

Halesowen C of E Primary School



We care, we trust, we believe.

We share, we enjoy, we achieve.

Computing Curriculum



Halesowen C of E Curriculum Computing Curriculum

School Vision

Halesowen Church of England Primary School was a school built for the local community. Right from the beginning it was an inclusive school built on strong Christian beliefs. It is our duty to ensure that this deeply Christian core runs through everything we do at Halesowen C of E in the modern day.

We believe children can flourish if they are loved and valued. We have high expectations of everyone because we know they can achieve if someone believes in them. We trust each other and are proud that we are one big family. We care about each and every one of our families. We enjoy the job we do and make school a fun place to be. We share this place Halesowen C of E; a place special to all of us, a place where we can feel safe, a place where we can learn and thrive together.

Our Halesowen Curriculum Vision

At Halesowen C of E we want all children to have access to a meaningful, fun and exciting, curriculum which is rich with first hand experiences and language. We will ensure pupils are given the opportunities to achieve. We believe that:

“A child is like a butterfly in the wind. Some can fly higher than others, but each one flies the best it can. Each one is different, each one is special, each one is beautiful.”

We value all of our children irrespective of background, culture or academic ability and want them all to experience the breadth of curriculum subjects we offer allowing them to develop their own preferences and interests which they can foster and develop as they learn grow and move on to their next phase of education.



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Curriculum Intent

<p>STATUTORY REQUIREMENTS AND NON- STATUTORY GUIDANCE</p>	<ul style="list-style-type: none"> • EYFS:- Statutory EYFS framework and Early learning goals. Use of Development Matters 2021- taken predominantly from the Understanding of the World section; whilst also drawing on skills from Communication and Language, and Maths. • Key stage 1 and 2: - National Curriculum. • Use of additional resources such as (but not limited to) Teach Computing, National Centre for Computing Education, Twinkl, Purple Mash, Rising Stars, BBC Bitesize.
<p>PROVISION</p>	<ul style="list-style-type: none"> • Computing lessons stand-alone but staff will make links to the wider curriculum where applicable. • Computing skills and esafety will be revisited and applied through other subject areas such as English and Maths. • Children will also use researching and presenting skills within their wider curriculum subject lessons. • In EYFS opportunities to learn computing through discussion, play and exploration within half termly topics. Children will also have access to a wide range of technologies such as IWB, Ipads, digital cameras, Beebots, through which they can develop their knowledge and skills. • Children have regular access to modern technology through the use of Chromebooks and Ipads. • Esafety will be taught continuously throughout the year to ensure children have a good knowledge of how to stay safe on the internet and know what to do and where to go if they are worried.
<p>KNOWLEDGE</p>	<ul style="list-style-type: none"> • Children need to understand the use of technology in the world around them. • Our computing curriculum is organised into four themes: Computing systems and networks; programming; data information and creating media. • Through these themes the NCCE ten taxonomy strands are covered: computer systems; computer networks; programming; algorithms; design and development; data and information; creating media; effective use of tools; impact of technology and safety and security. • The knowledge is organised in a spiral curriculum, which means each theme is revisited regularly and children revisit each theme through new units that consolidate and build on prior learning. This is designed to reduce knowledge lost, and to ensure connections are made between units of new learning. • Physical computing plays an important role to develop children’s understanding in more creative ways, through tangible and challenging tasks. • Online safety is covered across the computing curriculum, both through online safety and digital citizenship. This is also linked to units from our PSHE scheme where appropriate. Important events such as Safer Internet Week are also used to highlight the importance of safety.



