WINGROVE PRIMARY SCHOOL

Policy Statement for

Computing

Subject leader: Tom Barker
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Intent
"A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, 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 equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world."
National Curriculum 2014

The continuing development of digital and computer technology provides schools with the challenge of teaching relevant and contemporary knowledge and skills to children who are often immersed in the use of that technology.

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 information and communication technology.

In addition, we aim:
- to foster empathy, confidence, responsibility and enjoyment in the use of technology
- to recognise the scale and capacity of digital activity in society and for personal use
- to develop respect for their work, their peers and the wider community

Curriculum
The Wingrove curriculum is based on Early Years Foundation Stage goals and the National Curriculum 2014. These provide the content and general framework for teaching throughout Wingrove.
We have also adopted a published framework of lessons, objectives, activities, assessment and resource suggestions to establish our Wingrove Curriculum and provide continuity and progress.
We will provide children with a range of progressive challenges in all of the key Computing areas: computer science; information technology; digital literacy.
Children will work independently and collaboratively in small and large groups according to task and level of progress.

Implementation
For the year 2023-24, teaching will follow guidance given from the latest *Knowsley Scheme of Work,* which will continue to be updated throughout the year. We have confidence that this informed and professionally validated programme of work will support us in developing our own effective Computing curriculum. Teachers will plan lessons and programmes of study tailored to the class, based on key objectives and individual need. Children are expected to progress at a

strong pace and to demonstrate good attitudes to learning and each other in a collaborative environment.

They will explore instructions, sequencing, repetition, actions and language in order to make things happen. Learning may focus on knowledge and skills separate from the computer and in this, children will acquire fundamental principles of computational thinking. They will have opportunities to apply instructions to computer devices, so beginning their experience of programming.

They will be shown how connections can be made, and sequences followed across several separate devices or sites, bringing about an understanding of networks. Eventually, this will inform their safe and effective use of the internet.

Safety is an essential consideration for all users of the internet, and children will be given firm guidance and limitations in how they will connect with websites; their security and safety is paramount in our teaching.

Children will be encouraged to be creative and to make aesthetic, practical, logical, reasoned and critical judgements about their work. They will learn how to communicate using words, images, video, sound and interactive software and to develop empathy and understanding for their audience. Respect underpins all our activities, and Computing requires children to relate to their audience with respect.

We will teach correct vocabulary and usage and encourage children to discuss their work knowledgeably.

Planning will derive initially from the National Curriculum programmes of study, be framed by the Knowsley Scheme of Work, and further enhanced by teachers in practice. Collaboration between teachers in and across year groups is essential to ensure continuity and progression.

We also teach coding through Lego Education and BBC micro:bits.

What will a good lesson look like?
We will generally adopt three part lessons consisting of an introduction, practice of skills or ideas, then review.

Following a gathering activity, a brief period of settling and focusing attention, teachers will introduce clear learning objectives or a big question, two or three specific ideas or skills that will direct all activities. These will be incremental with explicit and concise targets.

Teachers will engage the children with visual, spoken and practical prompts, supporting and challenging them to assimilate new ideas.

Vocabulary will be displayed clearly, spoken and used correctly, and children will be expected to discuss work effectively.

Questioning will consolidate, and help to assess, learning.

Teachers will model techniques, give instructions, reveal insightful details and set challenges for the children to attempt.

Carefully planned activities, firmly linked to objectives will then take place. They will give the children opportunities to emulate the thinking, experience the strategies or practise the skills that the objectives demand. Individual, group, independent or supported class organisation will take

place at the teacher's discretion. Children should be challenged and supported, and be ready to acquire the new skills or knowledge.
Finally, a review of the lesson will focus on securing the objectives. Here, children can express their successes or struggles, teachers and support staff can clarify confusions or solve problems. Successes can be celebrated and used to highlight good work, emphasise expectations and improve children's confidence. Teachers can assess the rate and quality of learning and plan for the next lesson.

Generally, a supportive, guiding environment will be established by the teacher, encouraging all children to engage fully. Teachers will maintain pace, with concise instructions and clear demonstrations that will allow the children to participate in learning activities without delay. The focus must be on the children acquiring knowledge and skills, feeling confident and positive and being ready to approach the next stage in learning

Cross curricular links
We have adopted a creative curriculum which aims to provide conceptual links between subjects, giving children a more cohesive experience of problem solving and knowledge development. Computing involves children in designing solutions to problems, experimenting with actions and sequences of instructions and creating content that draws upon other subjects. Our *Knowsley Scheme of Work* adopts a cross-curricular approach.

Organisation
There are computers in every class and laptops and iPads are available in Key Stages 1 and 2 for selected use. We have a computer suite consisting of sixteen desktop PCs for which classes are timetabled for at least one lesson per week, although the lesson does not always require the use of the suite. Children will work individually and collaboratively, in whole class situations and occasionally in smaller groups.

Impact
It is important that teachers know the levels of progress and attitudes of their pupils. Informal assessment will be carried out by teachers at their discretion during lessons and at the end of a unit of work. These will be professional judgements as formal assessments are not expected in computing. At Wingrove, we are continually assessing our pupils and recording their progress via skills ladders and spreadsheet progress charts against the objectives set.

SEN
See also the Special Educational Needs policy.
We endeavour to provide appropriate learning experiences for all our children regardless of the learning needs. Computing offers independence in certain software, and careful matching by teachers of task, support, grouping and expectation will ensure all our children make good progress.

Safety
We give a high priority to safety in all aspects of computer work, particularly when children are accessing internet resources. We are aware of the risks facing all participants in digital communications, and we take precautions to guard against exposure to them. Personal and school security is paramount, and we, like all schools, operate a protected system. Children have controlled access to programmes and software, and are supervised when using the internet. We teach safe practice throughout school, and children are expected to adhere to our rules.

Equal Opportunities
See also the Equal Opportunities Policy.
We respect and value the rights of all children to receive an education regardless of ethnicity, gender or social heritage. We endeavour to provide high quality learning opportunities for all our

children, employing differentiation of resources, personnel, grouping, task and expectation as necessary.

Reporting
Teachers will be able to report to parents on the progress of the child during parent-teacher interviews, and with a written comment in end of year reports.

Resources
We provide: desktop computers in all classes; a suite of sixteen desktop computers; mobile laptops for selected class usage; iPads; digital cameras; digital video cameras; programmable toys; sound recording devices. Our software is available via a closed school network and consists of a wide range of generic and subject themed programmes. We subscribe to online providers, such as Purple Mash, Education City and Mathletics, to increase options for individualised learning and teaching resources across the curriculum. Our internet access is provided through Newcastle City Council's protected service and is monitored for appropriate use, with blocks or limits on sites as necessary.

Homework
Homework is not normally given though teachers may choose to give appropriate tasks. Increasingly, children are able to make use of computers and internet resources for their general homework, and we see this as a positive, cross-curricular approach to independent learning with computers.

More able pupils
Children whose usual work indicates high levels of knowledge, speed, insight, interest or general capability in Computing will be supported differently to their peers. This may include differentiated tasks, of higher challenge, of independence, of more complexity, in order to maintain their progress.