

# Bomere and the XI Towns Federation Knowledge Organiser - Computing

Topic: Computing systems and networks -  
Systems and searching

Class/Year Groups: Wrekin

Term: Autumn

## What you already know?

This unit progresses learners' knowledge and understanding of computing systems. This unit progresses students' knowledge and understanding of the internet from that developed in the Year 4 The Internet unit In Year 6, they will continue to develop their knowledge and understanding of the internet, looking at how data is transferred and how the internet facilitates communication and collaboration online.

## What you will learn:

### Transferring Information

#### Protocols and Packets

-Protocols are an agreed way of doing something. When we communicate, we use an agreed set of protocols (greeting, speaking, listening, etc.).

-In computing, agreed protocols are the way that computers communicate with one another.

-The digital information they send is called a 'packet.'



#### IP Addresses

-Computers and their users are not always in the same place as one another.

With billions of computers around the world, computers need to send the information to the correct place.

-To do this, computers use special addresses called IP addresses. They may look like this:

From: 216. 58. 1. 214

To: 216. 64. 1. 20

My IP Address  
63.255.173.183



### Working Together

-Collaborating is another word for working together on something, to reach a shared goal.

-The internet can be used to help people collaborate online, even when they are a long distance apart!

-'Chat' functions can be used keep each other updated with new information.

-Shared 'cloud' spaces and online drives can allow one or more person to have access to/ edit documents.

-When building upon someone else's work, you need to be aware of copyright and intellectual property rules.



### Systems

-Systems are a set of things working together as parts of a whole.  
-Computer systems are made up of inputs (something that sends a message to the device), processes (the way the device acts on the message) and outputs (something that is sent out by the device). Below are some examples.

#### Washing Machine:

Input: Dials and buttons.

Process: The computer inside follows a program.

Output: The clothes are washed and the display shows the remaining time.



#### DVD Player:

Input: The disc is inserted and play is pressed on the remote.

Process: The system reads the information on the disc

Output: The screen displays the movie/ show.



#### Smart Locker:

Input: The customer scans in a barcode.

Process: The code is recognised by the system.

Output: The correct locker is opened.



## Vocabulary:

systems	a set of things working together as parts of a whole.
IP address	Computers and their users are not always in the same place as one another.  With billions of computers around the world, computers need to send the information to the correct place.  -To do this, computers use special addresses called IP addresses. They may look like this:  From: 216. 58. 1. 214  To: 216. 64. 1. 20
cloud	shared 'cloud' spaces and online drives can allow one or more person to have

## National Curriculum Objectives:

- 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

