Yorke Mead Primary School

Computing Policy

September 2020

Our School Vision Statement

BRINGING LEARNING to LIFE

We are a school dedicated to creating an environment where children are able to grow into happy, well-rounded individuals with a love of learning through which they can achieve to the best of their abilities.

We want our pupils to enter the wider world as

- *Happy, positive individuals*
- *Responsible citizens who make a positive contribution*
- *Confident, resilient, healthy & life-long learners.*

D - Determination
A - Ambition
R - Resilience
E – Enjoyment

T - Trust
O - Openness

Rationale and Ethos

This policy is to support the teaching and learning of Computing across the school, ensuring the National Curriculum for Computing is delivered to a high standard and children become competent users of technology ensuring they have the skills to remain 'safe' using the world wide web.

The National Curriculum aims to ensure all children have
"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 of the Curriculum at Yorke Mead

The curriculum at Yorke Mead is intended to ensure each child:

- Develops high self-esteem, confidence and a true feeling of self-worth
- Develops a lively, enquiring mind and life skills so that he/she will have the ability to experiment, investigate, take risks, challenge, discriminate and make informed choices
- Is enriched, motivated and challenged by a broad and balanced curriculum and recognises the value of all areas of learning, including literature, sciences, the arts and humanities.
- Is valued for their individual contributions, recognises their role and develops a positive attitude towards everyone in the life of the school and community.
- Develops the positive skills and attitudes necessary to work both independently and collaboratively.
- Will be given equal opportunities to participate in all aspects of school life, with high expectations and ambition for every child and appropriate levels of challenge and support to enable them to achieve.
- Develops an understanding and respect for other races, cultures, gender, people with disabilities, religions and associated points of view.
- Understands the importance of and develops responsibility for keeping themselves physically and emotionally healthy
- Acquires a set of moral values and attitudes including honesty, respect, sincerity, trust and personal responsibility.
- Is supported in their spiritual, moral, social and cultural development

- Is equipped with the knowledge and cultural capital they need to succeed in life

Aims of the Computing Curriculum

The computing curriculum at Yorke Mead Primary School aims to deliver and meet the requirements of the National Curriculum for Key Stages 1 & 2:

- 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 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.

Curriculum Design

At Yorke Mead Primary School, we follow the Herts for Learning Primary Computing Scheme 2019/20. This scheme allows children to experience computing through a cross curricular approach using a range of technology and software programs. Throughout Key Stage 1, children are introduced briefly to different computing elements which are then built upon and developed further in Key Stage 2. The scheme of work focuses upon children having an understanding of how technology around us works as well as being confident in using different aspects for different purposes. There is plenty of opportunity to raise awareness and prompt e-safety throughout every unit of work and year group.

How the Computing curriculum meets the needs of children at Yorke Mead

The Computing curriculum meets the needs of children through:

- Providing all children with access to the same variety of technology throughout lessons which they might not experience at home.
- Children become confident users of technology such as desktop programs and iPads, which will equip them in their futures.
- Children are given opportunities to break down coding and create their own computer programming in order to develop an inquisitive mind and fully understand how technology works.
- Promotes life skills that children will continue to use when they leave Yorke Mead.
- E-safety promotes the emotional health of children and the consideration of others' feelings through developing moral users of technology. It also equips children to become safe users of technology in their futures.

How the Computing curriculum supports the development of children's reading

The Computing curriculum supports children with their reading through the use of spelling words and identifying the placement of the alphabet on the keyboard. In Key Stage 1, programs are often used that contain word banks or the ability to read text back. Through researching on the World Wide Web, children are encouraged to practice and hone their reading skills. Throughout the curriculum, children continually develop their understanding of different forms of communication, including sound and animation.

How the Computing curriculum supports children's spiritual, moral, cultural, social development

Spiritual – Through the e-safety aspect of the curriculum, children are encouraged to reflect on their behaviour as well as that of others whilst communicating in different ways. Children learn how to keep themselves and others safe whilst using digital software. Through developing their programming skills, children are encouraged to be imaginative and reflect on the algorithms they create. Children are also encouraged to reflect upon their own and others work once work is published/presented. Throughout the curriculum, children have opportunities to choose (from a selection) the software or device they would prefer to use.

Moral – The e-safety aspect of the curriculum plays an important role within this area, as there is focus on ownership of people's work and using people's personal photographs. There is also focus on material produced on the world web which may not necessarily be true and children are encouraged to double check their research.

Cultural – Children are encouraged to participate in safe online platforms such as blogs or emailing.

Social – E-safety raises awareness that everybody is different and have personal choices over the information they share electronically. Children are also made aware that data is held about them in a number of ways. Children have the opportunity to explore and create their own pieces of artwork, animations and sound clips.

