



# Junior computer science

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## School Computer Network

### Approximate Time to do

20-40 minutes simple class demo role play depending on number of follow up activities

### 1, Introduction

Show pupils the network definition on slide 1 of the school computer network PowerPoint. Read the definition and then flip to slide 2 which has the words **group interconnected people** highlighted in red. Now flip to slide 3 which highlights a family or friends network of interconnected people. Give pupils five minutes to map one of those networks in their lives.

### Resources

- Old school switch or hub
- A few cat 5 network cables or
- Box and some string
- Plain A4 Paper
- Squared paper
- Network PowerPoint

LO Understand school computer networks

### 3, School Network Computers

Now pretend to plug in another child as an office computer in your school. Be specific about which one so pupils can visualise it. If you have a suite or banks of computers pretend to plug another pupil in as one of these computers. Finally pretend to attach a pupil computer that connects wirelessly.

### 4, Role-play logging on to a network

I often find that this is best in the character of a much younger pupil so I can pretend to spell my name wrongly. Trace the attempt at logging on to the server through the wires and the switch to the server who you will prompt to say **no, access denied incorrect username and password**. Explain that the server has a list of all the correct usernames and passwords and if your name is not on that list it won't allow you entry. Optionally you can ask pupils why to try and draw out security issues. Go back and role play the same pupil getting it right this time.

### 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

### 2, School Network Server

Move on to slide 4 which mentions a **system of interconnected things** in orange font colour. Explain that you have a school computer network that is a system of interconnected things.

Place the school switch in the centre of the class and briefly explain that this connects and routes information from computer to computer inside school.

Now choose a pupil to be the school server. Explain that this is an important computer that stores all the documents that people have made. Hand the server the stacks of A4 paper whilst explaining that this is Word or Publisher documents created by school users. Then hand the server the squared paper and explain that this is all the spreadsheets such as Excel created by school users.



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## School Computer Network P2

### 5, Role-play opening a document

Logon as the school head teacher onto an office computer. Send a message to the server asking the server if the head teacher can open his important spreadsheet containing all the school budget figures. Take the squared paper back to the computer. Model saving it and closing the document by taking the document back through the wires, through the switch to the server. You can logon as someone else on another computer in the school if you feel pupils need this reinforced.

### Possible Extension and Consolidation Activities

Pupils could work in table groups to role-play their own school network.

Working in groups with large sugar paper, pupils could draw their own school network based on what they think happens in your school. You could send these off to your network support to find out how accurate these are.

Pupils could prepare questions for the school technical services or network manager and you could invite them in to answer those. This is good if your own network knowledge is patchy.

### Further Teacher Reading

<http://www.safekidsonline.co.uk/learn/what-is-a-computer-network/>

<http://kids.britannica.com/comptons/article-9545133/computer-network>



Example of a school network switch



Cat5 Network Cable