Computing Subject Journey

Year 1 -3

Horizon Academy Trust

Autumn Year 1

Improving mouse skills
Algorithms unplugged

Improving mouse skills
Learning how to login and navigate around a computer; developing mouse skills; learning how to drag, drop, click and control a cursor to create works of art
Algorithms unplugged
Algorithms, decomposition and debugging are made relatable to familiar contexts, following directions, learning why instructions need to be specific.

Spring Year 1

Rocket to the moon
Programming Bee-Bots

Rocket to the moon
Developing keyboard and mouse skills through designing, building and testing. Creating a digital list of materials, using drawing software and recording data.
Programming Bee-Bots
Introducing programming through the use of a Bee-Bot and exploring its functions.

Summer Year 1

Digital imagery
Introduction to data

Digital imagery
Taking and editing photos, searching for and adding images to a project. Introduction to data
Introduction to data
Learning what data is and the different ways it can be represented. Learning why data is useful and the ways it can be gathered and recorded.

Autumn Year 2

What is a computer?
Algorithms and debugging

What is a computer?
Exploring what a computer is by identifying how inputs and outputs work and how computers are used in the wider world to design their own computerised invention.
Algorithms and debugging
Developing an understanding of; what algorithms are, how to program them and how they can be developed to be more efficient, introduction of loops.

Spring Year 2

Word processing
ScratchJr

Word processing
Developing touch typing skills, learning keyboard shortcuts and simple editing tools.
ScratchJr
Exploring what 'blocks' do' by carrying out an informative cycle of predict > test > review. Programming a familiar story and make a musical instrument.

Summer Year 2

Stop Motion
International Space Station

Stop Motion
Learning how to create simple animations from storyboarding creative ideas.
International Space Station
Learning how data is collected, used and displayed and the scientific learning of the conditions needed for plants and humans, to survive.

Autumn Year 3

Networks and the internet
Scratch

Networks and the internet
Learning what a network and how devices communicate and share information.
Scratch
Exploring the programme Scratch, following the predict > test > review cycle. Learning about 'loops' and programming an animation, story and game.

Spring Year 3

Emailing
Journey inside a computer

Emailing
Sending emails with attachments and understanding what cyberbullying is.
Journey inside a computer
Assuming the role of computer parts and creating paper versions of computers to consolidate understanding of how a computer works

Summer Year 3

Video trailers
Comparison cards databases

Video trailers
Developing digital video skills to create trailers, with special effects and transitions.
Comparison cards databases
Learning about records, fields and data and sorting and filtering data.

Computing Subject Journey

Year 4 -6

Autumn Year 4

Collaborative learning
Further coding with Scratch

Collaborative learning
Learning how to work collaboratively and exploring a range of collaborative tools.
Further coding with Scratch
Revisiting the key features and beginning to use 'variables' in code scripts.

Spring Year 4

Website design
HTML

Website design
Learning how web pages and sites are created and how to embed media and links.
HTML
Learning about the markup language behind a webpage; becoming familiar with HTML tags, changing HTML and CSS code to alter images and 'remix' a live website.

Summer Year 4

Computational thinking
Investigating weather

Computational thinking
Solving problems effectively using the four areas of abstraction, algorithm design, decomposition and pattern recognition.
Investigating weather
Researching and storing data on spreadsheets and designing a weather station.

Autumn Year 5

Search engines
Programming music

Search engines
Learning about how page rank works and how to identify inaccurate information.
Programming music
Building-on programming and music skills to create different sounds, beats and melodies which are put to the test with a Battle of the Bands performance!

Spring Year 5

Mars Rover 1
Micro:bit

Mars Rover 1
Learning about the Mars Rover, exploring how and why it transfers data including instructions, and how messages can be sent using binary code.
Micro:bit
Creating algorithms and programs that are used in the real world. Using the 'predict, test and evaluate' cycle to create and debug programs with specific aims.

Summer Year 5

Stop motion animation
Mars Rover 2

LStop motion animation
Creating animations, storyboard ideas and decomposing a story into small parts before putting together to create the illusion of a moving image.
Mars Rover 2
Exploring how the Mars rover: moves, follows instructions, collects and sends data; understanding how computers work, what data is and how it is transferred.

Autumn Year 6

Bletchley Park
Intro to Python

Bletchley Park
Discovering the history of Bletchley and learning about code breaking and password hacking. Demonstrating digital literacy skills by creating presentations.
Intro to Python
Using the programming language 'Python' to create designs and art. Learning how to create loops and nested loops to make their code more efficient.

Spring Year 6

Big data 1
History of computers

Big data 1
Identifying how barcodes and QR codes work. Learning how infrared waves are used for the transmission of data while recognising the uses of RFID.
History of computers
Writing, recording and editing radio plays set during WWII, learning about how computers have evolved.

Summer Year 6

Big data 2
Inventing a product

Big data 2
Further developing understanding of how networks and the Internet are able to share information. Learning how big data can be used to design smart buildings.
Inventing a product
Designing a product, pupils: evaluate, adapt and debug code to make it suitable for their needs and designing products in CAD and

High end points in Computing

By the end of Y6 children will...

Horizon Academy Trust

Digital Literacy
E-safety

use technology safely, repsonsibly and respectfully

recongise acceptable and unacceptable behaviour

know a range of ways to report concerns and inapprorpriate behaviour

be discerning in evaluating ditial content

understand the opportunities networks offer for communication and collaboration

Computer Science

Problem solving
- design, write and debug programs and accomplish specific goals
- control or simulate physical systems
- solve problems by decomposing them into smaller parts

Programming
- sequence, selection, and repetition in programs and to work with variables
- work with various forms input and output

Logical thinking
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in programs
- understand computer networks including the internet
- understand how networks can provide multiple services, such as the world wide web

Information technology

Creating content
- select, use and combine a variety of software (including internet services) on a range of digital devices
- design and create a range of programs, systems and content that accomplish given goals
- collect, analyse, present and evaluate data and information

Searching
- Use search technolgies effectively
- appreciate how search results are selected and ranked