How to teach Computing at Bowling Green Academy

Computing Curriculum

I can use technology, positively, responsibly and safely.

I can use computing across the whole curriculum to make learning creative and accessible.

I have the knowledge and skills that will equip me for an ever changing digital world.

I am developing my resilience, independence and critical thinking skills through my work in computing.
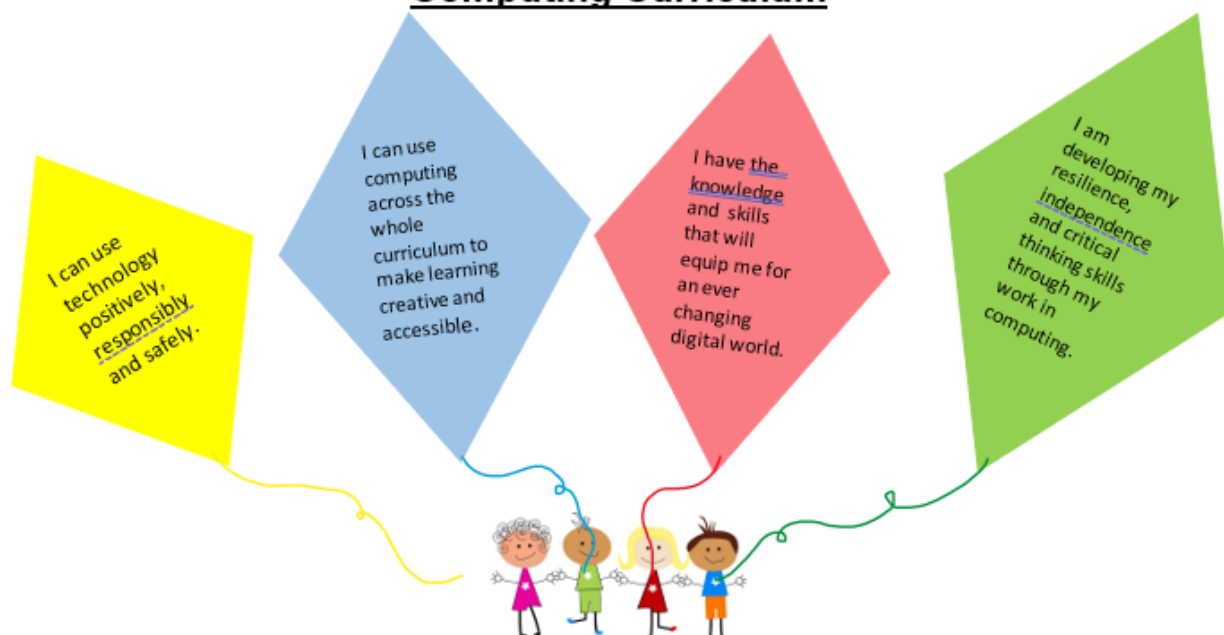
Implementation

Year / Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	In Reception, children learn…					
Year 1	Online Safety (3 weeks) Grouping and Sorting (2 Weeks)	Pictograms (3 weeks) Lego Builders (3 weeks)	Maze Explorer (3 weeks)	Animated Story (5 weeks)	Coding (6 weeks)	Spreadsheets (3 weeks) Technology Outside School (2 weeks)
Year 2	Coding (5 weeks) Online Safety (3 weeks)	Spreadsheets (4 weeks)	Questioning (5 weeks)	Effective Searching (3 weeks)	Creating Pictures (5 weeks)	Making Music (3 weeks) Presenting Ideas (4 weeks)
Year 3	Coding (6 weeks)	Online Safety (3 weeks) Spreadsheets (3 weeks)	Touch Typing (4 weeks)	Email (6 weeks)	Branching Databases (4 weeks)	Simulations (3 weeks) Graphing (3 weeks)
Year 4	Coding (6 weeks)	Online Safety (4 weeks)	Spreadsheets (6 weeks)	Writing For Different Audiences (5 weeks)	Logo (4 weeks) Animation (3 weeks)	Effective Search (3 weeks) Hardware Investigation (2 weeks)
Year 5	Coding (6 weeks)	Online Safety (3 weeks)	Databases (4 weeks)	Game Creator (5 weeks)	3D Modelling (4 weeks)	Concept Maps (4 weeks)
Year 6	Coding (6 weeks)	Online Safety (2 weeks) Spreadsheets (5 weeks)	Blogging (5 weeks)	Text Adventures (5 weeks)	Network (3 weeks)	Quizzing (6 weeks)

What does Computing look like in EYFS?

