Created by JS- Sept 2015
Review date- Sept 2016

Computing Vision Statement

At Arnold Mill Primary School we believe that computational thinking is vital in helping children to solve problems, design systems, and understand the power and limits of human and machine intelligence. We believe it is a skill that empowers, and one that all pupils should be aware of and develop competence in. Pupils who can think computationally are better able to conceptualise, understand and use computer-based technology, and so are better prepared for today's world and future.

Our Vision

- Children will understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- Children will be able to evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- Pupils will be equipped to use information technology to create programs, systems and a range of content.
- We aim to ensure that children are responsible, competent, confident and creative users of information and communication technology.
- Children will become independent and skilful users of digital technology and will be outward looking and forward thinking in this technological age.
- To equip all learners with the experiences and skills of computing that they will use in a rapidly changing technological world and to engage children through enriched multi-media learning experiences.
- We aim to ensure that teachers develop confidence and competence to use digital technology in the effective teaching of their subject.
- Children will become digitally literate. They will be able to use, and express themselves and develop their ideas through, information and communication technology, at a level suitable for future workplace and as active participants in a digital world.

"A high quality computing education equips pupils to understand and change the world through computational thinking. It develops and requires logical thinking and precision. It combines creativity with rigour: pupils apply underlying principles to understand real-world systems, and to create purposeful and usable artefacts,"
Computing Curriculum, Programmes of Study, 2013

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 Arnold Mill 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 aims of ICT are to enable children to:

- Become creative, logical, critical thinkers, who reason systematically and work collaboratively. Risk taking and innovation will be enriched through the computer science.
- Analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.
- Appreciate the relevance of digital literacy in our society and that they see it as an essential tool for learning, communication, finding information and for controlling and understanding their environment.
- To explore their attitudes towards computing and its value to them. For example, to learn about issues of security, confidentiality and accuracy. As children's confidence grows they will be able to make informed and discerning choices about their use of information technology.

Created by JS- Sept 2015
Review date- Sept 2016

Teaching and Learning As the aims of the computing curriculum are to equip children with the necessary skills to become independent learners, the teaching style that we adopt is as active and practical as possible. We want to develop pupil's computer science skills, information technology skills and digital literacy knowledge in the hope that we will facilitate creative, analytical and problem solving young people. We want to develop pupil's skills, knowledge, understanding and capability through taught IT lessons and to provide opportunities for pupils to apply and consolidate their IT capability across all curriculum contexts. At times we do give children direct instruction on how to use hardware or software in 'skills' lessons but we often use IT capabilities to support teaching across the curriculum.

We recognise that all classes have children with widely differing abilities. This is especially true when some children have access to digital technologies at home, while others do not. We provide suitable learning opportunities for all children by matching the challenge of the task to the ability and experience of the child. We achieve this in a variety of way, by;

- Setting common tasks which are open-ended and require a variety of responses, including problem solving and creative and analytical thinking
- Setting tasks of increasing difficulty, evidenced in planning through differentiation and expected outcomes
- Providing appropriate adult support to scaffold learning and to aid the work of the individual or group

Planning Arnold Mill uses 'Rising Stars, Switched on Computing 2014,' as a basis for planning. This scheme of work covers the new Programme of Study for computing, including programming and computational thinking. The curriculum delivers clear progression of skills from Year 1 to Year 6. The scheme also embeds e-Safety to ensure safe and responsible use of technology.

- Long term plans map out the units to be covered each term during each key stage e.g. We are celebrating, We are researchers, We are detectives.
- Medium term plans identify learning objectives and outcomes for each unit. They also indicate the skills we intend to teach and links to other curriculum areas are made clear. E.g. Within the unit 'We are astronauts' the children will learn to programme a sprite, control a sprite and begin to create their own game.
- Short term lesson plans are prepared by each teacher. They highlight the skills and objectives and show how we intend to differentiate and assess.

Foundation Stage
We teach IT in foundation classes as an integral part of the topic work covered during the year. We relate the IT aspects of the children's work to the objectives laid out in the Early Learning Goals. The children have the opportunity to use the interactive whiteboard, computers, digital cameras, beebots, audio equipment etc. Rather than delivering IT content as a 'discrete activity' the use of 'Switched on ICT in the Early Years' allows children to develop IT skills, such as programming, simulations and animation, in a way that is meaningful and relevant to their learning. 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.

Resources
At present, each classroom contains two networked PC's and a teachers laptop linked to the interactive whiteboard. The server room stores 40 portable laptops which are timetabled and all fully networked connected to the school server. Every computer in the school is linked to the schools filtered broadband connection and utilises Sophos antivirus protection program. We also have six i-pads in school. Other ICT equipment is kept in a central store.

Created by JS- Sept 2015
Review date- Sept 2016

Assessment and Monitoring

Teachers assess children against clear learning objectives and success criteria. Children are encouraged to self-assess at the end of each topic. Their self-assessment sheets are saved in their online network files. For more information on the strategies used to assess ICT please refer to the **Whole School Assessment Policy.**

The subject leader is responsible for setting an action plan, linked to the development of the subject. The subject leader also partakes in work scrutiny's, planning scrutiny's and pupil observations and interviews, in order to monitor progress and teaching and learning across the key stages. The outcomes of these are collated in the subject leadership folder and fed back to staff at an appropriate time. Teaching and learning will be monitored at a time indicated in the School Development Plan. The ICT leader is also responsible for supporting colleagues in the teaching and learning of ICT, for keeping colleagues informed about current developments and for providing a strategic lead and direction for the subject in school.