‘The Internet of Things’

Capability Statement: Yr3/4
Pupils recognise and describe some of the services offered by the **Internet**, especially those used for communication and collaboration.

Pupils understand that **computers** (in various forms) generally accept **inputs** and produce **outputs** and can give examples of this.

Learning Objectives:

Activity: **Unplugged**

Activity 1: Take a walk around your class/ school to identify ‘input’ and ‘output’ devices. Start by looking at a desktop/laptop/tablet. Identify the inputs and outputs (inputs – keyboard, touch screen, mouse etc. output – screen, printer etc.). Then introduce them to other types of inputs (from around the school) – thermostats, movement sensors for alarms etc.). Discuss what the outputs would be.

Activity 2: Introduce the children to the ‘internet of things’ (see next section). Give them an example that will help explain the internet of things https://www.commoncraft.com/video/internet-things

Ask the children to invent their own example of the ‘internet of things’ ask them to write instructions or an explanation of how it would work.

Background: The ‘Internet of Things’ is a system in which objects communicate with the internet. http://youtu.be/TkV1JMvtivA

What next… Children can identify the inputs and outputs in relation to their work on the ‘internet of things’. Children could also carry out a ‘Dragon’s Den’ style activity and pitch their invention to each other or an audience.

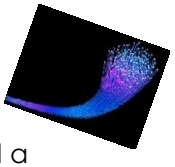
Networks

Capability Statement: Yr5/6
Pupils understand and can explain how **computer networks** work, and know that the **Internet** is a collection of computers connected together.

Learning Objectives:

Activity: **Unplugged**

Game: Children will draw a network (like the road system see below)) from one end of the playground to the other (in chalk or if inside, wool could be used). They will each have a copy of a poem (For example the Jabberwocky) which has been cut into several pieces. Each copy of the poem should be a different colour and every piece should be numbered (tagged) as this will allow the poem to be ‘rebuilt’ at the other end.



The piece of the poem (packet) is then sent down the network. If you meet another team’s poem you will have to find a different way to cross the network. If too many pieces enter the network at the same time it will get clogged. When the pieces of the puzzle start to arrive on the other side they will need to be rearranged, allowing the poem to be constructed in the right order. The children will use the numbers (tags) to assist the process. The rules are the packages must be put together in the correct order for them to make sense. The winner is the team who reconstructs their poems correctly first.
https://www.youtube.com/watch?v=Pbfug-slxGA

Background: This activity explains how data is sent across a network. The essence of the activity relates to how data is split into packets and then reassembled at the other end. Children would have already carried out the road network activity.
https://www.commoncraft.com/video/computer-networks
What next... You could play the game with pictures that have been cut up, much like a jigsaw

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