St. Patrick's Catholic Primary School

Computing Policy

Written by	Updated
Senior leadership team and Curriculum leader for Computing	April 2022

The National Curriculum states that:

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 througfsh 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.

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

Intent

Technology is changing the lives of everyone. Through teaching Computing we equip children to participate in a rapidly-changing world where work and leisure activities are increasingly transformed by technology. It is our intention to enable children to find, explore, analyse, exchange and present information. We

also focus on developing the skills necessary for children to be able to use information in a discriminating and effective way.

Computing skills are a major factor in enabling children to be confident, creative and independent learners and it is our intention that children have every opportunity available to allow them to achieve this.

- Provide an exciting, rich, relevant and challenging Computing curriculum for all pupils.
- Enthuse and equip children with the capability to use technology throughout their lives.
- Give children access to a variety of high quality hardware, software and unplugged resources.
- Instil critical thinking, reflective learning and a 'can do' attitude for all our pupils, particularly when engaging with technology and its associated resources.
- Teach pupils to become responsible, respectful and competent users of data, information and communication technology.
- Teach pupils to understand the importance of governance and legislation regarding how information is used, stored, created, retrieved, shared and manipulated.
- Equip pupils with skills, strategies and knowledge that will enable them to reap the benefits of the online world, whilst being able to minimise risk to themselves or others.
- Use technology imaginatively and creatively to inspire and engage all pupils, as well as using it to be more efficient in the tasks associated with running an effective school.
- Provide technology solutions for forging better home and school links.
- Utilise computational thinking beyond the Computing curriculum.
- Exceed the minimum government recommended/statutory guidance for programmes of study for Computing and other related legislative guidance (online safety).

Implement

Planning

The Early Years foundation stage follow the development matters framework alongside the Early learning goals. In addition they use the Purple Mash scheme of work. F1 and F2 work within the Early Learning Goals and continuous assessment is recorded on Foundation Stage Profiles.

In Key Stage 1 and 2, units of work are planned for from the Purple Mash Scheme of work and are complemented by other resources which covers the whole primary curriculum with a clear structure of progression building on children's previous knowledge. It uses resources embedded within the platform which allows pupils to save, combine and import content which can be shared across the school safely.

Early Years foundation stage plan group work and continuous provision activities linked to their focus. Key stage 1 & 2 classes have a dedicated Computing time in the ICT suit with activities which complemented the curriculum throughout the week.

All teachers are responsible for developing weekly plans in line with the scheme of work using their own choice of proforma. These plans indicate the learning objectives for each lesson along with activities, which clearly show progression. Clear differentiation is built into weekly plans and the needs of all children are planned for, including those with Special educational needs and more able children.

Pupil attainment is assessed using the 2Simple Computing Assessment Tool for Years 1 to 6. The tool enables staff to accurately identify attainment of pupils through the detailed exemplification it has for each key learning intention.

Key stage 1

- 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
- 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

Key stage 2

- 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

Presentation

Any paper based work completed should have the learning objective written or stuck in to indicate the new lesson's learning.

Children should be taught to use the lines in their books and from Y3 upwards the writing should be cursive. Adults should identify in children's books when this is not done and allow time for children to correct this.

Marking and Feedback

At St Patrick's, we believe that marking is about responding appropriately to children's work. In computing the vast majority of the work is practical and much of the response is verbal. Staff use their professional judgement in a constructive way when working with young learners to take them forward. From the evidence of the pupil's performance in all aspects of the curriculum, staff ask:

What does it tell us?

How can we use it?

What are we going to do next?

The purpose of our marking is to:

- Provide feedback to aid learning
- Give direction towards the next step in learning
- Achieve continuity in our responses throughout the school

Marking

- is carried out regularly
- may indicate strengths and areas for development
- is accompanied by verbal support and positive body language
- shows that the pupil's work is valued and provides opportunities for praise
- plays an integral part in classroom activities
- informs future planning and sets targets
- is consistent throughout the school
- will inform parents and other staff
- will relate to the intention of the lesson
- ensure any comments are in the handwriting style of the school
- Show that the teacher has reviewed the work

EEF 'There is little high quality research to suggest that extensive or detailed marking has any significant impact on learning'

Please see the Marking and Feedback policy for further details

Teaching and Learning

Teaching Strategies (Quality First Teaching)

Each of us is unique in the way we experience life and respond to events. There are as many different ways of learning as there are children in our classroom. Because of this we need to use a range of teaching methods to try and ensure 'personalised learning'. We are committed to 'Quality First teaching', where we meet the needs of every child.

