

ICT CURRICULUM AT THOMAS READE

Intent

Information and Communication Technology (ICT) prepares pupils to participate in a rapidly changing world in which work and other activities are increasingly transformed by access to varied and developing technology. Increased capability in the use of ICT promotes initiative and independent learning across the curriculum with pupils being able to make informed judgements about when and where to use ICT to best effect.

In our school the intent is-

- to develop in all children confidence and proficiency in the use of ICT in the classroom.
- to develop an appreciation and proficiency in the use of ICT in the context of the wider world.
- to promote both autonomous study and collaborative group work.
- To promote E-Safety at all times.
- to develop the ability to use ICT appropriately and to choose software suitable for a particular task.
- to develop ICT skills across the curriculum
- to encourage problem-solving, discussion and investigation.
- to develop respect for equipment and resources
- to provide continuity and progression in the following strands of the National Curriculum Computing Programmes of Study below:

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.

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

Implementation

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
- 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

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

TEACHING AND LEARNING

Activities are planned from a variety of schemes of work, taking into account the different levels of children's skills and building on previous knowledge. This scheme ensures coverage of both the skills and techniques in the National Curriculum and the development of ICT capability by applying ICT within the context of other subjects.

Classes in Key Stages 1 and 2 use the ICT suite on a regular basis to ensure that the correct amount of time is allocated to the teaching of ICT and the use of ICT across the curriculum. Lap Top Trolleys and iPads allow frequent and everyday access to increase learning opportunities and further cross curricular ICT work.

ICT forms part of the Knowledge and Understanding of the World aspect of the Foundation Stage Curriculum. This is taught through the use of the classroom computer, tape recorder and programmable toys.

ICT is delivered through a variety of teaching and learning methods e.g. whole class, group and individual work. Differentiation and progression are ensured by a variety of approaches such as:

- same activity but different expectations of outcome
- same theme but different levels of input
- allowing for different pace of working
- different groupings of children
- developing different modules of work at different times of the year for different abilities

ICT will be integrated into all other subjects at appropriate stages and used as a tool to enhance other learning. In addition, we also teach the skills and knowledge of ICT as a subject in its own right. Children also have access to interactive programmes like Mathletics. Lego WEDO ½ and Mindstorms are used for coding and programming.

Working on the open access resources of the Internet requires a mature and responsible attitude. The school aims to develop this attitude and has a code of conduct as part of the home school agreement signed by parents and pupils.

SPECIAL EDUCATIONAL NEEDS

The school recognises the advantages of the use of ICT by children with special educational needs. Using ICT can:

- address children's individual needs
- increase access to the curriculum
- enhance language skills

EQUAL OPPORTUNITIES

We ensure ICT is accessible to all children in full accordance with the school's Equal Opportunities Policy.

How do we help children learn?

The school uses the following resources to implement the ICT curriculum-

- calculators
- digital viewer
- computers including CD ROM
- access to email and internet/intranet
- concept keyboards
- scanners in every classroom
- printers in every classroom
- digital camera
- roamers
- Bee Bots
- Pro Bots
- Lego Ev3
- Lego We do

- televisions/videos/DVD players
- tape recorders
- CD players
- Tuff Cams
- Visualises

Impact

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.

Assessment of ICT will take place within all curriculum areas - however, clear learning objectives will support the focus of assessed activities. Pupil achievement will be recorded in an individual ICT record and held, with evidence, in a class ICT file. The individual records in the form of skills and techniques will be translated into an overall judgement of ICT capability – using in the relevant programme of study. This will form the basis of the report to parents.

How are staff supported

There is a designated ICT Co-ordinator to oversee the planning within the school. The co-ordinator will be responsible for informing the rest of the staff about new developments and where appropriate for organising (and providing) appropriate training. The ICT Co-ordinator will not be a technician but will advise colleagues on managing equipment, software and booklets in the classrooms. A central resource area will be maintained and reviewed annually along with other resources for ICT.

The co-ordinator will monitor the curriculum and report to the Headteacher on progress in accordance with the school's Monitoring and Evaluation timetable

Subject Knowledge and pedagogical development-

Staff CPD will take place when ICT is the priority on the school development plan. This will include:

- introduction of software
- general training for ICT
- E-Safety
- whole school support in planning for ICT
- sharing ideas
- sharing children's work
- moderation of children's work
- development of ICT portfolio

Staff will attend courses as appropriate. Opportunities for training are offered wherever possible, to meet whole school needs as well as those of individual teachers.

Policy Adopted: January 2010
 Reviewed: January 2020
 Next review: January 2022

APPENDIX (dealing with technical issues which are likely to change)

SECURITY

The school has an alarm system installed throughout.

The network server and stations are secure against unauthorised access to both the management system and users' files. All the files on the network are backed up each weekday night. Our access to the World-Wide-Web uses a filtering mechanism provided by EXA Network. This screens out any web pages that are unsuitable for children and filters e-mail traffic for offensive language.

MAINTENANCE

Problems with the network computers are reported to the Network Manager. The Network Manager keeps a log of faults, and the action taken to remedy them.

HEALTH AND SAFETY

All equipment will be checked annually under the Electricity at Work Regulation 1989.

The Health and Safety at Work Act (1 January 1993), European Directive deals with requirements for computer positioning and quality of screen. This directive is followed for all administration staff. Whilst this legislation only applies to people at work we seek to provide conditions for all children which meet these requirements.

HARDWARE

See provision

SOFTWARE

A catalogue of software is available in the resource file in the school office. Boxes of working disks are in the school's resource area and CDs for the stand-alone computers are kept in the staff-room.

Documentation and disks relating to all the software on the network are kept in the network resource cupboard.

Subscriptions to Education City, Athletics, Spellodrome and Junior Librarian are reviewed on an annual basis.