At Ashfield Valley we care for and value every child in a nurturing, inclusive environment.

All members of our school community will work hard to ensure that every pupil achieves their full potential and has the opportunity to shine.

Computing

Policy

Purpose

The purposes to this policy are to:

- Highlight the importance and value our school attaches to first class teaching and learning opportunities in computing as an entitlement to all its pupils, in turn helping them become good digital citizens.
- Recognise and establish an entitlement to learning and teaching in computing for all our pupils as a statutory educational requirement.
- Make explicit our expectations in terms of subject outcomes and performance for pupils in computing as they progress through the school.
- Ensure continuity and progression in terms of subject knowledge, skills application and the development of appropriate attitudes and values.
- Clarify how we will assess, record and communicate the performance of our pupils in computing as they progress through the school.
- Outline the approach to learning and teaching computing our school has adopted.

The value of computing within our curriculum

At Ashfield Valley, we believe that developing a love for learning in computing is crucial and we do this, by inspiring curiosity and providing children with the essential skills and knowledge to build upon and prepare them for the next stage, this in turn:

- Supports the learner's understanding of the ever-increasing use of technology, preparing them for a future of possibilities.
- Provides them with the skills to think critically, justify and reason their own judgements using logical rational and evidence, allowing them to question, debate and discuss information, not just accept what they are told.
- Develops the understanding that technology is constantly evolving and preparing them with the skills of how to cope with situations online that they may not have been faced with before.
- Allow learners to understand the diversity of the world and the people in it, thus allowing them to understand more about their own online identity.
- Prepares children to be lifelong learners, who are responsible, competent, confident and creative users of technology.
- Develops the skills and attitudes required to allow children to fully participate in and contribute to life in modern Britain.

Intent

Through the design of our curriculum, all our pupils should be equipped with the knowledge and skills to use technology safely, respectfully and responsibly and to engage with the ever-changing world as responsible digital citizens now and in the future, including distinguishing between right and wrong when using technology. We expect our pupils to be able to explain technical processes and to use appropriate vocabulary from the computing curriculum. Parents and children will be given any information necessary to keep them safe online both

inside and outside of school. We will endeavour to keep pace with educational developments in computing and have a commitment to teachers having the necessary tools to do their jobs effectively and will continue to ensure we have access to the most effective and emerging technologies in order to fully engage with the curriculum.

Implementation

In computing, we follow the Purple Mash scheme of work, which has been developed using a range of resources. Learning in computing is facilitated through the teaching of three key themes: Digital Literacy, Computer Science and Information Technology. These three themes run throughout the year groups in school, showing a clear progression of skills and knowledge. They are all taught at the same time across the school to ensure consistency. These are taught through different activities and not just once throughout the year but many times. Computing is not just taught in stand-alone weekly computing lessons but also integrated into other areas of the curriculum.

Digital Literacy

This unit teaches pupils how to be digitally literate when it comes to using a range of software (including the Internet). It encourages pupils to combine core skills to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

Computer Science

Computer science teaches students design, logical reasoning, problem solving and resilience - all valuable well beyond the computer science classroom. The ability to create and adapt new technologies distinguishes computer science from digital literacy; which focuses more on using existing technologies (e.g. word processing and spread sheets).

Information Technology

This is how we interface with technology using existing hardware. We need to teach children how to navigate around a variety of devices, type, save work, find and move files. We also provide children with an understanding of the Internet and the web, how to use search engines, understand networks and generally be efficient and independent users of a range of technologies.

Impact

At our school, an important objective is for all pupils to develop as computer literate individuals who are responsible, competent, confident and creative users of information and communication technology. We achieve this by recognising and planning for what becoming better at Computing entails – progression - and consequently challenging and supporting our pupils to work in a more rigorous manner as they progress through the school.

