

COMPUTING CURRICULUM

COMPUTER SCIENCE

Pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.

Computing systems and networks

Programming

Creating media

data handling

Online safety

PROGRAMS



Sketchpad



iMovie



Beebot



Google forms



PowerPoint



Microsoft Excel



Scratch



Sway



Micro:bit



Tinker Cad



Trinket



Microsoft Word

PROGRESSION

EYFS

Operate a camera
Explore and tinker with hardware
Introduction to keyboard layout
Basic mouse skills, incl. moving and clicking
Simple instructions and commands
Experimenting with programming
Learning to debug

KS₁

Logical reasoning
Sequencing and following instructions
Simple algorithms
Programming a bee bot
Debugging
Components of a computer
Input and output
Basics of touch typing
Decomposition
Algorithms
Precise instructions
Predicting, testing and explaining software

Explore and tinker with hardware Recognise input and output devices Location of keys on a keyboard Decomposition of problems

LKS2

Using loop blocks

Components of a computer and network
Purpose of routers
Differences across computers
Website, networks and the internet
Transferring data
Decomposition
Simple algorithms
Predicting, testing and explaining software
Coding and debugging
Sensors
World Wide Web
Decomposition
Identifying patterns
Creating algorithms

Incorporating variables to make coding efficient

UKS2

ROM and RAM
Compressing data
Binary
Bit patterns
Decomposition
Predicting software
Decomposing algorithms
Animation
Loops
Debugging
History of computers
QR codes and RFID
Data corruption
Programming python
Changing a program to personalise it

Evaluating and predicting code

Programming external devices



COMPUTING CURRICULUM

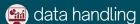
INFORMATION TECHNOLOGY

Information technology is very broad creation. involves the as organisation and manipulation digital content in both key stages digital content could be interpreted as many things from audio to images to film and beyond.

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🔅 Creating media



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Swav



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PROGRESSION

EYFS

Create digital art

Representing data in unplugged scenarios Representing data through pictograms Exploring branch databases

KS1

Using a basic range of tools in graphic software

Taking and editing photographs

Developing control of the mouse

Recognising devices connected to the internet Searching and downloading images safely

Representing and understanding data

Create pictograms and databases

Understand ways of using the internet

developing word processing skills

Type and word format a text

Using software to create story animations

Creating and labelling images

searching for appropriate images

Understanding what online information is

Collecting, inputting and interpretting data into a spreadsheet

Understand how computers are used in the wider world

LKS2

Taking photographs and recordings to tell a story

Using software to edit and enhance their video

Understand vocabulary associated databases: field, record, data

Understand the pros and cons of digital v paper databases

Sorting and filtering databases to easily retrieve information

Creating and interpreting charts and graphs

Recognise how social media platforms are used to interact

Understand the purpose of e mails

Building a website

Use online software for presentations, forms and spreadsheets

Using key words to search the internet

Designing a device which gathers and records sensor data

Recording data in a spreadsheet

UKS2

Using logical thinking to explore software Using Scratch to produce music

Using video editing software to animate

Identify ways to improve and edit programs,

videos, images etc.

3D design to design a product

Develop searching skills

Understand how data is collected and used to tell us about a location

Forms of communication

Use search and word processing to create a presentation

Creating and editing videos adding multiple elements

Create a website with embedded links

Understand how search engines work

Gather and analyse data

Creating formulas and sorting data



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DIGITAL LITERACY

Digital literacy refers to the ability to use internet and communication technologies (ICT) to find, evaluate, use, and communicate online information. Through the process of gaining digital proficiency, children can strengthen their critical thinking skills and build a strong foundation for future endeavors.

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PROGRESSION

EYFS

Recognise that a range of technology is used at home and school

Learning how to log in and out.

KS₁

Logging in and out and saving information

When using the internet to search for images, learning what to do if they come across something online that worries them

Understand how to interact safely online

Recognise how actions on the internet can affect others

Recognise what a digital footprint is and how to be careful about what we 'post'

Identify whether information is safe or unsafe

How to create a strong password

Sharing online respectfully

Strategies for checking if something online is true

How to stay safe

LKS2

Recognise that different information is shared including facts, beliefs and opinions

Identifying reliable information when searching online

How to stay safe on social media

The impact technology has on mood

Cyberbullying

Understand not all e mails are genuine

Judging the accuracy of searches

Identify forms of advertising online

Recognise appropriate behaviour

Reflect on positive and negatives of time online Identify respectful and disrespectful online behaviour

Recognise that information online may not be

UKS2

Identify possible dangers online

Evaluate pros and cons of online communication Recognise that information online might not be true and how to check its validity

Understand how to deal with bullying online

Know how to use an online community safely Positives and negatives of sharing online

Strategies to create a positive online reputation

Importance of secure passwords and how to create them

Strategies to capture online bullying

Using search engine safely

Know that updated software can help to prevent data corruption and hacking