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SKILLS	<ul style="list-style-type: none">• In each computing unit children build up a range of computing skills across the four themes: Computing systems and networks; programming; data information and creating media.• Skills are revisited and built upon through each theme.• Transfer of skills encouraged across different subjects for example using research skills in history or geography, or presentational skills in English or Maths.• Children have opportunity to apply their skills through physical computing, such as use of crumble and microbits.
MEANINGFUL START POINTS	<ul style="list-style-type: none">• Children need to know where subjects exist in real life. “We are computer engineers”. They need to understand what computing is and when we are learning a computing aspect within other lessons.• Initial learning should link to the child and their part in the subject in real life. In computing each theme or topic should always start with “What aspects of computing do I use?”• Children will work in a range of relevant contexts such as home, school and enterprise; or be set a problem to resolve to give their learning meaning.
VOCABULARY AND LANGUAGE	<ul style="list-style-type: none">• Children should build a bank of subject and topic specific vocabulary – understanding meanings and define words then use in the correct context.• They should use language to question, enquire, compare, contrast, explain, justify and debate.
ENRICHMENT OPPORTUNITIES	<ul style="list-style-type: none">• To enhance children’s understanding of the technology that is use in the world around them, children should be able to use a range of different technology.• Through lessons, we want to model and educate our pupils on how to use technology positively, responsibly and safely.• Within all areas of the curriculum, children will have access to various computing equipment to research, present and explore the subjects they are studying.• In all areas of computing, children will be reminded of the ways to stay safe online.• Relevant and meaningful opportunities should be provided linked to their local area, individual interests, current affairs or events, culture, community. For example- visits to the library, local businesses,• Making the most of resources available- for example seeing the local businesses as an asset -how they rely and use technology to run their business.



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INDIVIDUAL DEVELOPMENT

- Ensure equality so all children can access learning (SEND). Consider ways children who struggle with English skills can access and present learning, or children with physical impairments can access tools and resources.
- Allow opportunities for curiosity and fascination in all subjects and topics- create awe and wonder about the technology in the world around them.
- Make time for children to be inquisitive and develop learning in their own way- let them own their learning journey and applying skills they have been taught.
- Nurture ambitions and aspirations- talk about the variety of careers that can use their computing skills.
- Develop a curiosity for how everyday technology is made, programmed, developed and how it will continue to develop in the future.



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Knowledge Progression map

Aspect	EYFS	Key stage 1	Lower key stage 2	Upper key stage 2
<p>Computing Systems and Networks</p>	<ul style="list-style-type: none"> Identify different sources of technology in the classroom. Begin to compare what is in the classroom to what is at home. Suggest uses for different technology 	<ul style="list-style-type: none"> Identify different technology (both in school and at home) Identify how technology can help us Identify a computer and its main parts and their function e.g. keyboard, mouse, screen Know the function of different buttons on the keyboard Save and reopen work from a file. Describe some uses of computers and identify examples of different computers. Categorise IT by its purposes Demonstrate how IT devices work together 	<ul style="list-style-type: none"> Explain that digital devices accept inputs and produce outputs Classify input and output devices Discuss similarities and differences between using digital devices and non-digital tools Understand how a network can be used to share information Explain the role of a switch, server and wireless access point in a network Understand how information is shared across the internet Describe networked devices and how they connect Recognise the world wide web contains website and web pages Know what types of media can be shared on the WWW 	<ul style="list-style-type: none"> Describe that computer system features inputs, processes and outputs. Explain that computer systems communicate with other devices Know that systems are built up using a number of parts Know how to use search engine Relate a search term to the search engine's index Explain that a search engine follows rules to rank results Know how computers use addresses to access websites Explain that internet devices have addresses Explain that data is transferred over the internet/ networks in packets Explain how the internet enables effective collaboration