The strategies used in our school are:-

Whole class teaching	Talk less teaching
Challenge and support	Think, pair, share. Peer marking.
Paired learning	Self assessment.

Team / Group learning	Practical activities / creativity
Individual learning	Investigative / problem solving
Open questions	Exposition / modelling
Closed questions	Real life thinking / problems

Indoor and Outdoor learning and teaching

It is seen as very important to employ a wide range of teaching strategies. However, emphasis is placed on direct teaching, demonstrating, modelling methods and strategies to be learnt, and the use of skilful questioning in order to develop understanding.

Children are given regular opportunities to apply their knowledge and understanding to investigate, where they are encouraged to make predictions and present information clearly.

The ICT rooms have a computing display which contains key vocabulary, resources which the children can use, and a working wall of new concepts and skills.

Assessment (Formative and Summative)

We assess children's work formatively in Computing through observations and marking. These assessments inform the class teacher's planning for future lessons. At the end of a unit of work, the class teacher makes a judgement about the children's achievements. A pre learning task is carried out and wherever possible, children are the first to assess their learning. Assessments may take the form of a practical activity, a concept map or a written assessment. The teacher records these assessments to inform reports to parents and the next class teacher at the end of the year

Within our school staff are knowledgeable and skilled users of strategies for day-to-day assessment in the classroom including:

- Questioning
- Observing
- Discussing
- Analysis of work
- Checking children's understanding (Pre-teach tasks)

Assessment is used to inform medium and short term planning and children are engaged in the assessment of their own learning.

Regular teacher assessments of children's progress are made against the national curriculum. At the start and end of each block of learning an assessment is completed to assess what is known in the beginning and at the end.

Parental involvement

A newsletter is sent to parents on a half termly basis. This contains information about the current areas of learning in Computing and any vocabulary which is going to be used. Parents meetings are held twice a year, where parents are provided with feedback on their child's attainment in computing. At the end of the year, assessments are reported to parents through the end of school year report.

Leadership and Management

It is the responsibility of the Computing Subject Leader, the Headteacher and Governors to monitor the standards of children's work and the quality of teaching in computing. The computing Subject Co-ordinator is also responsible for supporting colleagues in the teaching of computing, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. An action plan is written and reviewed annually. The computing subject co-ordinator helps with the levelling and moderation of work samples to ensure consistency and calls in books and assessment folders for scrutiny and evidence of progress, with feedback being given to staff on a termly basis. We are working with a cluster of schools to share ideas and look at how we moderate our computing curriculum.

The Role of Governors

The Governors are informed regularly about standards and the progress throughout the school, through the Governors' meetings, Headteacher's report to Governors, and a summary of the data. A Governor responsible for each subject meets regularly with the Coordinator. This Governor receives a copy of the subject Policy and subject action plan. The Governors are also involved in the setting of targets for the end of key Stage 2 and in carrying out a work scrutiny of books throughout the school.

The Role of the Headteacher

The Headteacher, in collaboration with the Coordinator, establishes the whole school approach to each subject area. She ensures and clarifies what needs to be achieved by the coordinator and provides the necessary support and resources in order to achieve it.

The Head teacher is kept informed about the quality of teaching and learning through regular discussions with the coordinator and also by using the monitoring forms which are completed after any kind of monitoring activity.

The Computing Coordinator

The Coordinator develops an overview of the strengths and weaknesses of their subject in the school and uses this to inform contributions to the subject Action Plan and carries out the tasks identified.

A supportive role is given to teachers for planning, teaching lessons and making assessments. Advice is also given on the use of resources.

The coordinator identifies INSET needed and where appropriate and able, provides in-school inset and keeps abreast of subject developments.

Together with the Headteacher, the coordinator monitors the progress of their subject by analysing test data, observing lessons and evaluating children's work.

The SENCO and Support Staff

The support staff are clearly informed about their role in each lesson and have access to planning prior to each lesson. They have attended insets and are familiar with the National Curriculum.

The SENCO, where appropriate, works with the coordinator to plan the provision for children with special educational needs, in order to encourage a full participation and involvement in the daily numeracy lesson. Where individual plans are needed, yearly teaching objectives are used to plan targets for development.

Impact

Monitoring and Evaluation

The children are able to know more and remember more

Lessons are observed by the Headteacher and Coordinator

Work analysis is carried out by the Coordinator throughout the year

Teachers' planning is monitored termly

Books are scrutinised termly