Ashton West End Primary Academy

Computing Policy

Mission Statement:

‘Today I am proud of my school, tomorrow my school will be proud of me.’

Intent

The aim of this policy is to guide teachers and support staff in providing the best possible learning experiences for our children. At Ashton West End Primary Academy we undertake to:

- Raise levels of attainment for all pupils, enabling them to achieve their personal best.
- Develop confident, disciplined and enquiring learners, able to make informed choices.
- Foster a love of learning.
- Foster self-esteem and personal responsibility, linked to respect for the needs and feelings of others.
- Facilitate considerate and positive relationships between all members of the academy community.
- Ensure equal opportunities in relation to gender, race, class, special needs and belief.
- Value and respect all cultures.
- Provide a safe and happy work place.
- Promote a thoughtful attitude towards the immediate and wider environment.

Our mission sets out our commitment to ‘aiming high’. Improvements in the quality of teaching and learning are brought about through a process, which involves:

- reflection by individual professionals
- acting on planning feedback and guidance
- use of assessment data
- the target setting process
- sharing in-house expertise through
    - joint/team planning
    - discussion with colleagues, subject coordinators and SLT
    - Staff training at school
    - Team teaching lessons
    - Peer observation and lesson studies
- implementation of recommendations arising from classroom observation
- CPD courses

This policy will be reviewed regularly to enable us to take account of new initiatives, curriculum changes, technological developments and any changes to our pupil cohort profile.
(Next view date: July 2025)

Aims and Objectives:

The National curriculum aims for Computing are:

- Pupils can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication
- Pupils can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- Pupils can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- Pupils are responsible, competent, confident and creative users of information and communication technology.

Teaching and Learning:

The Computing in the National Curriculum (2013) expectations split the teaching and learning of Computing into three strands (Computer Science, Digital Literacy and Information Technology). It is therefore important that children recognise the difference between what makes each one relevant to their future, as well as their everyday lives. High quality teaching of Computing, from Reception through to Year 6, utilises a combination of practical lessons and theory lessons designed to promote discussion and nurture understanding, which are also relevant to other areas of the curriculum.

Across Key Stage 1 and Key Stage 2, our children will use technology to:

- Learn Programming by using programmable toys, program on screen, through animation, develop games (simple and interactive) and to develop simple mobile apps.
- Develop their computational thinking through filming, exploring how computer games work, finding and correcting bugs in programs, creating interactive toys, cracking codes and developing project management skills.
- Develop computing creativity by illustrating an eBook, taking and editing digital images, shooting and editing videos, producing digital music, creating geometrical art and creating video and web copy for mobile phone apps.
- Investigate computer networks through finding images using the Web, researching a topic, finding out how the school network operates, editing and writing code, creating an e-safety micro-site, and planning the creation of mobile apps.
- Communicate and collaborate by producing a talking book, PowerPoint presentations, create and write radio broadcasts and design interfaces for information projects.
- Understand the need for productivity as a life skill through creating a presentations electronically, record data, create surveys and analyse results, record and analyse statistical data, create virtual spaces and research the app market.

Curriculum Planning:

We recognise that Computing is a core subject in the National Curriculum. The children undertake a broad and balanced programme that takes into account children's abilities, needs as well as their emotional and intellectual development. Through computing, the children will learn a range of skills and knowledge to become digitally literate and understand how to use technology safely. We follow

the NCCE's Teach Computing scheme for work using their cyclical pedagogy to ensure our pupils know more, remember more and are able to do more with their computing knowledge and skills.

EYFS:

This policy acknowledges the requirements for promoting the learning and development of children set out in the Early Years Foundation Stage (EYFS) statutory framework.

We teach computing in nursery and reception as an integral part of the topic work covered during the year. As part of the Foundation Stage of the National Curriculum, we relate the computing aspects of the children's work to the objectives set out in the Early Learning Goals (ELGs) which underpin the curriculum planning for children aged three to five. The children have the opportunity to use the computers, interactive whiteboard, a digital camera and a floor robot. Then, during the year in reception, they gain confidence and start using the computer to find out information and to communicate in a variety of ways.

