

COMPUTING AT INGOLDISTHORPE C of E VA PRIMARY SCHOOL



Intent

It is our intent at Ingoldisthorpe CofE VA Primary school that pupils are provided with a high-quality, broad and balanced computing education. We wish to support children so as they develop and achieve as computational thinkers in the stands of decomposition, pattern recognition, abstraction and algorithms. It is our intent to ensure that our pupils develop a respectful and responsible attitude towards using information and communication technology, especially with regards to their own and others' safety. We wish to provide a safe space in which pupils can navigate and interact with the digital world.

Implementation

At Ingoldisthorpe Primary school we have carefully mapped out progressive objectives, building on prior learning, which each pupil should know by the end of each year group. Our curriculum is taught through information technology, computer science and digital literacy in computing and IT lessons and cross-curricular learning.

Children can demonstrate their understanding using a variety of hardware (desktop PCs, iPads, Laptops, Chromebooks and programmable equipment) and software that they need to develop knowledge and skills of digital systems and their applications. Pupils in KS1 and KS2 begin to use word processing programs such as Microsoft Word and create presentations in PowerPoint. Children learn touchtyping through typingclub.com. Through Excel, children begin to learn data handling and can input data and create graphs and charts. Topmarks paint, has a KS1 friendly data handling program where children can input data and create charts such as when we do the RSPB BirdWatch week.

Children can explore and respond to key issues such as digital communications, cyber-bullying, online safety, security, plagiarism, and social media. Online safety and responsible use of technology are topics covered in computing and PSHE lessons, assemblies and during events such as Safer Internet Day. All children follow the SMART rules.

Teachers have access to a range of resources and planning including code.org, barefoot computing, Espresso coding, Scratch and other online software resources. Effective modelling by teachers ensures that children can achieve their learning intention, with misconceptions addressed. Summative judgements are recorded in yearly reports for all KS1 and KS2 pupils and year group

assessments covering the progression of skills in line with the national curriculum objectives.

Curriculum Overview

	Reception	Year 1&2	Year 3&4	Year 5&6
Autumn A	Use of interactive whiteboard Using a mouse Remote control toys	Online Safety and Personal Information Use of interactive whiteboard	e-safety Word Processing & Touch typing Animation	Using computing to compare Africa populations and cities EXCEL Coding sessions Reliability of sources and media
Autumn B	Use of interactive whiteboard Using a mouse Remote control toys	Digital Safety Online Safety and Personal Information	Coding – Scratch quizzes and Turtle Academy Research – safe use of search engines. How results are presented. Product design – online CAD program	Online safety; Password safety, keeping ourselves safe, CEOPs, online bullying Espresso coding; Level 5 refresh speed, direction, and coordinates Internet research; Evaluate sources
Spring A	Beebots Simple programming Directions Remote controlled cars sequences	Computer Science <i>What is an algorithm?</i>	Word Processing Data inputting – Excel/Topmarks Paint Digital music composition	Coding Online safety Networks, servers, emails, communicating online, editing photographs and word documents
Spring B	Beebots Visiting planets using simple directional vocabulary and counting	Simple algorithms -What is an algorithm? -Design and build a simple algorithm.	IT Presenting Information PowerPoints Excel	Film/Power point -create a film about the solar system add voice over/ music -power point -excel sheet
Summer A	Information Technology Beebots Simple Coding Espresso fish and magic	Information Technology Typing, saving documents, research	Coding Code.org Using loops and repeat commands Branching databases	Touch typing typingclub.com Coding sessions Calligrams, word clouds using online programmes Word Excel PowerPoint Publisher
Summer B	Information Technology Beebots Simple Coding Espresso;	Information Technology Typing, saving documents, research	Coding Code.org e-book creation	Using online programmes to design inventions.

	fish and magic			Touch typing, create posters/ advertisements Espresso coding
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Progression Maps

EYFS Reception		
Information Technology	Computer Science	Digital Literacy
I can be creative with different technology tools.	Introduction to BeeBots and basic sequences.	Using technology in the classroom including laptops, ipads, interactive whiteboards, remote controlled toys, cameras, electronic instruments etc
	Recognising where a bot may land by counting squares and using simple directional language.	Talk about the technology they use at home.
	Unplugged activities which recognise pattern, creating steps to achieve something etc	I can play educational games

