West Rise Community Infant School

COMPUTING Policy

This policy document sets out the schools aims, principles and strategies for the teaching of Computing. It includes an overview of the particular aspects of 'Programming,' 'Computational thinking,' 'Creativity,' 'Computer networks,' 'Communication/Collaboration' and 'Productivity'. In order to take account of new initiatives and learning and teaching strategies, the policy will be updated on a regular basis.

Aims and principles

As Computing is of ever-increasing importance in the curriculum, due to the technological advances in society, at West Rise we believe that all children should be given the opportunity to use and explore a wide range of Computing teaching and learning.

COMPUTING is not only vital to equip children with the appropriate skills and higher order thinking that enables them to adapt to new technology as it develops, it also promotes the key skills of communication, applications of number, working with others and problem solving alongside the development of pupil's spiritual, moral, social and cultural development.

COMPUTING can be used as a communicator between children and from children to an audience. COMPUTING equipment encourages children to work together, sharing and working with others on the same equipment. COMPUTING links with all areas of the West Rise Tree Curriculum and is intrinsic within our everyday teaching and learning. For example, one activity can offer many opportunities. When programming a floor robot, children learn:

❖ COMPUTING skills of programming
❖ Directional and positional language
❖ Recognition and use of numerals
❖ Communication skills between children
❖ Group work skills and turn taking

Developing COMPUTING capability is just as important as developing COMPUTING skills; children not only need to learn how to use COMPUTING equipment, but also when and why they should use it and how it supports their development.

'The modern world requires new skills. Understanding COMPUTING and, more importantly, being able to apply it to the problems we face is one of the most important. Increasingly COMPUTING will be vital for our individual prospects and for our economy's future.'
Lord Dennis Stevenson, 1999

Computational thinking skills are at the heart of the new computing curriculum. It's a powerful way of solving problems. It will now be a tool in the problem solving toolset that pupils leave school with. It will equip them to not only understand the digital world, but will also compliment their understanding of mindfulness and the human world.

Computational thinking or 'computer-like' thinking is to use computational or computational like models where pupils act out computation in different situations. When computers 'think', it is similar to being in a state of mindfulness because

1. They have to ensure they're in the present moment or else the model breaks.
2. They have to be aware of every step they take in the series or else the same problems arise.

Through learning about e-safety and through our topics on social networking for children, children are provided a real context in which to practice our child friendly **5 precepts** and see how they should still apply to the online world.

The Five Precepts
1.I will try not to harm anyone or anything in our school.

2.I will try to be caring towards the people I share the school with.

3.I will try to keep healthy and keep my mind calm.

4.I will ask when I want to borrow something and share.

5.I will try to be truthful and use mindful speech.

This includes looking after our equipment and sharing it, caring for the online community and being mindful in the way we speak online, thinking about copyright issues and plagiarism and thinking about how we can healthily and constructively use computing for good. Through programming, algorithms and instructional writing children can see the relationships between computational thinking and the act of Right Mindfulness – Concentrating on what is at the forefront of your mind, the present moment, and acknowledging its relationship to loving kindness **&** compassion.

The aims of learning and teaching COMPUTING at West Rise are:

- ❖ To provide children with well planned opportunities to develop the key skills necessary for children to be able to use a variety of equipment.
- ❖ To enable children to build and develop their COMPUTING skills by providing them with well planned opportunities in which they can explore, investigate and learn to use a variety of COMPUTING equipment.
- ❖ To help children develop an awareness of COMPUTING within the school and in their everyday lives.
- ❖ To enable children to select COMPUTING equipment independently, which enhances and extends their learning across the curriculum and in the wider world.
- ❖ To help children to develop a positive attitude towards ever changing technology and an understanding of the benefits of technology.
- ❖ To provide planned activities that ensure continuity and progression.

During their time at West Rise we aim for all pupils to become COMPUTING literate. We offer pupils the chance to explore COMPUTING and learn to use it confidently and with purpose to achieve specific outcomes. It is expected that children will start to use COMPUTING to develop their ideas and record their creative work. They will also become familiar with hardware and software and experience new technology and understand how this affects our everyday lives.

By the time our pupils leave West Rise we hope that all pupils will:

- ❖ Become enthusiastic in their use of COMPUTING.

- ❖ Develop an awareness of COMPUTING within the school and in their everyday lives.
- ❖ Develop a positive attitude towards ever changing technology and an understanding of the benefits of technology.
- ❖ Be able to select COMPUTING equipment independently, which enhances and extends their learning across the curriculum and in the wider world.
- ❖ Be able to use COMPUTING to demonstrate their learning across the curriculum.
- ❖ Be confident in their use of COMPUTING and be able to support their peers to develop new skills.

