Murdishaw West Community Primary School
Computing Curriculum Overview

Year 3 Computing: Networks and the internet

The **BIG** Picture

Introduction to the concept of networks, learning how devices communicate. Identifying components, learning how information is shared and exploring examples of real-world networks.

NC Objectives- Key Stage 2

Pupils should be taught:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;
- solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Unit Outcome

Pupils who are **secure** will know how to:

•Use computers more purposefully

•Log in and navigate around a computer

•Drag, drop, click and control a cursor using a mouse

•Use software tools to create art on the computer

Key vocabulary

Log in	Login
Log out / off	Mouse
Mouse pointer	Click
Keyboard	Screen
Password	Account
Software	Duplicate
Ctrl	Tools
Right click	Menu
Layers	Username
Drag	Drag and drop
Digital photograph	Undo
	Cursor

Key Skills

•Learning how to explore and tinker with hardware to find out how it works.
•Learning where keys are located on the keyboard.
•Using a basic range of tools within graphic editing software.
•Developing control of the mouse through dragging, clicking and resizing of images to create different effects.
•Developing understanding of different software tools.
•Recognising devices that are connected to the internet.
•Logging in and out and saving work on their own account.

Key Knowledge

To know that:
•"log in" and "log out" means to begin and end a connection with a computer
•A computer and mouse can be used to click, drag, fill and select and also add backgrounds, text, layers, shapes and clip art.
•Passwords are important for security and to keep us safe.

Murdishaw West Community Primary School
Computing Curriculum Overview

Year 3 Computing: Programming

The **BIG** Picture

Building on the use of the 'ScratchJr' application in Year 2, progressing to using the more advanced computer-based application called 'Scratch', learning to use repetition or 'loops' and building upon skills to program; an animation, a story and a game.

NC Objectives- Key Stage 2
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Unit Outcome

Pupils who are **secure** will be able to:

•Explain what some of the blocks do in Scratch.

•Explain what a loop is and include one in their program.

•Suggest possible additions to an existing program.

•Recognise where something on screen is controlled by code.

•Use a systematic approach to find bugs.

•Explain what an algorithm is and its purpose.

Key vocabulary

Algorithm
Application
Code block
Debug
Interface
Loop
Program
Repetition code
Scratch
Animation
Code
Coding application
Decompose
Game
Predict
Remixing code
Review
Sprite
Tinker

Key Skills

•Using decomposition to explore the code behind an animation.

• Using repetition in programs.

• Using logical reasoning to explain how simple algorithms work.

• Explaining the purpose of an algorithm.

• Forming algorithms independently.

• Using logical thinking to explore more complex software; predicting, testingand explaining what it does.

• Incorporating loops to make code more efficient.

• Continuing existing code.

• Making reasonable suggestions for how to debug their own and others' code.

Key Knowledge

•To know that Scratch is a programming language and some of its basic functions.

•To understand how to use loops to improve programming.

•To understand how decomposition is used in programming.

•To understand that you can remix and adapt existing code.

Murdishaw West Community Primary School
Computing Curriculum Overview

Year 3 Computing: Emailing

The **BIG** Picture

Learning how to send and edit emails, add attachments and how to be a responsible digital citizen by thinking about the contents of what is sent.

NC Objectives- Key Stage 2

Pupils should be taught:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;
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Unit Outcome

Pupils who are **secure** will be able to:

- Log in and out of email.
- Send a simple email with a subject plus 'To' and 'From' in the body of the text.
- Edit an email.
- Type in the email address correctly and send the email.
- Add an attachment to an email.
- Write an email using positive language, with an awareness of how it will make the recipient feel.
- Recognise unkind behaviour online and know how to report it.
- Offer advice to victims of cyberbullying.
- Recognise when an email may be fake and explain how they know.

Key vocabulary

Attachment
Bcc (Blind carbon copy)
Cc (Carbon copy)
Compose
Content
Cyberbullying
Document
Domain
Download
Email
Email account
Email address
Emoji
Emotions
Fake
Font
Genuine
Hacker
Icons
Inbox
Information
Link
Log in
Log out
Negative language
Password
Personal information
Positive language
Reply
Responsible digital citizen
Scammer
Settings
Send
Sign in
Spam email
Subject bar
Theme
Tone
Username
Virus
WiFi

Key Skills

- Learning to log in and out of an email account.
- Writing an email including a subject, 'to' and 'from'.
- Sending an email with an attachment.
- Replying to an email.
- Understanding the purpose of emails.
- Learning about cyberbullying.
- Learning that not all emails are genuine, recognising when an email might be fake and what to do about it.

Key Knowledge

- To understand that email stands for 'electronic mail.'
- To know that an attachment is an extra file added to an email.
- To understand that emails should contain appropriate and respectful content.
- To know that cyberbullying is bullying using electronics such as a computer or phone.

Murdishaw West Community Primary School
Computing Curriculum Overview

Year 3 Computing: Journey inside a computer

The **BIG** Picture

Assuming the role of computer parts and creating paper versions of computers helps to consolidate an understanding of how a computer works, as well as identifying similarities and differences between various models.

NC Objectives- Key Stage 2

Pupils should be taught:

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Unit Outcome

Pupils who are **secure** will be able to:

•Recognise inputs and outputs and that the computer sends and receives information.

