

Wingate Primary School

Policy for Computing

May 2022



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Computing Curriculum Intent Statement
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The rights and dignity of our children are at the heart of everything we do, every decision we and they make and every driver for making progress and helping our children to develop as responsible, valued global citizens who want to make a positive contribution to their and our world.

In our school it is our intent that we help children to develop resilience, perseverance, autonomy and focus. Our children learn that they are valued and valuable, they are independent people in their own right and they have the power to do wonderful, amazing things at every stage of every day.

Every one of our children is a unique individual with their own strengths, aptitudes, interests and dreams. As a school community we will endeavour to support each child to make the most of every opportunity we offer.

We provide enriching experiences to engage learners and in designing and developing our curriculum we have taken into consideration:

- How children learn and remember; progress means knowing more and remembering more.
- What our children need to succeed in life; cultural capital they need to make aspirational choices and succeed beyond their time at Wingate Primary School.

The key drivers for our curriculum:

Ambition and aspiration
Resilience and courage
Autonomy and independence
Perseverance and solution finding

* The terms **Computing** and **ICT** are referred to throughout this policy. Where applicable ICT (Information Communication Technology) is used to describe opportunities to access resources within school e.g. Laptops, Ipads, Digital Cameras etc. The term ICT does not represent the outline of the subject.

Computing refers to the subject as a whole of which all other strands stem from.

What is Computing?

A high-quality Computing education equips pupils to understand and change the world through logical thinking and creativity, including by making links with mathematics, science and design and technology. The core of Computing is computer science, in which pupils are taught the principles of information and computation, and how digital systems work. Computing equips pupils to use ICT to create programs, systems and a range of media. It also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, ICT – at a level suitable for the future workplace and as active participants in a digital world.

Rationale

Our Computing teaching follows the National Curriculum and has been supported by the Local Authority of Durham County Council. Each year group's planning allows a consistent approach to Computing for children to develop their technical ability within the subject. The skills which the children develop in Computing lessons are vital for the children's learning as they grow through an ever-expanding digital age.

At Wingate Primary School, we strive to deliver a high-quality Computing education which equips pupils to use computational thinking and creativity to understand and change the world. Throughout the year the children have opportunities to link their learning to practical activities, learning and projects through STEM focussed weeks throughout each year.

Computer science is a key aspect of our Computing teaching, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are provided with a variety of information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate, allowing them to be able to use, express themselves and develop their ideas through a wide a variety of different ICT equipment, at a level suitable to succeed in the future workplace and be active participants in a digital world.

Sequential learning

Our Computing curriculum is delivered in our school through sequential learning. Each lesson builds upon the pupil's prior learning to develop better progress in the Computing curriculum. We begin introducing children to a wide variety of technology in the EYFS, to introduce children to computational thinking. This is built on in KS1 as children begin using this computational thinking and applying it to computer sciences, such as coding, programming and debugging ICT equipment, predicting the behaviour of simple programs and purposefully using technology to create, organise, store, manipulate and retrieve digital content. This is then further cemented in KS2 as the pupils will learn to design, write and debug programs that accomplish specific goals; use sequence, selection, and repetition in programs and use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

It is also crucial for us as educators to teach our pupils about how to be respectful online citizens. We begin teaching the children from the Early Years about how to be safe online and what to do when facing this behaviour. We progress this learning throughout KS1 and 2 to inform children of how to use different online technologies safely and respectfully.

Aims

The national curriculum for computing aims to ensure that all pupils:

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.
- Can evaluate and apply information technology (including new or unfamiliar technologies) analytically to solve problems.
- Are responsible, competent, confident and creative users of ICT.

Intent

At Wingate Primary, in Computing we believe children learn best by having opportunities to revisit their previous learning. We teach computing every week so that the children can fully immerse themselves and have opportunities to reflect and build upon prior learning. Computing is a key aspect of the curriculum to prepare children living in the digital age. We believe that learning in Computing should promote children's ability to code, program, use a variety of software and use these skills safely online. At our school Computing is used to give children an opportunity to develop their technical abilities and work as a team or independently to do so.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Subject content Key stage 1

Pupils should be taught to:

- 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.
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
- Use technology safely and respectfully, keeping personal information private; know where to go for help and support when they have concerns about material on the internet.
- Recognise common uses of ICT beyond school.