Key Stage 1

During Key Stage 1, pupils will use a range of technology in school and learn how to stay safe whilst using this. They will explore why different technology is used for different purposes and recognise common uses of information technology beyond school. Pupils will develop their understanding of basic subject-specific vocabulary relating to specific technology, coding and online safety.

Pupils will learn how to become digitally literate by using a range of technology safely and understand the need to keep information private. They will learn what is meant by the term online safety and know who to speak to if they are concerned about something they have seen or heard online.

Children will learn about what algorithms are and know how these can be implemented whilst using technology and also through unplugged devices to develop their computer science skills. Children will learn the importance of following step by step instructions to achieve a required outcome and will be able create and debug simple programs.

The children will learn about the purposes of a range of technology and why some technology is used for certain tasks to develop their understanding of information technology. The children will have opportunities to browse appropriate websites safely, create digital media and understand how technology is used for data and information. Through this, the children will learn how technology can be used to find out information. The children will also have the opportunity to explore ways of organising their work and findings using a range of programs such as Microsoft Office and Scratch.

Key Stage 2

During Key Stage 2, the children develop their confidence and abilities when using a range of technology and will have the opportunities to design, write and debug programs to achieve specific goals. The children will understand how to keep themselves and others safe online, understand the need to keep personal information private and know ways to report concerns about content and contact. The pupils will work on their understand of subject-specific vocabulary taught in Key Stage 1 and learn new terminology.

During Key Stage 2, pupils will continue to develop their knowledge and skills to become more digitally literate by learning about behaviours that are acceptable and unacceptable online and the risks associated with these. The children will spend time exploring what could be classed as a risk to them and others online and understand that they have choices to make when it comes to these. Throughout the key stage the children will have opportunities to discuss what they have seen on the internet and evaluate how accurate and authentic the information is that they find online.

Pupils will extend their knowledge of computer science skills by using their knowledge and understand of algorithms to create their own by making predications, repetition and experiment with different variables. The children have opportunities to write their own and explain how it works along with solving any problems that occur along the way.

The pupils will continue to explore a range of software and technology and use the most appropriate based on a specific purpose for this. The children will learn how to collect a range of data and will learn the skills needed to organise and present the data using different programs. Throughout the key stage children will also explore animation and learn how to produce films/ animation and edit it.

Contribution to the other curriculum areas:

The teaching of computing contributes to teaching and learning in all curriculum areas. It also offers ways of impacting on learning which are not possible with conventional methods. Teachers use software to present information visually, dynamically and interactively, so that children understand concepts more quickly. For example, graphics work links in closely with work in art, and work using databases supports work in mathematics, while role-play simulations and the Internet prove very useful for research in humanities subjects. Computing enables children to present their information and conclusions in the most appropriate way. Much of the software we use is generic and can therefore be used in several curriculum areas.

English
Computing is a major contributor to the teaching of English. Children's reading development is supported through talking stories. As the children develop mouse and keyboard skills, they learn how to edit and revise text on a computer. They also learn how to improve the presentation of their work by using desktop publishing software and IPad applications. There is in addition a variety of software which targets specific reading, phonics knowledge, grammar and spelling skills.

Mathematics
Children use computing in mathematics to collect data, make predictions, analyse results, and present information graphically. There is a range of software available for children to develop their mental skills, answer questions and practise learned strategies. In addition to this, there are many applications on the IPads for the children to practise, develop and progress a range of mathematical skills such as TTRockstars for times tables.

Science
Software is used to animate and model scientific concepts, and to allow children to investigate processes which it would be impracticable to do directly in the classroom. Data loggers are used to assist in the collection of data and in producing tables and graphs.

PSHE and Citizenship

Computing makes a contribution to the teaching of PSHE and citizenship in that children in computing classes learn to work together in a collaborative manner. They also develop a sense of global citizenship by using the Internet. Learning to use the internet efficiently and safely is therefore a key component of computing teaching. The long-term planning aims to develop a set of safe and discriminating behaviours for pupils to adopt when using the Internet and other technologies. Through discussion of safety and other issues related to electronic communication, the children develop their own view about the use and misuse of computing, and they also gain an insight into the interdependence of computing users around the world.

