Settle and Malhamdale Partnership

COMPUTING POLICY

Introduction

This subject policy is one in a series that makes up the 'Whole Curriculum' Statement for the school. This policy states the school's philosophy on how Computing will make a contribution toward our pupils' education. Our Computing curriculum actively contributes to many of the aims specified in the school's Mission Statement. Settle and Malhamdale Primary Partnership provides a broad and varied Computing curriculum, through a variety of teaching approaches and learning situations, to meet the needs of all our pupils. We seek to provide this for all, irrespective of gender, in accordance with our school policies on Equal Opportunities and Inclusion and in accordance with our statutory responsibilities under the SEN Disability Act 2001.

Inclusion

Settle and Malhamdale Primary Partnership, recognise our responsibility to provide a broad and balanced curriculum for all our pupils. All aspects of the curriculum reflect the three principles essential to developing a more inclusive curriculum:

- setting suitable learning challenges;
- responding to pupils' diverse learning needs;
- overcoming potential barriers to learning and assessment for individuals and groups of pupils.

Settle and Malhamdale Primary Partnership know that the development of Computing is constantly changing. Its impact on the lives of individuals continues to grow and so is essential that our pupils can take full advantage of its opportunities and understand its effects. It is important therefore that our pupils gain the appropriate skills, knowledge and understanding of Computing and develop the confidence and capability to use it appropriately and effectively.

National Curriculum

In the National Curriculum 2014, Computing replaced the previous ICT curriculum.

Computing relates to how computers and computer systems work, and how they are designed and programmed. The focus of the new computing curriculum moves towards programming and other aspects of computer science. It is now divided into three key stands:

- Computer Science: Understanding algorithms and programming (e.g. Beebots)
- Information Technology: To use technology purposefully and effectively (e.g. relates to word processing, PowerPoint and paint packages)
- Digital Literacy :Understanding the use of the use of technology around us and how to communicate by using it safely which links to e-Safety (e.g. Internet and email).

Purpose of Study

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. 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.

Computing Vision and Intent

Settle and Malhamdale Primary Partnership's intent is that our children to be prepared for the challenge of a rapidly changing and developing world. Our goal is that every child has the confidence and ability to access Computing across the curriculum. The Partnership is committed to high quality computer teaching and learning and is part of the North Yorkshire CAS (Computing at Schools) Network Community.

Our key aims are:

- To ensure children gain the key skills and understanding necessary to enable them to fully access Computing in the world around them.
- To help children appreciate that Computing is a creative tool for learning.
- To improve communication with parents and the wider community by offering extended learning opportunities outside the school day.
- To constantly review and upgrade our hardware and software to keep abreast of new and emerging technologies.

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.
- by the end of each key stage, know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Settle and Malhamdale Primary Partnership also aim to ensure that we provide and maintain:

- Relevant and contemporary hardware and software throughout the foundation stage and both Key Stage 1 and 2.
- Appropriate access that allows all pupils and staff to exploit computing in a completely cross-curricular way throughout the school.

- An encouraging and supportive environment that allows staff to feel confident about their ability to deliver all aspects of the Computing curriculum.
- Opportunities to further develop staff training and developmental needs, in line with the constant changing Computing environment.

Content and Expectations

Foundation Stage

In the Foundation Stage, Computing plays a key role in all areas of their development, reflecting upon their life experiences. It is essential for our children to learn about technology and its role in the world in which we live. The children have access to a variety of resources such as digital cameras, iPads, tills, CD players, walkie-talkies and metal detectors.

Pupils:

- Know how to operate simple equipment, e.g. turns on CD player and uses remote control.(30-50 mnth)
- Show an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones (30-50mnths)
- Show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movement or new images.
- Know that information can be retrieved from computers (30-50 mnths)
- Should be taught to: Complete a simple program on a computer.(40-60 mnths)
- Use ICT hardware to interact with age-appropriate computer software. (40-60mnths)
- Children recognise that a range of technology is used in places such as homes and schools. (ELG)
- They select and use technology for particular purposes. (ELG)

The following expectations and pupil progression will then unfold across the primary years:

Key Stage 1

Pupils will 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 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

Pupils will 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 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

Pupil Progress

Progression

Our school Computing Curriculum overview indicates what aspects of study are being covered and when. This is the means by which we monitor progression and continuity in this subject across the key stages.

