Computing Policy

Reviewed: Autumn 2018
Next review: Autumn 2019

Our Vision for Computing
At Junction Farm we believe that the following elements create an effective learning environment.

All of us Learning – All of the Time
Making learning fun
Challenging and Achieving

Our belief is that Computing has fast become one of the essentials for learning and life, and has the potential to transform the lives of all those involved in its many uses.

"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 in England: computing programmes of study: Statutory guidance

Department for Education

National Curriculum 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.

School Aims

- To use emerging and current technologies to enrich and extend learning throughout the curriculum, by supporting different learning styles and providing opportunities to work both independently or collaboratively within the school and beyond. For example, using the school website, PurpleMash, Espresso etc.

- To use COMPUTING to develop creativity, thinking and problem solving skills, preparing our children for the future and for the here and now.
- To help pupils acquire confidence, proficiency, purpose and pleasure in using COMPUTING, becoming competent and skilled with current and emerging technologies.
- To provide a means of motivating and engaging all children in the learning process and to support a more personalised learning approach.
- To give staff the opportunities to develop their own skills, knowledge, confidence and expertise. Also to keep staff involved in a variety and quality range of Continuing Professional Development (CPD).
- To be constantly involved in renewing, investing and engaging with new and emerging technologies.
- Regarding the vitally important issue of E-Safety, we are committed to educating and training our children in how to behave responsibly online, providing children with continuous support in new and emerging technologies.
- Also, to use Computing to engage with other 'stakeholders' to improve learning, from governors and teachers, staff and parents or other community partners using the Website.

Implementation

All children will be taught the statutory requirements of the Early Years Foundation Stage (EY) and National Curriculum programmes of study for Key Stages 1 and 2 as outlined below:

Early Years (EY)

Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.

Birth to 11 months
8 to 20 months
- The beginnings of understanding technology lie in babies exploring and making sense of objects and how they behave.

16 to 26 months
- Anticipates repeated sounds, sights and actions, e.g. when an adult demonstrates an action toy several times.
- Shows interest in toys with buttons, flaps and simple mechanisms and beginning to learn to operate them.

22 to 36 months

• Seeks to acquire basic skills in turning on and operating equipment.

• Operates mechanical toys, e.g. turns the knob on a wind-up toy or pulls back on a friction car.

30 to 50 months

• Knows how to operate simple equipment.

• Shows an interest in technological toys with knobs or pulleys, or real objects.

• Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.

• Knows that information can be retrieved from computers.

40 to 60+ months

• Completes a simple program on a computer.

• Interacts with age-appropriate computer software.

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.

All pupils are taught discreet COMPUTING lessons from Early Years Foundation Stage (EY) TO Year 6 following the Rising Stars 'Switched On' Scheme of work. This scheme has been adapted to reflect the school context. This scheme ensures progression in the development of computing techniques and capability (capability is defined by ourselves as knowledge and understanding).

Pupils are then given the chance to apply these techniques and skills in relation to other subject areas, stimulating creativity. These further opportunities to use purposeful COMPUTING capability across the curriculum are vital, creating the skilled learners of the future as outlined in the vision.

To help improve problem solving and creative thinking, where appropriate, teachers should move from being teachers to facilitators. For example giving children a task to solve and letting them choose the most appropriate 'solution'.

Children will also be given the opportunity to extend learning (including communication and collaboration) in and beyond the school gates. This will be facilitated with the ongoing and developing use of the school website.

In lessons, Computing is used proficiently by staff to enhance the delivery of the National Curriculum and to motivate and engage pupils in lively interactive lessons catering for all needs and learning preferences.

To implement the vision of staff CPD, regular meetings will take place to share best practise, to facilitate peer tutoring and to reflect on emerging technologies, as well as analysing and reflecting on current methods.

By showing our commitment to investment in COMPUTING (ensuring technologies are up-todate and a hardware/software renewal strategy in place), we can build improved capacity that will ensure we can deliver a curriculum that will fulfil our broad visions for the future.

Assessment

- Teachers are expected to make ongoing informal assessments throughout each term to identify children who are constantly improving their capability and to help develop the skills and techniques of the ones who are raising concerns. In line with other school

protocols (Observations written on medium/short term plans, digital photographs and video, discussion with support staff); assessment also informs future teaching and learning. Indeed, key skills and techniques should be revised, reviewed and revisited.

- Assessments at the end of units and at the end of year should involve an assessment activity, observations of capabilities as well as informative discussions with pupils. Indeed, can pupils justify choices of backgrounds in PowerPoint for example? Or why certain loops were used when engaging in Podcasting?
- The assessment of Computing should involve analysing Computing capability, looking at the children's awareness of purpose, content and audience of their Computing product.
- Computing is also to be used to support assessment of other subject areas. This could range from video and voice recording to pupil data trackers, record cards and reports that are shared with parents.

