Computing

Milestones for progress

Because the threshold concepts are repeated in each year group it is important that students progress in their understanding of them. The curriculum at St Botolph's sets out this progression in the form of three 'Milestones'. Each Milestone contains a range of descriptors which give more detail to be discovered within the concept. Over a two year period students will become more and more familiar with these details by exploring them in a breadth of contexts. These descriptors are not exhaustive and should only be used as a guide for teachers. They should not be 'ticked off' as each one is covered: they should be repeated in as many different contexts as possible.

Threshold Concept	Milestone 1	Milestone 2	Milestone 3
Humankind	• Use digital technology appropriately to communicate and connect with others locally and globally (Communication) • Recognise that some websites ask for private information and discuss how to handle these requests. (Staying Safe) • Recognise that information put online leaves a digital footprint. (Digital Citizenship)	• Explain actions to report and prevent cyberbullying (Communication) • Identify the positive and negative influences of technology on health and the environment and how to protect themselves. (Staying Safe) • Identify appropriate behaviour when contributing to collaborative online projects for learning. (Digital Citizenship)	• Recognise that sending intimate images and content and using offensive language online is a risk and has a permanent online trail. (Communication) • Identify the benefits and risks of devices broadcasting the user's location and of giving personal information to different organisations. (Staying Safe) • Recognise that digital content can be edited online and cite all sources when researching. (Digital Citizenship)

Threshold Concept	Milestone 1	Milestone 2	Milestone 3
Investigation	• Create a simple solution that tests an idea, predict the outcome and test that the intended solution works. (Data and Computational Thinking). • Recognise that computers can be linked to share resources and retrieve work. (Networks)	• Describe and demonstrate a simple program that contains a looping element and how part of a program may need repetition. (Data and Computational Thinking) • Recognise that the school network links computers to allow the sharing of resources. (Networks)	• Design simple sequences of instructions (algorithms), including IF, THEN and OTHERWISE commands, to decide if something is true or false. (Data and Computational Thinking) • Name some of the positives and negatives of communicating with others online. (Networks)

Threshold Concept	Milestone 1	Milestone 2	Milestone 3
Place	• Understand that there are online tools that can help people to create and communicate. (Digital World) • Recognise why digital technology is used in the classroom, home and community. (Real World)	• Use appropriate tools (software, websites and apps) to collaborate and communicate safely online. (Digital World) • Use digital technology in different ways in the classroom, home and community to achieve a set goal. (Real World)	• Create an online collaborative project for a specific purpose, sharing documents and appropriately setting permissions for other group members, being aware of security settings (Digital World) • Combine a range of technology to achieve a particular outcome. (Real World)

Threshold Concept	Milestone 1	Milestone 2	Milestone 3
Materials	• Use computing hardware in different ways to collect data. (Hardware) • Use different types of software and identify their purpose. (Software)	• Use new and unfamiliar computing hardware. (Hardware) • Apply computing skills to use new computing software. (Software)	• Identify how using different hardware can increase creativity and productivity and use it to solve a problem successfully. (Hardware) • Identify how a new piece of software or an app can increase creativity. (Software) • Apply computing skills to create content using unfamiliar programs or apps. (Software)

Threshold Concept	Milestone 1	Milestone 2	Milestone 3
Comparison	• Search for or retrieve digital content, including images and information, in digital folders and, with supervision, online. (Digital Searching)	• Explain that the World Wide Web contains lots of web pages about different subjects that can be searched. (Digital Searching) • Explain that when searching online, some web pages may contain adverts or pop-ups that encourage people to click on them. (Digital Searching)	• Discern where web content might originate from and recognise that this gives clues to its authenticity, reliability and security. (Digital Searching) • Critically evaluate search engine results and identify factors that may affect ranking, such as how long the site has existed, the number of links to the site and whether the organisation has paid to have their site promoted. (Digital Searching)