**Independent Home Learning**

Whilst you are unable to be learning in school, please complete the following online lessons provided by the Oak National Academy to all you to continue learning and making progress, provided you are well enough to do so. Completed work can be emailed to your class teacher for feedback.

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| Year Group: | 8 | Subject | IT |

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| Lesson | Description and link |
| 1 | **Computer networks and protocols**  In this lesson, you will contemplate the number of internet connected devices on the planet and define a computer network. You will learn about the rules of communication (protocol) in simple terms and think about how data is transmitted across the internet.  [Computer networks and protocols (thenational.academy)](https://classroom.thenational.academy/lessons/computer-networks-and-protocols-6mvk2t) |
| 2 | **Networking hardware**  This lesson explores the functionality of key hardware components found in a network. The lesson covers network cables, hubs, servers and routers. Each is explained in turn, and you will then use your knowledge of each component to build a series of increasingly complicated network diagrams.  [Networking hardware (thenational.academy)](https://classroom.thenational.academy/lessons/networking-hardware-c4u32t) |
| 3 | **Wired and wireless networks**  This lesson explores the different wireless technologies, and how bandwidth varies between these technologies. You will discuss the mobile technologies of 3G, 4G, and 5G and will develop an understanding of the term ‘bandwidth’. You will also develop an appreciation for online activities that are bandwidth-heavy, before moving on to explore the advantages and disadvantages of wired and wireless networks.  [Wired and wireless networks (thenational.academy)](https://classroom.thenational.academy/lessons/wired-and-wireless-networks-c9gp2c) |
| 4 | **The internet**  This lesson explores the internet and its uses. Students will gain an appreciation of the vastness of the internet and learn how messages can be successfully sent from one device to another across the planet in under a second using packets and IP addresses.  [The internet (thenational.academy)](https://classroom.thenational.academy/lessons/the-internet-cgv3ac) |
| 5 | **Internet services**  This lesson explores the internet and its services as well as the difference between the internet and the World Wide Web. Students will explore the 'Internet of Things' and think about the advantages as well as disadvantages, focussing on privacy and security.  [Internet services (thenational.academy)](https://classroom.thenational.academy/lessons/internet-services-71hkgc) |
| 6 | The World Wide Web  In this lesson, the key components of the World Wide Web are introduced. Students will understand the difference between HTTP and HTTPS protocols.  [The World Wide Web (thenational.academy)](https://classroom.thenational.academy/lessons/the-world-wide-web-6ww64t) |

Equipment required:

* Laptop;
* Pen, pencil and paper;
* Calculator;
* Dictionary;
* Highlighter.

If you have any questions, please email your class teacher.

**IT & Computing Teachers:**

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