Computing

Policy

Believe, Achieve, Celebrate

Reviewed December 2024. J. Lonsdale

Policy on Computing

1   INTENT

1.1   Computing has become part of the way in which we all work and entertain ourselves. Almost everything we do at school now involves the use of Information and Communication Technology (ICT):

- online lesson research, teaching plans and resource materials;

- lesson delivery via either overhead projector or interactive whiteboard;

- communication by e-mail and fax;

- document distribution and storage;

- assessment information analysis;

- production and editing of reports.

1.2

At our school we want pupils to be MASTERS of technology and not slaves to it. Technology is everywhere and will play a pivotal part in students' lives. Therefore, we want to model and educate our pupils on how to use technology positively, responsibly and safely. We want our pupils to be creators not consumers and our broad curriculum encompassing computer science, information technology and digital literacy reflects this. We want our pupils to understand that there is always a choice with using technology and as a school we utilise technology (especially social media) to model positive use. We recognise that the best prevention for a lot of issues we currently see with technology/social media is through education. Building our knowledge in this subject will allow pupils to effectively demonstrate their learning through creative use of technology. We recognise that technology can allow pupils to share their learning in creative ways. We also understand the accessibility opportunities technology can provide for our pupils. Our knowledge rich curriculum has to be balanced with the opportunity for pupils to apply their knowledge creatively which will in turn help our pupils become skilful computer scientists. We encourage staff to try and embed computing across the whole curriculum to make learning creative and accessible. We want our pupils to be fluent with a range of tools to best express their understanding and hope by Upper Key Stage 2, children have the independence and confidence to choose the best tool to fulfil the task and challenge set by teachers.

1.3   Our objectives in the teaching of Computing are:

- to facilitate the finding, selection and use of information;

- to teach the use of ICT for effective and appropriate communication;

- to enable the monitoring and control of events, both real and imaginary;

- to teach the application of Computing to children's learning across the curriculum;

- to explore the value of ICT, both to children and to society in general;

- to examine issues of security, personal safety, confidentiality and accuracy;

- to develop the cross-curricular use of Computing in all subjects.

2   IMPLEMENTATION

We have created a comprehensive progression document for staff to follow to best embed and cover every element of the computing curriculum. The knowledge/skills statements build year on year to deepen and challenge our learners.

Computer Science	Information Technology	Digital Literacy
Computational Thinking	Word Processing/Typing	Self Image and Identity
Programming	Data Handling	Online Relationships
Computer Networks	Presentations, Web design and eBook	Online Reputation
Artificial Intelligence	Animation	Online Bullying
	Video Creation	Managing Online Information
	Photography and Digital Art	Health, Wellbeing and Lifestyle
	Augmented Reality and Virtual Reality	Privacy and Security
	Sound	Copyright and Ownership

2.1   As an objective of teaching of Computing is to equip children with the technological skill to become independent, creative learners, the teaching style that we adopt is as active and practical as possible. We teach ICT MR P Dares Projects which cover all the key areas of computing as well as teaching 'Enhancing Curriculum' lessons which allows children to demonstrate their learning across the curriculum.

Classes will be timetabled to a Computing session each week, however knowing how packed a weekly timetable can be, we hope this approach will allow for flexibility. Timetabled computing sessions focus on one of three elements: An Explicit Computer Science lesson, A Tinkering Session or a D.A.R.E.S project. The computer science part of the computing curriculum will often, but not always, need a more explicit approach. That is not to say it can't be embedded across the curriculum. A tinkering session looks at introducing a new app or tool and giving children opportunity to experiment and familiarise themselves with the different elements and tools before it can be applied in a more focused approach across the curriculum.

Do you have to have a timetabled computing lesson each week? As much as possible yes, however, we know how packed the curriculum can be and how difficult it is trying to fit everything in. Therefore, some weeks computing can be covered by using

technology to demonstrate learning in other subjects when covering more of the Information Technology and Digital Literacy strands.

