Computing Curriculum Overview

The Outcome – Critical and responsible online citizens. Purposeful, resourceful and confident users of ICT who are curious and creative.

What will our Computer Scientist be able to do when they leave Barton Clough?

At Barton Clough, we understand the responsibility that we have to raise pupils who are confident, creative and responsible users of technology; preparing and equipping them for a future in a world of technology that does not yet exist. Our pupils will understand the impact of their 'digital footprint' and will become digitally literate, active participants in a digital world. They will understand how to use the internet and technology safely; minimising risk to both themselves and others.

Our children will have had repeated practical experience of writing computer programs in order to solve problems, including logic & algorithms. They will have the ability to ask and answer questions through collecting, analysing, evaluating and presenting data and information.

Ultimately, they will have a clear understanding of how digital networks work and the services they provide. This will enable them to use search options effectively whilst understanding the need to evaluate the relevance of content. The children will be respectful, responsible and competent digital citizens; they will have the knowledge to support themselves and others online.

Threads		
One World Diversity & Mutual Respect Democracy & Individual Liberty	**Human Impact** Sustainability & Ecology	**Human Endeavour** The spirit of adventure, innovation and inspiration

Computing Starting Points: Information Technology, Computer Science, Digital Literacy (See Year Group Objectives below)

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					
Information Technology: Pic Collage (organising images) Tiny Tap - Play existing activities linked toP learning	Information Technology: Use Pic Collage to write a story. Add pictures and borders Create a Tiny Tap maths or Spelling game	Information Technology: One page/poster on Book Creator Create a comic strip that is linked to another area of the curriculum	Information Technology: Create an interactive book/booklet including videos or sound buttons Present images alongside text in the context of a slideshow/trailer	Information Technology: Explain Everything - Create a tutorial for another aspect of your learning Word process/Google Docs a short story - Edit font and include presentational features of the genre/text style.	Information Technology: Use Excel/Google Sheets to create a bar graph/line graph

					
Computer Science: BeeBots (actual) Daisy the Dinosaur (level solving and learning the features)	**Computer Science:** Sequence instructions to Daisy the Dinosaur, creating my own unique 'dance' for Daisy Write a set of instructions for Scratch Junior to follow	**Computer Science:** Use 'hour of code' to learn more advanced coding language and to execute a program. Create a simple dance/animation using Hopscotch	**Computer Science:** Follow existing instructions to create a simple game Use of Hospcth to programme the drawing of shapes and patterns (using the repeat function)	**Computer Science:** Create my own animation using Scratch Create a simple game where Kodu can move and collect points through shooting blips/eating apples External providers to deliver 1 full day Lego robot workshop	**Computer Science:** Create my own point scoring game using Scratch, including using all of the different functions and algorithms Create my own idea/game using Kodu.

Computing Objectives for each year group: Information Technology, Computer Science, Digital Literacy (See Year Group Objectives below)						
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**

TBC	**Digital Literacy:** I can keep the technology I use safe I can name what personal information is I can keep personal information private I can recognise common uses of information technology beyond school I can tell a trusted adult when I am worried online	**Digital Literacy:** I can describe the following ways I can stay safe online Do not give out personal information Meeting people online can be dangerous – do not arrange to meet up without parents/carers Opening unknown emails and messages can lead to computer virus' People can lie about who they are online Tell a trusted adult if something online has worried you Being unkind online can hurt others I can recognise common uses of information technology beyond school	**Digital Literacy:** I can describe the following ways I can stay safe online Do not give out personal information Meeting people online can be dangerous – do not arrange to meet up without parents/carers Opening unknown emails and messages can lead to computer virus' People can lie about who they are online Tell a trusted adult if something online has worried you Being unkind online can hurt others Keep your username and password private I understand what cyberbullying is and that once posted online, the information cannot always be removed I can recognise common uses of information	**Digital Literacy:** I can describe the following ways I can stay safe online Do not give out personal information Meeting people online can be dangerous – do not arrange to meet up without parents/carers Opening unknown emails and messages can lead to computer virus' People can lie about who they are online Tell a trusted adult if something online has worried you Being unkind online can hurt others Keep your username and password private I understand and can describe ways in which the internet can be used to communicate with others I know what to do when I am worried online	**Digital Literacy:** I can describe the following ways I can stay safe online Do not give out personal information Meeting people online can be dangerous – do not arrange to meet up without parents/carers Opening unknown emails and messages can lead to computer virus' People can lie about who they are online Tell a trusted adult if something online has worried you Being unkind online can hurt others Keep your username and password private I understand and can describe ways in which the internet can be used to communicate with others I know what to do when I am worried online I understand what cyberbullying is and that	**Digital Literacy:** I can keep the technology I use safe I can keep personal information private I can recognise common uses of information technology beyond school I can describe the following ways I can stay safe online Do not give out personal information Meeting people online can be dangerous – do not arrange to meet up without parents/carers Opening unknown emails and messages can lead to computer virus' People can lie about who they are online Tell a trusted adult if something online has worried you Being unkind online can hurt others Keep your username and password private

