

Rational for Computing

Curriculum Intent

At Watlington CP School we understand technology is everywhere and plays 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. Through computing education, pupils can learn 'powerful knowledge', enabling them to become informed and active participants in our increasingly digital society.

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 any task or challenge. We aim for our pupils to be able to use and transfer the skills and tools taught into secondary school and further them into their careers.

Implementation

The computing curriculum at Watlington CP School is divided into three main content areas:

- 1- CS- Computer Science
- 2- IT- Information technology
- 3- DL- Digital Literacy.

However, these areas do not sit separately from each other. Knowledge from each area complements the others and some subject content only exists at the interplay between these 3 areas.

In Early Years, pupils will have an opportunity to the understand how to use the Internet safely as they explore the world around them, and that technology is present everyday as they learn and understand the world.

Our scheme of work for computing is influenced from the OFSTED research review and from the 'Teach Computing' curriculum. This scheme was chosen as it has been created by subject experts and is based on updated pedagogical research, they also provide regular CPD opportunities. It provides an innovative progression framework where

declarative and procedural knowledge have been organised into interconnected networks (learning graphs). *Declarative knowledge, often referred to as conceptual knowledge in the literature, consists of facts, rules and principles and the relationships between them. It can be described as 'knowing that'. In contrast, procedural knowledge is knowledge of methods or processes that can be performed. It can be described as 'knowing how'.*

The curriculum aims to equip your people with the knowledge, skills and understanding they need to thrive in the digital world of today and the future.

The national curriculum for computing aims to ensure all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation (Computer science)
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems (Computer science)
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems (Information technology)
- are responsible, competent, confident and creative users of information and communication technology. (Digital literacy)

Online safety

A key part of implementing our computing curriculum was to ensure the safety of all pupils. We aim to give all children the necessary skills to keep themselves safe online. Children have the right to enjoy childhood online, to access safe online spaces and to benefit from all opportunities that a connected world can bring them, appropriate to their age and stage. Children build online resilience through the use of the 'UK council for internet safety' Education for a Connected World- 2020 edition framework. The framework aims to support and broaden the provision of online safety education so that it is empowering, builds resilience and effects positive culture change. The objectives promote the development of safe and appropriate long-term behaviours, and support teachers in shaping the culture within their setting and beyond.

Teacher subject knowledge

Our teachers are encouraged to continually improve their own knowledge and practical competence by:

- Accessing CPD from NCCE, as well as resources that cover the National Curriculum such as NCCE- teach computing, twinkl, education for a connected world, STEM and Scratch.
- Observation by the subject leader with feedback and professional discussion
- Subject knowledge support from subject leader.
- Computing themed staff meetings during the school year, including e-

safety.

- Inspection of pupil work via scrutiny Seesaw and learning walks.
- Termly analysis of pupil progress in computing.

Computing Subject Leader Role

The computing subject leader is responsible in overseeing the computing function of the school. They will:

1. Strive to continually improve all aspects of the school's computing curriculum and facilities
2. Ensure sufficient resources are available for all units of work
3. Monitor the impact of computing delivery by assessing and track pupil progress
4. Conduct annual reviews of the school's computing provision
5. Communicate with teaching staff when necessary
6. Report to the Governors.

Impact

The aim of Watlington CP School's curriculum is to create children who are digitally literate and confident at using technology as part of everyday life and in preparation for future technology advances. All pupils will have the declarative and procedural knowledge and understanding to safely use technology effectively as part of all their work. The development of Computer Science skills will develop logical thinking and analysis, with Information Technology ensuring children can use different software effectively. Digital Literacy will underpin all this learning as it is vital children from the earliest opportunity understand the consequences of using the Internet and how to keep themselves safe online.

Pupil voice: Through discussion and feedback, children talk confidently about their computing learning and show a genuine curiosity and interest in the areas they have explored. Crucially, children feel equipped to share any concerns/ questions that they may have about their own technology use (e-safety, safeguarding).

Evidence of Knowledge: Children know how and why technology is used in the outside world. They know about different ways that technology can be used and can talk about ways to keep themselves and others safe online.

Evidence of Skills: Children use new vocabulary that they have learnt in computing lessons. They have the skills to use a range of technology and computing software.

Breadth and Depth: Children will utilise and develop their computing skills across the curriculum. Opportunities to use computer technology outside of school will be provided in order to enhance their home learning.

We measure the impact of our computing curriculum through:

- Retrieval practice, feedback to pupils, teacher-pupil dialogue and assessment of practical skills as shown on Seesaw lesson uploads.
- Monitoring of pupils' responses in retrieval practice
- Performance in end of topic assessment tasks
- Data tracking in 4 data drops per year
- Student voice

At the end of KS1 and KS2 teachers will assess whether a pupil has or has not met the expected standard. This performance measure will be tracked in school.

Sources:

- OFSTED Research Review:
<https://www.gov.uk/government/publications/research-review-series-computing/research-review-series-computing>
- Education for a connected world- 2020 edition:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/896323/UKCIS_Education_for_a_Connected_World_.pdf
- Teach Computing- NCCE <https://teachcomputing.org/>
- <https://www.gov.uk/government/publications/education-inspection-framework-overview-of-research>
- <https://royalsociety.org/topics-policy/projects/computing-education/>
- <https://helloworld.raspberrypi.org/articles/hw10-why-we-should-teach-children-to-code>

Main priorities

PRIORITY	ACTIONS	WHEN?	WHO?	IMPACT	RAG
SUBJECT Computing					
To develop assessment and feedback tools within ICT.	<ul style="list-style-type: none"> - Trial Seesaw feedback with Cherry Class. - Feedback to whole school - Engage and contribute to whole school feedback policy. 	2022-2023	NS		
Become E-safety Ambassador	<ul style="list-style-type: none"> - Research CEOP training - Attend CEOP understanding Online Sexual Abuse Training. - Attend CEOP Ambassador training. 	Autumn 2022	NS/CCh	Being in a position with access to support and resources available for teachers, students and parents in cases of online abuse. One parent assisted of the day of the course.	
Hold parent/carers session to educate on online safety and share resources available to them.	<ul style="list-style-type: none"> - Gauge parent/carers interest. - Agree date with CCh to coincide with internet safety day. - Prepare presentation and have knowledge of parental controls. - Offer parents/carers to attend with their child's device to support with parental settings. 	End of Spr 1	NS	7 parents/carers attended. All engaged and shared concern. Tips given and questions asked. Reassured them they can contact me with concerns.	
Look at what resources we have within school, look at available funding for technology.	<ul style="list-style-type: none"> - Sort the cupboard where IT resources are kept. - Look at grants available to schools to fund additional resources (particularly physical computing resources). 	2022-2023	NS		
Promote e-safety	<ul style="list-style-type: none"> - E-safety ambassador programme 	Summer 22-23 start	NS		