Assessment, Recording and Reporting

Assessment is an integral part of the teaching and learning process as emphasised in our school Assessment policy. In the assessment of Computing, its purpose is to enable teachers to:

- Identify what has been taught and learnt;
- Recognise, the ability, achievement and progress of individual pupils;
- Provide children with tasks appropriate to their needs;
- Establish pupil's needs as a basis for future planning teaching.

Evidence of pupil's attainment will occur in a variety of ways:

- Observing pupils working
- Listening to and questioning pupils

- Discussing pupil's work

Each academic year parents are acquainted with information regarding themes their children will be studying for this subject through Newsletter, Seesaw / Tapestry and at parent Curriculum Meetings . At parent meetings throughout the year they are informed of their child's progress in this. An annual written report to parents includes a Computing section.

At the end of each Computing unit of work there is an opportunity for the children to demonstrate their understanding and ability by completing a self-assessment form. These tasks provide teachers with an understanding of how children are progressing and any areas for development. Informal assessment by teachers will take place throughout the delivery of computing, which will in turn affect their short-term plans and current delivery.

The subject leaders are also responsible for monitoring, and as such will conduct learning walks to establish the use of Computing across the whole school and informal lesson support observations.

Planning

Organisation

Each year, the children build on their previous learning by looking at three key aspects of Computing: Computer Science, Digital Literacy and Information Technology. The school uses the NCCE Scheme of work to ensure that there is a full coverage of the revised Computing curriculum and that children are making the appropriate level of progress. Differentiation within individual year groups also takes place through task, outcome and access to relevant resources. Our curriculum map shows the progress of skills throughout the school. Year groups might teach the units in a different order to link with their curriculum topics and adapt where necessary.

The Computing curriculum for the A.S.D. Resource Provision for FS, KS1 and KS2 is adapted to address the prime needs of the pupils. The curriculum is designed to parallel that of the mainstream school to facilitate integration at every level.

Cross Curricular Links

When considering the Computing curriculum we should keep in mind that it can be used to deliver and enhance the school curriculum. The skills and experiences that the children develop through the delivery of Computing will support and reinforce other curricular areas. The use of Computing resources within the classroom, other curricular areas will benefit from the skills the children have developed.

Teaching and Learning Strategies

Good practise in teaching and learning supports children with special needs and those who are able, gifted and talented. In Computing, as in other subjects, our teachers recognize the need to differentiate how they teach and plan activities for children across the spectrum of ability. Computing is learnt in different ways along with all other curriculum areas. As children learn in different ways then so we must teach in a variety of ways allowing all children to learn and benefit from its delivery. Computing lends itself to different teaching styles through its very nature. Tasks can be individual, paired, small group or even whole class. These tasks allow children to learn in a variety of different ways through the use of the Computing hardware or software required.

Computers are provided in all classrooms for individual to small group work. The use of interactive white-boards allows teaching and learning strategies to be maximized through all classroom curriculum activities. Children from Nursery to Year 6 benefit from using our school iPads. These allow

teachers to provide children with a wealth of opportunities to engage in well planned activities which make use of a vast range of resources across the curriculum.

Staff Professional Development

Staff have been trained in using the resources and planning on the NCCE Teach Computing planning. Ongoing and individualised training for year groups, is being carried out by the Learning and Technology Leads.

The Computing curriculum for Early Years, KS1 and KS2 is adapted to address the prime needs of the pupils. The curriculum is designed to parallel that of the mainstream school to facilitate integration at every level.

