Baginton Fields School

Dedicated to delivering inspiration learning experiences.

Subject Philosophy: IT and Computing

Intent

The intent of our computing curriculum is to deliver a high-quality personalised curriculum pathway that allow our students to accessible to ICT and Computing in a way that maximises their development and ability and achievement in this subject. The subject leader has identified key intentions for our computing curriculum based on the individual needs of the students. These are:

Intention 1: To ensure that students access an engaging and effective high-quality curriculum that develops knowledge and understanding of ICT and computer science in line with their next steps for education *e.g the transition for students in KS4 to a qualification-based curriculum in KS5 and preparing students for college courses and work-related skills.*

Intention 2: To prepare pupils to live safely in an increasingly digital British society

Intention 3: Promote positive communication for learners between families Staff and Peers.

Through a variety of creative and practical activities, students will be taught the knowledge, understanding and skills needed to develop and build on their IT and computing skills within the areas of Technology in Our Lives, Communication, Multimedia, Programming and Algorithms, Data and Online Safety where they will acquire a broad range of subject knowledge and functionals skills. Sometimes, IT and computing will be taught cross-curricular as learning tool to drive learning. As part of the Functional Skills curriculum in KS5 where students may have to use their knowledge and skills to present and communicate there learning. In the

Where possible, we draw on real-world experiences to provide an engaging context for developing, enhancing and building on prior knowledge and to create an inspiring curriculum that allows each student to develop and learn on an individual basis. Every student should have the opportunity to make use of their IT skills and computing knowledge and, through this, develop personal achievement. We provide opportunities for students to be creative and solve problems by developing their own solutions to real-world contexts and offer (where possible and applicable) various methods to communicate their ideas and understanding.

Content has been selected for this curriculum that develops and encourages creative thinking, problem- solving and incorporates and utilises skills and knowledge from other subject areas. Whilst other subject areas are intrinsically linked, i.e. PE, cooking, science etc. there is a conscious recognition and understanding that this cannot be a barrier to learning as every pupil is likely to have different experiences and starting points. There is a purposely strong emphasis on encouraging reflection and iteration, with a student-led approach. Rather than a 'designing-by-numbers' approach, students will be encouraged to creatively explore briefs and opportunities.

The suggested curriculum sequence builds through the key stages so that as students move forward in their education, they are equipped with the prior knowledge that they need to succeed in the next phase.

The curriculum has been created so that students with different starting points can access them. Lessons within a unit are sequenced so that each one builds on prior learning. The activities are scaffolded and resources have been provided so all students can succeed, and they provide scope for all to be challenged.

Programme of Study

Pathways: The Investigators and The Venturers

By the end of Key Stage 3, 4 and 5, most students are expected to know how to apply and use many of the key skills taught through the several strands that cover:

Technology in Our Lives	Communication: Multimedia	Programming and Algorithms	Data	Online Safety

The KS5 curriculum will be more focused on real-life questions and problems to prepare them for the real world as much as we possibly can which includes the opportunity to pass their Travel Training which will see them needing to learn and be confident in how to read and understand a bus timetable and to be confident with money.

Pathways: Discovers and Explorers

They will follow the Touch Screen, Eye Gaze and Switch progression materials that can be adapted for each individual learner allowing them to experience and use technology in a functional or engaging way linking it to control over there environment.

Literacy Opportunities

Students will be encouraged to develop and enhance their literacy skills through being able to use IT to present learning, research topics, express there creatively by using digital media. They will use IT as a method of communication and use it to develop key skills involved around using presenting information. A range of fiction and non-fiction books can be used to explain various concepts of computing. These are no restricted specific stages and these can be used to help support students understand key concepts or expand there interest. Examples of these can be found in the Appendix

Cross-Curricular Opportunities including LotC

In order to prepare students for using technology in the wider world, we actively encourage them to make use of digital systems to aid their wider learning. This allows children to apply their computing knowledge and skills to new contexts, reinforcing, communicating and demonstrating learning . This could range from word processing a piece of writing in literacy to creating a video or animation to show learning in history, or using app to complete show the transference of numeracy or computing skills. It is the role of class teachers to find these opportunities wherever they may arise in their planning.