'COMPUTING has enormous potential…it will change the way we learn as well as the way we work.'

Chris Yapp, COMPUTING Fellow for Lifelong Learning.

Teaching and learning style

At West Rise School, we acknowledge and celebrate that children have preferred learning styles and we plan and use a multi sensory approach. Our principal aim is to develop children's knowledge, skills and understanding in COMPUTING and to discover the pleasure of communicating their thoughts and ideas in many forms. In both the Foundation Stage and Key Stage One the children are exposed to a range of COMPUTING through different subject areas as well as being taught discreetly and with access to a bank of mobile laptops.

Teachers are expected to employ a range of strategies and to use their professional judgement to decide on the most appropriate. These will include:

- ❖ Using the computer to demonstrate a skill or programme to a group of pupils or the whole class.
- ❖ Use interactive whiteboards with confidence, exploiting its full potential.
- ❖ Modelling and supporting children through hands on experience of a range of COMPUTING resources.
- ❖ Presenting work to the children where COMPUTING has been used for efficiency and an aesthetic purpose.
- ❖ Leading a class or group of children through the discussion of the benefits and limitations of COMPUTING.

Children are very curious about the world around them and so we offer a range of opportunities for the children to use and explore COMPUTING in their living and working environment.

In the Foundation Stage children are introduced to information technology as a way through which we can gain further understanding. All children have opportunities to use the computer, the interactive Clevertouch screen, laptops, iPads, a variety of digital equipment, programmable toys and remote control toys. The children are discretely taught how to use the equipment and then given many opportunities to explore, investigate and learn how to operate them.

Throughout Key Stage 1 the children continue to explore, investigate and develop their ability and confidence in using a range of COMPUTING equipment which has been introduced throughout the Foundation Stage.

The children are taught key skills discretely building on their previous experience and knowledge. The children are then given opportunities to explore these within their learning experiences. The key skills taught are related to general skills needed to operate a computer, such as loading and closing programmes to more specific skills related to word processing, drawing, handling data, modelling, measuring, programming, debugging and internet use.

Our Teaching and learning is based on a progression of skills, knowledge and understanding and is differentiated through children's outcomes and expectations, according to the needs of the children. We use the Rising Stars Scheme of Work alongside other planning resources to support and shape the West Rise Tree Curriculum that we offer.

At West Rise Infants, we believe in offering children 'deep wells of learning', where we give the children the time they need to use and apply taught skills. In order to achieve these aims teachers offer children a chance to explore a variety of software that enables children to use their COMPUTING skills to support their learning across the entire curriculum.

At West Rise all classrooms have access to a Clevertouch screen which is networked to the main school server. This allows the

children to access a comprehensive range of software as well as the internet. We also have a mobile suite of 30 laptops and 20 Ipads which are allocated on a sign in/out basis.

At West Rise we believe that young children learn best through active involvement in natural, rewarding and enjoyable experiences. Teachers provide a balance between direct instruction on how to use hardware and software and providing opportunities for children to enhance their own learning through COMPUTING equipment. We recognise that all classes will have children with widely differing experiences and capability. We aim to differentiate for children's needs through:

- ❖ The setting of tasks which are open ended and can have a variety of responses.
- ❖ Grouping children in a variety of ways, either by ability or mixed ability grouped.
- ❖ Using adults to support and extend individuals or groups of children.

Resources:

We plan a broad, balanced, differentiated and progressive curriculum. Our plans ensure a balance of experience of a variety of COMPUTING equipment across a broad range of curriculum areas. To date West Rise school has one computer and interactive Clevertouch screen per class.   Each teacher has their own teacher laptop for Planning, Preparation and Assessment as well as being used for teaching and learning where necessary. The children also have access to our cluster of 20 Ipad's and 30 laptops which are used throughout the classes on a sign in/out basis.

The school has wireless (Wifi) network and internet access for every computer including wireless access for the laptop in the Nursery and Ipads or Teacher laptops in school. We keep resources for COMPUTING, including software, in a central store. Along with computers the school has the following resources: 1 Smart board in the hall and an additional mobile Clevertouch Screen, 1 digital camera per class (except for Reception and Nursery that have 1 per adult to accommodate the recording of children's work for observations and learning journeys), networked laser colour printer, programmable/remote control toys, digital microscopes, recordable pens, recordable cards and 20 ipads.