As pupils progress as being computer literate we aim for the following outcomes:

- **Be articulate:** Children will be able to explain technical processes verbally before carrying out a task. They will be confident in explaining Computing vocabulary.
- **Be knowledgeable:** Children need to know the technical processes in order to carry out a task using specific software. Children will need to know how to stay safe and responsible when using devices online. They will be taught the knowledge set out in the National Curriculum.

- **Be able to learn beyond the classroom:** Children will have the opportunity to use technology in the outside world, for example at home.
- **Be curious:** Children will be encouraged to ask questions especially during Computing lessons. They will recognise how different formulas will enable the computer software to do different things.
- **Be Inclusive:** All children will be able to access the Computing curriculum and to use technology confidently in other areas of their learning.
- **Be Inspired:** Children will become inspired by learning about the developments in software and technology in the wider world.

EYFS

Within the EYFS, computing is integral to the Early Learning Goal of *Understanding the World* where pupils are encouraged and supported to "recognise that a range of technology is used in places such as homes and schools" and "select and use technology for particular purposes". Our curriculum starts with our youngest children where they are encouraged to say how they are feeling when using technology and link this to real life and emotions. They also consider the emotions of others and describe ways in which people can be unkind online. Children are also taught to identify rules both in and beyond the home when using technology and how we can use the internet to communicate with people we know. Our EYFS children are given many hands-on opportunities to develop their use of technology including the setting of Purple Mash tasks to support other areas of the curriculum, using the interactive whiteboard and iPads.

Key Stage 1

Computing is taught on a weekly basis in KS1. Within KS1, we ensure that our expectations enable all pupils to establish and begin to develop the key skills, knowledge and principles of using technology. The content is grouped under the three key themes as mentioned before. Building upon the outcomes achieved by the end of the EYFS, children in KS1 further develop their understanding of how to use technology safely and respectfully, keeping personal information private; identifying where to go for help and support when they have concerns about content or contact on the internet or other online technologies. They develop their skills across a range of software, using simple keyboard shortcuts, basic use of Microsoft Word and how to organise, store and manipulate digital content. Once again, Purple Mash is used to aid this learning and development.

At the end of **KS1** children should be able to do the following:

- Understand what algorithms are.
- 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 and identify where to go for help.

Key Stage 2

Computing is taught on a weekly basis in KS2. During their time in KS2, children build upon

their computing experience from KS1. Children will develop further and will learn about social networking sites, online gaming and different types of attention through debates and key questions. The children will be exposed to a variety of strands such as self-image and Identity, online relationships, online reputation, cyber bullying and its effects and the impact of technology on health, wellbeing and lifestyle. Once again, the children will use Purple Mash to develop their understanding of Digital Literacy, Computer Science and Information Technology.

At the end of **KS2** children should:

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems and solving problems
- 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
- Select, use and combine a variety of software 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.

SMSC

At Ashfield Valley, the teaching and development of SMSC is not a separate subject that is taught explicitly but an aspect of learning that should be present throughout the school in both its lessons and the behaviour from everyone in and around school. We also aim to develop SMSC through behaviour expectations and our attitudes in school. This also links to the teaching of British values which as articulated in the Government's 'Prevent' strategy of 2011 we have a focus on the core British values which are: Democracy, The Rule of Law, Individual Liberty, Mutual Respect and Tolerance of those of different faiths and belief. Computing allows teachers to promote the values of SMSC and British Values.

Spiritual education provides opportunities for reflection of awe and wonder about the achievements of ICT today and possibilities for the future. Pupils have the opportunity to reflect on issues – such as how computers can sometimes perform better in certain activities than people. Pupils' spiritual development, their sense of self and will to achieve is promoted by teachers praising their contributions and endeavour. As part of this, children reflect on their own and others' lives and the impact computer science has on this. They discuss the power and limitations that computing can have – particularly on individual's beliefs.

Furthermore, children explore how ideas in computing have inspired others and experiment with and trust their own beliefs and ideas.

