Redesdale Primary School

Computing Policy

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INTENT

Introduction

Redesdale Primary School is a happy, vibrant school where a love of learning is encouraged and celebrated. We are passionate about providing our children with enriching real-life experiences in all aspects of school life. We nurture and inspire children to develop lifelong communication skills in a safe and comforting environment. We believe that children will flourish if given the skills to encourage emotional intelligence that can be utilised in all areas of life. Our Computing curriculum has been carefully developed with this in mind. The purpose of this document is to provide teachers, parents and governors with a clear summary of the role of Computing within the broad and balanced curriculum offered at Redesdale Primary School.

Our Curriculum Drivers are strongly supported through, and embedded in, the delivery of our Computing curriculum. We believe that Computing is central to the education of all children. Through teaching Computing, we equip children to participate in a world of rapidly changing technology. We aim to give each child the opportunity to apply and develop their technological understanding and skills across a wide range of situations and tasks.

Children are encouraged to develop a confident and safe approach to Computing with the understanding of the capabilities and flexibility of their resources. With the knowledge that Computing will undoubtedly continue to form a major part in the children's life at home, in further education and places of work, we ensure that the Computing experiences and abilities that the children are equipped with at Redesdale Primary School, are effective and transferrable life skills. We recognise that our school vision is crucial to this learning and that it is at the heart of whole-school development.

Aims & Objectives

The current National Curriculum 2014 states that a high quality Computing curriculum equips children to use computational thinking and creativity to understand and change the world. The core of Computing is Computer Science and at Redesdale Primary School, children will be taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming.

Children will be equipped to use information communication technology to create programs, systems and a range of content. Computing at Redesdale Primary School, ensures that children become digitally literate, are able to use and express themselves and develop their ideas through information communication technology, at a level suitable for their academic stage, that will develop them for the future workplace and as active participants in a digital world.

At Redesdale Primary School we aim to develop children's knowledge and skills so that they can:

- understand and apply the fundamental principles and concepts of computer science;
- analyse problems in computational terms and have repeated practical experience of writing computer programs in order to solve such problems;
- evaluate and apply ICT, including new or unfamiliar technologies, analytically to solve problems;
- be responsible, competent, confident and creative users of ICT;
- use ICT safely.

IMPLEMENTATION

Curriculum

At Redesdale Primary School, knowledge, skills and understanding in Computing are built upon and developed in each year group, from Reception to Year 6. Computing is a very cross-curricular subject and time allocated to this subject varies from week to week as it may be taught discretely or in combination with another subject.

The Early Years Foundation Stage

Throughout the Early Years Foundation Stage, children will:

- know how to operate simple equipment, e.g. turn on a CD player and use a remote control;
- show an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones;
- show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images;
- know that information can be retrieved from computers;
- complete a simple program on a computer;
- use ICT hardware to interact with age-appropriate computer software;
- recognise that a range of technology is used in places such as homes and schools;
- select and use technology for particular purposes.

Key Stage 1

Throughout Years 1 and 2, children will:

- 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 ICT beyond school;
- use technology safely and respectfully, keeping personal information private, identify where to go to for help and support when they have concerns about content or contact on the internet or other online technologies.

Key Stage 2

Throughout Years 3, 4, 5 and 6, children will:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems and solving 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 worldwide 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;

Knowledge Organisers

At Redesdale Primary School, knowledge organisers are used to support the delivery of all subjects across the curriculum. They are essential in supporting children in acquiring and retaining key knowledge within a specific subject area. Computing knowledge organisers are used across Key Stage One and Two and are categorised into three learning stems: Computer Science; Digital Literacy and Information Communication Technology. Children can use these to ask questions to further their learning and check their understanding. Teachers and children will refer to the knowledge within each organiser when teaching and learning within a particular stem takes place.

iPads

The children at Redesdale Primary school have access to 60 Apple iPad devices. The devices are used to enhance teaching and learning across the curriculum and enables children to produce work which can be shared through the use of QR codes. When using iPads to present their work, children are developing their communication skills, able to relate to and work collaboratively with others and show their resourcefulness and creativity. The iPads can also be used to complete units of computing work. This enables children to have a sense of possibility, learn by doing and to actively engage in their own learning through use of a 1:1 device.

The iPads are managed by both the Computing & ICT Subject Leaders and the IT Support Engineer as part of our Service Level Agreement. It is their role to ensure that the iPads are kept updated and that apps are organised appropriately.

Digital Ambassadors

At Redesdale Primary School, we have Digital Ambassadors. Their role is to effectively promote the use of Computing to develop competent users of digital technology. They run a weekly 'Coding Club' with targeted digital technologies for each year group from Reception to Year 6. Digital Ambassadors also support staff across school with their skills development in using a range of iPad apps to enhance teaching and learning. They support in classrooms, working with small groups of children to create and present projects using a range of iPad apps.

The Digital Ambassador team is made up of a selection of more able children from Years 5 and 6 who have demonstrated their love of learning in relation to Computing and are self-motivated to help support the development of others. Towards the end of the academic year, more able children in Year 4 will be selected to begin their Digital Ambassador training in preparation for their time in Upper Key Stage Two.

Planning

We have linked Computing Units to our Units of Study (where possible) to maintain a cross curricular curriculum.