Inclusion:

At Ashton West End Primary Academy teachers set high expectations for all pupils. Teachers use appropriate assessment to set ambitious targets and plan challenging work for all groups, including:

- More able pupils
- Pupils with low prior attainment
- Pupils from disadvantaged backgrounds
- Pupils with SEN
- Pupils with English as an additional language (EAL)

Teachers plan lessons so that pupils with SEN and/or disabilities can study every National Curriculum subject, wherever possible, and ensure that there are no barriers to every pupil achieving. At Ashton West End Primary Academy, all children are involved in Computing lessons, whatever their ability, experiences and individual needs. This is in line with the school's curriculum policy of providing a broad and balanced education to all children. Through a range of teaching and learning approaches, we enable all children to access the Computing curriculum. We strive to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents, and those learning English as an additional language, and we take all reasonable steps to achieve this. For further details see the SEND policy. Where learning takes place outside of the classroom, we will carry out risk assessments to ensure that the activities are safe and appropriate for all pupils.

Legislation and guidance:

This policy reflects the requirements for academies to provide a broad and balanced curriculum as per the Academies Act 2010, and the National Curriculum programmes of study which we have chosen to follow.

It also reflects requirements for inclusion and equality as set out in the Special Educational Needs and Disability Code of Practice 2014 and Equality Act 2010, and refers to curriculum-related expectations of governing boards set out in the Department for Education's Governance Handbook.

Assessment for learning:

Overview:

At Ashton West End Primary Academy, we believe that assessment of pupils' progress in Art and Design is necessary if we are to meet our objectives of engaging pupils in programmes of activity which provide progression and continuity of learning.

Teachers will assess children's work in computing by making informal judgments during lessons. On completion of a piece of work, the teacher assesses the work, and uses this assessment to plan for future learning. Verbal feedback is given to the child to help guide his/her progress. Older children are encouraged to make judgments about how they can improve their own work. Where appropriate, children will save one piece of completed learning for each unit to a centrally located file on the school's server. The subject leader monitors samples of the children's work and will upload exemplar pieces to an accessible portfolio. All staff are able to access this portfolio to ascertain the expected level of achievement for each unit. This demonstrates the expected level of achievement in computing for each age group in the school. All teachers use a list of descriptors showing expected skill and knowledge at each level to help assess and plan for further development throughout the school. In addition to this, each term an overall assessment will be added to the school Insight tracking system. This assessment indicates how each child has achieved against the unit outcomes, as outlined in the long-term curriculum.

Types of Assessment

Formative – assessment for learning – allows the teacher to see what the child knows, understands, and can do.

Summative – assessment of learning – records overall achievement of the child.

Diagnostic – identifies areas of strength and weakness.

Evaluative – allows teachers and school leaders to see the effectiveness of teaching in terms of performance.

Formative Assessment

Formative assessment involves:

1. Evaluating pupils' level of knowledge.
2. Setting explicit learning objectives.
3. Sharing learning intentions and success criteria with pupils.
4. Questioning effectively.
5. Pupils evaluating their own and peers' performance against success criteria.
6. Teachers and pupils reflecting and reviewing performance and progress.
7. Effective oral feedback to inform pupils what they should do next.
8. Children responding to feedback.

Self-Assessment and Peer Assessment

Peer and self-assessment are ways of engaging children in understanding their progress in learning and identifying next steps in their learning that can be used in addition, and to support, oral feedback from teachers and Support Staff. The aim is to involve children in the analysis and constructive criticism of their own and others work. Learners use the success criteria given as part of the teaching process to make judgements on their own, and peers, learning and identify areas for development – next steps.

