

TISP

Computing





TENBY[™]
SCHOOLS
SETIA ECO PARK

At Tenby Schools Setia Eco Park, Computing is more than just learning to use digital devices—it's about building future-ready skills. Our Computing curriculum develops students' creativity, critical thinking, and digital citizenship through hands-on experiences in coding, media creation, and online safety. Aligned with the National Curriculum for England, it ensures a progressive, purposeful, and safe approach to technology across all primary year groups.

01

Introduction

We believe that Computing is a vital subject that supports learning across the curriculum and prepares students for the digital world. We are committed to fostering curiosity, creativity, and problem-solving through technology, while ensuring that every student develops the skills to use digital tools safely, confidently, and effectively. Our approach is aligned with the National Curriculum for England, and we provide a well-structured Computing curriculum that includes coding, digital literacy, and Information Technology.

Aim

- To equip students with computational thinking and problem-solving skills that enable them to design, write, and debug programs.
- To develop digital literacy so students can use technology purposefully, confidently, and safely across a range of devices and applications.
- To foster creativity and innovation using technology in a variety of digital projects and cross-curricular contexts.
- To build students' understanding of computer science concepts, including algorithms, data representation, and networks.
- To promote responsible digital citizenship, helping students to understand how to stay safe online and use technology respectfully and ethically.
- To prepare students for a digitally connected world, ensuring they have the skills needed for future education, the workplace, and everyday life.
- To encourage collaboration and communication using digital tools to express ideas, solve problems, and present information effectively.

02

Implementation

Computing is implemented through a structured, progressive programme that develops students' digital competence across three key strands: Computer Science, Information Technology, and Digital Literacy. Students in KS1 uses iPads and KS2 uses Chomebooks and Winbooks as their learning devices in classrooms.

National Curriculum Coverage — Key Stage 1 (Years 1 & 2)

- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions.
- Create and debug simple programs
- Use logical reasoning to predict the behaviour of simple programs
- Use technology purposefully to create, organise, store, manipulate, and retrieve digital content
- Recognise common uses of information technology beyond school
- Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

End of Key Stage 1 Expectations

1. Computer Science

- Understand what algorithms are and how they are used in everyday contexts (e.g. making toast, classroom routines).
- Create and debug simple programs using age-appropriate tools (e.g. Bee-Bots, ScratchJr).
- Use logical reasoning to predict the behaviour of simple programs and explain what will happen next.

2. Information Technology

- Use technology purposefully to create, organise, store, manipulate, and retrieve digital content (e.g. making a digital poster, typing a sentence, taking a photo).
- Begin to make choices about which digital tools to use for particular tasks.
- Develop basic typing and navigation skills using a keyboard, mouse, or touchscreen.

3. Digital Literacy

- Recognise common uses of technology beyond school (e.g. in homes, shops, offices).
- Understand how to use technology safely and respectfully.
- Know the importance of keeping personal information private.
- Identify where to go for help and support when they have concerns about content or contact online.

National Curriculum Coverage - Key Stage 2 (Years 3 to 6)

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection, and repetition in programs, work with variables and various forms of input and output
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

End of Lower Key Stage 2 Expectations

1. Computer Science

- Design, write, and debug programs that accomplish specific goals, including controlling or simulating physical systems.
- Use sequence, selection, and repetition in programs; work with variables and various forms of input and output (e.g., using Scratch or other block-based programming).
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

2. Information Technology

- Use search technologies effectively and begin to evaluate digital content for relevance and reliability.
- Select and use a variety of software and digital devices to accomplish given goals, including collecting, analysing, evaluating, and presenting data and information (e.g. creating digital presentations, charts, or multimedia projects).
- Begin to use spreadsheets or data handling tools to organise information.

3. Digital Literacy

- Understand how to use technology safely, respectfully, and responsibly.
- Recognise acceptable and unacceptable behaviour online.
- Identify a range of ways to report concerns about content or contact.
- Begin to understand digital footprints and the long-term impact of online actions.

End of Upper Key Stage 2 Expectations

1. Computer Science

- Design, write, and debug programs that use sequence, selection, repetition, and variables to solve problems.
- Use logical reasoning to detect and correct errors in algorithms and programs.
- Understand computer networks, including the internet; know how they provide multiple services such as the World Wide Web.
- Understand how search engines work and how search results are ranked.

2. Information Technology

- Use a range of digital tools to collect, analyse, evaluate, and present data and information for a specific audience or purpose.
- Select, use, and combine a variety of software on a range of devices to design and create content, including presentations, websites, videos, and digital art.
- Use spreadsheets to organise and calculate data (e.g. using formulas and graphs).

3. Digital Literacy

- Demonstrate understanding of how to use technology safely, respectfully, and responsibly, including recognising the impact of online behaviour.
- Understand the concept of a digital footprint and how online actions can be permanent.
- Know how to protect personal information, use strong passwords, and understand the importance of privacy settings.
- Recognise and respond to a range of online risks, including cyberbullying, misinformation, scams, and inappropriate content.

Progression Throughout The 4 Computing Themes

With the curriculum organised into four key themes, this ensures skills and concepts progress from one year group to the next.

1. Computer Systems and Networks

The Computer Systems and Networks strand is taught once a year, building progressively from one year group to the next, with subject specific knowledge introduced at age-appropriate points.

2. Data and Information

The Data and Information strand is again taught once a year, progressing in both skills and software. Key Stage 1 uses simplified age-appropriate software platforms, progressing to more industry focused software in upper Key Stage 2.

3. Programming

The Programming stand is taught twice a year, with the same concept revisited and covered in more depth.

4. Creating Media

The Creating Media strand hosts a wide range of different media types, and therefore different skills. To support progression, this can be best categorised into four different key areas: text, graphics (the use of pictures and text) and audio.

