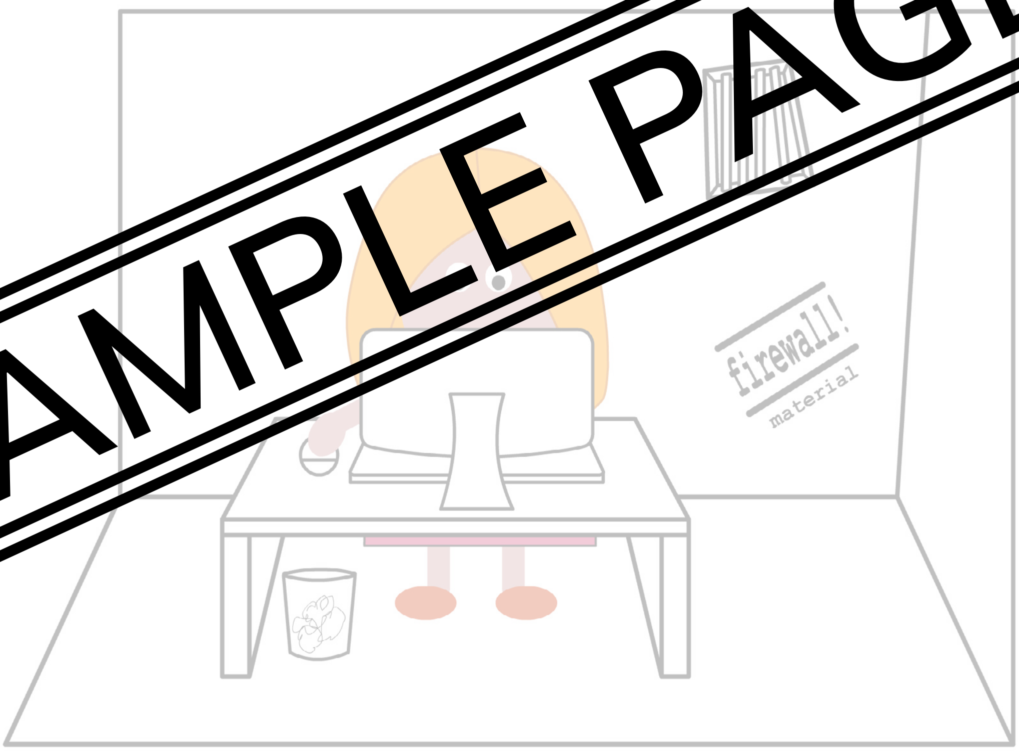
PERSONAL SAFETY IN CYBERSPACE



ALL RESOURCES

Contents

History of Computing and Malware

In the past, computers were large, expensive machines called mainframes which cost millions of pounds and were used by large organisations.

- Ask the group to conduct research into the first computers.
- Can they find any information or pictures of old, mainframe computers?
- How do these computers compare with the PCs we use now?

With the invention of the micro-chip, computers became smaller and less expensive and small businesses could afford them. Eventually many people were able to afford a computer in their own home. When IBM launched its personal computer in 1981, the personal computer industry exploded. New computing languages were developed and computers became widespread in homes and businesses throughout the world.

Computers and the internet have opened up a whole new world of communication and the possibilities are endless. For example, when we think of the term ‘cyberspace’, we usually imagine a huge, virtual ‘world’ of connected computers enabling communities to spring up on a local, national and international level. We no longer have to be sitting at a desk to use the web—we can access the internet with various wireless equipment such as smart phones, laptops and tablet computers.

However, all is not well in cyberspace. This is because there are people using the internet who want to cause chaos by spreading malicious software. To make matters worse, most of the world’s computers, ranging from desktops to mobile phone software, run the same operating system or software which is developed by the same organisation. This has made it easier for clever criminals to create malware (malicious software).

Technical Dangers in Cyberspace

Before we examine some of the dangers that lurk in cyberspace in more detail, here is a brief overview of some of the problems you may encounter when using IT systems and devices.

Viruses

A computer virus is a program which spreads by attaching itself to software or documents. It can easily be transferred from an infected computer to other computers by email, USB drive, via a network or the internet. Once activated, the virus can damage programs, delete files, or even reformat the hard drive.

Worms

A worm makes copies of itself and spreads across networks and into other PCs. Unlike viruses, a worm does not need to attach itself to other software. When a computer is booted up (switched on), the worm will also be activated. Worms usually infect a PC via a network through an open port. A port is a specific place where a PC is connected to a piece of apparatus. It can be a physical piece such as a socket to attach scanners or printers, or it can be a virtual point where data is transferred, such as the internet.

Trojan Horses

A Trojan horse or Trojan is a piece of harmful computer code which is hidden in a computer program or other file. It can trick computer users into thinking it is something useful or interesting which needs to be installed. A hacker may put a Trojan into a piece of software, or the Trojan may be hidden by an image or computer game. Trojan horses are attached to the host software and do not infect other pieces of software in the way that viruses do.

Browser Hijacking

It is getting more common for people to go to a favourite website only to find that they are locked into a pornography site or another website that they didn't want to visit. This is often followed by a stream of pop-up pages without menu-bars or other controls which makes it hard for the user to close the site. If you try to close a page, another one opens up in its place. Most people do not know how to stop this from happening and it can be very embarrassing and upsetting. It is more serious if young people are using the internet as the images that appear can be inappropriate and even harmful.

