



Computing

Year 5

Term 1

Systems and Networks: Sharing Information

Key Question: What is a system and how are they used to find and share information?

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
- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

Vocabulary

System, connection, digital, input, process, output, search, search engine, refine, index, crawler, bot, ordering, ranking, links, algorithm, search engine optimisation (SEO), searching, web crawler, content creator, selection, ranking

Prior Learning:

- This unit continues the children's learning of Systems and Networks in Y3 and 4. The children have learnt what a network is made up of and how networks can be connected together. They have also learnt what the internet and world wide web are.
- The children should understand the difference between input and outputs from Y3 systems unit and through integration of this vocabulary in other units.
- In Year 2 (History unit) the children were introduced to Tim Berners Lee who invented the World wide Web and this will be recapped in lesson 4.
- In lesson 4 data centres will be discussed, the children were introduced to these in the Year 4 Systems unit.

End Point:

Complete end of unit assessment quiz

Safe and Responsible Use:

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

Digital Literacy Skills:

- Use a range of devices (iPads and laptops)
- Use an internet browser
- Use a web address bar
- Use a search box
- open, resize, reorganise and close windows,

Knowledge:

I know:

- a system is a set of interconnected parts which work together
- computers can be connected together to form IT systems
- data can be transferred between IT systems
- a computer system features inputs, processes, and outputs
- search engines are examples of large IT systems
- different search terms produce different results
- search engines create indices, and that they are different for each search engine
- the role of web crawlers in creating an index
- how search results are selected
- that ranking orders search results to make them more useful
- ranking is determined by rules, and that different search engines use different rules
- why the order of results is important and to whom
- how search engines make money by selling targeted advertising space
- some of the limitations of search engines

Skills:

I can:

- recognize inputs, processes, and outputs in large IT systems
- describe the role of a particular IT system in their lives
- describe the input and output of a search engine
- use a web search to find specific information
- refine my web search
- compare results from different search engines
- Use quote marks "" when searching to return results for the whole phrase.
- evaluate the results of search terms

Cross Curricular Links:

- *Search questions could be linked to any wider curriculum topic.*
- *Lesson 5 - English - use an index to find information*

Oracy:

- Provide sentence stems for children to use when constructively feeding back to one another about the effectiveness of their work, e.g. instructions for searching.
- Collaborative small group learning to create own paper based 'web-pages'. Consider whether to assign roles. Provide sentence stems for exploratory talk.

Key Questions:

1. **How can a secure password help you protect your private information?**
2. What is a system?
3. How do computer systems work?
4. What is a search engine and how are they used?
5. How are search engine results selected?
6. How are search results are ranked?
7. How are searches influenced?