



Information Technology

Early Years

Children begin to access information technology in a controlled way. This may include painting apps, taking photographs of key learning using an iPad and accessing digital phonics resources. Any access to IT is teacher led.

Year 3 and 4

Media creation

Children begin to create more complex forms of media such as stop frame animation, music and begin using graphics tools such as Tinkercad. Music creation becomes more sophisticated, using a greater range of tools and mediums. In Year 4, children begin using photo editing tools. This links to digital literacy and understanding that not all images online are "true".

Data and information

In Key Stage Two the information handling branch of information technology becomes more complex in line with children's mathematical knowledge. In Year 3 this links with classifying animals in Science in the form of branching databases. In Year 4 data loggers are used to record information.

Year 1 and 2

Media Creation

Children begin to create their own digital media using a range of different devices and programmes. In Year 1, this begins with digital painting and typing, moving into year 2 with a focus on photography and the beginnings of music creation.

Data and information

In Year 1, children will begin by sorting and grouping items in a concrete way. This then progresses to sorting by properties, then the term attributes is introduced.

In Year 2, children begin using j2e to interpret data and organise data into pictograms

Year 5 and 6

Media creation

Children build on their knowledge of photo editing to edit videos and begin to create more technical images using vector drawing on Google drawings. They then progress to increasingly complex 3d modelling in year 6.

Data and information

Databases in year 5 and 6 focus on organising information, this begins with a paper-based system before being digitised in a flat file database. In year 6, children begin to use spreadsheets and sort information by different attributes.



Computer Science

Early Years

Children discuss ways that they use technology and begin having access to early forms of coding such as bee bots.

Year 3 and 4

Networks and sharing

Children learn the basics of how to identify digital and non-digital devices and then begin to learn how computer networks and the internet work.

Programming

Children learn about more complex programming including different kinds of events, actions, loops and the beginning of using variables. Children design basic games and use a basic score board.

Year 1 and 2

Uses of technology

Children think about how they use technology both at school and at home, moving on to developing the skills to use computers in school such as using a mouse to point and click and a keyboard to type. In year 2, children build on this learning by defining information technology and learn how different types of IT work.

Programming

Children learn the very basics of programming using algorithms to build Lego characters, then move on to programming using bee bots. Towards the end of year 1 and into year 2, children are introduced to our Discovery education coding units and begin to explore start and click events to make objects move.

Year 5 and 6

Networks and sharing

Children learn about computer systems and how information is transferred between systems and devices before moving on to communication. Children learn about how networks can be used for collaboration through group projects.

Programming

Children learn how to use numbers to specify the speed an object moves at and how to change directions. Children then begin using coordinates in their code use programming to create random number generators.

As they move into year 6, children will begin using variables in more complex ways and if they are confident in other areas of programming there is the opportunity to extend their knowledge to basic html.



Digital literacy

Early Years

In the early years, e-safety is taught using Smartie the penguin resources with the message T.A.G – Tell a grown up.

Understand that technology can be both fun and educational but that too much screen time can have negative consequences.

Understand that devices should be used with a trusted adult.

Understand that if they see something online that makes them feel bad they should T.A.G.

Year 3 and 4

Understand the need for rules to keep them safe when exchanging learning and ideas online.

Recognise that information on the internet may not be accurate or reliable and may be used for bores, manipulation or persuasion.

Understand that the internet contains fact, fiction and opinion and begin to distinguish between them.

Use strategies to verify information, e.g. cross-checking.

Understand the need for caution when using an internet search for images and what to do if they find an unsuitable image.

Understand that copyright exists on most digital images, video and recorded music.

Understand the need to keep personal information and passwords private.

Understand that if they make personal information available online it may be seen and used by others.

Know how to respond if asked for personal information or feel unsafe about content of a message.

Recognise that cyber bullying is unacceptable and will be sanctioned in line with the school's policy.

Know how to report an incident of cyber bullying.

Know difference between online communication tools used in school and those used at home.

Understand the need to develop an alias for some public online use.

Understand that the outcome of internet searches at home may be different than at school.

Year 1 and 2

Understand the different methods of communication (e.g. email, online forums etc). Know you should only open email from a known source.

Know the difference between email and communication systems such as blogs and wikis. Know that websites sometimes include pop-ups that take them away from the main site.

Know that bookmarking is a way to find safe sites again quickly.

Begin to evaluate websites and know that everything on the internet is not true.

Know that it is not always possible to copy some text and pictures from the internet.

Know that personal information should not be shared online.

Know they must tell a trusted adult immediately if anyone tries to meet them via the internet.

Year 5 and 6

Understand the potential risk of providing personal information online.

Recognise why people may publish content that is not accurate and understand the need to be critical evaluators of content.

Understand that some websites and/or pop-ups have commercial interests that may affect the way the information is presented.

Recognise the potential risks of using internet communication tools and understand how to minimise those risks (including scams and phishing).

Understand that some material on the internet is copyrighted and may not be copied or downloaded.

Understand that some messages may be malicious and know how to deal with this.

Understand that online environments have security settings, which can be altered, to protect the user.

Understand the benefits of developing a 'nickname' for online use.

Understand that some malicious adults may use various techniques to make contact and elicit personal information.

Know that it is unsafe to arrange to meet unknown people online.

Know how to report any suspicions.

Understand they should not publish other people's pictures or tag them on the internet without permission.

Know that content put online is extremely difficult to remove.

Know what to do if they discover something malicious or inappropriate.