Personal Development

All students will develop their creative, technical and practical expertise needed to perform everyday tasks confidently and will build and apply a repertoire of knowledge, understanding and skills in order to problem-solve and present information and communicate using IT. Using the principles of computational science, they will develop problem solving skills

Students are also using their time management skills to build confidence within their own digital skill and abilities, are being independent, are develop their knowledge and use of IT to enhance there communication skills and access the world around them.

Student Outcomes

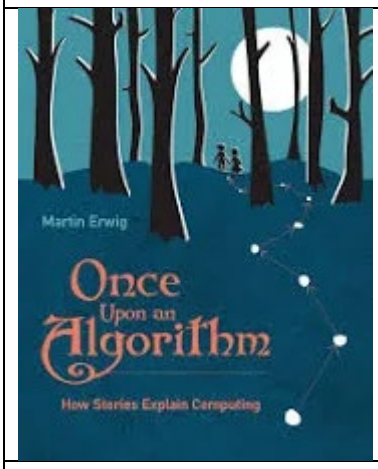
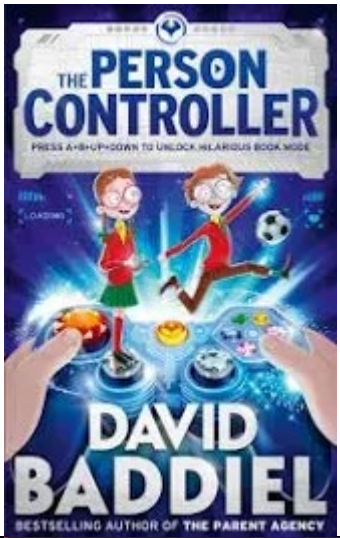
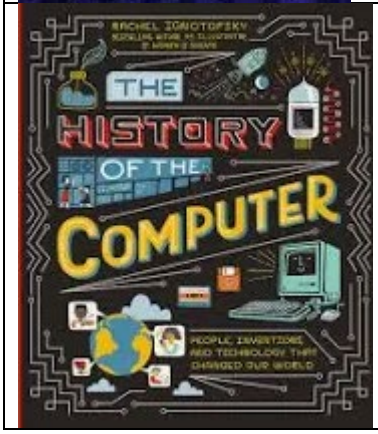
We will know we are operating successfully when it becomes apparent that most of our students:

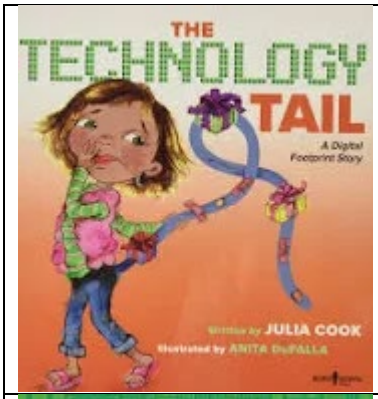
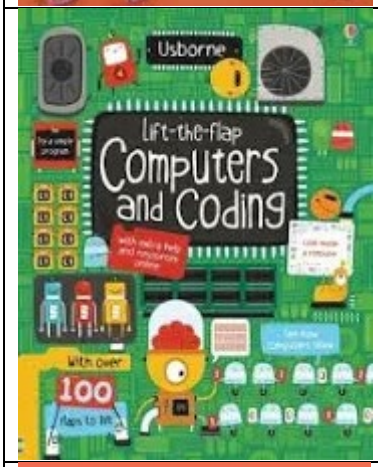
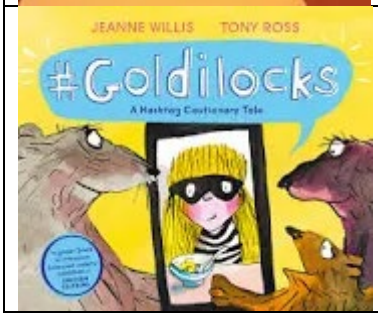
- *Students will be confident users of technology, able to use it to accomplish a wide variety of goals, both at home and in school.*
- *Students will be able to show this in their learning and in discussion.*
- *Student regularly meet expected PKI's and above in the subject.*
- *In Explorer and Discovers groups. Students show a development and embedding of switches/touch screen/Eye gaze progression materials*
- *Students work to become independent users of technology and can use technology to support their knowledge and understanding of the world around them*
- *Student use ICT collaboratively to create and present learning using different technology, from word processing to animation*
- *Students use ICT to present learning from other subjects by applying their skills and knowledge.*
- *Students learning an achievement is evident around school as well as in their record folders/books*
- *Investigators and Post 16 groups to a work towards achieving a function skills qualification in ICT*
- *All Investigator pathway students to complete the ASDAN Towards Independence E-safety*
- *Students show a clear understanding of principles/values of e-safety*
- *They can confidently show how to use technology in a positive way*
- *Students know where they can seek help*
- *Students present their learning around school. Learning is displayed on notice board showing students developing understanding of E-safety.*
- *Parents and Carers feel confident to support their child with issues around E-safety outside the school environment.*
- *All Investigator pathway students to complete the ASDAN Towards Independence E-safety*