•Explain that the parts of a laptop work together and the purpose of each part.

•Explain what an algorithm is.

•Suggest what memory is for inside a computer.

•Make comparisons between different types of computer.

Key vocabulary

Algorithm
Assemble
CPU (central processing unit)
Data
Decompose
Desktop
Disassemble
GPU (graphics processing unit)
Hard drive
HDD (hard disk drive)
Infinite loop
Input
Keyboard
Laptop
Memory
Microphone
Monitor
Mouse
Output
Program
RAM (random access memory)
Storage
Technology
Touchpad
Photocopier
QR Code
ROM (read only memory)
Tablet device
Touchscreen

Key Skills

•Understanding what the different components of a computer do and how they work together.

•Drawing comparisons across different types of computers.

•Using decomposition to explain the parts of a laptop computer.

•Explaining the purpose of an algorithm

Key Knowledge

•To know the roles that inputs and outputs play on computers.

•To know what some of the different components inside a computer are e.g. CPU, RAM, hard drive, and how they work together.

•To know what a tablet is and how it is different from a laptop/desktop computer.

Murdishaw West Community Primary School
Computing Curriculum Overview

Year 3 Computing: Video trailers

The **BIG** Picture

Developing filming and editing video skills through the storyboarding and creation of book trailers.

NC Objectives- Key Stage 2

Pupils should be taught:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;
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Unit Outcome

Pupils who are **secure** will be able to:

- Describe the purpose of a trailer.
- Create a storyboard for a book trailer.
- Consider camera angles when taking photos or videos.
- Import videos and photos into film editing software.
- Add text to a video.
- Incorporate transitions between images.
- Evaluate their own and others' trailers.

Key vocabulary

Application
Clip
Edit
Fade to white
Film editing software
Import
Music
Plan
Slide
Storyboard
Trailer
Video
Camera angle
Cross dissolve
Fade to black
Film
Graphics
Key events
Photo
Recording
Sound effects
Time code
Transition
Voiceover
Wipe

Key Skills

- Using logical thinking to explore more complex software; predicting, testing and explaining what it does.
- Taking photographs and recording video to tell a story.
- Using software to edit and enhance their video adding music and text on screen with transitions.

Key Knowledge

- To know that different types of camera shots can make my photos or videos look more effective.
- To know that I can edit photos and videos using film editing software.
- To understand that I can add transitions and text to my video.

Murdishaw West Community Primary School
Computing Curriculum Overview

Year 3 Computing: Comparison cards databases

The **BIG** Picture

Using the theme of a 'Comparison card game' to understand what a database is. Learning the meanings of records, fields and data. Further exploration will lead to the development of the ideas of sorting and filtering.

NC Objectives- Key Stage 2

Pupils should be taught:

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Unit Outcome

Pupils who are **secure** will be able to:

•Explain what is meant by 'field,' 'record,' and 'data.'

•Compare paper and computerised databases.

•Put values into a spreadsheet.

•Sort, filter and interpret data in a spreadsheet.

•Create a graph on Google Sheets.

•Explain the purpose of visual representations of data.

Key vocabulary

Categorise	Category
Chart	Data
Database	Excel
Fields	Filter
Graph	Information
Interpret	PDF
Questionnaire	Record
Representation	Sort
	Spreadsheet

Key Skills

•Using logical thinking to explore more complex software; predicting, testing and explaining what it does.

•Understanding the vocabulary associated with databases: field, record, data.

•Learning about the pros and cons of digital versus paper databases.

•Sorting and filtering databases to easily retrieve information.

•Creating and interpreting charts and graphs to understand data.

Key Knowledge

•To know that a database is a collection of data stored in a logical, structured and orderly manner.

•To know that computer databases can be useful for sorting and filtering data.

•To know that different visual representations of data can be made on a computer.

Murdishaw West Community Primary School
Computing Curriculum Overview

Year 3 Computing: Online safety

The **BIG** Picture

Learning about online safety: 'fake news', privacy settings, ways to deal with upsetting online content, protecting our personal information on social media.

NC Objectives- Key Stage 2

Pupils should be taught:

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Unit Outcome

Pupils who are **secure** will be able to:

•Differentiate between fact, opinion and belief online.

•Explain how to deal with upsetting online content.

•Recognise that digital devices communicate with each other to share personal information.

•Explain what social media platforms are used for.

•Recognise why social media platforms are age-restricted.

Key vocabulary

Accurate
Autocomplete
Block
Digital devices
Fake news
Opinion
Persuasive
Reliable
Requests
Security questions
Smart devices
Social networking
Age-restricted
Beliefs
Content
Fact
Internet
Password
Privacy settings
Report
Search engine
Sharing
Social media platforms
Wellbeing

Key Skills

•Recognising how social media platforms are used to interact.

•Recognising that different information is shared online including facts, beliefs and opinions.

•Learning how to identify reliable information when searching online.

•Learning how to stay safe on social media.

•Considering the impact technology can have on mood.

Key Knowledge

•To know that not everything on the internet is true: people share facts, beliefs and opinions online.

•To understand that the internet can affect your moods and feelings.

•To know that privacy settings limit who can access your important personal information, such as your name, age, gender etc.

•To know what social media is and that age restrictions apply.