Computing in Reception doesn't mean typing out a Word document or creating a code. In fact, teaching technology in the Early Years doesn't have to involve computer work at all.

Our Computing scheme for the EYFS is centred around play-based, unplugged (no computer) activities that focus on building children's listening skills, curiosity and creativity and problem solving.

Technology in the Early Years can mean:

- taking a photograph with a camera or tablet
- searching for information on the internet
- playing games on the interactive whiteboard
- exploring an old typewriter or other mechanical toys
- using a Beebot
- watching a video clip
- listening to music

Allowing children the opportunity to explore technology in this carefree and often child-led way, means that not only will they develop a familiarity with equipment and vocabulary but they will have a strong start in Key Stage 1 Computing and all that it demands.

Lesson sequence

Computing lessons at Bowling green consist of learning and recapping new vocabulary, followed by new learning material and a series of activities to implement new learning.

Example

Vocabulary	New learning material	Activities related to learning	Reflection.
Recap of previously learnt vocabulary. And introducing new vocabulary.	Children taught new learning material with modelling.	Children implement learning through a series of different challenges/activities.	Children reflect on learning and vocabulary taught in lesson.

NB. Teachers should always check the lesson plans thoroughly to familiarise themselves with the lesson content and activities.

Assessment

When teachers assess Computing they should do so using the Computing assessment sheet saved on **T:\2022 - 2023\PlanningCurriculum\AssessmentTools**\. When assessing the children, teachers should refer to the Computing assessment posters saved **T:\2022 - 2023\PlanningCurriculum\AssessmentTools**. The assessment sheets are saved as one document starting with the objectives colour coded per term for each Year group. This allows teachers to assess against the objectives for their year group but also to see progression between each stage. For example, Coding objectives showing the progression between each stage is labelled per Year group, per poster.

At the end of each half term, Teachers should input data onto Arbor and assess each child based on WTS or EXP standard.

Please see the example below to help assessment.

Year 3

Term	Unit	Assessment
	Coding	Children have a clear idea of how to design and code a program that follows a simple sequence Children' designs for their programs, show that they are thinking of the structure of a simple program in logical, achievable steps with attention to specific events that initiate specific actions Children are able to use the repeat command to program a turtle to draw a square Children are beginning to understand how code is structured and are able to apply this knowledge when debugging
	Online Safety	Children understand the negative implications of failure to keep passwords safe and secure and can suggest examples of good and poor passwords When using the internet, children can appraise the accuracy of the information on a website and make decisions on whether it is a trustworthy source of information Children recognise the PEGI ratings and can give examples of why content is rated and how this protects them
	Spreadsheets	Children will be able to select the most suitable type of chart to use for their data, edit headers and apply axis labels Children can create their own number lines within 2Calculate including 'more than', 'less than' and 'equal' tools
	Touch Typing	Children have developed their touch-typing skills and understand how to touch type using the home, bottom and top row keys using both hands
	Email	Children can list a range of ways the internet can be used to provide different methods of communication Children will be able to open and respond to an email, altering the size of the font, as well as the formatting of the text. They will be able to select a person from their address book and compose a suitable email to send them Children understand the importance of staying safe when using email
	Branching Databases	Children understand how to collect, analyse, evaluate, and present their data and information throughout the unit initially as a paper Yes/No game Children can make their own branching databases, collating and organising data by sets of questions they have considered appropriate Children analyse each other's branching databases and can make further suggestions for improvement

Inclusion

What knowledge must learners acquire?