Moral education in computing provides opportunities for pupils, enabling them to reflect on the possible consequences of different actions and situations. It can raise issues and moral dilemmas, such as whether
it is morally right to have computer games whose aim is killing and violence, reflecting on rules around these (e.g. age). They also have opportunities to discuss whether it is right that some people in this country and in other countries do not have access to the internet; as well as debating the sharing/selling of personal data and the consequences. Pupils are taught how to be respectful, sensible digital citizens when using technology.

Social education involves collaborative work, which encourages social development. Computing can also help pupils to express themselves clearly and to communicate. As part of this, children are encouraged to assist each other when problem solving, especially in Computer Science.

Cultural education involves breaking though linguistic and cultural barriers through e-mailing or chatting across the world. New opportunities to communicate through different media are discussed – such as social media. Pupils have opportunities to explore aspects of their own culture and they can also begin to make connections between different cultures. They are taught to respect and develop an awareness and appreciation of how differing cultural, spiritual and religious views might differ towards the use of digital technology.

Inclusion, equality of opportunity and differentiation
Computing forms an integral and statutory element of a pupil's entitlement to learning and at our school we ensure that all pupils can engage with their learning in computing irrespective of their race, cultural background, gender, sexual identity, religion, creed, level of intellectual ability or physical and emotional circumstances. Online safety and using technology responsibly lie at the heart of the study of computing and at our school we model this in terms of the learning and teaching we provide.

Ensuring differentiation is a fundamental and core element of inclusion. As such, we plan and resource our learning, in line with our whole school policies, to enable all pupils to make good and sustained progress in computing. In our differentiation planning we take due regard of factors such as classroom organisation, learning materials and the learning environment.

Connecting Computing to other areas of the Curriculum
In our planning we have made meaningful links between computing and other subject areas of the National Curriculum and to Spiritual, Moral Social and Cultural Development (SMSC) and RHE where incorporating content and perspectives adds value to and extends the understanding of our pupils. Making such links is important because it highlights to pupils the interconnectedness and interdependence of the real world but when making such connections we must maintain subject rigour and appropriate expectations in computing for each stage of learning.

Assessment and Reporting
On-going assessments are recorded against year group specific skills, as presented on the skills progression toolkits, on a half termly basis. On these occasions, teachers should draw upon the work that the children have completed on purple mash and use this to inform

assessments.

Most critically this decision is based on the professional knowledge and judgement that the teacher possesses of the pupil, built up over an extended period of time, which is then used to make a rounded and holistic judgement of their attainment in Computing. Each assessment is shared with the Headteacher and the Computing Subject Developer and the assessment completed at the end of Summer 2.

Monitoring and evaluation and the role of the subject developer

All teachers at our school are responsible for monitoring standards in computing but the computing subject developer, under the direction of the Headteacher, takes a lead in this. Monitoring activities are planned across the year and may include the following:

- Analysing samples of pupils' computing work to moderate standards (attainment and progress against outcomes and end of stage performance descriptors) to ensure consistency.
- The checking of teachers' planning once per term to monitor coverage and delivery of planned objectives.
- Lesson observations and learning walks to ensure that learning and teaching is appropriately engaging and challenging and that the anticipated subject progress is being made by the pupils;
- Sampling of pupils' work to ensure that expectations in terms of subject outcomes are being maintained through the curriculum.
- Speaking to pupils about their computing lessons and what they know and remember about the subject.
- In collaboration with the Headteacher, Governors and teaching colleagues, the subject leader drafts and finalises a computing action plan which is evaluated and updated termly.

The computing subject developer takes a lead in developing computing further across the school within the school's development plan and monitoring the effectiveness of teaching and learning and the use of resources. Teachers and educational support staff can expect support from the computing subject developer.

To develop staff confidence and competence in teaching computing the subject developer will:

- Attend subject professional development opportunities as they arise.
- Identify and source staff training as needs arise.
- Arrange for relevant advice and information from professional development programmes, including courses, to be disseminated
- Where necessary lead (or arrange) school-based professional development meetings for colleagues.