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			<ul style="list-style-type: none"> Understand that content can be created and shared online 	
Programming	<ul style="list-style-type: none"> Explore how things work. Know that an “input” creates a reaction e.g. by clicking the shutter button on the digital camera, it takes a photo. 	<ul style="list-style-type: none"> Understand that a command has an outcome Use instruction words, making accurate choices of vocabulary in commands. Use directional commands Start a sequence for a programme Understand how the order of commands affects the sequence and final programme Be able to explain what their programme can do. Identify problems within a programme and use their knowledge to help to solve. Compare different programming tools Identify a sprite Know how to use commands to move a sprite. 	<ul style="list-style-type: none"> Identify different objects within a project and their attributes. Identify different commands to control a sprite Know how to create a sequence of connected commands Know which keys perform different actions and shortcuts. Explain the relationship between an event and an action Use programming extension Identify additional features, from a given set of blocks Know how to modify a program using a design and test the program. Know how to test an algorithm using text-based language Identify patterns in a sequence 	<ul style="list-style-type: none"> Identify a micro-controller Create a simple circuit containing a controller Know how to create more than one output from the same micro-controller Explain that a condition being met can start an action Identify real world example of a condition starting on action Identify conditions in a program and recall how they are used in selection Identify the condition and outcomes in an “if...then...else” statement Explain that a program flow can branch according to a condition Identify the outcome of user input in an algorithm



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		<ul style="list-style-type: none"> • Know that different blocks have different purposes e.g. start • Understand that blocks have different values and the values can be changed. • Know how to test a programme to check for bugs. 	<ul style="list-style-type: none"> • Understand how a count-controlled loop can produce a given outcome • Know how to use a procedure as part of a program • Identify difference between count-controlled and infinite loop 	<ul style="list-style-type: none"> • Identify a set up code needed in a program • Explain the way a variable change can be defined. • Identify examples of information that is a variable. • Identify a program variable as a placeholder in memory for a single value • Recognise the value of a variable can be used by a program • Apply knowledge of programming to a new environment • Identify examples of conditions in the real world • Explain the importance of the order of conditions in else, if statements
Data and Information		<ul style="list-style-type: none"> • Know how to label objects • Identify that objects can be counted • Identify that objects with similar properties can be grouped together 	<ul style="list-style-type: none"> • Know how to arrange objects in a tree structure, answering yes/ no questions. • Create a branching database using yes/ no answers 	<ul style="list-style-type: none"> • Explain what a field and a record is in a database • Know how to navigate a flat-file database to compare different views of information



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		<ul style="list-style-type: none"> Record and data in groups. Record and present data in a tally chart Use a computer to view and enter data Know how to programmes to create pictograms 	<ul style="list-style-type: none"> Use questions to sort objects Explain that data can be collected using sensors Recognise that a data logger (or similar app) collects data at given points Interpret data collected using a data logger 	<ul style="list-style-type: none"> Group information using a database Outline how “and” and “or” can be used to refine data section Choose an appropriate format for cell, to show they type of data Explain which data types can be used on calculations Identify that changing inputs changes outputs Calculate data using different operations Explain why data should be organised
Creating Media	<ul style="list-style-type: none"> Use a range of paint tool programmes to develop their own ideas and express them in different ways. 	<p>Digital Painting:</p> <ul style="list-style-type: none"> Know which tools to use to make marks on the screen. Make appropriate choices for when creating a digital painting. Understand the advantages and disadvantages of different paint tools. <p>Digital Writing:</p>	<p>Animation:</p> <ul style="list-style-type: none"> Understand how stop frame animation works and is created Predict what an animation will look like Know how to sequence frames to build an animation <p>Desktop Publishing:</p> <ul style="list-style-type: none"> Explain the difference between text and images Understand how text can be edited 	<p>Video Production:</p> <ul style="list-style-type: none"> Compare features in different videos Know that video is a visual media format Identify and find features of a digital recording device Identify and choose different filming techniques <p>Vector Graphics:</p> <ul style="list-style-type: none"> Discuss how vector drawings are different