- We carry out the curriculum planning in Computing in three phases (long-term, medium-term and short-term). The long-term plan maps the computing units that the children study in each term during each key stage. The Computing Subject Leader devises this in conjunction with teaching colleagues in each year group, and the children often study Computing as part of their work in other subject areas. Our long-term Computing Plan shows how teaching units are distributed across the year groups, and how these fit together to ensure progression within the curriculum plan.
- Our medium-term plans, are shown on each Unit of Study overview created by class teachers. This gives details of each computing unit of work for each term. They identify the key learning objectives for each unit covered. The Subject Leader is responsible for reviewing these plans alongside class teachers.
- Each phase is responsible for writing the short-term plans with the computing component of each lesson. These plans list the specific learning objectives and expected outcomes for each lesson.
- The units studied in Computing are planned to build on prior learning. While we offer opportunities for children of all abilities to develop their skills and knowledge in each unit, we also plan progression into the scheme of work, so that the children are increasingly challenged as they move up through the school.

Online Safety

We endeavour to embed online safety messages across the curriculum whenever the internet and/or related technologies are used. Online safety will be discussed regularly in each classroom as part of our Computing and PSHE/RSHE curriculum.

We believe it is essential for safety guidance to be given to the children on a regular and meaningful basis. We continually look for new opportunities to promote online safety. At Redesdale Primary School, we educate children on the dangers of technologies that maybe encountered outside of school, when opportunities arise and as part of the curriculum. This enables children to develop a greater self-awareness and emotional control with regard to online safety. Children are aware of the impact of online bullying through the PSHE/RSHE curriculum and know how to seek help if they are affected by these issues. Children are also aware of where to seek advice or help from if they experience problems when using the internet and related technologies.

Parental involvement

Our school website promotes the school and children's achievements as well as providing information and communication between the school, parents and the local community. Twitter and Class Dojo are used to keep parents up to date and to share children's achievements in a more accessible way. Texts

and/or emails are sent to parents as reminders or to inform instead of/or as well as sending letters home with the children.

Parents are encouraged to support the implementation of Computing where possible by encouraging the use of computing skills at home during home-learning tasks and through the school website. In recent years there has been a boom in the education opportunities that are available online. We provide children with suitable apps they can use at home and have bought into the following to give children safe access to online education opportunities outside of school, examples of these are; Times Tables Rockstars, Numbots, Oxford Owl, Epic books, Go Noodle. Children have passwords that can be used to access these sites with the children being shown how to use them and how to keep their passwords safe from others.

Parents are made aware of online safety and how to keep their children safe online and are encouraged to promote this at home.

Inclusion

At Redesdale Primary School, we teach Computing to all children, whatever their ability and individual needs. We value technology in the role of supporting children and their needs. Through our Computing teaching we provide learning opportunities that enable all children to make good progress. We strive hard to meet the needs of those children with special educational needs, those with disabilities, those who are more able, and those learning English as an additional language, and we take all reasonable steps to achieve this.

When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, differentiation – so that we can take some additional or different action to enable the child to learn more effectively (for example, a lot of software can be differently configured for different ability ranges). Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels. This ensures that our teaching is matched to the child's needs. We enable children to have access to the full range of activities involved in learning Computing by providing range of software which is designed to include all learners.

IMPACT

Assessment

Teachers will assess children's work in Computing by making informal judgements during lessons. On completion of a piece of work, the teacher assesses the work, and uses this assessment to plan for future learning. Verbal feedback is given to the child to help guide his/her progress. This encourages children to actively listen to others and confidently articulate themselves and their ideas. Older children are encouraged to make judgements about how they can improve their own work; enabling them to feel challenged and have a sense of autonomy for their own work and learning.

Teachers can empower children to create, reflect, share, and collaborate on their projects. Children "show what they know" using photos, videos, drawings, text, PDFs, and links. Children are enabled to confidently share their learning and ideas in many creative forms and save this to their own personal Seesaw account. Children in Key Stage One will use Seesaw to save Computing work digitally. In Key

Stage Two, children will create a PowerPoint which shows their progress throughout the unit of work and this will be stored in the class Team.

Staff should ensure Computing evidence is stored on Seesaw and that Key Stage Two children are allocated sufficient time within a lesson to evidence their own learning. The Computing Subject Leader has responsibility for assessing this evidence and supporting staff when necessary.

Resources

Our school has the appropriate computer-to-pupil ratio, and Internet access. Most software is already installed on PCs.

We are part of North Tyneside Service Level Agreement which allows us to receive ICT engineering support to keep our equipment in good working order. Members of staff report faults via email to support@ntlp.org.uk and a technician will arrange to come into school. The Service Level Agreement includes:

- systems design and configuration;
- software installation and configuration;
- liaison with warranty providers/repairers on behalf of the school;
- support and advice for serviceable ICT equipment less than 5 years old.

In order to keep our school computers virus-free, no software from home will be installed on school computers. Where teachers are transferring files between their home and school, they must have up-to-date virus protection software on their home computers.

Monitor and Review

The monitoring of the standards of the children's work and of the quality of teaching in Computing is the responsibility of the Subject Leader. The Subject Leader is also responsible for supporting colleagues in their teaching of Computing, for keeping informed about current developments in the subject, and for providing a strategic lead and direction for Computing in school. The Subject Leader gives the Headteacher an annual summary report (action plan) in which s/he evaluates the strengths and weaknesses in the subject and indicates areas for further improvement. The Subject Leader has allocated time to carry out the vital tasks of reviewing samples of children's work, and of visiting classes to observe the teaching of Computing.

Reviewing this Policy

This policy will be reviewed every three years by the Subject Leader, in conjunction with the Headteacher and Governing Body − any changes made to this policy will be communicated to all members of staff.