For example: If a class were covering World War 2 in Year 5 and we are exploring how the Second World War started, we could set the children the task of creating a video explaining this. First, the children may want to research some more information about how the Nazi party rose to power. This would involve covering some Digital Literacy: Managing Online Information –

• *To know how to use search technologies effectively.*

• *To know how to explain how search engines work and how results are selected and ranked.*

• *To demonstrate the strategies I would apply to be discerning in evaluating digital content.*

• *To know how to describe how some online information can be opinion and can offer examples.*

If the pupils were to then create a video using an app such as Adobe Spark Video to demonstrate their learning, they would be covering some of the Information Technology: Video Creation –

• *To know how to create videos using a range of media - green screen, animations, film and image.*

If the pupils were to then upload or publish their work on a blog or platform such as Seesaw, it would also be covering this objective from Information Technology: Word Processing objectives –

• *To know how to publish my documents online regularly and discuss the audience and purpose of my content.*

Even though this would be a History lesson, we would be covering a fair few computing objectives therefore if we need to spend more time on other subjects that week, we are still covering computing without having a timetabled computing session. This is the way we want computing delivered in Primary schools, embedded to allow learning to be more accessible and allow learners to be more creative in demonstrating their learning.

2.2   We recognise that all classes have children with a wide range of computing abilities. This is especially true when some children have access to ICT equipment 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 ways:

- setting tasks which are open-ended and can have a variety of responses;

- setting tasks of increasing difficulty (not all children complete all tasks);

- providing resources of different complexity that are matched to the ability of the child;

- using classroom assistants to support the work of individual children or groups of children. Challenge is provided to children through questioning and task.

- digital leaders for each class support the rest of the class during tasks and handling resources.

3   Computing Curriculum Planning

3.1   Computing is a core subject in the National Curriculum. The school uses an approved planning guide called ICT Mr P as the basis for its curriculum planning. We have adapted the scheme to the local circumstances of the school.

3.2   We carry out the curriculum planning in Computing in three phases (long-term, medium-term and short-term). The long-term plan maps the Computing topics that the children study in each term during each key stage. The Computing subject leader devises this in conjunction with teaching colleagues in each year group, and the children often study Computing as part of their work in other subject areas. Our long-term Computing plan shows how teaching units are distributed across the year groups, and how these fit together to ensure progression within the curriculum plan.

3.3   Our medium-term plans, which we have adopted from the scheme of work, give details of each unit of work for each term. They identify the key learning objectives for each unit of work. The Computing subject leader is responsible for keeping and reviewing these plans ensuring the appropriate resources outlined in the plans are available.

3.4   The class teacher is responsible for writing the short-term plans with the Computing component of each lesson. These daily plans list the specific learning objectives and expected outcomes for each lesson. The class teacher keeps these individual plans and s/he and the Computing subject leader often discuss them on an informal basis.

3.5   The topics studied in Computing are planned to build on prior learning. While we offer opportunities for children of all abilities to develop their skills and knowledge in each unit, we also plan progression into the scheme of work, so that the children are increasingly challenged as they move up through the school.

3.6   Parents and carers are required to give signed authorisation before their child can use the Internet, either in guided or in independent school work. Parents and carers are, however, assured that their child's use of the Internet at school is always supervised. A

record of those children who do not have permission to use the Internet at school is held by each class teacher and by the school office.

4   The Foundation Stage

4.1   We teach Computing/ICT in reception classes as an integral part of the topic work covered during the year. As the reception class is part of the Foundation Stage of the National Curriculum, we relate the ICT 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, iPad and a floor robot. Then, during the year, they gain confidence and start using the computer/iPads to find out information and to communicate in a variety of ways.

5   The contribution of Computing to teaching in other curriculum areas

5.1   The teaching of Computing/ICT 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. ICT MR P provides Continual Professional Development (CPD) through his 'Enhancing the Curriculum' ideas and these are planned in along side our class projects.

