

National Curriculum: Computing

Topics

Key Vocabulary

Pupils should be taught to:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
- create and debug simple programs.
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content.
- recognise common uses of information technology beyond school.
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Internet Safety

The internet can be amazing, helping us learn, play games and speak to other people. We need to make sure we are safe from people upsetting us and also understanding the danger



Personal information - This is information about us, including our name, address, telephone number or passwords. We need to make sure that we do not put this information on the internet for people we do not know.

Sharing - The internet allows us to post photos and videos online for others to see, this is called sharing.

Permission - If we have taken a photo of video of someone else then we need to ask their permission before posting it online.


Report - If we see something online that upsets us or we think is wrong then we need to tell an adult we trust.

Trust - Not everything that we see on the internet is correct and should be trusted.

Respect - When we are talking to people online then we need to make sure we being kind and respectful.

Mouse & Keyboard Skills

We can control a computer in different ways, including touching the screen on a device such as an iPad or with a keyboard for typing letters and numbers. A mouse or trackpad is used to select and move objects on the screen. We need a keyboard to type letters and numbers onto the screen.



Mouse - used to select objects and move them around on the screen.

Trackpad - On a laptop, the trackpad is a touch area below the keyboard that controls the cursor on the screen.

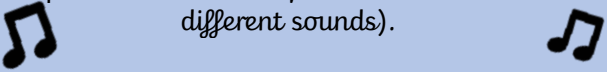
Cursor - An arrow on the screen that is controlled by a mouse or trackpad.

Scroll wheel - On some computer mice there is wheel between the buttons that is use to move up and down the page quickly.

Home row - The middle row of letters on a keyboard and where you position your fingers to start typing.

Music Creation

A lot of music is now created using a computer so it is important to understand how this is done and why musicians use computers sometimes instead of really instruments (computers can make it quicker to make music and use lots of different sounds).



Rhythm - This is the beat of the music and sets how quick or fast the music is played. The drums are the usual instrument to control the rhythm.

Melody - A sequence of notes played to make a tune. The singer usually sings the melody.

Tempo - The speed of the music (tempo) can be changed to make it quicker or slower.

Introducing Programming

When we use computers and digital devices there is a sequence of instructions that the device has to follow to make it work. This is called a program. When you press a key on the keyboard and the letter or number appears on the screen, the computer has followed a program of instructions.



Sequence - Place instructions one after the other in the correct order, such as the sequence of lights on a traffic light.

Algorithm - Place a sequence of instructions in the correct order to make something work.

Predict - Work out what will happen before we try it.

Execute - Run the program to see if it works.

Debug - If the program does not work, can we find the error and correct it.

| Topic: Mouse & Keyboard Skills | | Term: Autumn 2023 |
|---|---|--------------------------|
| 1 | Can you move the mouse or trackpad and left click to select an object? | |
| 2 | Can you drag and drop with mouse or trackpad to move objects around the screen? | |
| 3 | How can you use touch typing with home row keys? | |
| Topic: Music Creation | | Term: Spring 2024 |
| 1 | What sounds do different instruments make and how can these instruments be grouped? | |
| 2 | How can we create a rhythm using a pattern of beats and digital sounds using patterns and shapes? | |
| 3 | Can you create a simple melody using patterns and adjust tempo? | |
| Topic: Introducing Programming | | Term: Summer 2024 |
| 1 | How can we place instructions into the correct order (sequence) to make something work? | |
| 2 | Can you use the direction arrows to move an on-screen object? | |
| 3 | How can we predict a route and the sequence direction of commands (algorithm)? | |
| 4 | How can we sequence code blocks, including movements and execute (start program) blocks to write a program? | |