How the Computing curriculum supports children's emotional well being

Children's emotional well-being is supported through the e-safety learning of the subject and the opportunities to comment on pieces of work/presentations. Children are encouraged to use kind, caring comments. Through e-safety, children are encouraged to report anything they see that makes them upset and are taught where they can report issues.

A brief overview of how the computing curriculum supports the development of the whole child. Please read this in conjunction with the school document 'Personal Development at Yorke Mead'.

SMSC Spiritual, Moral, Social & Cultural Development	British Values	Character Education	Cultural Capital	5 Ways to Wellbeing
E-safety plays an important role in ensuring aspects of SMSC are delivered and in preparing children for the wider community when they leave school. Other aspects of the curriculum encourage children to reflect and appraise their work and that of others e.g. algorithms.	These are covered through allowing children the opportunity to choose the programs they feel will best suit their learning and through the e-safety aspects of the curriculum which teach the rule of law – ownership, copyright, personal choices etc.	Computing allows children to see its many links in other areas of the curriculum such as literacy, maths, science and design and technology. The aspects of the curriculum link to the wider world and children are given opportunities to discuss how these are used in the wider world.	Computing prepares children for life after school, through developing their knowledge of common software programs. They are encouraged to be creative through designing and adapting their own algorithms. The e-safety aspect of the curriculum ensures that children are well-informed about how to keep their personal details safe.	Children at Yorke Mead are enthusiastic about their computing learning. They are encouraged to try out new software and connect with peers in a safe environment where comments are kind and thoughtful.

Organisation and planning

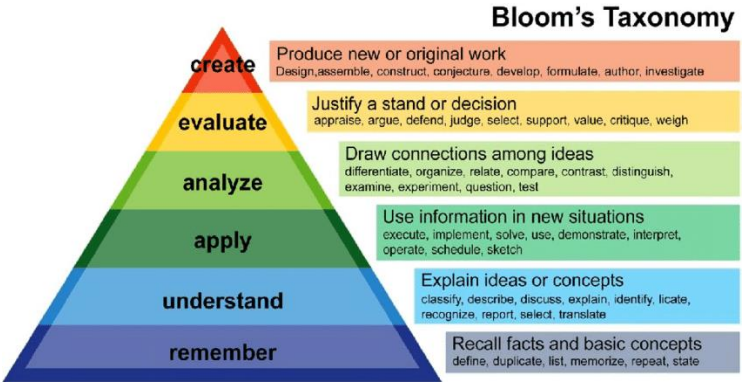
Organisation

At Yorke Mead we value the team approach and with this in mind we aim to group subjects together so that consistency across similar subjects is maintained as far as possible. This also means subject leaders are not working in isolation.

Computing is part of the Discover team along with Maths, Science and Design and Technology.

The approach to the computing curriculum follows the Herts for Learning Primary Computing Scheme 2019/20. The scheme allows the school to use a cross-curricular approach so that computing skills can be taught discretely alongside other subjects, e.g. researching skills on the world wide web (WWW) can be linked to the overall topic within the year group or publishing skills can be developed when publishing written English pieces of work.

Planning –



Teachers at Yorke Mead are provided with a broad long-term plan taken from the Herts for Learning Primary Computing Scheme 2019/20 by the subject leaders outlining the curriculum content and learning intentions to be covered throughout the year. It is the teacher's job to outline the delivery of this curriculum in a detailed medium term plan, which may be paper format or powerpoint in style depending on the preference of the teacher. There is no need for teachers to produce individual lesson plans for subjects other than English and Maths, which again may be paper or power point format. The purpose of this is to manage workload of the teachers and to ensure that time spent on planning is the most purposeful it can be to meet the needs of the teachers and the children.

In planning units of work teachers are mindful of the **Bloom's Taxonomy,** recognising that we cannot expect children to apply or analyse skills or knowledge unless we have given them time to both remember and understand this. Bloom's also supports differentiation of learning within the curriculum.

Progression and Sequence of Learning

The computing curriculum generally builds on a two-year cycle to allow for refreshing and developing of skills. In Key Stage 1 all topics are introduced on a very basic level which is then focused upon in more detail within Key Stage 2. There should be progression in the software programs used by year groups to ensure skills and knowledge are furthered and appropriate challenge is provided.

Teachers ensure children are able to understand what they are learning through modelling and demonstrating how to use software programs. Pathways to folders or website addresses are written clearly for children to follow either on the board in the computer room or available next to them. The use of hyperlinks to support children unable to follow directions. Teachers will also explain where the unit of learning is going, and any 'project' they are working towards.

