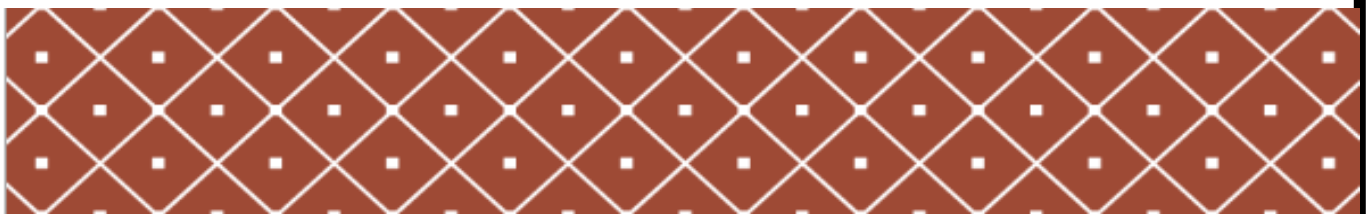


Zetland Primary School



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Curriculum Policy Computing



IRONSTONE ACADEMY TRUST

Purpose of Study

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.

(Primary National Curriculum September 2014)

Vision for the Subject

The use of information and communication technology is an integral part of the national curriculum and is a key skill for everyday life. Computers, tablets, programmable robots, digital and video cameras are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate and present information. At Zetland Primary School we recognise that pupils are entitled to quality hardware and software and a structured and progressive approach to the learning of the skills needed to enable them to use it effectively. The purpose of this policy is to state how the school intends to make this provision.

Aims

- The school's aims are to:
- Provide a relevant, challenging and enjoyable curriculum for ICT and computing for all pupils.
- Meet the requirements of the national curriculum programmes of study for ICT and computing.
- Use ICT and computing as a tool to enhance learning throughout the curriculum.
- To respond to new developments in technology.
- To equip pupils with the confidence and capability to use ICT and computing throughout their later life.
- To enhance learning in other areas of the curriculum using ICT and computing.
- To develop the understanding of how to use ICT and computing safely and responsibly.

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

- Can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication.
- 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.

Curriculum Design and Organisation

Early Years Foundation Stage

It is important in the foundation stage to give children a broad, play-based experience of ICT in a range of contexts, including outdoor play. ICT is not just about computers. Early years learning environments should feature ICT scenarios based on experience in the real world, such as in role-play. Children gain confidence, control and language skills through opportunities to 'paint' on the whiteboard or drive a remote-controlled toy. Outdoor exploration is an important aspect, supported by ICT toys such as metal detectors, controllable traffic lights and walkie-talkie sets. Recording devices can support children to develop their communication skills. This is particularly useful with children who have English as an additional language.

Key Stage One

By the end of 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 a sequence of instructions write and test simple programs
- use logical reasoning to predict and computing the behaviour of simple programs
- organise, store, manipulate and retrieve data in a range of digital formats
- communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.

Key Stage Two

By the end of Key Stage 2 pupils should be taught to:

- design and write 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; generate appropriate inputs and predicted outputs to test programs
- use logical reasoning to explain how a simple algorithm works 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
- describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely
- select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

Assessment and Moderation

Teachers regularly assess capability through observations and looking at completed work. Key objectives to be assessed are taken from the national curriculum to assess key ICT and computing skills each term. Assessing ICT and computing work is an integral part of teaching and learning and central to good practice. It should be process orientated - reviewing the way that techniques and skills are applied purposefully by pupils to demonstrate their understanding of the concepts of ICT and computing. As assessment is part of the learning process it is essential that pupils are closely involved. Assessment can be broken down into;

- Formative assessments are carried out during and following short focused tasks and activities. They provide pupils and teaching staff the opportunity to reflect on their learning in the context of the agreed success criteria. This feeds into planning for the next lesson or activity.
- Summative assessment should review pupils' capability and provide a best fit level of attainment. Use of independent open ended tasks, provide opportunities for pupils to demonstrate capability in relation to the term's work. There should be an opportunity for pupil review and identification of next steps. Summative assessment should be recorded for all pupils – showing whether the pupils have met, exceeded or not achieved the learning objectives.

