

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

Topic – Systems and Searching

**Year 5
Autumn 1**

Strand – Computing Systems and Networks

Prior Learning	Key Knowledge I need to understand
<p>In Year 4 – Autumn 1 -The Internet learners applied their knowledge and understanding of networks and understood the internet as a network of networks which need to be kept secure. They learnt that the World Wide Web is part of the internet and were 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 evaluated online content to decide how honest, accurate, or reliable it is, and to understand the consequences of false information</p>	<p>I need to understand that:</p> <p>Information technology (I.T.) includes computers and things that work with computers.</p> <p>Computers have Input, Process and Output (IPO) components.</p> <p>Computer systems can communicate with other devices.</p> <p>Information can be found on the World Wide Web and searched via a number of search engines</p> <p>There are many, many different kinds of computer systems all around the world, ranging from small-scale to large scale.</p> <p>Learners develop their understanding of computer systems and how information is transferred between systems and devices. Learners consider small-scale systems as well as large-scale systems. They explain the input, output, and process aspects of a variety of different real-world systems. Learners discover how information is found on the World Wide Web, through learning how search engines work (including how they select and rank results) and what influences searching, and through comparing different search engines.</p>

How I will show what I have learned

To explain that computers can be connected together to form systems	<ul style="list-style-type: none"> - I can explain that systems are built using a number of parts - I can describe the input, process, and output of a digital system - I can explain that computer systems communicate with other devices
To recognise the role of computer systems in our lives	<ul style="list-style-type: none"> - I can identify tasks that are managed by computer systems - I can identify the human elements of a computer system - I can explain the benefits of a given computer system
To identify how to use a search engine	<ul style="list-style-type: none"> - I can make use of a web search to find specific information - I can refine my web search - I can compare results from different search engines
To describe how search engines select results	<ul style="list-style-type: none"> - I can explain why we need tools to find things online - I can recognise the role of web crawlers in creating an index - I can relate a search term to the search engine's index
To explain how search results are ranked	<ul style="list-style-type: none"> - I can order a list by rank - I can explain that a search engine follows rules to rank results - I can give examples of criteria used by search engines to rank results
To recognise why the order of results is important, and to whom	<ul style="list-style-type: none"> - I can describe some of the ways that search results can be influenced - I can recognise some of the limitations of search engines - I can explain how search engines make money

What vocabulary I need to know

System, connection, digital, input, process, output, protocol, address, packet, chat, explore, slide deck, reuse, remix, collaboration

The following Glossary may be useful

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

What's next

In **Year 6 –Autumn 1 - Communication** the class will learn about the World Wide Web as a communication tool. They will learn how we find information on the World Wide Web, through learning how search engines work (including how they select and rank results) and what influences searching, and through comparing different search engines. They will then investigate different methods of communication, before focusing on internet-based communication. Finally, they will evaluate which methods of internet communication to use for particular purposes.

Assessment

National curriculum Computing links

- 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
- 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
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Assessment

Formative assessment opportunities are highlighted in each of the lesson plan documents. The learning objective and success criteria will be introduced at the beginning of each lesson and then reviewed at the end. Learners should assess how well they feel they have met the learning objective using the teacher's chosen method.

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-sharing-information>

Online Safety

Education for a Connected World links

- I am aware that a person's online activity, history or profile (their 'digital personality') will affect the type of information returned to them in a search or on a social media feed, and how this may be intended to influence their beliefs, actions and choices.
- I can explain how search engine rankings are returned and can explain how they can be influenced (e.g. commerce, sponsored results)

Teacher Subject Knowledge

You will need to be familiar with the concept of a computerised locker. A computerised locker allows customers to collect parcels they have ordered online: There are a number of videos on YouTube showing 'smart lockers' or 'Amazon lockers'.

Digital systems are used in a wide range of public contexts, e.g. airport, rail, or bus station arrival and departure boards. You may wish to consider systems that might be familiar to learners in advance of the lesson.

You will need an awareness of internet searching and an understanding of the search engines. You will need an understanding of how to refine search terms to get more relevant results. You will need to be aware that there are two ways to conduct a web search: from within a search engine and using the address bar (omnibox). You will need to be aware of the key milestones in the development of the World Wide Web.

In this context, 'select' refers to how a search engine chooses the results to display. Search engines also 'rank' results that are selected.

You will need to know how search engines use web crawlers to create an index of the World Wide Web. There is a useful guide here: <https://www.bbc.co.uk/bitesize/topics/z7wtb9q/articles/ztbjq6f>

You will need to be aware that search engines use ranking to determine the order in which search results are displayed. You will also need to know that search engine optimisation (SEO) is applied to websites to help them rank as highly as possible.