Early Years

All aspects of our curriculum for Key Stage One and Two build from the Early Years curriculum, which is centred around the needs and interests of the Early Years children at Yorke Mead. Whilst this policy is relevant to all stages of education at Yorke Mead it is essential this is read in conjunction with the EYFS policy.

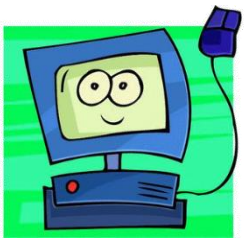
This computing curriculum policy should be read in conjunction with the following policies:

- Yorke Mead curriculum policy
- Teaching and Learning Policy
- Early Years Foundation Stage (EYFS) Policy
- Personal development at Yorke Mead

Assessment for Learning

Teachers will recap key aspects of computing in relevant lessons such as saving, printing and locating work. E-safety aspects should be recapped as necessary during lessons where this is not necessarily the focus such as ensuring children understand the need to log off computers before leaving the computer room. Assessment for learning should then be used to develop skills within a progression of lessons so that at the end of the unit of work, children are able to complete the independent assessment task with success.

Computing work should be recorded within topic learning books. There should be a computing image next to the learning objective to clearly identify any computing learning during work scrutinies.



This Photo by Unknown

Where appropriate photographs of children's learning could be used as evidence with some explanation of the activity. Some areas of learning that cannot be evidenced in books should be saved within the shared folder or in individual children's network area on the computer.

Independent assessment tasks for children should be completed to inform the teacher of individual progress. Teachers can then complete *I can statements* at the end of the academic year. As most topics are repeated on a 2 year cycle, they should be saved within the appropriate year group folder for the new teachers to access when they further the learning on a topic. The *I can statements* should be highlighted using a traffic light system and hashing as appropriate.

Inclusion

Teachers set high expectations for all pupils. They will use appropriate assessment to set ambitious targets and plan challenging work for all groups, including:

- Currently higher attaining pupils
- Pupils with low prior attainment
- Pupils from disadvantaged backgrounds
- Pupils with SEN
- Pupils with English as an additional language (EAL)

Teachers will plan lessons so that pupils with SEND can study every National Curriculum subject, wherever possible, and ensure that there are no barriers to every pupil achieving.

Teachers will also take account of the needs of pupils whose first language is not English. Lessons will be planned so that teaching opportunities help pupils to develop their English, and to support pupils to take part in all subjects. Further information can be found in our statement of equality information and objectives, and in our SEN policy and information report.

Safeguarding and Safe Practise

In all areas, at all times, staff at Yorke Mead are aware of safeguarding responsibilities and health and safety. Some aspects of learning naturally require greater need to be aware of planning for safe practise than others. Where there is any form of risk to children staff will have completed a risk assessment to manage this risk and ensure procedures minimise or remove the risk. The school has a number of generic risk assessments to cover those aspects where risk will be evident at all times such:

- Online safety
- ICT user agreement

There are times when children may be more likely to disclose a safeguarding concern, for example as part of computing, children may mention games or videos they watch or play that are not suitable for the age group, people they chat to on websites such as YouTube or anything they have seen that makes them feel worried or

uncomfortable. Should there be a concern or disclosure from a pupil, staff will always follow the school safeguarding policy.

The role of the Computing subject leader

Subject Leaders will ensure that the school curriculum is implemented in accordance with this policy and specific subject and that:

- All required elements of the computing curriculum have aims and objectives, which reflect the aims of the school and indicate how the needs of individual pupils will be met.
- Long term planning is available for computing to support individual teachers in their planning.
- The amount of time provided for teaching computing is adequate and the curriculum meets the aims and objectives for each year group.
- Standards within computing are monitored, meet the expectations and that the head teacher and phase leader is informed of any concerns around this.
- Resources required to deliver the computing curriculum are available and accessible to staff.
- The policy and practise within computing is updated to reflect current educational research in consultation with the Head teacher, SLT and governors.
- Supporting staff to have the pedagogical understanding necessary to successfully teach the computing curriculum, and any required training is brought to the attention of the senior leadership team.
- The school's procedures for assessment meet all legal requirements.
- Where appropriate, the individual needs of some pupils are met by permanent or temporary disapplication from all or part of the National Curriculum, allowing the most appropriate individual curriculum needs to be met in consultation with the Head teacher and school SENDCo.
- Proper provision is in place for pupils with different abilities and needs, including children with SEND policies.
- Link governors are kept up to date with policies and procedures linked to computing.

