



Junior
omputer



code-it.co.uk

cience

Connecting the Internet

LO To understand how the Internet connects into the home and how a web page is accessed across the Internet

Approximate Time to do

30 minutes depending on detail of Internet maps

Computing National Curriculum

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

Useful Background Information

The Internet comprises of all of the wires and routers (boxes that route information) connecting networks around the world. Internet devices communicate using a language called TCP/IP. The World wide web is only one of the services that use the Internet others include email, streaming video, voice chat (Skype), file transfer services (FTP) etc. Pupils don't need to know all of this by the end of the lesson but it is good to know.

Introduction

Ask pupils if they have ever wondered where web pages live and how we get to view them on our phones, tablets and PCs. Explain that you are going to show them but they must listen carefully as they will be making a map of what happens later.

Load up the [online Prezi Network of Networks Mark 2](#) load it full screen and follow these slides and commentary

Title Page

Slide 1 Home We all live in different types of homes and flats and many of us have Internet access

Slide 2 Home Network Lots of us have a box called a router, that brings the Internet into our homes. Ask pupils if they know who provides that service in their home? (BT, Virgin, Sky, Talk Talk are a few of the more well known Internet Service Providers (ISP)

Now choose one of the boys or girls who has a similar hair style to the cartoons and explain that they have just clicked on the Moshi Monsters web link. This sends a packet of data into the home router.

Slide 3 Phone Lines The packet travels down the phone lines to the Internet Service Provider Router

Slide 4 Internet Service Provider Router Here the packet is routed out to other routers in the UK

Slide 5 UK Routers Moshi Monsters is not on these routers so the packet is routed across the ocean to the United States of America

Slide 6 Cables under the sea The packet travels as light across the ocean floor on high speed fibre optic cable.

Resources

- Online [Prezi](#) of the route from the home to a website and back
- [Internet stickers](#)
- [Internet sticker A3 background](#)
- or
- [A3 background part created](#)
- [Packet Tale You Tube Video](#)



Connecting the Internet 2

Slide 7 Overview In reality there are millions of Internet routers across the world so many that mapping them is difficult.

Slide 8 American Routers Our packet finds the right server (large computer that is on all the time) and asks for the Moshi Monster home page. The page is too big for one packet as it has pictures on it. So the page is broken into lots of packets all with their own unique number and order. These are then routed back to x pupils home.

Now run through all the slides using the left arrow on the keyboard to get back to the home device explaining the steps as you go.

Now show pupils a [packets tale](#) which is an excellent video about how we in the UK view an American Website.

Mapping the Internet

Now hand out the A3 background planners and stickers or just hand out the part complete planner to draw on. Pupils work in pairs to map the Internet.

They can name the web sites and services that they use as they write these in the world section. If you use stickers and they don't have every device possible encourage pupils to write/draw in any of their own.

Can they explain a web sites journey from first request to appearing on the screen to their partner. You could record or video these.