Computing

Curriculum Intent

Technology is changing the lives of everyone. Through teaching Computing Clearwell C of E Primary School equips children to participate in a rapidly-changing world where work and leisure activities are increasingly transformed by technology. It is our intention to enable children to find, explore, analyse, exchange and present information. We also focus on developing the skills necessary for children to be able to use information in a discriminating and effective way.

Computing skills are a major factor in enabling children to be confident, creative and independent learners and it is our intention that children have every opportunity available to allow them to achieve this.

In Key Stage 1, children will have been given a solid grounding in the basics of computing, including understanding algorithms, creating simple programs and learning how to stay safe online.

In Key Stage 2, children will build on these skills and extend their mastery of computers, as both user and creator. The computing curriculum aims to make children technologically competent, teaching them concepts (how to predict and analyse results, how to break a problem down into parts, how to spot and use similarities and how to evaluate) and approaches which help them problem-solve.

Today we are being **computer scientists**.

We are leaning **computing**.

Good computer scientists will…

- Analyse and solve problems
- Use abstraction, logic, algorithms and data representation to help solve problems
- Write algorithms and solve problems
- Use technology safely, responsibly and creatively
- Use vocabulary for experts

Whole School Intent

The curriculum intends to promote Christian values:

Clearwell C of E Primary School is a church school that prides itself on teaching Christian values throughout its curriculum and the wider life of school. As a church school, the children learn about Christian values, as well as those of other faiths, in order to prepare them as caring and considerate members of society. The values of respect, friendship and courage are nurtured and highlighted throughout all teaching and are fundamental to the children's attitudes towards learning. They help support a growth mindset and also help build relationships and attitudes beyond the curriculum. Periods of reflection and worship support learning attitudes and the ability for children to understand how Christian Values can aid learning new skills; acquiring new knowledge and supporting others to do the same.

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In computing, children develop these values through practice. Their collaborative learning projects rely on children's mutual respect and teamwork and teachers at Clearwell School will guide the pupils on working collaboratively and recognising the success that their respect and teamwork brings. Through computing, children will also engage with the outside world, communicating respectfully with others and beginning to take on their role as members of their village, citizens of their country and citizens of the world. When coding and when using software, children will be encouraged to experiment and debug their own work, promoting the use of a growth mindset and igniting their self-esteem through their successes.

The curriculum intends to be experience based:

It is recognised that children start school with a wide range of different experiences. The curriculum is planned to extend and enhance these experiences. An in-depth knowledge of each child allows staff to plan individual programmes and experiences to fill in any gaps in developmental progress. Staff ensure children's learning, where possible, is based on hands-on experiences; meeting visitors who can inspire children and visiting places of interest which ensure children have first-hand experiences.

In computing, children will not just practise their skills but use them to engage in the wider world. This includes writing and sending letters and emails, and working collaboratively to create projects they can then share. Computing at Clearwell School intends to give pupils the skills and experience they would need to take into the wider world, which is why we ensure pupils use laptops and gain skills with a range of software and hardware.

The curriculum intends to utilise technology to enhance learning:

We recognise that in a society which relies so heavily on technology, we have a duty to prepare our pupils to operate effectively in the modern world. We aim to provide opportunities for pupils to learn about how technology can be used to enhance learning and awaken interest in the possibilities that exist now and those that might follow in the future.

Computing is the basis of using technology to enhance learning, and the skills pupils develop in their computing lessons aims to allow them to bring technology into their other subjects seamlessly. This can be through the use of software, such as creating written work, from word processed documents, to a range of published materials such as posters and leaflets, to full presentations. Children are also taught to use a range of hardware, including cameras, which can then be enhanced with editing software. With children gaining a wide range of knowledge, skills and understanding through their computing curriculum they will be able to be more creative, and learn through their own discovery, as they bring technology into other subjects.

