

Computing

Intent

At Acomb First School our intent is that our teaching of Computing will help pupils gain a coherent knowledge and understanding of computing and the digital world. The computing curriculum is carefully planned and structured to ensure that current learning is linked to previous learning and that the school's approaches are informed by current pedagogy. In line with the national curriculum 2014, the curriculum at Acomb First School aims to ensure that all pupils are able to access and use a variety of programmes independently and use the internet and online resources safely and effectively.

The Computing National Curriculum and EYFS is planned for and covered in full within the EYFS, KS1 and KS2 school curriculum. Whilst the EYFS and National Curriculum forms the foundation of our curriculum, we make sure that children learn additional skills, knowledge and understanding and enhance our curriculum as and when necessary.

Implementation

To meet these objectives and ensure progression, we have mapped out the essential characteristics or end points that children will demonstrate ready for the next stage in their educations.

These are supported by threshold concepts essential to an understanding of technology, which are broken down in to milestones. Computing is taught throughout the year in KS1 & KS2 in a progressive curriculum.

Cross curricular outcomes in Computing are specifically planned for, with strong links between the Computing curriculum and a range of lessons, enabling further contextual learning. Outcomes of work are regularly monitored to ensure that they reflect a sound understanding of the key identified knowledge. Within our knowledge-rich approach, there is a strong emphasis on E-safety.

The Early Years Foundation Stage (EYFS) follow the 'Development Matters in the EYFS' guidance which aims for all children in reception to have an 'Understanding of the World; people and communities, the world and technology' by the end of the academic year.

ESSENTIAL CHARACTERISTICS

- The ability to make sensible, reasonable decisions about online activity
- An awareness of issues surrounding social media and the internet
- Inquisitiveness around technology
- The ability and desire to explore programmes and programming
- A awareness of different means of presenting information depending on the audience

THRESHOLD CONCEPTS

Computer Science – understanding the concepts of programming and coding and developing skills in being able to use and create a variety of programmes

Information Technology – knowing about a variety of software and hardware available

Digital Literacy – understanding about the advantages, limitations and dangers of modern technology

Threshold Concept	Foundation	Milestone 1	Milestone 2	Milestone 3
Computer Science	<p>Technology</p> <ul style="list-style-type: none"> ● Explores different objects with their hands, opening, enclosing, moving and letting go. ● Understands that the action of pressing a button/lifting flaps and operating simple mechanisms will result in a particular reaction. ● Responds to photographs or digital media showing shared events/familiar people or places. ● Uses and responds to real or improvised technological resources. ● Uses technologies to share experiences with others and share experiences of using technology. ● Uses technologies, with support, to find out more about the world around them. ● Uses technologies to enhance, change or 	<ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● 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.
Information Technology	<ul style="list-style-type: none"> ● Uses technologies, with support, to find out more about the world around them. ● Uses technologies to enhance, change or 	<ul style="list-style-type: none"> ● Use technology purposefully to create, organise, store, manipulate and retrieve digital content. 	<ul style="list-style-type: none"> ● Use search technologies effectively, appreciate how results are selected and ranked, and be discerning 	<ul style="list-style-type: none"> ● Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.

	<p>recreate within a learning experience.</p> <ul style="list-style-type: none"> ● Captures and documents a sequence of events or experiences using ICT. ● Recognises that a range of technology is used in places such as homes and schools. ● Selects and uses technology for particular purposes. ● Finds out about and uses a range of technology. 		<p>in evaluating digital content.</p> <ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● 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.
Digital literacy	<ul style="list-style-type: none"> ● Selects appropriate applications that support an identified need. 	<ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	<ul style="list-style-type: none"> ● Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
BREADTH OF STUDY				
EYFS	KEY STAGE 1		KEY STAGE 2	
	<ul style="list-style-type: none"> ● Online safety (DL) ● Spreadsheets (IT) 		<ul style="list-style-type: none"> ● Online safety (DL) ● Coding (CS) 	

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| | <ul style="list-style-type: none"> ● Effective searching (DL) ● Coding (CS) ● Creating pictures (IT) ● Making music (IT) ● Presenting ideas (IT) ● Technology outside of school (IT) | <ul style="list-style-type: none"> ● Touch-typing (IT) ● E-mail (DL) ● Branching databases (IT) ● Simulations (IT) ● Spreadsheets (IT) ● Animation (CS) ● Effective searches (DL) ● Hardware (IT) ● Game creation (CS) ● 3D modelling (CS) |
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Impact
 We encourage our children to enjoy and value the curriculum we deliver. Finding the right balance with technology is key to an effective education and a healthy life-style. We believe the way we implement computing helps children realise the need for the right balance and one they can continue to build on in their next stage of education and beyond. The way pupils showcase, share, celebrate and publish their work will best show the impact of our curriculum. We also look for evidence through reviewing pupil's knowledge and skills digitally through tools like Google Classroom and Tapestry and observing learning regularly. Progress of our computing curriculum is demonstrated through outcomes and the recording of coverage in the process of achieving these outcomes.