

Gooseberry Alert No 48 Internet of Things - Staff and Parent handout.

What is the Internet of Things (IoT)?

It is a term used to refer to the many devices (eg. phones, fitbits, smart fridges, lightbulbs, smart speakers, home security systems and children's toys including drones and robots) that are connected together and able to transfer data over a computer network. They can be fun and educational. They can save us time and money, track our children's whereabouts, cut waste, help reduce greenhouse emissions and encourage us to keep fit. (Gartner Says the Internet of Things Installed Base Will Grow to 26 Billion Units by 2020, n.d.).

Are there any risks with these fantastic innovations?

Unfortunately, yes. Security is a major issue. Some manufacturers do not include adequate security in their products, and many consumers do not take even the basic step of changing the default passwords. Even for those who do, they are often not provided with notifications of security updates in the way that our phones are. Many devices require us to input details of our personal information and this is sometimes poorly protected from hackers. Also, if there is a bug in one part of the connected system, all connected devices are likely to be corrupted. This leaves IoT devices as the weak link in household networks.

Another major problem is privacy. Although public awareness is growing of the value of our data to commercial, political and other players, it is easy to forget that connected devices in our homes are collecting data on us all the time (that is what makes them "smart") and it is not always obvious how the data will be used. Think about the smart vacuum cleaner that takes a floor plan of your house to enable it to clean automatically - who could this be shared with? What about smart speakers, talking dolls, baby monitors - who might be able to listen to your conversations? What about surveillance - who might be interested in buying or hacking into data that reveals the whereabouts and activities of particular users. All that data has value to someone and can be analysed and used in microtargeted advertising if not more nefarious ways.

Are you thinking about purchasing any internet connected technology this Christmas?

How do you protect yourself and those who you are buying for? First of all, you might just want to think about whether you really need the device to be connected to the internet. If you really do, spend some time checking reviews and the privacy policy of the manufacturer (you can find this on their website). Check which app permissions need to be activated, what information will be collected, and who it could be shared with. Be wary of children's toys that contain cameras and microphones which could be hacked. You might like to look at Mozilla's guide "Privacy not included" for an analysis of the "creepy" rating of a number of connected products.

<https://foundation.mozilla.org/en/privacynotincluded/>

If you do purchase an IoT device, make sure you change the password and don't leave it on the default setting. This applies to your router too. Check regularly for security updates and implement them. Think about the devices that you already own too!

Wishing you a safe and happy festive season from the Gooseberry Planet team!

You are welcome to share this with your school community so long as you reference Gooseberry Planet as your source.