Assessment and Recording:

Our record keeping and assessment of COMPUTING is on-going. Assessment of children's learning is made through a number of ways. One key way is through skilful and well planned observations of learning. Our observations of what children know and can do are made frequently and used in two key ways:

1.   To help us plan the next steps of learning for each child
2.   To feed summative assessment records

Our record keeping and assessment includes:
   ❖ Child observations
   ❖ Dated samples of children's work
   ❖ Evaluations for planned work with COMPUTING teaching
   ❖ Photographs
   ❖ End of unit reviews to assess children's knowledge
      and understanding

The assessment of children's COMPUTING skills and capability is a vital part of our work as it enables us to provide continuity of experience and individual progression.

Health and Safety

It is imperative that all electrical equipment is kept in good working order. To ensure the health and safety of pupils and staff the following guidelines must be adhered to:
   ❖ Pupils should not be allowed to switch on the power at the mains
   ❖ Equipment should be situated away from water
   ❖ All plugs, leads and equipment should be checked regularly and tested for electrical safety in accordance with County Council guidelines
   ❖ Pupils should not be allowed to carry equipment
   ❖ No food or drink may be consumed near the computers
   ❖ Pupils will not normally work in front of a computer screen for more than half an hour at a time.

For further detail please see our Health and Safety Policy.

Online Safety

Computer networks are an important aspect of information, communication and technology education. However, they present possible risks to the spiritual, moral, and social development of pupils. It is vital that access to the internet is always monitored by an adult. Our network and internet access is controlled by 'RM Safetynet' and therefore restricts the content of some web pages and internet sites accessible in school. Our staff and pupils are regularly trained in online safety and updated accordingly.
For further details please see our online safety policy.

Security

All COMPUTING equipment is labelled clearly with the school name using 'Smart Water'. During the summer break class teachers are responsible for securing their classroom based hard drives and peripherals such as digital cameras. All large equipment has a blue label number issued and logged at County for audit purposes. Curriculum laptops and Ipads are kept in locked cabinets. Each staff member is asked to log in and sign out any equipment they may borrow on a daily basis. These are all returned for charging and locked securely when not in use.

Inclusion

At West Rise we use COMPUTING to support and develop pupil's knowledge, skills and understanding across the curriculum. The resources used allow children to access the curriculum more readily than more formal approaches and can allow them to express their understanding in a variety of ways.

There are only a small percentage of EAL children at West Rise Infants, but every effort is made to ensure they have the maximum opportunity to access COMPUTING.

Our EAL provision from the LEA varies as to the needs of the school, but at present, the EAL teacher works with us as appropriate. She liaises closely with staff and families to ensure the effectiveness of provision and will tailor her support according to the needs of the child and the requirements of teaching the COMPUTING curriculum.

All staff at West Rise Infants aim to teach inclusively, so the use of props, hands on experience, Visual Aids (including COMPUTING) and the practice of pairing EAL children with very able English speakers is embedded in our whole-class teaching. We also value and encourage the use of additional languages in our school, both as a celebration of diversity, but also recognising that children will access the curriculum more easily if they have opportunities to form concepts in their Mother Tongue. If necessary, a range of curriculum software can and will be purchased that will enable EAL pupils to access the curriculum in their Mother Tongue.

Faulty Equipment Procedure:

When a fault occurs on a system or in either software or hardware, the following steps should be taken:

1. Find the trouble shooting guide and try and sort the problem out yourself
2. Try and shut the equipment down and switch it all back on again. If the problem is still not rectified, please direct the children to another activity
3. Refer to the Computing co-ordinator who will assess the problem and try to rectify it.
4. If the Computing leader is unable to rectify the situation immediately, staff are advised to log the job with Melanie in the Office who will contact the appropriate technician to rectify the job.
5. If deemed necessary a Fault report will be emailed to the COMPUTING technician at County who will then action a visit for repair.

Monitoring and Review:

It is the responsibility of the Computing Leader to monitor the standard of learning and teaching in COMPUTING and will be given specific time to do this.

She will support colleagues by;

- ❖ Promoting good practice.
- ❖ Offering help and advice.
- ❖ Highlighting the areas of development for COMPUTING within the school

development plan and to develop an action plan in response to this.

❖ Ensuring COMPUTING is being used and taught effectively within the school, in some cases through examining planning and assessment and class observations.

❖ To co-ordinate the purchase and maintenance of equipment.

❖ To ensure that all equipment is safe to use and in accordance with Health and Safety regulations

❖ To keep up to date with developments and new technologies.

❖ To disseminate relevant information from courses to all staff.

❖ To review INSET and training needs of all staff and provide/arrange suitable training opportunities.