Subject content Key Stage 2

Pupils should be taught to:

- 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.
- Use search technologies effectively, appreciate how results are selected and ranked and be discerning in evaluating digital content.
- 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.
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Cross Curricular Links

Computing permeates all subjects, themes and dimensions in accordance with the orders for Computing.

Classroom Management of ICT

All classrooms are equipped with an Interactive Whiteboard, which is run from a laptop computer. Each class also has at least 1 teaching iPad that may be used to demonstrate activities via the interactive whiteboard or to observe and record children's work. This can then be displayed within the class for teaching purposes including personal response and evaluation. The main school hall is also equipped with an interactive board and laptop. School has 16 laptop computers connected to a CC4 server via wireless network connection. The CC4 server runs both sites, however following the amalgamation process a new server is expected to be installed to run a streamlined system across both sites. Each class is timetabled to have access to the laptops and iPads to be used in specific Computing skills lessons or to support teaching and learning in all other curriculum areas.

An audit of equipment is carried out by ICTSS staff on a regular basis to monitor quality of resources and promote best access to Computing for children.

Computing skills and knowledge should be presented:

- Via demonstration by the teacher to stimulate and teach children specific Computing skills and packages.
- With lots of 'hands on' experience allowing regular opportunities for practise and consolidation of Computing skills and techniques.
- Via both independent and collaborative activities to use ICT as a tool for investigation in all subject areas.

Timing

The recommendation is for one hour per week to be dedicated to discrete Computing lessons to introduce new skills. All children have access to laptops, computers and iPads at other times throughout the week in order to ensure that Computing skills are used and embedded in other curriculum areas. Within the following year we hope to provide a regular Computing after school club for all pupils, where they can access a range of Computing hardware and software in order to further develop their Computing skills and passion for this subject.

Continuity and progression of Computing

The Computing curriculum should ensure continuity and progression throughout the Foundation Stage, Key Stage 1 and Key Stage 2. Progression in Computing involves:

- The progressive development of pupils' skills, knowledge and understanding.
- Breadth of applications.
- Increased complexity of contexts in which ICT is applied.
- The growing autonomy of the pupil in their learning.

In Reception, children discover computing through the overarching topic of technology and understanding the world. Opportunities to access ICT are available within class, whilst other computing skills can be accessed in both indoor and outdoor areas.

Throughout Key Stage 1 and 2, children are taught through discrete, weekly Computing lessons with opportunities to use ICT arising within the entire curriculum.

Assessment & Recording of Computing

Teacher assessments of Computing capability will be recorded throughout the year and reported to parents at the end of each academic year. Staff should keep examples of pupils' work and complete assessment records to form a judgement on each pupil's level of attainment at the end of both Key Stages. Some class or group activities may be recorded using digital photography, digital recording and printouts. Assessments of children will refer to the County progression document which identifies key skills required within each year group.

Special Educational Needs

Pupils with Special Educational Needs benefit from using ICT as it can enhance access to the curriculum which in turn encourages motivation and development of cross-curricular skills and so raises achievement. Opportunities to utilise Computing for children with SEND are thus maximised.

Support staff use ICT in small groups and one to one sessions implementing speech and language and reading programs using identified software.

Equal Opportunities

All pupils regardless of age, race, gender, religion or ability should have the opportunity to develop Computing capability. We ensure that all pupils:

- Have equal access to ICT resources.
- Have equal opportunities to develop Computing capability.
- Use software that is appropriate to their ability.

Display

Children's work may be displayed in individual classrooms and on the Projector Screen in the hall, in the form of a PowerPoint presentation during special assemblies.

Respecting Rights

The policy is written with consideration to our school commitment to the Rights of the Child and our achievement of becoming a Rights Respecting School and it complies with Article 28 of the UNCRC 'Every child has the right to an education' as well as Article 29 'Education must develop every child's personality, talents and abilities to the full.' Although direct reference to this is not continuously made, the policy has been written with full awareness of our responsibility and commitment to children's Rights.

Date for Review: May 2023