As a computer scientist leaving Bowling Green Academy, every child will:

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

Strategies to support learners include

- Memory activities
- Waiting/processing time
- Uncluttered tasks
- Use of high quality wagolls
- modelling
- Use of reward system- house and dojo points
- Catching children doing the right thing
- Adult and peer support
- Pre teaching
- Repetition of key learning points.
- Clear language
- Differentiated scaffolded and extended work to ensure all children are challenged

Where is vocabulary and language explicitly taught?

- Within lessons – key vocabulary highlighted and displayed. Referred to regularly and recapped to check understanding.

Strategies to support learners (examples*)

- Praise and encouragement
- Repetition of key learning points.
- Key word/vocab map prompt
- Checklist of learning steps.
- Practical demonstration
- Visual aid

What does progression look like?

- Progression in computing involves developing skills and knowledge through:
- Using an increasing range of programs and systems
- Developing more complex coding and programming skills
- Become more creative in their application of skills
- Increasing independence for all the above
- For pupils with SEND, progression may be more supported. Progression will look different depending upon their individual learning and development needs. Progression will be measured against individual starting points rather against the year group expectations as differentiation may mean that the pupils are working on the computing curriculum below their current year group.
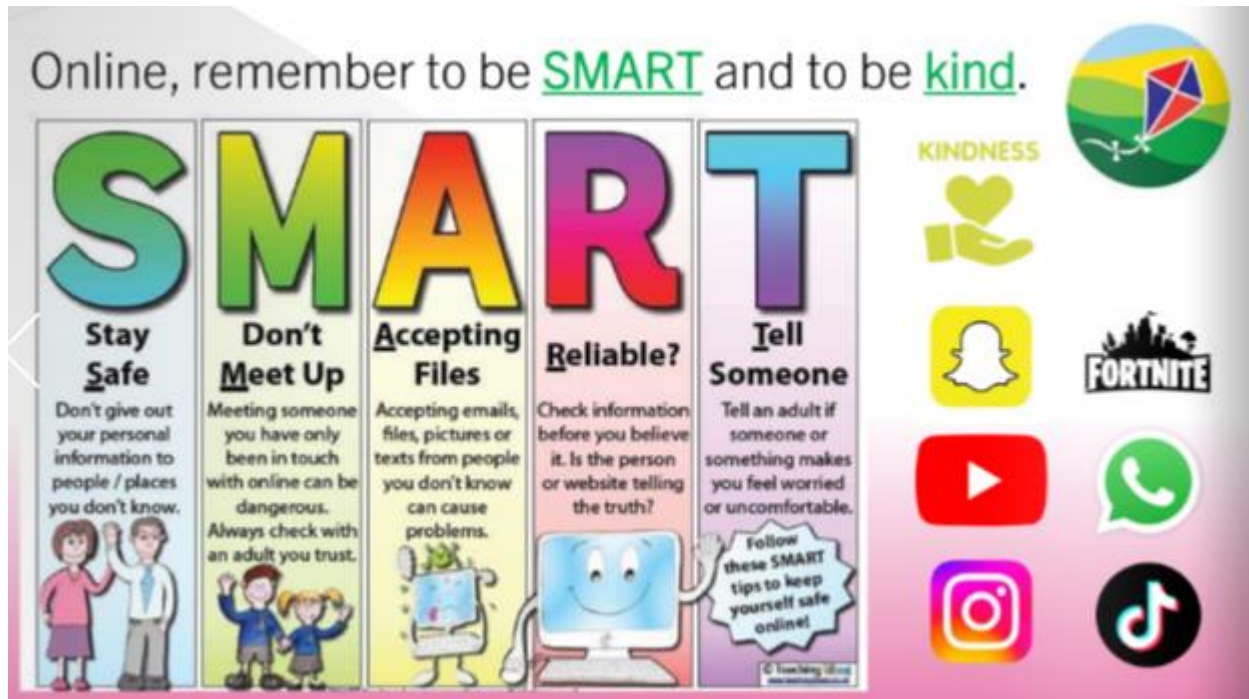
Evidencing work

When evidencing Computing, children should be saving their work in their private folders, folders created by teachers or by saving the 'To-do'

E-Safety prompt

At Bowling Green Academy, we use the SMART posters and vocabulary.