This policy should be read in conjunction with the Yorke Mead Curriculum Policy. The following sections are as listed within this policy:

- **Legislation**
- **Roles and responsibilities**
- **Monitoring, reporting and evaluation**

Policy Review

This policy will be reviewed every three years by the headteacher, senior leadership team and governor curriculum team. At every review, the policy will be shared with the full governing board.

Links with other policies

This policy links to the following policies and procedures:

- Teaching and Learning Policy
- EYFS policy
- Assessment policy
- SEN policy and information report
- Equality information and objectives
- Inclusion Policy
- Relationships Education, Sex and Relationships Education (SRE) and Health Education Policy
- Pupil Premium Policy

Appendices

- *Long term plan computing curriculum*
- *List of resources to support teaching of computing*

Appendix 1

Computing Curriculum Long Term Plan

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Let's Create	Getting Creative	Keeping Informed	Accuracy Counts	Data Matters	Staying Connected
Visual Information	Starting Research	Bringing Images to Life	Programming and Games	Robotics and Systems	Information Models
Discovering Programming	Messages and Virtual Worlds	Developing Communication	Authoring	Morphing Image	Sound Works

IT Skills

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Software/Hardware	Software/Hardware				
Input/Output	Input/Output				
Storing digital content	Storing digital content	Storing digital content	Storing digital content – size, cloud		
Computer parts - external		Computer parts – Internal CPU			
	Networks - Server	Networks – Digital communications Server	Networks – Internet, folder structure	Network – server/master computer	
			Malware/Viruses		
			File extensions – Intro, generic		File extensions – focus more on sound files
			Operating systems	Operating systems	
	Website addresses			IP addresses	
				Binary form	
	WWW – features e.g. hotspots, hyperlinks, menus, buttons, icons		WWW – hyperlinks, search engines		
		Pixels			
		Electronic communications – different types			

Digital Literacy - Programs

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital v non-digital texts	Digital v non-digital texts				
DRAWING/ART					
Drawing/Painting	Drawing/painting – comparing tools			3D graphical modelling	
IMAGES/ANIMATION					
Still Images (photos) – Taking	Still images (photos) – Framing	Still Images (Photos) - editing			

Cameras	*Cameras*	*Cameras*			
Moving Images (videos)	Animation – still images	Animation – Stop motion		Animation Digital films	
AUDIO/SOUND					
Audio Devices		Sound – record & edit			Sound – edit, share, program, podcasts, export
WORD PROCESSING/WRITING					
	Word Processing – Formatting		Word Processing – formatting, inserting, altering digital images.		
	Blog - introduction	Blogs – commenting			Blogs – writing them
					Micro blogs
					Wiki
ORGANISING INFORMATION					
	Presenting Information – graphics, word processing, sound, film recording		Powerpoint/multimedia – non-linear, adding hyperlinks		
Graphs (pictograms, bar charts) – presenting information	Graphs (pictograms, bar charts, Venn, Carroll diagrams) – presenting information and drawing conclusions		Spreadsheets – graphs, number patterns		Spreadsheets – formulae, if function
Sensors – data loggers		Sensors – data loggers & linked software *Microscopes*		Sensors – automated systems	Data loggers
Branching databases – yes/no questions for organising data		Branching databases – high level questions Flat file structure		Databases - structures	
	Mind maps				
WWW					
	WWW – key words, researching (closed searches – given website to use)	WWW – communication	WWW – network, recapping researching	WWW - searching	
EMAILS					
	Emails - sending	Emails – adding attachments			
E-SAFETY					
Permission – photos	Permission – photos	Permission			Permission
	Ownership – Adding their name to work, crediting others		Ownership	Ownership	Ownership – copyright, ownership, plagiarism

COMPUTER SCIENCE – PROGRAMMING/CODING

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Algorithms (set of clear instructions)	Algorithms (set of clear instructions)	Algorithms (set of clear instructions)	Algorithms (set of clear instructions)	Algorithms (set of clear instructions)	Algorithms (set of clear instructions)
Sequence	Sequence	Sequence	Sequence	Sequence	Sequence
Repetition – introduction	Repetition	Repetition	Repetition	Repetition	Repetition
		Selection	Selection	Selection	Selection
			Decomposition		
	Simulations		Simulations - Abstraction	Abstraction	Abstraction
			Procedures		
			Debug	Debug	Debug
			Refine	Refine	Refine
				Variables	Variables
				Comments	Comments
					Programming sounds

Appendix 2

Resources Required to Teach the Computing Curriculum

- Computers
- iPads
- Beebots
- Log Boxes
- Microphones
- Sound recorders
- Up to date software & apps available on all computers and iPads
- Class printer code
- Log on details for all children
- Email addresses for children
- RM tutor for modelling and taking control of children's desktops