Year 5 – Systems and searching

Unit introduction

Learners develop their understanding of computer systems and how information is transferred between systems and devices. Learners will consider how to keep their personal information safe online and what makes a trusted website. 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.

Overview of lessons

Lesson	Brief overview	Learning objectives
1 Systems	Learners are introduced to the concept of a system. They begin to understand that components can work together to perform a task. Finally, learners explore how digital systems can work and learn about physical and electronic connections.	To explain that computers can be connected together to form systems • 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

2 Computer systems and us	Learners consider how larger computer systems work. They see how devices and processes are connected, and reflect on how computer systems can help them. They also consider how to keep personal information safe online.	To recognise the role of computer systems in our lives • 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 • I can explain how to keep my personal information safe online.
3 Searching the web	Learners are introduced to a range of search engines. They are given the opportunity to explain how to search, before they write and test instructions. Next, they learn that searches do not always return the results that someone is looking for, and refine their searches accordingly. Finally, learners are introduced to the two most common methods of searching: using a search engine and using the address bar.	To identify how to use a search engine • 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 • I can explain why I should search trustworthy websites and not share any personal information online.
4 Selecting search results	Learners gain an understanding of why search engines are necessary to help them find things on the World Wide Web. They conduct their own searches and break down, in detail, the steps needed to find things on the web. Learners then emulate web crawlers to create an index of their own classroom. Finally, they consider why some searches return more results than others.	To describe how search engines select results • 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

5 How search results are ranked	Learners take part in an unplugged activity to find out about how a webpage's content can influence where it is ranked in search results. In groups, learners create paper-based web pages on a topic that they are familiar with. They then discover how their webpages would rank when searching for keywords relating to their content.	To explain how search results are ranked • 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
6 How are searches influenced?	Learners explore how someone performing a web search can influence the results that are returned, and how content creators can optimise their sites for searching. They also explore some of the limitations of searching and discuss what cannot be searched.	To recognise why the order of results is important, and to whom • 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

Progression

This unit progresses learners' knowledge and understanding of computing systems.

Please see the learning graph for this unit for more information about progression.

Curriculum links

[National curriculum links](#)
- 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

[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)

Assessment

Summative assessment
Please see the assessment question and answer documents for this unit.

Subject knowledge

Enhance your subject knowledge to teach this unit through the following free CPD:
- **[Getting started in Year 5 – short course](#)**
- **[Introduction to primary computing](#) [remote](#) or [face to face](#)**
- **[Teaching computing systems and networks to 5- to 11-year-olds](#)**

To further enhance your subject knowledge, enrol on the [primary certificate](#). This will support you to develop your knowledge and skills in primary computing and gain the confidence to teach great lessons, all whilst earning a nationally recognised certificate!

Resources are updated regularly — the latest version is available at: [ncce.io/tcc](#).

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