03

Assessment

Assessment in Key Stage 1 and 2 Computing is carried out in a practical and formative manner. It focuses on capturing students' growing independence, problem-solving skills, and digital fluency. These assessments reflect their understanding, abilities, and progress in line with the National Curriculum for England. Students are assessed at the end of each unit, with an attainment level assigned to reflect their learning. These assessment levels contribute to the overall attainment grade reported to parents in the end-of-term reports.

The following are examples of how assessments are conducted in Computing to evaluate students' understanding, skills, and progress.

1. Observation and teacher notes

Observe students during hands-on activities (e.g. using Bee-Bots, creating digital art, Scratch coding). Record how confidently and independently they use digital tools or follow sequences.

2. Digital portfolios

Use platforms like Seesaw to collect evidence of learning (screenshots of work, photos of activities, recordings of explanations). Students can reflect on what they did and learned.

3. Practical tasks

Set simple computing challenges (e.g. give instructions to control a Bee-Bots, create a program). Assess how well students plan, execute, and explain their work.

4. Questioning and Discussion

Ask open-ended questions to check understanding (e.g. "Why do we need clear instructions in a program?"). Encourage students to explain their thinking and choices.

5. Peer and self-assessment

- For KS1, use of smiley faces, thumbs up/down, or simple checklists to help students reflect on their own or others' work. Provide guided sentence starters like "I was proud of..." or "Next time I will try to..."
- For KS2, encourage students to reflect on their work using checklists (e.g. "Did I test my program?" "Did I fix any bugs?") and commenting on other peers' digital work.

6. Exit slips

Use short activities at the end of lessons (e.g. "Tell me one thing you learned about staying safe online").

7. Project-based assessment

Evaluate students through meaningful tasks (e.g. coding games in Scratch, creating a website, designing multimedia presentations). Focus on planning, implementation, debugging, and final outcome.

8. Quizzes and concept checks

Use short online or paper-based quizzes to assess understanding of topics (e.g. Kahoot, Blooket, MCQ). Each of the questions has been carefully chosen to represent the learning that should have been achieved within the topics. This approach is to determine how well students have understood the content.

Progression Skills of Computing

Year	Computer Systems and Networks	Data and Information	Programming	Creating Media
1	<p>Technology around us Recognising technology in school and using it responsibly.</p>	<p>Grouping data Exploring object labels, then using them to sort and group objects by properties.</p>	<p>Programming - Animations Designing and programming the movement of a character on screen to tell stories.</p> <p>Moving a robot Writing short algorithms and programs for floor robots and predicting program outcomes.</p>	<p>Digital research skills Use the Internet to find out about rainforest and develop an understanding about Internet safety.</p> <p>Digital painting Choosing appropriate tools in a program to create art and making comparisons with working non-digitally.</p>

Progression Skills of Computing

Year	Computer Systems and Networks	Data and Information	Programming	Creating Media
2	<p>Information technology around us Identifying IT and how its responsible use improves our world in school and beyond.</p>	<p>Pictograms Collecting data in tally charts and using attributes to organise and present data on a computer.</p>	<p>Programming - Quizzes Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.</p> <p>Robot algorithms Creating and debugging programs and using logical reasoning to make predictions.</p>	<p>Digital writing Using a computer to create and format text, before comparing to writing non-digitally.</p> <p>Digital music Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.</p>

Progression Skills of Computing

Year	Computer Systems and Networks	Data and Information	Programming	Creating Media
3	<p>Systems and searching Recognising IT systems in the world and how some can enable searching on the internet.</p>	<p>Branching databases Building and using branching databases to group objects using yes/no questions.</p>	<p>Sequencing sounds Creating sequences in a block-based programming language to make music.</p> <p>Events and actions in programs Writing algorithms and programs that use a range of events to trigger sequences of actions.</p>	<p>Desktop publishing Creating documents and modifying text, images and page layouts for a specific purpose.</p>

Progression Skills of Computing

Year	Computer Systems and Networks	Data and Information	Programming	Creating Media
4	<p>The internet Recognising that the internet is a network of networks including the WWW, and why we should evaluate online content.</p>	<p>Writing and editing a document Formatting a document using a range of word-processing software features.</p>	<p>Repetition in shapes Using a text-based programming language to explore count-controlled loops when drawing shapes.</p> <p>Repetition in games Using a block-based programming language to explore count-controlled and infinite loops when creating a game.</p>	<p>Audio production Capturing and editing audio to produce a podcast, ensuring that copyright is considered.</p>

Progression Skills of Computing

Year	Computer Systems and Networks	Data and Information	Programming	Creating Media
5	<p>Systems and searching Recognising IT systems in the world and how some can enable searching on the internet.</p>	<p>Flat-file databases Using a database to order data and create charts to answer questions.</p>	<p>Selection in quizzes Exploring selection in programming to design and code an interactive quiz.</p>	<p>Introduction to vector graphics Creating images in a drawing program by using layers and groups of objects.</p> <p>Digital storyboard Illustrating a recipe card.</p>

Progression Skills of Computing

Year	Computer Systems and Networks	Data and Information	Programming	Creating Media
6	<p>Communication and collaboration Exploring how data is transferred by working collaboratively online.</p> <p>Robots Exploring how robots function and how robotic technology can support and assist people.</p>	<p>Introduction to spreadsheets Answering questions by using spreadsheets to organise and calculate data.</p>	<p>Variables in games Exploring variables when designing and coding a game.</p>	<p>Webpage creation Designing and creating webpages, considering copyright, aesthetics and navigation.</p> <p>3D modelling Planning, developing, and evaluation 3D computer models of physical objects.</p>