Year 1		
Information Technology	Computer Science	Digital Literacy
I can be creative with different technology tools.	I can describe what happens when I press buttons on a bot.	I can recognise the ways we use technology in our classroom.
I can use technology to create and present my ideas.	I can press the buttons in the correct order to make my bot do what I want.	I can recognise ways that technology is used in my home and community.
I can use the keyboard or a word bank on my device to enter text.	I can describe what actions I will need to do to make something happen and begin to use the word algorithm.	I can use links to websites to find information.
I can save information in a special place and retrieve it again.	I can begin to predict what will happen for a short sequence of instructions.	I can begin to identify some of the benefits of using technology.
I can use technology to collect information, including photos, video and sound.	I can begin to use software/apps to create movement and patterns on a screen.	I can use technology safely, understanding that personal information is private and identify where to go for help

		and support if I have any concerns.
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Year 2		
Information Technology	Computer Science	Digital Literacy
I can use technology to organise and present my ideas in different ways.	I can tell you the order I need to do things to make something happen and talk about this as an algorithm.	I can tell you why I use technology in the classroom.
I can use the keyboard on my device to add, delete and space text for others to read	I can program a robot or software to do a particular task.	I can tell you why I use technology in my home and community.
I can save and open files on the device I use.	I can look at my friend's program and tell you what will happen.	I can talk about the differences between the Internet and things in the physical world.
I talk about the different ways I use technology to collect information, including a camera, microscope or sound recorder.	I can use programming software to make objects move.	I can identify benefits of using technology including finding information, creating and communicating.
I can make and save a chart or graph using the data I collect.	I can watch a program execute and spot where it goes wrong so that I can debug it.	I can use technology safely, understanding that personal information is private and identify where to go for help and support if I have any concerns.

Year 3		
Information Technology	Computer Science	Digital Literacy
I can create different effects with different technology tools..	I can break an open-ended problem up into smaller parts.	I can save and retrieve work on the Internet, the school network or my own device.
I can combine a mixture of text, graphics and sound to share my ideas and learning.	I can put programming commands into a sequence to achieve a specific outcome.	I can talk about the parts of a computer.
I can use appropriate keyboard commands to amend text on my device, and make use of a spellchecker.	I keep testing my program and can recognise when I need to debug it.	I can describe the World Wide Web as the part of the Internet that contains websites.
I can evaluate my work and improve its effectiveness.	I can use repeat commands.	I can use search tools to find and use an appropriate website. I think about whether I can use images

		that I find online in my own work.
I can talk about the different ways data can be organised.	I can describe the algorithm I will need for a simple task. I can detect a problem in an algorithm which could result in unsuccessful programming.	I can use technology safely, understanding that personal information is private and identify where to go for help and support if I have any concerns.

Year 4		
Information Technology	Computer Science	Digital Literacy
I can use photos, video and sound to create an atmosphere when presenting to different audiences.	I can use logical thinking to solve an open-ended problem by breaking it up into smaller parts.	I can tell you whether a resource I am using is on the Internet, the school network or my own device.
I can create, modify and present documents for a particular purpose.	I can use an efficient procedure to simplify a program.	I can identify key words to use when searching safely on the World Wide Web.
I can use a keyboard confidently and make use of a spellchecker to write and review my work.	I know that I need to keep testing my program while I am putting it together.	I think about the reliability of information I read on the World Wide Web.
I can change the appearance of text to increase its effectiveness.	I can recognise an error in a program and debug it.	I can create a hyperlink to a resource on the World Wide Web.
I can give constructive feedback to my friends to help them improve their work and refine my own work.	I recognise that an algorithm will help me to sequence more complex programs.	I can use technology safely, understanding that personal information is private and identify where to go for help and support if I have any concerns.
I can organise data in different ways.	I recognise that using algorithms will also help solve problems in other learning such as Maths, Science and Design and Technology.	

