"> - use a computer to write - add and remove text on a computer - identify that the look of text can be changed on a computer - make careful choices when changing text - explain why I used the tools that I chose - compare typing on a computer to writing on paper 	Programming – Programming animations <ul style="list-style-type: none"> - choose a command for a given purpose - show that a series of commands can be joined together - identify the effect of changing a value - explain that each sprite has its own instructions - design the parts of a project - use my algorithm to create a program
Year 2 Term 1	Year 2 Term 2	Year 2 Term 3	Year 2 Term 4	Year 2 Term 5	Year 2 Term 6
Computing systems and networks – IT around us <ul style="list-style-type: none"> - recognise the uses and features of information technology - identify the uses of information technology in the school - identify information technology beyond school - explain how information technology helps us - explain how to use information technology safely - recognise that choices are made when using information technology 	Creating media – Digital photography <ul style="list-style-type: none"> - use a digital device to take a photograph - make choices when taking a photograph - describe what makes a good photograph - decide how photographs can be improved - use tools to change an image - recognise that photos can be changed 	Programming – Robot algorithms <ul style="list-style-type: none"> - describe a series of instructions as a sequence - explain what happens when we change the order of instructions - use logical reasoning to predict the outcome of a program - explain that programming projects can have code and artwork - design an algorithm - create and debug a program that I have written 	Data and information – Pictograms <ul style="list-style-type: none"> - recognise that we can count and compare objects using tally charts - recognise that objects can be represented as pictures - create a pictogram - select objects by attribute and make comparisons - recognise that people can be described by attributes - explain that we can present information using a computer 	Creating media – Digital music <ul style="list-style-type: none"> - say how music can make us feel - identify that there are patterns in music - experiment with sound using a computer - use a computer to create a musical pattern - create music for a purpose - review and refine our computer work 	Programming – Programming quizzes <ul style="list-style-type: none"> - explain that a sequence of commands has a start - explain that a sequence of commands has an outcome - create a program using a given design - change a given design - create a program using my own design - decide how my project can be improved

Year 3 Term 1	Year 3 Term 2	Year 3 Term 3	Year 3 Term 4	Year 3 Term 5	Year 3 Term 6
Computing systems and networks – Connecting computers <ul style="list-style-type: none"> - explain how digital devices function - identify input and output devices - recognise how digital devices can change the way we work - explain how a computer network can be used to share information - explore how digital devices can be connected - recognise the physical components of a network 	Creating media - Stop-frame animation <ul style="list-style-type: none"> - explain that animation is a sequence of drawings or photographs - relate animated movement with a sequence of images - plan an animation - identify the need to work consistently and carefully - review and improve an animation - evaluate the impact of adding other media to an animation 	Programming - Sequencing sounds <ul style="list-style-type: none"> - explore a new programming environment - identify that commands have an outcome - explain that a program has a start - recognise that a sequence of commands can have an order - change the appearance of my project - create a project from a task description 	Data and information – Branching databases <ul style="list-style-type: none"> - create questions with yes/no answers - identify the attributes needed to collect data about an object - create a branching database - explain why it is helpful for a database to be well structured - plan the structure of a branching database - independently create an identification tool 	Creating media – Desktop publishing <ul style="list-style-type: none"> - recognise how text and images convey information - recognise that text and layout can be edited - choose appropriate page settings - add content to a desktop publishing publication - consider how different layouts can suit different purposes - consider the benefits of desktop publishing 	Programming - Events and actions in programs <ul style="list-style-type: none"> - explain how a sprite moves in an existing project - create a program to move a sprite in four directions - adapt a program to a new context - develop my program by adding features - identify and fix bugs in a program - design and create a maze-based challenge
Year 4 Term 1	Year 4 Term 2	Year 4 Term 3	Year 4 Term 4	Year 4 Term 5	Year 4 Term 6
Computing systems and networks – The Internet <ul style="list-style-type: none"> - describe how networks physically connect to other networks - recognise how networked devices make up the internet - outline how websites can be shared via the World Wide Web (WWW) - describe how content can be added and accessed on the World Wide Web (WWW) - recognise how the content of the WWW is created by people - evaluate the consequences of unreliable content 	Creating media - Audio production <ul style="list-style-type: none"> - identify that sound can be recorded - explain that audio recordings can be edited - recognise the different parts of creating a podcast project - apply audio editing skills independently - combine audio to enhance my podcast project - evaluate the effective use of audio 	Programming – Solving problems in physical computing <ul style="list-style-type: none"> - develop a sequence to solve a problem - identify and fix errors within a program (test and debug) - create and test automated