Supporting Specific Learning Needs

We believe that all children have the right to access ICT and computing. In order to ensure that children with special educational needs achieve to the best of their ability, it may be necessary to adapt the delivery of the ICT and computing curriculum for some pupils. We teach ICT and computing to all children, whatever their ability. ICT and computing forms part of the national curriculum to provide a broad and balanced education for all children. Through the teaching of ICT and computing we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs. Where appropriate ICT and computing can be used to support SEN children on a one to one basis where children receive additional support. Additionally as part of our dyslexia friendly approach to teaching and learning we will use adapted resources wherever possible such as visual timetables, different coloured backgrounds and screen printouts.

Curriculum Links

As a staff we are all aware that ICT and computing capability should be achieved through core and foundation subjects. Where appropriate, ICT and computing should be incorporated into schemes of work for all subjects. ICT and computing should be used to support learning in other subjects as well as develop ICT and computing skills.

Resources

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards a consistent, compatible pc system by investing in resources that will effectively deliver the strands of the national curriculum and support the use of ICT and computing across the school. Teachers are required to inform the ICT and computing coordinator of any faults as soon as they are noticed. Resources if not classroom based are located in the computing suite. A service level agreement with OneIT is currently in place to help support the coordinator to fulfill this role both in hardware & audio visual. ICT and computing network infrastructure and equipment has been sited so that:

- Every classroom from nursery to Y6 has a laptop connected to the school network and an interactive whiteboard with sound, DVD and video facilities.
- There is an ICT and computing suite of 17 laptops with internet access. These are also available to use in classrooms.
- The ICT and Computing suite and laptops are available for use throughout the school day as part of ICT and computing lessons and for cross curricular use.
- Pupils may use ICT and computing independently, in pairs, alongside a TA or in a group with a teacher.
- The school has an ICT and computing technician who is in school one morning every week.

Leadership and Management

Role of the Subject Leader

- There is an ICT and computing coordinator who is responsible for producing an ICT and computing development plan and for the implementation of the ICT and computing policy across the school.
- To offer help and support to all members of staff (including teaching assistants) in their teaching, planning and assessment of computing.
- To maintain resources and advise staff on the use of materials, equipment and books.
- To monitor classroom teaching or planning following the schools rolling programme of monitoring.
- To monitor the children's computing work, looking at samples of different abilities.
- To lead staff training on new initiatives.
- To attend appropriate in-service training and keep staff up to date with relevant information and developments.
- To have enthusiasm for computing and encourage staff to share this enthusiasm.
- To keep parents and governors informed on the implementation of computing in the school.

Role of the Teacher

- Individual teachers will be responsible for ensuring that pupils in their classes have opportunities for learning ICT and computing skills and using ICT and computing across the curriculum.
- To plan and deliver the requirements of the EYFS outcomes and early learning goals or primary framework for computing to the best of their ability. In Zetland Primary School we set high expectations for our pupils and provide opportunities for all pupils to achieve, including girls and boys, pupils with educational special needs, pupils with disabilities pupils from all social and cultural backgrounds, and those from diverse linguistic backgrounds.
- To keep up to date assessment records (see policy document)

The class teacher ensures success by creating:

- effective learning environments, securing their motivation and concentration.
- providing equality of opportunity through teaching approaches, using appropriate assessment approaches
- setting suitable targets for learning as outlined in the inclusion policy.

The class teacher's role is a vital role in the development of computing throughout the school and will ensure continued progression in learning and understanding.

Monitoring and Evaluation of the Subject

The subject leader is responsible for monitoring the standard of the children's work and the quality of teaching in line with the schools monitoring cycle. This may be through lesson observations, book trawl or looking at other data for the subject. The subject leader 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. We allocate special time for the vital task of reviewing samples of children's work and for visiting classes to observe teaching in the subject.

Parental Engagement

Parents are encouraged to support the implementation of ICT and computing where possible by encouraging use of ICT and computing skills at home during home-learning tasks and through the school website. They will be made aware of e-safety and encouraged to promote this at home.

Equal Opportunities

Zetland Primary School will ensure that all children are provided with the same learning opportunities regardless of social class, gender, culture, race, disability or learning difficulties. As a result we hope to enable all children to develop positive attitudes towards others. All pupils have equal access to ICT and computing and all staff members follow the equal opportunities policy. Resources for SEN children and gifted & talented will be made available to support and challenge appropriately.

Policy amended:

April 2018 P Richardson