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		<ul style="list-style-type: none"> Identify and find different keys on a keyboard Know which programmes can be used for writing (word processors e.g. Word, Google Docs) Identify the toolbar. Identify tools for text editing on the toolbar e.g. bold, italic, font style, font size, colour Know different ways to select text e.g. double clicking, clicking and dragging, highlighting. Identify other editing tools such as undo/ redo. <p>Digital Photography:</p> <ul style="list-style-type: none"> Explain how to use a device to capture a digital photograph Recognise which devices can be used to capture digital photographs Recognise ways to improve or change a digital photograph <p>Digital Music:</p>	<ul style="list-style-type: none"> Explain how to create and use a template, including text, images and place holders. Understand the advantages/ disadvantages of different layouts, and how they suit different purposes. <p>Audio production:</p> <ul style="list-style-type: none"> Identify the input and output devices used to record and play sound Understand what a podcast is, and why people use them Know how to record sound and trim a recording Know how to arrange multiple sounds to create different effects <p>Photo Editing:</p> <ul style="list-style-type: none"> Know how to crop and resize an image Show how colour tools can be used to change the effect of a photograph 	<p>from paper based drawings</p> <ul style="list-style-type: none"> Explain that each element added to a vector drawing is an object Explain how alignment grids and resize handles can be used to improve consistency Identify each object creates a new layer within a drawing <p>Web page creation:</p> <ul style="list-style-type: none"> Know that websites are written in HTML Recognise common features of a web page Explain what is meant by the term "fair use" Understand why copyright- free images should be used Explain what a navigation path is Know how to link multiple web pages using hyperlinks <p>3D Modelling:</p>
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		<ul style="list-style-type: none"> Identify programmes which allow us to make music Create musical patterns using a computer 	<ul style="list-style-type: none"> Know which tools to use to edit, select and copy images. 	<ul style="list-style-type: none"> Recognise that you can work in three dimensions on a computer Know how to modify, combine and create 3D models
Safety and Security	<ul style="list-style-type: none"> Understand that some items of technology are not suitable for children. Or they need to be supervised by an adult when using them. 	<ul style="list-style-type: none"> Identify some rules for using technology safely Understand what is a safe and healthy amount of time to use technology Create rules for different IT equipment for safe usage Identify places where it is safe to use different IT Give examples of why information should not be shared Identify what types of information it is not safe to share 	<ul style="list-style-type: none"> Understand that devices in a network can be used to communicate and share information. This includes social media sites, online games and games consoles. Demonstrate how information can be passed safely between devices Begin to understand how networks can become compromised and unsafe Discuss why a network needs protecting Understand the content can be created and shared online- know the difference between sharing privately and publicly. 	<ul style="list-style-type: none"> Recognise what is safe and appropriate content to search Identify sources of help they can seek if they find inappropriate content Identify a variety of ways that people communicate over the internet. Know which programs are suitable/ age appropriate for them to use Understand who it is safe to contact over the internet, and what to do if they receive unwanted communication Know that communication on the internet may not be private. Judge what sort of privacy setting might



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			<ul style="list-style-type: none">• Begin to be aware of the dangers of sharing content publicly online.• Discuss rules to protect content online• Understand that not everything online is true and incorrect information can be harmful.• Understand that not all content on the internet is safe or age appropriate.• Know to tell an adult if anything worries them online• Understand that children should think carefully before sharing/resharing content.	<p>be relevant to reducing different risks.</p> <ul style="list-style-type: none">• Know how to be a good online citizen• Find “report” and “flag” buttons in commonly used and name sources of help e.g. Childline• Click CEOP button and explain what it is for
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Skills Progression map

