Computing Subject Policy

Intent:

- 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 National Curriculum Attainment:

Pupils are 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 National Curriculum Attainment:

Pupils are 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

At King George V Primary School…:

- Pupils are taught using a range of well known software including Word, PowerPoint and Excel as well as a range of online resources such as Espresso and Scratch. This software enables children to be taught effective computing skills for life in word process and formula writing alongside more specific skills in coding and programming
- Each child has access to the internet and is taught how to use it appropriately and safely alongside how search engines and websites operate
- Internet safety is taught regularly at an age appropriate level and forms the basis of all Computing learning
- Children are also taught about vocabulary linked to computing and key skills for life including touch typing
- Computing is also cross-curricular, progressing children's learning in all areas of the curriculum.
- Whole school curriculum maps are used to identify relevant knowledge and skills to be developed through each unit of work, ensuring that teachers build upon pupils prior knowledge and experiences and prepare them for their next stage
- More detail can be found in our whole school curriculum map.

Impact:

- 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.

- Computing assessment is ongoing to inform teachers with their planning, lesson activities and differentiation
- Summative assessment is completed at the end of each unit to inform leaders of the improvements or skills that still need to be embedded
- Computing is monitored throughout all year groups using a variety of strategies such as work scrutinies, lesson observations and pupil interviews.

Monitoring and Assessment:
- At King George V Primary School, teachers assess children's work and progress in Computing by making informal judgements by observing children in lessons
- Furthermore, understanding of what has been learnt is checked through appropriate questioning and on completion of a piece of work, teachers mark and comment as necessary.
- Monitoring of coverage and standards of children's work is the responsibility of the Computing lead. Work from across school will be collected, evaluated and feedback will be given to staff
- Summaries of children's questionnaires will also be given to help inform future planning and where appropriate, staff inset and training will also be provided to help further knowledge of the Computing curriculum

Equal Opportunities:
All pupils have the opportunity to develop their computing capabilities. We ensure that all of our pupils have equal access to computing resources and that all software and resources used are appropriate to both age and ability

Security:
- All networked computers including networked laptops will have filtered internet access when in school. Prior to use with the children, all staff should ensure that they review resources available on websites and ensure that they are appropriate to the age range and abilities of children.
- The school's computers should not be used at any time for copying, downloading or storing any illicit or offensive material.
- All users of the network need to be aware that their individual files may be accessed by the network administrator at any time and any inappropriate files will be removed immediately.
- Staff who wish to download any apps, files and software need to discuss with the Computing co-ordinator or Head Teacher/Deputy Head Teacher first and will be agreed if suitable.