



West Pennard C of E Primary School

Computing Policy

September 2022

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WEST PENNARD C OF E PRIMARY SCHOOL

Our school vision...

***'Since God so loved us, so we must love one another'
(1 John 4 v11)***

***Valuing our Christian foundation, we care for each other and our world.
We develop resilience, confidence and independence through our innovative
and diverse curriculum; inspiring and motivating everyone to thrive.
Our motto, 'To Try is to Triumph' and growing Christian Values, are central to all that
we do.***

COMPUTING POLICY

September 2022

Introduction:

This policy expresses the school's purpose for the teaching and learning of Computing. It sets out the aims; planning of the curriculum and assessment and monitoring.

Purpose:

At West Pennard we aim to create enthusiastic and motivated learners through the extensive use of computing to enhance teaching and learning in all curriculum areas. We believe that an engaging and motivating Computing curriculum will enable our learners to:

- Use computational thinking and creativity to understand and change the world around them.
- Make deep links with mathematics, science, design and technology and other subject areas.
- Build knowledge of principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.
- Become digitally literate – able to use, express themselves and develop ideas through information and communication technology in a safe way
- Enjoy using computers and learn to compute in a purposeful way.

Aims:

- The Computing Subject Leader and leadership team support staff to deliver a high quality computing education.

As a school, we follow the NCCE Teach Computing programme which has 12 principles of Computing pedagogy:

The infographic is titled "How we teach computing" and lists 12 pedagogy principles. It features the logos of the National Centre for Computing Education and Raspberry Pi at the top. The principles are arranged in a grid-like fashion, each with a title, an icon, and a brief description. A large blue arrow points from the bottom right towards the text "Find out more about our principles and add some or all to your personal pedagogy toolkit." Below this arrow is a purple box with the URL "nccce.io/pedagogy".

National Centre for Computing Education **Raspberry Pi**

How we teach computing

12 pedagogy principles

- Lead with concepts** (Lightbulb icon)
Support pupils in the acquisition of knowledge, through the use of key concepts, terms, and vocabulary, providing opportunities to build a shared and consistent understanding. Glossaries, concept maps, and displays, along with regular recall and revision, can support this approach.
- Work together** (Network icon)
Encourage collaboration, specifically using pair programming and peer instruction, and also structured group tasks. Working together stimulates classroom dialogue, articulation of concepts, and development of shared understanding.
- Get hands-on** (Pencil icon)
Use physical computing and making activities that offer tactile and sensory experiences to enhance learning. Combining electronics and programming with arts and crafts (especially through exploratory projects) provides pupils with a creative, engaging context to explore and apply computing concepts.
- Unplug, unpack, repack** (Wrench icon)
Teach new concepts by first unpacking complex terms and ideas, exploring these ideas in unplugged and familiar contexts, then repacking this new understanding into the original concept. This approach (semantic waves) can help pupils develop a secure understanding of complex concepts.
- Model everything** (Head with code icon)
Model processes or practices – everything from debugging code to binary number conversions – using techniques such as worked examples and live coding. Modelling is particularly beneficial to novices, providing scaffolding that can be gradually taken away.
- Foster program comprehension** (Head with code icon)
Use a variety of activities to consolidate knowledge and understanding of the function and structure of programs, including debugging, tracing, and Parson's Problems. Regular comprehension activities will help secure understanding and build connections with new knowledge.
- Create projects** (Wrench icon)
Use project-based learning activities to provide pupils with the opportunity to apply and consolidate their knowledge and understanding. Design is an important, often overlooked aspect of computing. Pupils can consider how to develop an artefact for a particular user or function, and evaluate it against a set of criteria.
- Add variety** (Three people icon)
Provide activities with different levels of direction, scaffolding, and support that promote active learning, ranging from highly structured to more exploratory tasks. Adapting your instruction to suit different objectives will help keep all pupils engaged and encourage greater independence.
- Make concrete** (Head with code icon)
Bring abstract concepts to life with real-world, contextual examples and a focus on interdependencies with other curriculum subjects. This can be achieved through the use of unplugged activities, proposing analogies, storytelling around concepts, and finding examples of the concepts in pupils' lives.
- Challenge misconceptions** (Question mark icon)
Use formative questioning to uncover misconceptions and adapt teaching to address them as they occur. Awareness of common misconceptions alongside discussion, concept mapping, peer instruction, or simple quizzes can help identify areas of confusion.
- Read and explore code first** (Code icon)
When teaching programming, focus first on code 'reading' activities, before code writing. With both block-based and text-based programming, encourage pupils to review and interpret blocks of code. Research has shown that being able to read, trace, and explain code augments pupils' ability to write code.
- Structure lessons** (Head with code icon)
Use supportive frameworks when planning lessons, such as PRIMM (Predict, Run, Investigate, Modify, Make) and Use-Modify-Create. These frameworks are based on research and ensure that differentiation can be built in at various stages of the lesson.