Aspect	EYFS	Key stage 1	Lower key stage 2	Upper key stage 2
Computing Systems and Networks	<ul style="list-style-type: none"> Recognise that a variety of devices can be used to connect a number of people. Know how to turn on and operate child-friendly IT equipment e.g. children's tablets, Beebots. 	<ul style="list-style-type: none"> Switch on and log on to a computer Use a mouse to click and drag Use a keyboard to type on a computer Use arrow buttons on the keyboard to move the cursor. 	<ul style="list-style-type: none"> Classify input and output devices Recognise different connections Demonstrate how information can be passed between devices Access website and webpages Identify types of content made online Recognise what content children can add to WWW 	<ul style="list-style-type: none"> Identify tasks that are managed by computer systems Compare results from different search engines Refine a web search Recognise the role of web crawlers in creating index Recognise the limitations of search engines Send information over the internet in different ways Choose methods of communication to suit different purposes
Programming	<ul style="list-style-type: none"> Experiment with giving commands to pieces of technology. Apply their previous experience to achieve a desired outcome e.g. know that green button will make Beebot go. Begin to give single commands. 	<ul style="list-style-type: none"> Match a command to an outcome Predict the outcome of a command on a device Run a command on a device Follow and give instructions Compare different movements e.g. forward, backwards, left, right 	<ul style="list-style-type: none"> Create a program following a design Create a sequence of connected commands Start a program in different ways Make design choices for artwork linked to characters Implement algorithm as a code 	<ul style="list-style-type: none"> Create a simple circuit and connect it to a micro-controller Program a micro controller to control and LED Use a count-controlled loop to control outputs Design a conditional loop Identify a condition and an action



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		<ul style="list-style-type: none"> • Start a sequence from the same place • Create a sequence of movements using all four directions. • Experiment with order of commands • Debug a program- finding the fault and fixing the problem • Create different programmes to get to the same place. • Use commands to move a sprite • Run a program using start block, and joining more than one block together • Change the value of blocks and explain what happens when the values change. • Create a project with more than one sprite • Create an algorithm for each sprite • Add programming blocks based on the algorithm 	<ul style="list-style-type: none"> • Choose which keys to use for actions • Program movement • Choose suitable keys to turn on additional features • Match a piece of code to an outcome • Modify a program using a design • Test a program against a given design • Create a code snippet for a given purpose • Program a computer by typing commands • Write an algorithm to produce a given outcome • Use a count-controlled loop to produce a given outcome • Choose which values to change in a loop, and predict the outcome of a program containing a count-controlled loop • Use a procedure in a program • Develop a program by debugging it 	<ul style="list-style-type: none"> • Use selection to direct the flow of a program • Modify a condition in a program • Create a program with different outcomes using selection • Use selection in an infinite loop to check a condition • Design the flow of a program which contains “if...then...else” • Use a design format to outline a project • Share a program with others • Extend a program further • Decide where in a program to change a variable • Choose a name that identifies the role of a variable • Identify ways a game could be improved • Use variables to extend a game • Test a program on an emulator
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			<ul style="list-style-type: none"> Identify which parts of a loop can be changed 	<ul style="list-style-type: none"> Transfer program to a controllable device Use a variable in an if, then, else statement to select the flow of a program Experiment with physical inputs Use an operand e.g. <=> in an if, then statement
Data and Information		<ul style="list-style-type: none"> Describe objects using labels Group objects by their properties Count the number of objects in a group Compare groups of objects which have been sorted Record their findings using different software. Enter data onto a computer Use a computer to view data in different formats Use a tally chart to create a pictogram Arrange objects by attribute 	<ul style="list-style-type: none"> Group and arrange objects using yes/ no questions Arrange objects in a branching database Create questions to use in a branching database Use data from a sensor to answer a given question Talk about data that has been captured View data at different levels of detail Plan and collect data using a data logger Interpret data collected 	<ul style="list-style-type: none"> Order, sort and group data Choose which field to sort data by to answer a given question Navigate a flat-file database to compare different views of information Choose multiple criteria to answer a given question Choose which field and value are required to answer a given question Use “and” and “or” to refine data selection Refine a chart by selecting a particular filter



