

ThinkUKnow e-Newsletter - August 2015

When you get your first car, your parents or guardian usually explain how the engine works, how to change a tyre and check the oil. Once you pass a test, you are able to get your learners permit and drive supervised, until you are ready to get your driver's licence. Today, however, many of us pick up a device (or hand one to our child) and start using it without fully understanding how it works and how we can stay safe.

This month, we've been looking at how the technology we use every day actually works. You can check out some of our videos on geotagging and wireless networks on the [ThinkUKnow Facebook page](#). In this e-newsletter, we're going to look at some more of the basics of how the technology, we often take for granted, works.

The World Wide Web 101

Without getting technical, the internet is a network of networks, connecting computers and other devices to each other. These connections require physical elements (hardware) such as personal computers, servers, routers and cables. The physical components are useless without a common set of rules for communicating with each other (protocols). These protocols allow devices to speak a common language and share information with each other.

To access a website, your device will connect to your Internet Service Provider (ISP) which will send your requested website through to a Domain Name Server (DNS). DNS servers are like the yellow pages of the internet. After receiving a website address (similar to a name of a company in the yellow pages) they will send back the Internet Protocol (IP) address needed to access the website (like a phone number from the yellow pages). The IP address is used by your device to communicate directly with the website (similar to calling a company after getting their phone number from the yellow pages).

While many people think the internet provides them with anonymity, they can be identified through their internet connection. As such, it is important that children and young people understand that they need to be accountable for their actions online.

Time2Talk

In this section we look at ways to start talking with children and young people about their use of technology.

Do you know how your computer find the websites you are looking for?

Could you explain in simple terms how the internet works?

How accurate do you think search engines are?

Did you know that what you do on the internet can be tracked back to you?

How do search engines work?

We've all done it; had a question and typed it into a search engine and within seconds, there is a list of pages that help provide answers. So, how did the search engine find all of that information so quickly, and what determined the order of the results?

The most common process involves a search engine sending out software known as web crawlers that travel across the internet collecting information about web pages and adding them to its index. When you enter a query in a search engine, it doesn't search the internet for results, but the index it has created on the internet. Each search engine uses its own algorithms to determine the results shown to you. These algorithms are based on the relevance of the page to your query, how many other sites link to that page, how popular it is, how current the content is, and what your previous searches have involved.

For these reasons, typing the same query into different search engines, or even the same engine on different devices, may create different results. The number one result of your query may not be the best answer to your question, only the result which the search engine thinks will be most relevant to you.