solutions - Identify the parts of an existing program that should be modified - use sequences and loops to make a program more efficient - improve a program in order to meet a specific need 	Data and information – Data logging <ul style="list-style-type: none"> - explain that data gathered over time can be used to answer questions - use a digital device to collect data automatically - explain that a data logger collects 'data points' from sensors over time - recognise how a computer can help us analyse data - identify the data needed to answer questions - use data from sensors to answer questions 	Creating media – Photo editing <ul style="list-style-type: none"> - explain that the composition of digital images can be changed - explain that colours can be changed in digital images - explain how cloning can be used in photo editing - explain that images can be combined - combine images for a purpose - evaluate how changes can improve an image 	Programming – Repetition in games <ul style="list-style-type: none"> - develop the use of count-controlled loops in a different programming environment - explain that in programming there are infinite loops and count controlled loops - develop a design that includes two or more loops which run at the same time - modify an infinite loop in a given program - design a project that includes repetition - create a project that includes repetition

Year 5 Term 1	Year 5 Term 2	Year 5 Term 3	Year 5 Term 4	Year 5 Term 5	Year 5 Term 6
Computing systems and networks - Systems and searching <ul style="list-style-type: none"> - explain that computers can be connected together to form systems - recognise the role of computer systems in our lives - experiment with search engines - describe how search engines select results - explain how search results are ranked - explain how search results are ranked 	Creating media - Video production <ul style="list-style-type: none"> - explain what makes a video effective - identify digital devices that can record video - capture video using a range of techniques - create a storyboard - identify that video can be improved through reshooting and editing - consider the impact of the choices made when making and sharing a video 	Programming - Selection in physical computing <ul style="list-style-type: none"> - control a simple circuit connected to a computer - write a program that includes count-controlled loops - explain that a loop can stop when a condition is met - explain that a loop can be used to repeatedly check whether a condition has been met - design a physical project that includes selection - create a program that controls a physical computing project 	Data and information - Flat-file databases <ul style="list-style-type: none"> - use a form to record information - compare paper and computer-based databases - outline how you can answer questions by grouping and sorting data - explain that tools can be used to select specific data - explain that computer programs can be used to compare data visually - use a real-world database to answer questions 	Creating media - Introduction to vector graphics <ul style="list-style-type: none"> - identify that drawing tools can be used to produce different outcomes - create a vector drawing by combining shapes - use tools to achieve a desired effect - recognise that vector drawings consist of layers - group objects to make them easier to work with - apply what I have learned about vector drawings 	Programming - Selection in quizzes <ul style="list-style-type: none"> - explain how selection is used in computer programs - relate that a conditional statement connects a condition to an outcome - explain how selection directs the flow of a program - design a program which uses selection - create a program which uses selection - evaluate my program
Year 6 Term 1	Year 6 Term 2	Year 6 Term 3	Year 6 Term 4	Year 6 Term 5	Year 6 Term 6
Computing systems and networks - Communication and collaboration <ul style="list-style-type: none"> - explain the importance of internet addresses - recognise how data is transferred across the internet - explain how sharing information online can help people to work together - evaluate different ways of working together online - recognise how we communicate using technology - evaluate different methods of online communication 	Creating media - Web page creation <ul style="list-style-type: none"> - review an existing website and consider its structure - plan the features of a web page - consider the ownership and use of images (copyright) - recognise the need to preview pages - outline the need for a navigation path - recognise the implications of linking to content owned by other people 	Programming - Variables in games <ul style="list-style-type: none"> - define a 'variable' as something that is changeable - explain why a variable is used in a program - choose how to improve a game by using variables - design a project that builds on a given example - use my design to create a project - evaluate my project 	Data and information - Introduction to Spreadsheets <ul style="list-style-type: none"> - create a data set in a spreadsheet - build a data set in a spreadsheet - explain that formulas can be used to produce calculated data - apply formulas to data - create a spreadsheet to plan an event - choose suitable ways to present data 	Creating media - 3D Modeling <ul style="list-style-type: none"> - recognise that you can work in three dimensions on a computer - identify that digital 3D objects can be modified - recognise that objects can be combined in a 3D model - create a 3D model for a given purpose - plan my own 3D model - create my own digital 3D model 	Programming - Sensing movement <ul style="list-style-type: none"> - create a program to run on a controllable device - explain that selection can control the flow of a program - update a variable with a user input - use a conditional statement to compare a variable to a value - design a project that uses inputs and outputs on a controllable device - develop a program to use inputs and outputs on a controllable device