		I can keep the technology I use safe I can keep personal information private I can tell a trusted adult when I am worried online and I can give simple examples of how I can stay safe online	technology beyond school I can keep personal information private I can keep the technology I use safe	I understand what cyberbullying is and that once posted online, the information cannot always be removed I understand how to report cyberbullying I understand that I should have a good balance with the time I spend online I can recognise common uses of information technology beyond school I can keep personal information private I can keep the technology I use safe	once posted online, the information cannot always be removed I understand how to report cyberbullying I understand that I should have a good balance with the time I spend online I can judge how trustworthy a site is and determine whether information might be false (fake news) I can recognise common uses of information technology beyond school I can keep personal information private I can keep the technology I use safe	I understand and can describe ways in which the internet can be used to communicate with others I know what to do when I am worried online I understand what cyberbullying is and that once posted online, the information cannot always be removed I understand how to report cyberbullying I understand that I should have a good balance with the time I spend online I can judge how trustworthy a site is and determine whether information might be false (fake news) I understand what copyright and plagiarism is I understand that inappropriate images must not be shared and I will tell a trusted adult

Information Technology						
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	Use a digital paint programme to draw, reshape and recolour pictures. Add labels to pictures or photographs I can log-in using a generic username and password (PC only) Use Pic Collage to write simple sentences - changing the font and colour	Use Pic Collage to write a story/poster and add images Record using digital cameras or recorders to suit a given intention Use a list of trusted, pre- visited websites to search the internet effectively and safely. Use this skill to research a given topic	To create a simple presentation on a topic, including animations and sounds (Book Creator/Comic Life) Choose a programme to create documents that are fit for purpose (Book Creator) Understand how to use search engines safely	Generate, develop, organise and present work using ICT. Understand how to choose an appropriate programme to create 2d or 3d design. I can present information in a variety of ways including using videos/sound effects. I can use a search engine to safely research	I can analyse information/research I can evaluate information/research Create a document that is fit for purpose, using a range of publishing tools. Including making mind-maps with images Create a tutorial incorporating text, images and sounds for an identified audience. I can appreciate how results are selected and ranked (eg Google)	Create a presentation with pictures and text including slide transitions and hyperlinks I can collect and present data in a variety of formats (graphs) I can use hyperlinks within a PowerPoint presentation
Computer Science						
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**

	Previous year objectives + below and new APPS/context… **Create a simple set of instructions to make something happen** **I understand what algorithms are**	**Previous year objectives + below and new APPS/context…** **Understand how to find bugs in a programme and suggest ways to fix a problem** **Understand how to predict outcomes of an algorithm and suggest possible problems (bugs)**	**Previous year objectives + below and new APPS/context…** **Understand how to build a complex series of instructions.** **Understand how to use instructions to control avatars on a piece of software/APP**	**Previous year objectives + below and new APPS/context…** **I can use repetition (repeat function) in programs** **I can debug programs that accomplish specific goals** **I can design programs based on algorithms that accomplish specific goals** **I can describe various forms of output** **I can describe various forms of input**	**Previous year objectives + below and new APPS/context…** **Understand different ways to find and debug code** **I can control or simulate physical systems**	**Previous year objectives + below and new APPS/context…** **I understand how computer networks can provide multiple services, such as the world wide web and email**

Key Vocabulary						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computing technology digital online safety programme	All from previous year plus: document safety	All from previous year plus: bugs debugging	All from previous year plus: search engine blogging	All from previous year plus: 2d 3d	All from previous year plus: coding restrictions	All from previous year plus: URL WWW ISP download upload viruses hard-drive USB formulae handheld

instruction	instructions algorithm internet media	device Social Media project recording sequence design	communication e-mail password data network animation copy & paste	generate publish software media evaluation	information virtual interpret interrogate hyperlinks transitions hardware	hyperlinks

How Often is Computing Taught at Barton Clough?

Area of Computing	Specific Computing Lesson Plan?	How often is this taught?
Digital Literacy	YES (except from in response to an incident)	Each half term at least one stand alone eSafety lesson Revisits year group expectations and/or addressed any trends or incidents that have occured within the class/school/media 1 inset session in September - Safe Usage Policy/class contract
Information Technology	NO - Cross referenced with the subject area the skill is being taught through	Alternate with Computer Science (each half term)

		(2 half terms - approx 4 lessons) **Each year group has two projects/Apps to teach. This will usually be done over two or three lessons. Children will need the opportunity to use this App or program in different contexts. EG Using Word Processing in English and Science**
Computer Science	**YES**	**Alternate with Information Technology (each half term) (2 half terms - approx 4 lessons)**

Assessment and Evidencing

Computing is Assessed using a traffic light system against objectives, children are individually assessed. Within the planning document, there is space for notes on assessment observations to be made to support this. The final Computing Assessment levels are weighted more heavily against the Information Technology and Computer Science Objectives.