

Subject: Computing	Year: 4 – Autumn 1 – Computer Systems & Networks – The Internet
<p>National Curriculum objectives</p> <ul style="list-style-type: none"> • 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. <p>PSHE (Lesson 6)</p> <ul style="list-style-type: none"> • Evaluating content for honesty and accuracy. <p>Managing online information</p> <ul style="list-style-type: none"> • I can analyse information to make a judgement about probable accuracy, and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others; • I can explain what is meant by fake news, e.g. why some people will create stories or alter photographs and put them online to pretend something is true when it isn't; • I can describe ways of identifying when online content has been commercially sponsored or boosted, (e.g. by commercial companies or by vloggers, content creators, or influencers); • I can describe how fake news may affect someone's emotions and behaviour, and explain why this may be harmful. 	
<p>To begin this unit, the children should have already learnt:</p> <p><u>KS1</u> Computers are a part of Information Technology, which is all around us and its responsible use improves our world in school and beyond. Rules and choices are needed when using information technology to stay safe.</p> <p><u>Year 3</u> Digital devices are devices that are capable of processing: they are underpinned by an IPO (input, process, output) and form part of a network, which is made of numerous devices. Information and data can be shared across networks.</p>	<p>The learning in this unit will prepare the children to learn these things in the future:</p> <p><u>Year 5</u> Information technology includes computers and other interconnected parts working together. Search engines are used to return information on the World Wide Web: these results are ranked based on the search engine's rules; the results from a search can also be influenced.</p> <p><u>Year 6</u> Data is shared over the internet in packets. The internet facilitates online communication and collaboration: different methods are available – it is important to choose the best strategy for a purpose. Communication can be public or private so choices about what to share must be made.</p>
<p>Key Enquiry Question How is information shared across the internet? What are the possible components of a network and how do they connect together to form the internet? What types of media can be shared on the World Wide Web? Where are websites stored? Why do you need to think carefully before sharing content? Why might some online information be dishonest, inaccurate or illegal?</p>	<p>The Big Idea: The internet is a network of networks which needs to be kept secure. The World Wide Web is part of the internet, and the content is owned by the creator and can be accessed, added to and deleted. However, not all content on the internet is reliable and children will learn to check sources to verify its reliability.</p>

To achieve ARE, pupils will need to be secure in the following knowledge:

By the end of this unit, children will know:

- How networks connect to other networks;
- How information can be shared via the World Wide Web, which is comprised of websites and webpages;
- How to access to the World Wide Web;
- The types of content/media that can be added, created, and shared on the World Wide Web;
- The World Wide Web is part of the internet;
- the internet enables us to view the World Wide Web;
- Security is needed on the internet to stay safe;
- The benefits of the World Wide Web.

Vocabulary:

Technology; man-made; digital; screen; mouse; keyboard; program; click; drag; e-safety; cursor; Information technology; device; barcode; scanner; communication; entertainment; appliances; signal (Introduced in KS1).

Digital device; input; output; process; connection; network; network switch; server; WAP (introduced in Y3).

Security; website; router; webpage; browser; domain; reliable; reliability; world wide web.

By the end of this unit, children will be able to do:

- To explain that the global interconnection of networks is the internet;
- To explain how the content of the World Wide Web is created, owned, and shared by people;
- To describe the limitations of the World Wide Web;
- To evaluate the reliability of content and the consequences of unreliable content.

Useful Resources:

Online training courses

[Raspberry Pi Foundation online training courses](#)

Videos

The YouTube video titled '[A Packet's Tale](http://www.youtube.com/watch?v=ewrBaIT_eBM)' (www.youtube.com/watch?v=ewrBaIT_eBM) provides an overview of networks and the internet.

That the [World Wide Web as part of the internet](#) is explained in this video:

www.bbc.co.uk/newsround/47523993

[Education for a Connected World links](#)

COMPUTING SYSTEMS AND NETWORKS KNOWLEDGE ORGANISER

Overview



The Internet

- You should also know that Information technology (I.T.) includes computers and things that work with computers.
- You should also know that information and data can be shared by devices across networks.
- The internet is a network of networks that is used around the world.
- The World Wide Web is a system on the internet that has websites and webpages.
- Some content is protected on the internet. It is important to know that not all information on the internet is accurate.

Networks and The Internet

- Networks connect different devices to one another, allowing for information sharing.
- Networks can also connect to other networks in different places, using a router.
- The internet is a network of networks that are all connected together.

Router: A router is something that finds a route between networks, connecting them.



The Internet: The internet is a network of networks, that is used around the world to share information and communicate.



Protection: Networks have security features that mean they can block or allow messages and requests. This means that information and data can be kept safe.




The World Wide Web

The World Wide Web

- The World Wide Web is the part of the internet where we can visit web pages and websites.
- Information can be shared in the form of things we can see or hear (e.g. things we can read, music, sounds, or videos, etc.).
- When we use the world wide web, routers help us to journey to different networks in different parts of the world.
- We can use traceroute tools to track the journey between routers.
- Web browsers, e.g. Google Chrome and Internet Explorer, let us look at different pages on the internet.

Website and Webpages

- Websites are a set of webpages.
 - Webpages may contain different features, e.g. a title, links to other pages, images, videos, and text.
 - Websites and webpages can be found using web addresses (domains), normally split into three parts:
1. www (world wide web).
 2. Name of the organisation/ topic.
 3. Type of organisation/ location.

 www.youtube.com

Ownership and Reliability

- The content on the internet may belong to different people or companies, for example the person who wrote it or the company who published it.
- The content may be copyrighted, meaning that others cannot copy or use it without permission.
- Not all of the information that we see or hear on the internet is reliable. Some of it may be inaccurate due to people lying or misunderstanding things.
- Inaccurate information can quickly spread. This has become known as 'fake news.' We should check multiple sources that we can trust to verify information.



Important Vocabulary

Network

Internet

World Wide Web

Router

Security

Website

Webpage

Browser

Domain

Reliable