5.2   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. There is in addition a variety of software which targets specific reading, grammar and spelling skills. Additionally, the use of new Apps to form a more interactive way of presenting and publishing work.

5.3   Mathematics

Children use Computing in mathematics to collect data, make predictions, analyse results, and present information graphically. Screen robots allow pupils to give exact instructions for a particular route, or to use their knowledge of angles to draw a range of polygons.

5.4   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.

5.5   Personal, social and health education (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.

6   Computing and inclusion

6.1   At our school, we teach Computing to all children, whatever their ability and individual needs ensuring equality. Computing/ICT forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our Computing teaching, we provide learning opportunities that enable all pupils to make good progress. We strive hard 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 separate policies: Special Educational Needs; Disability Discrimination; Gifted and Talented Children; English as an Additional Language (EAL).

6.2   When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, and differentiation – so that we can take some additional or different action to enable the child to learn more effectively (e.g. a lot of software can be differently configured for different ability ranges). Assessing progress against the National Curriculum levels of attainment allows us to evaluate each child's progress against expected levels. This ensures that our teaching is matched to the child's needs.

6.3   Children are encouraged to respect each others work and opportunities for peer feedback are clear. Feedback should be positive and constructive encouraging children to use the language "it would be even better if". Children can comment on other childrens work when added to SeeSaw but comments are monitored and approved by the class teacher to ensure they are appropriate and respectful. This enhances our zero tolerance for cyber bullying and educates children when posting online in a space.

7   IMPACT

We encourage our children to enjoy and value the curriculum we deliver. We will constantly ask the WHY behind their learning and not just the HOW. We want learners to discuss, reflect and appreciate the impact computing has on their learning, development and well being.

Finding the right balance with technology is key to an effective education and a healthy life-style. We feel the way we implement computing helps children realise the need for the right balance and one they can continue to build on in their next stage of education and beyond. We encourage regular discussions between staff and pupils to best embed and understand this.

7.1   Teachers will assess children's work in Computing by making informal judgements during lessons. On completion of a piece of work, the teacher assesses the work, and uses this assessment to plan for future learning. Written or verbal feedback is given to the child to help guide his/her progress. Older children are encouraged to make judgements about how they can improve their own work.

7.2   The subject leader keeps samples of the children's work in a portfolio. This demonstrates the expected level of achievement in Computing for each age group in the school.

7.3   The introduction of Seesaw allows pupils showcase, share, celebrate and publish their work will best show the impact of our curriculum. This provides opportunity for assessment and feedback.

Progress of our computing curriculum is demonstrated through outcomes and the record of coverage in the process of achieving these outcomes.

8   Resources

8.1   Our school has the appropriate computer-to-pupil ratio, and Internet access. Most software is already installed on PCs. Some software is installed only on the class PC.

8.2   ICT technicians within the trust to keep our equipment in good working order. Members of staff report faults to the TMET help desk and quick responses are provided. The technicians will also set up new equipment, and install software and peripherals.

8.3   There are a number of laptops, iPads and other technology equipment in school.

8.4   In order to keep our school computers virus-free, no software from home will be installed on school computers. Pupils bringing in work on portable storage disks must first have it scanned, but it is easier if the work is e-mailed to the teacher concerned. Where teachers are transferring files between their home and school, they must have up-to-date virus protection software on their home computers.

9   Monitoring and review

9.1   The coordination and planning of the Computing curriculum are the responsibility of the subject leader, who also:

- supports colleagues in their teaching, by keeping informed about current developments in Computing and by providing a strategic lead and direction for this subject;

- gives the headteacher a termly summary report in which s/he evaluates the strengths and weaknesses in Computing and indicates areas for further improvement;

- uses specially allocated regular management time to review evidence of the children's work, and to observe Computing lessons across the school. Reviewing policy yearly.

9.2   The quality of teaching and learning in Computing is monitored and evaluated by the headteacher as part of the school's agreed cycle of lesson observation.