The curriculum intends to raise self-esteem, self-confidence and promote well-being:

Throughout all aspects of school life staff promote a can-do attitude and celebrate the successes, resilience, perseverance and progress of all children. This is particularly apparent at Clearwell as, due to our small numbers, all children are given the opportunity to develop their self-esteem and self-confidence. Clearwell recognises the opportunities that small school teaching can provide and promotes mixed age learning to support and challenge all pupils. The curriculum is structured to provide the children with the

opportunity to experience their full entitlement in a supportive environment that celebrates perseverance and resilience to challenge. We recognise that some children may need support to maintain and promote their well-being and we will seek to do this in a nurturing and positive learning environment.

Computing raises self-esteem and self-confidence through their own learnings. As pupils learn to build code, they will inevitably develop bugs in their programs. While teachers can guide pupils into how to examine and correct their work, the onus will be on pupils to do the actual debugging. Not only will this develop an essential skill of computing that pupils will need to be successful, it develops their resilience and perseverance, and teachers will help pupils to realise that their success is due to their own ability.

Using technology to communicate can expose pupils to inappropriate material and to online bullying. At Clearwell, it is recognised that at some point or other, pupils will come across one or both of these, and that pupils need to be prepared and understand how to handle these difficult situations. Through e-safety lessons, pupils at Clearwell become resilient and responsible for their own and other's wellbeing.

For some pupils with specific learning needs, the use of technology enables them to access the curriculum and to present their understanding in a way which looks similar to that of their peers.

The curriculum focusses on the core skills of Reading, Writing and Maths:

Staff recognise that for children to succeed beyond the classroom the skills of reading, writing and maths are crucial. Children start school with a range of levels of understanding and development for their age group. The school recognises some children will need extra support in order to close these gaps. Staff work closely with parents and carers to help children succeed.

A significant amount of coding and using technology for communication will rely on pupils having good reading and writing skills. Computing supports reading, writing and maths skills by giving pupils the opportunity to apply them in many various contexts, including real-life contexts such as when using technology to communicate with the wider world.

The curriculum has a clearly mapped out progression of skills and knowledge:

Staff recognise that in order for children to learn effectively, it is important that the taught curriculum is carefully mapped out. The rolling programme of three and four-year curriculum cycles allow children to acquire and develop these skills, revisiting them and reinforcing them continually. This ensures that long term acquisition of skills and knowledge is embedded. Each curriculum area has been considered to ensure that the benefits of mixed age teaching can be maximised whilst still providing adequate challenge and progression within each key phase of primary education.

The computing curriculum is based on the Kapow scheme, which ensures children receive a tried-and-tested, progressive curriculum which introduces pupils to a wide range of technology and its purposes. Through the use of technology through the whole curriculum, pupils continually reinforce their skills with an aim of leaving Year 6 being able to use a range of software, but also have a high degree of computer literacy so that they can pick up the skills, knowledge and understanding of new software quickly and effectively. Pupils will leave Clearwell understanding the flexibility of technology and inspired with the creativity and opportunity it provides.

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Using word-processing packages, pupils can express themselves in writing.

The curriculum intends to develop effective communicators:

Some children enter school with Speech and Language development below the expected level. As such staff tailor the curriculum to prioritise this aspect and utilise opportunities both within formal and informal learning. From the first weeks at Clearwell, children are encouraged to develop their speaking and listening skills through performance, stories, singing, rhymes and role play. The unique set up of multi-age classes means that the children have role models to imitate and learn from. The development of oracy skills is key in developing the ability to communicate in writing.

Children are expected to communicate in several ways through the computing curriculum. While this will start with applying and developing simple communication skills through partner work and teamwork, it will build into working collaboratively, where they will need to communicate efficiently and through their technology. Pupils will also use technology to aid presentations, using their computing skills to aid and enhance their oracy skills when talking to an audience. They will also learn to communicate effectively to people they do not know and may not meet in person, such as through written letters and emails, when they will be taught to consider the importance of tone, content and how their communication will be received.