Cross Curricular Links

When considering the Computing Curriculum teachers must be aware of the potential I provides to deliver and enhance the school curriculum. The skills and experiences that the children develop through the delivery of Computing will support and reinforce other curricular areas and can enhance and build wider knowledge and understanding. The use of Computing resources within the classroom, other curricular areas will benefit from the skills the children have developed.

Teaching and Learning Strategies

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Resources

Software

It is our aim to update and improve the software that is available in individual classrooms, and on the school network. Teachers and co-coordinators continue to have the opportunity to purchase appropriate software for their year groups and subjects. A broader base of software has therefore been introduced covering more aspects of the curriculum. This is an ongoing development which constantly changes with new developments and opportunities.

Hardware

Each classroom has one or two computers with access to colour printing, We have an ICT Suite which has 25 networked computers.

There are currently:

- 17 iPad's(3rd Generation) 6 iPads (2nd Generation) for use throughout the school.

- Digital projector for presentation use in each classroom
- 25 Microbits
- 12 Beebots
- 25 Crumbles including wheels, motors and sparkles, batons + 6 servos, 15 distance sensors
- 6 VEX robotic class sets
- 2 robotic arms
- 6 robotic vehicles
- voice recorders
- 3D printer
- Each key stage has its own mobile phone

All networked computers and iPads have access to the Internet. The use of the Internet is part of the scheme of work and children are required to use it from as early Year 1.

Health and Safety

The following points are noted on Health, Safety and Welfare, which have been considered, and appropriate action taken:

- Best advice has always been taken when purchases of equipment and furniture have been made in relation to computing.
- Annual electricity checks.
- Maintenance of hardware.
- E-mail and Internet access shielded.
- A record of all children without parental consent who may not appear on the school website.
- Pupil supervision.

Our Partnership buys in to a Qualified computing Technician for one afternoon a week (Settle CE Primary) and every two weeks (Kirkby Malham Primary School).

Celebrating Computing across the Community and providing opportunity for learning beyond the classroom

Display

In accordance with our school guidance on display, Computing is displayed within across-curricular approach, as appropriate. Each Key Stage will have some computing work displayed through other subject areas or as an independent computing focused display. Work is presented to enhance the environment and to recognise good quality work produced by the children.

Community Support

Settle and Malhamdale Primary Partnership actively encourages parents, grandparents and cares to assist in the children's learning and development of computing skills. Many children have access to computers and use the skills developed at school to assist in other curriculum areas of homework and research. Many learning platforms are used to support home school links such as Seesaw, Tapestry, Times Table Rockstars / Numbots and Spelling Frame.

Internet Safety Workshops will be made available to parents to support them in keeping their children safe online annually as part of our Internet Safety week.

After School Clubs

There are after school clubs provided at both schools to promote a love of computer learning including dedicated programming sessions and enrichment days planned to link land celebrate learning across the two schools.

Homework

Homework has a valuable part to play as a means of reinforcing aspects of the curriculum taught. When children are very enthusiastic about an aspect studied, or theme they are studying, they often want to find out more information. They are encouraged to carry out research on the internet to enhance their knowledge and use skills developed to produce computing work at home. At Settle and Malhamdale Primary Partnership we recognise this additional commitment.

Review and Staff Development

This policy is reviewed biennially in consultation with staff. Following this review recommendations are made for the development of the subject. It may also be necessary to make minor changes to this policy at other times throughout the year in line with computing developments and technological advancements Staff will continue to receive training on the new curriculum to include some of the additional units on the Computing curriculum map i.e. Crumble, Micro:bits etc.

Curriculum Lead - Training Qualifications and Experience

- Barefoot Ambassador
- CAS Community Leader
- Master Teacher
- Raspberry Pi Certified Educator
- Honorary Teaching Partner with Lancaster University
- Computer Trainer with Edge Hill University supporting teacher professional development
- NCCE Computing Facilitator for the North Yorkshire Hub (From September 2021)

Helen Wright - Curriculum Lead

Policy Updated: *June 2021*

Policy Review Date: *June 2023*