This is called browser hijacking and it is a big problem. It used to be more common if the user was using Microsoft Internet Explorer simply because this was the most widely used browser in the past, although browser hijacking can affect any browser. Many browsers need patches to stop malicious websites changing the settings within a program without the user's knowledge or permission. Sometimes internet shortcuts are added to your favourites folder without your knowledge. The purpose of hijacking is to force you to visit a website which you would not normally visit. This is done to increase traffic figures for advertising purposes or to sell goods or services.

Social Media

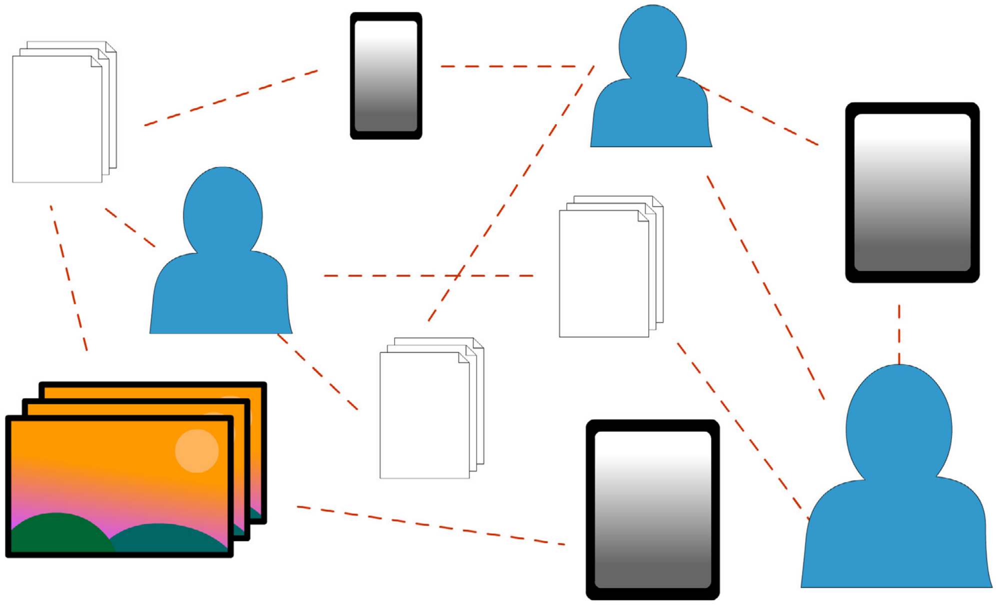
Chat apps and online social networking are now key parts of millions of young people’s lives. They use social media sites such as Facebook, Snapchat, Twitter, Instagram, Reddit, Tumblr, YouTube and Qzone every day to keep in touch with their family, friends and peers.

Give out **WORKSHEET 13** and ask the group to fill in the first table and write what they know about each site. Which one do they use/prefer?

Now ask them to fill in the second table giving their reasons for using networking sites. Tell them to explain their reasons in the column below. Does anyone feel pressured by their peers to participate?

Does anyone in the group not use social media? Ask for a show of hands. Ask if they would like to tell the class why they do not use such sites or apps.

Social apps and sites allow users to write their own personal profiles and blogs, join groups and upload photos, music and videos. Friends can communicate in various ways. The networks grow as more people join and start to form groups which share interests and activities.



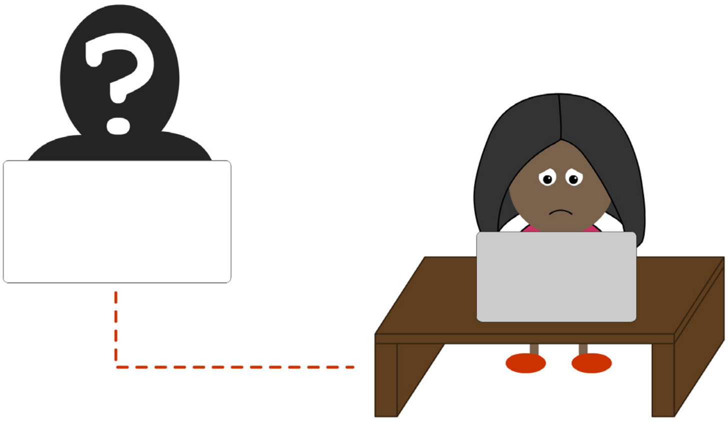
Online Grooming

We hear a lot about grooming in the news today, and there have been a number of news reports about cases of grooming that have taken place online and offline. But what exactly is grooming, how is it carried out online, and how can we protect ourselves and our young ones from online predators?

What is Grooming?

Grooming occurs when someone uses lies and deceit to build an emotional relationship with another individual. Online grooming takes place via the internet on a computer, tablet or mobile phone. Very often the groomer will spin a complex web of lies concerning their life and their personal circumstances to elicit pity and/or to encourage the other person to trust them and divulge personal information. They will also use their 'friendship' to coerce the person into doing things they would never normally do.

Grooming Children and Young People



When the target is a child or young person, the groomer may pretend to be a young person too, when they are in fact an adult (although this is not always the case). Their aim is to develop trust and to encourage the young person to open up and share details of their personal and family lives. They quickly home in on any detail that the young person gives concerning their interests or hobbies. Then, as if by magic, they will discover that they share the very same interests too, and this cements the friendship even more.