Development Strategies

In order to achieve our goals and bring about these outcomes we will endeavour to:

- Dedicate one discrete period of ICT a week for the Investigators and one for the Venturers as well opportunities across other subjects.
- IT will be an active part of all Explorer and Discoverers curriculum.
- Implement Learning Outside the Classroom where possible,
- Sequence knowledge, understanding and skills to ensure that they are established and sustain growth for each learner,
- Review learning and provide intervention,
- Reflect and review content regularly to meet the needs of our students.

Literacy Opportunities – Learning through reading	
	Blip spends all day plugged into her computer, playing games and having fun. But when there's a power cut, Blip goes down the stairs and out the front door, where she discovers playing games and having fun... outside! Isn't it wonderful to be unplugged?
	How Hansel and Gretel, Sherlock Holmes, the movie Groundhog Day, Harry Potter, and other familiar stories illustrate the concepts of computing. Picture a computer scientist, staring at a screen and clicking away frantically on a keyboard, hacking into a system, or perhaps developing an app. Now delete that picture. In Once Upon an Algorithm, Martin Erwig explains computation as something that takes place beyond electronic computers, and computer science as the study of systematic problem solving. Erwig points out that many daily activities involve problem solving. Getting up in the morning, for example: You get up, take a shower, get dressed, eat breakfast
	From the author of THE PARENT AGENCY comes a thrilling, funny and touching new adventure. Fred and Ellie are twins. But not identical (because that's impossible for a boy and a girl). They do like all the same things, though. Especially video games. Which they are very good at. They aren't that good, however, at much else – like, for example, football, or dealing with the school bullies. Then, they meet the Mystery Man, who sends them a video game controller, which doesn't look like any other controller they've ever seen. And it doesn't control any of their usual games. When the twins find out what it does control, though, it seems like the answer to all their problems. And the key to all their wildest dreams. At least it seems like that…
	Packed with accessible information, fun facts and discussion starters, this charmingly illustrated book takes you from the ancient world to the modern day, focusing on important inventions from the earliest known counting systems (such as the Incan quipu) to the sophisticated algorithms behind AI, space travel and wearable tech. The History of the Computer also profiles a global and diverse range of key players and creators - from An Wang and Margaret Hamilton to Steve Jobs and Tim Berners-Lee - and illuminates their goals, their intentions and the impact of their inventions on our everyday lives.

	Have you ever thought that computer science should include more dragons and wizards? Computational Fairy Tales introduces principles of computational thinking, illustrating high-level computer science concepts, the motivation behind them, and their application in a non-computer—fairy tale—domain. The goal of this book is not to provide comprehensive coverage of each topic, but rather to provide a high-level overview of the breadth and excitement of computer science. It's a quest that will take you from learning the basics of programming in a blacksmith's forge to fighting curses with recursion.
	An interactive introduction to information and communication technology, which explains what goes on inside computers and what makes them do what they do. With lots of flaps to lift and look beneath, fact-hungry children will devour the fascinating data contained in this bright and engaging non-fiction book.
	Cellphones have become a fact of life, with children as young as eight (yes, eight!) getting their very own "devices." Such boundless access means our kids are in nearly constant contact with technology that was designed specifically for adults. And they're doing so without any type of road map. Enter First Phone the essential book that apprehensive parents can confidently hand to their kids to read as they begin their journey into the digital world.
	Everyone loves Goldilocks' hilarious online videos, but in her quest to get more likes, more laughs and more hits, she tries something a little more daring: stealing porridge #pipinghot, breaking chairs #fun, and using someone else's bed #sleep. What will Daddy Bear do when he sees that online?