Meopham Community Academy
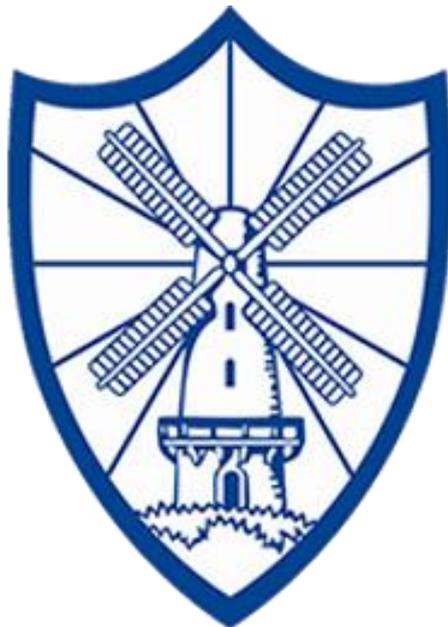
Enjoy, Learn, Aspire

Computing Policy

This policy was reviewed by: Tim Filewod, Computing Subject Leader	
Date: May 2018	
Approved by Governors: May 2018	
Next Review Date: May 2020	

Vision

A high quality computing education equips children 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 children 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, children are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that children 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 the digital world.

Aims

To ensure that all children
- 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.

Objectives

- To provide tasks which are interesting and give scope for individual progression.
- To ensure enough access by pupils to become more proficient in the basic information technology skills.
- To plan activities which allow children opportunities to apply their skills in a variety of different subject contexts.
- To create opportunities for children to discuss the benefits and limitations of computing and to compare classroom use of computing with that in the wider world.
- To plan activities which allow for different levels of achievement, incorporating possibilities for extension work.
- To continue to raise the profile of computing in the Academy and provide ongoing staff development.

Curriculum coverage and progression

Foundation Stage

- Children follow the Foundation Stage guidelines, working towards the Early Learning Goals.
- They experience computing indoors, outdoors and through role play in both child initiated and teacher directed time.

Key Stage One

Children 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 the Academy.
- Use technology safely and respectfully, keeping personal information private, identify where to go for help and support when there are concerns about content or contact on the internet or other online technologies.

Key Stage Two

Children 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 evaluation 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, respectively and responsibly, recognise acceptable/ unacceptable behaviour and identify a range of ways to report concerns about content and contact.

Assessment

- Children self-assess at the end of each computing unit. Saving their work in a finished work folder for their year group.
- The child's achievement are summarised into an end of year grade which is measured against the criteria set out by the computing curriculum. This is recorded on the foundation assessment mark-sheet in SIMS.
- Teacher's observations, summative and formative assessment fully informs future planning.

Monitoring

- Regular monitoring of all aspects of Computing informs the Academy development plan.
- A variety of monitoring strategies are used, including discussion with children, environments, aspects of teaching, planning and work samples.

Learning styles and the learning environment

- Medium term planning takes account of differentiation and progression.
- All learning styles will be considered.
- Open questions will be developed to challenge children's thinking and learning.
- Independent learners will have access to a variety of resources and encouraged to reflect on the choices that they have made.
- Stimulating learning environments will be created.

Inclusion and Equal opportunities

Delivery of this subject follows the Academy policy on Inclusion. Equal opportunities are given to all children, whatever their age, gender, ethnicity, attainment and background. The teaching and learning, achievements, attitudes and well-being of every child matters, taking into account their varied life experiences and needs. We monitor the progress of each child through agreed assessment procedures.

We pay attention to the provision made for the different groups of pupils within the Academy:

- Girls and Boys
- Minority ethnic and faith groups, travellers, asylum seekers and refugees
- Pupils who need support to learn English as an additional language
- Pupils with additional educational needs
- Gifted and talented pupils
- Children 'looked after' by the local authority
- Other children, such as sick children; young carers; those from families under stress.
- Any pupils who are at risk of disaffection and exclusion

This provision is regularly considered and adapted accordingly. We promote the participation and the success of these groups of pupils and make sure that they are not disadvantaged

within the Academy. We identify pupils who are underachieving or seem disengaged. We actively promote tolerance and understanding in a diverse society.

Children's individual needs will be addressed through provision of resources, learning styles and questioning and a positive use of technology will be promoted by all.

Home, Academy and Community links

The Academy encourages parents to take part or assist in Computing activities. This is at the discretion of each teacher. Children have controlled access to websites to find out information about the local area. Our Academy website is a way of sharing information with parents and other interested parties, such as prospective parents. The children have Academy and home access to curricular websites. Children with no access to the internet at home will be offered an agreed time each week to use the internet.

Resources

- Each classroom has an Interactive LED Whiteboard, webcam, wireless keyboard, 16 tablet computers, charging trays and a digital camera.
- ICT Suite with 32 computers and an Interactive Whiteboard.
- Each member of teaching staff has a laptop.
- Other resources include Beebots, Probots, sensors and animation software, which are stored centrally for ease of access.
- Resources are purchased and deployed effectively to meet the requirements of the curriculum.

Health and safety

Electrical safety follows the Academy policy and procedures on Health and Safety. It is the responsibility of the class teacher to ensure that classroom procedures are established with regard to safety. An air conditioning system provides the ventilation in the ICT suite. This is controlled only by adults and is located out of the reach of children. Children are advised of potential hazards and effective precautions are observed. Children are encouraged to log on and off the computers. The children are encouraged to use both hands for the keyboard and sit correctly. The academy follows the K.C.C. health and safety document. The Academy follows its own e-safety policy.

Review

The Subject Leader produces a subject action plan annually, completed by the end of July (end of Academic Year).