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				<ul style="list-style-type: none">• Apply an appropriate format to a cell• Construct a formula in a spreadsheet• Apply a formula to multiple cells by duplicating it• Create a formula which includes a range of cells• Use a spreadsheet to answer questions• Produce a chart
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<p>Creating Media</p>	<ul style="list-style-type: none"> • Use various Paint apps to record ideas. • Use various tools such as brushes, pens and rubbers. • Be able to take photos using equipment. • Begin to digitally manipulate the image. • Begin to use keyboard to type their name, or simple phonetic words. • Be able to use voice recording equipment to record their ideas e.g. talking tins, recording clipboards. • Capture video. • Be able to locate and rewatch video they have recorded. 	<p>Digital Painting:</p> <ul style="list-style-type: none"> • Use a range of free hand tools to draw lines and make marks on the screen using the tool. • Use different shape tools to make marks on the screen • Change the size and colour of tools e.g. brush, pencil, stamp <p>Digital Writing:</p> <ul style="list-style-type: none"> • Open a word processor • Enter text into a computer using a keyboard • Use a range of keys e.g. letters, numbers, space, backspace • Use tool bar to edit writing e.g. bold, italic, font style and size • Select text using double click (single word) or click and drag (larger amounts of text) <p>Digital photography:</p> <ul style="list-style-type: none"> • Use a device to capture a digital photograph 	<p>Animation:</p> <ul style="list-style-type: none"> • Create an effective stop frame animation • Predict what an animation will look like • Review a sequence of frames to check work • Evaluate own work • Add other media to the animation <p>Desktop Publishing:</p> <ul style="list-style-type: none"> • Change the font style, size, colour for a given purpose. • Create a template • Change page orientation • Choose the best locations for content • Edit content after it has been added • Copy and paste text and images. <p>Audio production:</p> <ul style="list-style-type: none"> • Use a computer (device) to record audio • Inspect the soundwave view to know where to trim a recording • Combine sounds to make podcast more engaging 	<p>Video Production:</p> <ul style="list-style-type: none"> • Compare features in different videos • Experiment with different camera angles • Use a microphone • Capture video using a range of film techniques • Create and save video content • Reshoot and edit video • Store, retrieve and export a recording on the computer <p>Vector Graphics:</p> <ul style="list-style-type: none"> • Experiment with shape and line tools • Identify shapes used to make a vector drawing • Move, resize, and rotate objects • Modify objects to create a new image • Change the order of layers • Use layering to create an image • Copy part of drawing by duplicating several objects
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		<ul style="list-style-type: none">• Experiment with landscape and portrait photos, and how to change orientation• Experiment with light sources and the effects these have on a photograph• Use different tools within the camera/gallery app to alter photos on a device <p>Digital Music:</p> <ul style="list-style-type: none">• Create a musical pattern using a computer programme• Experiment with pitch on the programme• Edit a piece of music e.g. by changing the sequence of notes, adding different notes.	<ul style="list-style-type: none">• Save a project, so that it remains editable• Review the quality of recordings• Arrange multiple sounds to create desired effects• Export an audio file• Open a project and continue working on it <p>Photo Editing:</p> <ul style="list-style-type: none">• Crop and rotate an image• Use different colour effects on an image• Add to the composition by cloning• Remove parts of an image using cloning• Experiment with tools to select and copy parts of an image• Combine text and images	<ul style="list-style-type: none">• Group and ungroup objects <p>Web page Creation:</p> <ul style="list-style-type: none">• Explore a website• Draw a web page layout to suit a purpose• Find copyright free images• Add content to a web page• Preview a web page• Make multiple web pages and link them using hyperlinks <p>3D Modelling:</p> <ul style="list-style-type: none">• Add and move 3D objects• View 3D shapes from different perspectives• Recolour and resize 3D objects• Combine different 3D objects• Construct a 3D model based on a design
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Computing whole school overview