Day to Day Assessment

The main focus involves teachers using their professional skills to observe a child to see if the work provided for them is sufficiently challenging to ensure progress or that misconceptions or 'gaps' are not impacting on progress. The assessments are recorded on the planning sheets and used to inform future planning. This may be achieved through:

- Questioning
- Observing
- Discussing
- Analysing
- Checking children's understanding
- Engaging children in reviewing progress

Assessment for Learning – Formative Assessments

The skill, matter or process objectives are made explicit in all planning. Assessment opportunities (described above) form the basis of the planning for learning for the next lesson. Teachers make brief notes in the assessment note column on planning to inform subsequent teaching and learnings. It is best practice to be constantly revising planned learning.

Assessment of Learning – Summative Assessments

At the end of a unit of work, summative assessments are made about each child's achievements throughout the unit. Strengths and areas for development are identified and this informs future learning of the skills matters and processes for the next unit of work. Then at the end of each year a summative judgement is made as to whether individual children are working towards, within, or have mastered their year group expectations in Computing. This is reported to parents in the end of year report.

Resources:

The school six movable storage cupboards containing class sets of laptops, chrome books and iPad linked to a network server with Colour Printer. In addition, every class has at least one desktop computer networked to the server and connected to the Interactive whiteboard. Most classes also have at least one other desktop computer. A timetable for usage of the equipment across the whole school is in place. All computers have access to the Internet. Use of the devices is timetabled to ensure every child has access and that the scheme of work for computing is delivered. Teachers are actively encouraged to make use of the devices at other times during the day so that they can apply computing skills to other areas of the curriculum. Staff have undergone and will continue to receive thorough training in the use of new hardware and software. Green screen and programmable toys are available to support and enhance both the computing and the learning challenge curriculum.

Roles and responsibilities:

The governing board: The governing board will monitor the effectiveness of this policy and hold the headteacher to account for its implementation.
The governing board will also ensure that:

- A robust framework is in place for setting curriculum priorities and aspirational targets

- The school is complying with its funding agreement and teaching a "broad and balanced curriculum" which includes English, maths, and science, and enough teaching time is provided for pupils to cover the requirements of the funding agreement
- Proper provision is made for pupils with different abilities and needs, including children with special educational needs (SEN)
- The school implements the relevant statutory assessment arrangements
- It participates actively in decision-making about the breadth and balance of the curriculum

The Principal: The principal is responsible for ensuring that this policy is adhered to, and that:

- All required elements of the curriculum, and those subjects which the school chooses to offer, have aims and objectives which reflect the aims of the school and indicate how the needs of individual pupils will be met
- The amount of time provided for teaching the required elements of the curriculum is adequate and is reviewed by the governing board
- They manage requests to withdraw children from curriculum subjects, where appropriate
- The school's procedures for assessment meet all legal requirements
- The governing board is fully involved in decision-making processes that relate to the breadth and balance of the curriculum
- The governing board is advised on whole-school targets in order to make informed decisions
- Proper provision is in place for pupils with different abilities and needs, including children with SEN

The subject leader:

There is a computing subject leader who is responsible for the implementation of computing policy across the school. Their role is to:

- Offer help and support to all members of staff (including teaching assistants) in their teaching, planning and assessment of computing.
- Provide colleagues opportunities to observe good practice in the teaching of computing.
- Maintain resources and advise staff on the use of digital tools, technologies and resources.
- Monitor classroom teaching or planning following the schools monitoring programme.
- Monitor the children's progression in computing, looking at examples of work of different abilities.
- Manage the computing budget.
- Keep up-to-date with new technological developments and communicate information and developments with colleagues
- Lead staff training on new initiatives.
- Attend appropriate in-service training

Monitoring and review:

Monitoring termly enables the subject leader to gain an overview of Computing and ICT teaching and learning throughout the school. This will assist the school in the self-evaluation process identifying areas of strength as well as those for development. In monitoring the quality of Computing and ICT teaching and learning, the subject leader will:

- Observe teaching and learning in the classroom.
- Hold discussions with teachers and children.

- Analyse children's work
- Examine plans to ensure full coverage of the Computing and cross-curricular ICT requirements
- Monitor the use of Insight assessment