Find out more about our principles and add some or all to your personal pedagogy toolkit.

nccce.io/pedagogy

https://static.teachcomputing.org/curriculum_journey.pdf?_ga=2.216328273.6343397.1663516330-964150757.1611223739&_gac=1.190400089.1663516343.CjwKCAjwg5uZBhATEiwAhhRLHrl33KsmdGvolwBsRwsfCWbtpLcZ_PaF9yuqnq4NScUfQq1_vWeE_BoCDJ8QAvD_BwE

- Online Safety is developed through the teaching of the exemplified planning and builds the skills and understanding of Digital Literacy.
- Opportunities for technology as a tool to support learning and teaching in all areas are identified in curriculum planning.

Assessment:

- Progress is assessed on an on-going basis. This ensures teachers are aware of individual pupil's progress in computer science, information technology and digital literacy.
- Formative assessment is used by the class teacher and teaching assistant during whole class or group teaching. Children's confidence and difficulties are observed and used to inform future planning.
- Each class teacher maintains a record, indicating pupils that are working beyond or below age-expected attainment at the end of each term. This is passed on to the next class teacher.
- Children are aware of the 'I can' statements in the exemplified planning and are encouraged to set success criteria for their work.
- Open questions are used to challenge children's thinking and learning.
- Children are encouraged to evaluate their own and others' work in a positive and supportive environment, including peer assessment.
- Information is shared with the school community through the school website, display, celebration assemblies, newsletters, and end of year reports.

Early Years:

- Pupils build confidence to use technology purposefully to support their learning for all Early Learning Goals as appropriate.
- Pupils in Year R will have experiences using technology indoors, outdoors and through role play in both child-initiated and teacher-directed time.

Online Safety:

- A progressive Online Safety curriculum ensures that all pupils are able to develop skills to keep them safe online.

- Opportunities for learning about Online Safety are part of the exemplified plans and reinforced whenever technology is used.
- Clear rules for Online Safety are agreed by each class at the beginning of every year. Parents and pupils sign an acceptable user policy together when a pupil first starts at the school. The class rules are then signed annually by pupils and shared with parents.
- The school supports the international Safer Internet Day each February and provides opportunities for pupils to consider cyberbullying as part of Anti-Bullying week in the autumn term.
- Opportunities are taken whenever possible to reinforce messages of a healthy lifestyle e.g on the school Newsletter.
- The school has an Online Safety Policy in place that details how the principles of Online Safety will be promoted and monitored.

Monitoring:

- The impact of the Computing curriculum is monitored regularly by the Computing subject leader through pupil discussion, samples of work and discussion with teachers, an electronic portfolio and the use of the NAACE Self Review Framework.
- Systematic monitoring of all threads of Computing informs the subject leader and school development plan.
- The Computing leader conducts regular audits of the training needs of teachers and teaching assistants to improve their subject knowledge and confidence. Requests for training in Computing can be part of individual teacher's performance management plan.

Equal opportunities:

- The school maintains its policy of equal opportunities as appropriate for Computing.
- Computers and related technology are made available to all pupils regardless of gender, race or abilities.
- The class teacher differentiates work by task, resource or support, to ensure the individual needs of more able and SEND pupils are met.
- The school is aware that not all pupils have the same access to computers at home and this is considered by staff in the planning and delivery of the curriculum.

Resources:

- The school has a range of resources to support the delivery of the Computing curriculum, the Early Years Framework and learning across all areas of the National curriculum. We maintain a list of resources used in each phase.
- Online tools such as Kodu and Scratch are part of the experience of pupils.

- The Computing subject leader keeps up to date with new technologies and reviews the school's provision, as well as maintaining the existing resources in partnership with the school's technology support provider.
- Hardware and software faults are logged and shared with the IT Technician.
- Governors and senior management ensure that they achieve value for money by implementing the principles of best value in evaluating, planning, procuring and using technology.
- Old resources are disposed of in line with Somerset County Council's environmental disposal policy and the school's data protection policy where these are applicable.

Roles and responsibilities:

- The school community works together to ensure the implementation of the Computing policy.
- The subject leader is responsible for monitoring curriculum coverage and the impact of learning and teaching; and assists colleagues in its implementation.
- Subject leaders in other curriculum areas are responsible for recognising the links between computing and English, Mathematics, Science and foundation subjects; and planning to use these to support learning across the school.
- The class teacher is responsible for delivering an effective Computing curriculum and integrating this into their planning for other subject areas where this is appropriate.
- The school receives technical support from Somerset County Council and the technician is responsible for the maintenance of computers, printers, the school network and keeping software up to date. The Computing subject lead liaises with the Somerset technician to ensure that the systems are running efficiently.

Health and safety:

- Age appropriate class and safety rules are displayed in the learning environment.
- Equipment is maintained to meet agreed safety standards.
- From Foundation Stage, pupils are taught to respect and care for technology equipment.
- Further guidance can be found in the school's health and safety policy.