National Centre for Computing Education

Raspberry Pi

Year 5 – Systems and searching

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.	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	To identify how to use a search engine • I can make use of a web search to find specific information

	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.	• I can refine my web search • I can compare results from different search engines • I can recognise trustworthy websites
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 webpages 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