Monitoring 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 and senior management team. The Computing 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 the school.
- All subject leaders and staff should take responsibility to ensure that teaching is enriching, creative and stimulating. Indeed, with Computing playing a key role in all subjects, individual subject leaders should ensure that they are engaging with or aware of current and emerging technologies.
- Tracking sheets, planning and children's work books are monitored by the Subject Leader.
- A Self Review Framework is used to monitor, review and assess Computing capability and skills throughout Junction Farm Primary School.

Staff Development and Training

- Our ambitious vision for Computing requires a high commitment from all staff. Therefore we support all staff through appropriate and ongoing CPD linked to developments taking place in school.
- To ensure continuing capability and sustainability of skills, staff should regularly share in reflecting upon new techniques or learning outcomes from professional Development meetings. This will ensures skills and knowledge are spread across the age ranges.
- To ensure continual staff and pupil proficiency and confidence, professional development targets relating to Computing are to be documented in the school's Self Review Framework (SRF).

Equal Opportunities, SEN and Inclusion

- Good equal opportunities practise:

- Ensures that all pupils have access to and use of equipment, developing their skills.
- Develops confidence, capability and proficiency in all children.
- Is free from gender, race and cultural bias in content, provision and learning style.
- Computing will or can enable barriers to learning to be removed, helping children and adults of all abilities improve and learn at their level.
- Through differentiation, all children will progress in continuous manner, with the aid of differentiated teaching, whether they be Special Education Needs or Gifted and Talented. Where there is limited progress intervention strategies are put in place. Attention is also given to ensuring those of above average ability are given sufficient challenge.
- Regarding 'anywhere/anytime learning' steps will be made to ensure that all children, regardless of economic backgrounds or internet access will have access to computing facilities through a homework club (Wednesday Lunchtime).
- All staff (teaching and non-teaching) will be given opportunities to develop their own Computing capabilities, confidence and skills in the form of ongoing CPD.
- Pupils with special educational needs will be entitled to the same access to Computing as their peers. In planning lessons teachers will identify the learning goals for the majority of children as well as extension activities for the more able. Consideration will be given to modifying the task, or providing peer or adult support, for children with difficulty. It is important to note that pupils with learning difficulties may achieve well in Computing and should be given every opportunity to provide support for others.
- Teachers will liaise with the SENCO on the use of Computing to improve their involvement in the curriculum.

Health and Safety

- Computing will run in accordance with the schools current Health and Safety Guidelines and staff must be familiar with the safe operation of all Computing equipment.
- Any sensitive materials on memory sticks must be carefully guarded and password protected. Indeed, any such materials should not be compromised or exchanged via phone or email.
- Data of any sort, whether pupil's work, assessments, profiles will be stored appropriately in line with LA guidance. Furthermore, when data is not active it will be disposed of in the appropriate manner, whether this be shredding data or having hard drives wiped clean of information.

Safeguarding

- Staff, governors and parents will support and promote the school's Acceptable Internet Use policy and help pupils to be safe and responsible in their use of Computing and related technologies.
- All staff and pupils to be aware of good safety practises, these include; -
    - Strong and private passwords

- Workstations to be logged off or locked when not in use -
  Remote media to be virus checked and protected.

E-Safety

The computing Subject Leader is CEOP trained.

- Junction Farm seeks to ensure that staff, children, parents and governors are active participants in E-safety education. Children should be made aware of the dangers, risks and issues associated with E-safety and have suitable strategies for dealing with them. *However,* the school will seek also to stress, highlight and model the positive learning opportunities from the internet, hardware and the Learning Platform (It's Learning).
- E-safety is to be embedded into the curriculum, with the approach being continuous, sustainable and reflective.
- Children should discuss e-safety in a number of in school formats such as School Council. They should also discuss with parents and teachers in an open way, knowing who to approach.
- Staff should have sound awareness of e-safety incidents and know who to report such incidents to. Also, staff should read, adhere and internalise the AUP, realising that E-safety is not just about computing.
- Staff should model good E-safety practise, showing the benefits at all times.
- Parents need to play an active role in monitoring their children's E-Safety and be engaged in an open dialogue with school. Junction Farm will provide up to date esafety guidance through the website and correspondence with parents.

Ipads

iPad technology provides us with opportunities to inspire and motivate our young people to achieve their full potential and engage them fully in their learning. We believe that the use of an iPad will enhance everyday learning and teaching and in particular will:

- Raise educational attainment.
- Create a pupil centred curriculum which will provide engaging pupil centered lessons.
- Enable pupils access to the most up to date educational resources.
- Raise levels of engagement, motivation and interaction.
- Improve facilitation of different learning styles.
- Promote remote learning.

General precautions for Ipads

- Ipads to always be protected by cases.
- To be locked away in Teacher's cupboard at the end of the day.
- To be supervised and not left unattended.
- Each Ipad to have password in case taken off site.