

# Seamer and Irton CP School – Computing (H.Griffiths)

**Topic – Connecting Computers**

**Year 3  
Autumn 1**

**Strand – Computing Systems and Networks**

## Prior Learning

In Year 2 – Information Technology Around Us – Autumn 1 learners developed their understanding of what information technology (IT) is and began to identify examples. They discussed where they have seen IT in school and beyond, in settings such as shops, hospitals, and libraries. Learners then investigated how IT improves our world, and they learnt about the importance of using IT responsibly.

## Key Knowledge I need to understand

### I need to understand that:

**Digital devices are things made for a particular purpose, that use processing.**

**Digital devices have an input, process, and output (IPO). -Information and data can be shared across networks.**

**Many devices are used to create networks.**

Learners will develop their understanding of digital devices, with an initial focus on inputs, processes, and outputs. They will also compare digital and non-digital devices. Next, learners will be introduced to computer networks, including devices that make up a network's infrastructure, such as wireless access points and switches. Finally, learners will discover the benefits of connecting devices in a network.

## How I will show what I have learned

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|--|---|
| To explain how digital devices function                            | <ul style="list-style-type: none"> <li>- I can explain that digital devices accept inputs</li> <li>- I can explain that digital devices produce outputs</li> <li>- I can follow a process</li> </ul>  |
| To identify input and output devices                               | <ul style="list-style-type: none"> <li>- I can classify input and output devices</li> <li>- I can model a simple process</li> <li>- I can design a digital device</li> </ul>  |
| To recognise how digital devices can change the way we work        | <ul style="list-style-type: none"> <li>- I can explain how I use digital devices for different activities</li> <li>- I can recognise similarities between using digital devices and non-digital tools</li> <li>- I can suggest differences between using digital devices and non-digital tools</li> </ul> |
| To explain how a computer network can be used to share information | <ul style="list-style-type: none"> <li>- I can recognise different connections</li> <li>- I can explain how messages are passed through multiple connections</li> <li>- I can discuss why we need a network switch</li> </ul>   |
| To explore how digital devices can be connected                    | <ul style="list-style-type: none"> <li>- I can recognise that a computer network is made up of a number of devices</li> <li>- I can demonstrate how information can be passed between devices</li> <li>- I can explain the role of a switch, server, and wireless access point in a network</li> </ul>    |
| To recognise the physical components of a network                  | <ul style="list-style-type: none"> <li>- I can identify how devices in a network are connected together</li> <li>- I can identify networked devices around me</li> <li>- I can identify the benefits of computer networks</li> </ul>  |

### What vocabulary I need to know

Digital device, input, process, output, program, digital, non-digital, connection, network, network switch, server, wireless access point, network cables, network sockets

The following Glossary may be useful

<https://icompute-uk.com/ewExternalFiles/iCompute-Glossary.pdf>

### What's next

In Year 4 – Autumn 1 - **The Internet**, learners will apply their knowledge and understanding of networks, to appreciate the internet as a network of networks which need to be kept secure. They will learn that the World Wide Web is part of the internet and will be given opportunities to explore the World Wide Web for themselves in order to learn about who owns content and what they can access, add, and create. Finally, they will evaluate online content to decide how honest, accurate, or reliable it is, and understand the consequences of false information.

## Assessment

### National Curriculum Computing links

- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- 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
- 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

### Cross Curricular links

#### Maths (Lesson 1)

- **Number and place value:** solve number problems and practical problems involving these ideas.

#### Art (Lesson 3)

- to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay]

## Assessment

**Formative assessment** opportunities are highlighted in each of the lesson plan documents

**Summative assessment** document included - multiple choice questions. This should be used, alongside teacher judgement, to complete summative assessment on ScholarPack

<https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-connecting-computers>

### Teacher Subject Knowledge

You will need digital devices for learners to interact with during this unit. You will also need to know where the school's server, switch, and wireless access points are located.

You will need an understanding of digital and non-digital devices. The key difference between them is that a digital device is capable of some processing, i.e. it has functions beyond being either on or off. You will also need to be familiar with the concept of input, process, output (IPO), which underpins all digital devices. You will need to understand that devices can have one input that leads to several outputs (e.g., Starting a video leads to outputs from the screen and the speaker) and that many inputs can lead to one output (e.g., using a mouse and a keyboard to produce a document).

You will need a basic understanding of how information (data) flows around a computer network, and how this benefits us. You will also need to know that a network switch manages the way in which data moves around a network. You will need to be familiar with the main parts of a school network, including the server, wireless access points, network switch, router, and output devices such as a printer or copier.