	Autumn		Spring		Summer	
Year 1	<p><u>Technology Around Us</u></p> <p>Recognising technology in school and using it responsibly</p> <p>Theme: computing systems and networks</p> <p>Devices: Chromebook</p> <p>Apps/ Programmes/ Websites: Purple Mash (design an avatar)</p>	<p><u>Digital Painting</u></p> <p>Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally</p> <p>Theme: creating media</p> <p>Devices: Chromebook</p> <p>Apps/ Programmes/ Websites: paintz.app</p>	<p><u>Moving a Robot</u></p> <p>Writing short algorithms and programs for floor robots (Beebots) and predicting program outcomes.</p> <p>Theme: programming</p> <p>Devices: Beebot</p> <p>Programmes:</p>	<p><u>Grouping Data</u></p> <p>Exploring object labels, then using them to sort and group objects by properties.</p> <p>Theme: data and information</p> <p>Devices: Chromebook</p> <p>Programmes: Microsoft PowerPoint, Google Slides</p>	<p><u>Digital Writing</u></p> <p>Using a computer to create and format text, before comparing to non-digitally</p> <p>Theme: creating media</p> <p>Devices: Chromebook</p> <p>Programmes: Microsoft Word, Google Docs</p>	<p><u>Programming animations</u></p> <p>Designing and programming the movement of a character on screen to tell stories</p> <p>Theme: programming</p> <p>Devices: Tablets</p> <p>Programmes: Scratch Jr</p>
Year 2	<p><u>Information Technology Around Us</u></p> <p>Identifying IT and how its responsible use improves our world in school and beyond</p> <p>Theme: computing systems and networks</p> <p>Devices: Chromebook</p>	<p><u>Digital Photography</u></p> <p>Capturing and changing digital photographs for different purposes</p> <p>Theme: creating media</p> <p>Devices: digital cameras, tablets</p> <p>Programmes:</p>	<p><u>Robot Algorithms</u></p> <p>Creating and debugging programs and using logical reasoning to make predictions</p> <p>Theme: programming</p> <p>Devices: Beebot</p> <p>Programmes:</p>	<p><u>Pictograms</u></p> <p>Collecting data in tally charts and using attributes to organise and present data on a computer</p> <p>Theme: data and information</p> <p>Devices: Chromebook</p> <p>Programmes: j2data</p>	<p><u>Digital Music</u></p> <p>Using a computer as a tool to explore rhythms and melodies, before creating a musical composition</p> <p>Theme: creating media</p> <p>Devices: Chromebook</p> <p>Programmes: Chrome Music Lab</p>	<p><u>Programming Quizzes</u></p> <p>Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz</p> <p>Theme: programming</p> <p>Devices: tablets</p>



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	Programmes: Microsoft PowerPoint, Google Slides					Programmes: Scratch Jr
Year 3	<p><u>Connecting Computers</u></p> <p>Identifying that digital devices have inputs, processes and outputs and how devices can be connected to make networks</p> <p>Theme: computing systems and networks</p> <p>Devices: Chromebook</p> <p>Programmes: any paint program</p>	<p><u>Stop-frame Animation</u></p> <p>Capturing and editing digital still images to produce a stop-frame animation that tells a story.</p> <p>Theme: creating media</p> <p>Devices: tablet</p> <p>Programmes: iMotion</p>	<p><u>Sequencing Sounds</u></p> <p>Creating sequences in a block-based programming language to make music.</p> <p>Theme: programming</p> <p>Devices: Chromebook</p> <p>Programmes: Scratch</p>	<p><u>Branching Databases</u></p> <p>Building and using branching databases to group objects using yes/no questions</p> <p>Theme: data and information</p> <p>Devices: Chromebook</p> <p>Programmes: j2data</p>	<p><u>Desktop Publishing</u></p> <p>Creating documents by modifying text, images, and page layouts for a specified purpose.</p> <p>Theme: creating media</p> <p>Devices: Chromebook</p> <p>Programmes: Canva</p>	<p><u>Events and actions in programs</u></p> <p>Writing algorithms and programs that use a range of events to trigger sequences of actions.</p> <p>Theme: programming</p> <p>Devices: Chromebook</p> <p>Programmes: Scratch</p>
Year 4	<p><u>The Internet</u></p> <p>Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.</p> <p>Theme: computing systems and networks</p> <p>Devices: Chromebook</p>	<p><u>Audio Production</u></p> <p>Capturing and editing audio to produce a podcast, ensuring that copyright is considered.</p> <p>Theme: creating media</p> <p>Devices: Chromebook</p> <p>Programmes: Audacity</p>	<p><u>Repetition in Shapes</u></p> <p>Using a text-based programming language to explore count-controlled loops when drawing shapes.</p> <p>Theme: programming</p> <p>Devices: Chromebook</p>	<p><u>Data Logging</u></p> <p>Recognising how and why data is collected over time, before using data loggers to carry out an investigation.</p> <p>Theme: data and information</p> <p>Devices: tablet</p>	<p><u>Photo Editing</u></p> <p>Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled.</p> <p>Theme: creating media</p> <p>Devices: Chromebook</p>	<p><u>Repetition in Games</u></p> <p>Using a block-based programming language to explore count-controlled and infinite loops when creating a game.</p> <p>Theme: programming</p> <p>Devices: Chromebooks</p>



