National Centre for Computing Education

Raspberry Pi

Year 6 – Communication and collaboration

Lesson	Brief overview	Learning objectives
L1 Internet addresses	Learners explore what is necessary for effective communication and the importance of agreed protocols. They apply this understanding to IP addresses and the rules (protocols) that computers have for communicating with one another. Learners also use a Domain Name Server (DNS) to translate web addresses into IP addresses.	To explain the importance of internet addresses • I can recognise that data is transferred using agreed methods • I can explain that internet devices have addresses • I can describe how computers use addresses to access websites
L2 Data packets	Learners are introduced to the concept of packets. They complete an activity based on transferring an image across the internet, to see that as well as messages (text), other types of data (images, video, and audio) are also transferred over the internet. They gain an understanding of the key parts of a packet: the header and the data payload.	To recognise how data is transferred across the internet • I can identify and explain the main parts of a data packet • I can explain that data is transferred over networks in packets • I can explain that all data transferred over the internet is in packets
L3 Working together	Learners consider how people can work together when they are not in the same location. They discuss ways of working and complete a collaborative online project. The online activity assumes that learners can make simple slides, including text and images. If your	To explain how sharing information online can help people to work together • I can recognise how to access shared files stored online

	learners are unsure how to do this, you may wish to spend some time on the Year 3 – 'Desktop publishing' unit before this lesson.	• I can send information over the internet in different ways • I can explain that the internet allows different media to be shared
L4 Shared working	Learners are introduced to another approach to online working: reusing and modifying work done by someone else. (**Note:** Using someone else's work needs to be within the bounds of copyright and with the relevant permissions.) This lesson involves the Scratch programming tool, which allows learners to use other people's work.	To evaluate different ways of working together online • I can identify different ways of working together online • I can recognise that working together on the internet can be public or private • I can explain how the internet enables effective collaboration
L5 How we communicate	Learners deepen their understanding of the term 'communication'. They explore different methods of communication, before they consider internet-based communication in more detail. Finally, learners evaluate which methods of communication suit particular purposes.	To recognise how we communicate using technology • I can explain the different ways in which people communicate • I can identify that there are a variety of ways to communicate over the internet • I can choose methods of communication to suit particular purposes
L6 Communicating responsibly	Learners use information provided in the lesson and their own prior knowledge to categorise different forms of internet communication. They then choose which method(s) they would use for the scenarios discussed in the previous lesson. Through these activities, learners explore issues around privacy, information security and how to report concerns about inappropriate content online.	To evaluate different methods of online communication • I can compare different methods of communicating on the internet • I can decide when I should and should not share information online • I can explain that communication on the internet may not be private

		• I can explain how to report inappropriate content online