Year 5		
Information Technology	Computer Science	Digital Literacy
I can use text, photo, sound and video editing tools to refine my work.	I can decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program.	I can describe different parts of the Internet.

I can use the skills I have already developed to create content using unfamiliar technology.	I can refine a procedure using repeat commands to improve a program.	I can use a search engine to find appropriate information and check its reliability.
I can use a keyboard confidently and make use of a spellchecker to write and review my work.	I can use a variable to increase programming possibilities.	I can recognise and evaluate different types of information I find on the World Wide Web.
I can select, use and combine the appropriate technology tools to create effects that will have an impact on others.	I can use 'if' and 'then' commands to select an action.	I can describe the different parts of a webpage. I can find out who the information on a webpage belongs to.
I can review and improve my own work and support others to improve their work.	I can use logical reasoning to detect and debug mistakes in a program.	I know which resources on the Internet I can download and use.
I can organise data in different ways.	I use logical thinking, imagination and creativity to extend a program.	I can use technology safely, understanding that personal information is private and identify where to go for help and support if I have any concerns.

Year 6		
Information Technology	Computer Science	Digital Literacy
I can talk about audience, atmosphere and structure when planning a particular outcome.	I can deconstruct a problem into smaller steps, recognising similarities to solutions used before.	I can tell you the Internet services I need to use for different purposes.
I can confidently identify the potential of unfamiliar technology to increase my creativity.	I can explain and program each of the steps in my algorithm.	I can talk about the way search results are selected and ranked.
I can combine a range of media, recognising the contribution of each to achieve a particular outcome.	I can evaluate the effectiveness and efficiency of my algorithm while I continually test the programming of that algorithm.	I can check the reliability of a website.
I can tell you why I select a particular online tool for a specific purpose.	I can recognise when I need to use a variable to achieve a required output	I can tell you about copyright and acknowledge the sources of information that I find online.
I can be digitally discerning when evaluating the effectiveness of my own	I can use a variable and operators to stop a program.	I know that websites can use my data to make money and target their advertising.

work and the work of others.		
I can select the most effective tool to collect data for my investigation. I can interpret the data I collect.	I can use logical reasoning to detect and correct errors in algorithms and programs.	I can use technology safely, understanding that personal information is private and identify where to go for help and support if I have any concerns.

SEND in COMPUTING

Ingoldsthorpe Primary school is committed to giving all our pupils every equal opportunity in all aspects of school life. Our aim is to offer an inclusive curriculum that is relevant and adapted to the needs and abilities of all pupils. We ensure inclusive opportunities for raising self-esteem and celebrating success so that all learners can reach their true full potential.

Adjustments in Computing may include:

- Adaptations to the learning objective or lesson outcomes
- 1:1 adult support
- Adapted equipment such as larger iPads
- Use of different software to achieve similar outcomes.
- Specialist equipment and programs such as Clicker
- Alternative activities which offer equivalent degree of challenge
- Additional time to complete task
- Group/peer work
- Visuals where appropriate
- Possible rest/sensory breaks
- Mixed ability grouping to support pupils with SEND
- Scaffolding, modelling and demonstration by adults and peers



Most able children in Computing

Those pupils who are identified as most able are given opportunities to progress in computing. These opportunities include demonstrating and explaining to peers, adapted outcomes, deeper understanding of computer science, tinkering and creating ever more complex algorithms. They will be encouraged to critically review their own and others' work and identify areas for improvement.

Impact

At Ingoldisthorpe primary school we believe our children leave with life-long and transferable skills developed through our Computing and IT curriculum. A carefully mapped out curriculum and progressive learning objectives ensure skills are developed and extended throughout the children's time at Ingoldisthorpe Primary school.

Our pupils can:

- Be enthusiastic and confident in their approach towards computing.
- Have a secure understanding of the positive applications and specified risks associated with a broad range of digital technology.
- Present as competent and adaptable Computational Thinkers who are able to use identified concepts and approaches in all of their learning.
- Be able to identify the source of problems and work with perseverance to 'debug' them.
- Create and evaluate their own project work.
- An understanding of computing related industry and careers and how computing is fact-paced, ever changing and increasingly important and relied upon in this world.