Halesowen C of E Curriculum
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	Programmes: various websites		Programmes: Purple Mash logo	Programmes: Arduino Science Journal	Programmes: Paint.NET	Programmes: Scratch
Year 5	<p><u>Systems and Searching</u></p> <p>Recognising IT systems in the world and how some can enable searching on the internet.</p> <p>Theme: computing systems and networks</p> <p>Devices: Chromebook</p> <p>Programmes: Google Slides</p>	<p><u>Video Production</u></p> <p>Planning, capturing, and editing video to produce a short film.</p> <p>Theme: creating media</p> <p>Devices: tablet</p> <p>Programmes: iMovie</p>	<p><u>Selection in Physical Computing</u></p> <p>Exploring conditions and selection using a programmable microcontroller.</p> <p>Theme: programming</p> <p>Devices: Chromebook</p> <p>Programmes: Crumble</p>	<p><u>Flat-file databases</u></p> <p>Using a database to order data and create charts to answer questions</p> <p>Theme: data and information</p> <p>Devices: Chromebook</p> <p>Programmes: j2data</p>	<p><u>Introduction to vector graphics</u></p> <p>Creating images in a drawing program by using layers and groups of objects.</p> <p>Theme: creating media</p> <p>Devices: Chromebook</p> <p>Programmes: Google Drawings</p>	<p><u>Selection in Quizzes</u></p> <p>Exploring selection in programming to design and code an interactive quiz.</p> <p>Theme: programming</p> <p>Devices: Chromebook</p> <p>Programmes: Scratch</p>
Year 6	<p><u>Communication and Collaboration</u></p> <p>Exploring how data is transferred by working collaboratively online.</p> <p>Theme: computing systems and networks</p>	<p><u>Webpage Creation</u></p> <p>Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.</p> <p>Theme: creating media</p> <p>Devices: Chromebook</p>	<p><u>Variables in Games</u></p> <p>Exploring variables when designing and coding a game.</p> <p>Theme: programming</p> <p>Devices: Chromebook</p> <p>Programmes: Scratch</p>	<p><u>Introduction to Spreadsheets</u></p> <p>Answering questions by using spreadsheets to organise and calculate data.</p> <p>Theme: data and information</p>	<p><u>3D Modelling</u></p> <p>Planning, developing, and evaluating 3D computer models of physical objects.</p> <p>Theme: creating media</p> <p>Devices: Chromebook</p>	<p><u>Sensing Movement</u></p> <p>Designing and coding a project that captures inputs from a physical device.</p> <p>Theme: programming</p> <p>Devices: micro:bit</p>



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	Devices: Chromebook Programmes: Google Slides	Programmes: Google Sites		Devices: Chromebooks Programmes: Google Sheets, Microsoft Excel	Programmes: TinkerCad	Programmes: Microsoft Make Code
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