

Smart Tech Challenge

We use technology constantly in our everyday lives, most likely from the moment we wake up with the alarm on our phones. But what exactly do we mean by 'smart' technology?



Is it being connected to the internet? Is it artificial intelligence? Do we need an app to use it? Is it a combination of all of these things?

Many of us will already use some forms of smart technology daily with our smartphones, watches, TVs, heating apps like Hive and personal assistants such as Siri, Google Assistant and Alexa.

The term 'smart' was originally an acronym: 'Self-Monitoring, Analysis and Reporting Technology.' It now mainly refers to inanimate objects being able to 'talk' to us and even guide our behaviour.



Have you heard of some technologies such as the Internet of Things (IoT), 5G, virtual and augmented reality and artificial intelligence? They all help make intelligent connections between technology and human behaviour.

In many cases, smart technology is providing solutions to real world problems to make systems more efficient, effective and sustainable.

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Does all smart technology require the internet?

Not necessarily. Smart technology broadly falls into three categories:

1. SMART DEVICES

These don't need to be connected to the internet but have a degree of automation, such as a coffee machine that you could programme to make a drink at a specific time.

2. INTERNET OF THINGS

These are devices which are all connected to one another, and send and receive data. A smart speaker, for example, could be used to programme your coffee machine, without the need for you to pick up your phone and open the app.

3. SMART CONNECTED DEVICES

These need a connection such as bluetooth/internet to control them remotely. Imagine you could control your coffee machine with an app, and could tell it to make you a coffee via your phone whenever you wanted one.

Whichever of these three categories they fall into, smart technology is all about making our lives easier!

Investigate



Before beginning the Smart Tech Challenge, familiarise yourself with the types of smart technology already in existence.

You could start by finding out what examples of smart technology you have in your own home and what you use them for. You could even ask adults in your household why they bought them - would they help save money or energy, make life easier, or were they just cool?

You could use a table like this one to help.

Now do some research on some of the big digital/tech industries - the 'big five' are Facebook, Amazon, Apple, Microsoft and Google. Find examples of their products or services. Do they own any other companies? Why is there a need for these companies?

Type of technology	What is it used for?	Why buy it?
Hive	Controls the heating	Could save money
Fitbit	Tracks exercise	Help us be fit and healthy

Difficult questions to ask adults...!

- What technology did you use to use when you were growing up, and how does it compare to what you use now? Would you go back to the way things used to be?
- Do you think smart technology is improving our lives or making them more complicated?
- What do you think are some of the risks associated with this type of technology?
- Do you think that as a society we are too reliant on technology?



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Your Challenge:



Develop an innovative idea for a piece of smart technology which will help to improve everyday life. You can choose the context for where the technology will be used, such as at home, at school, in hospitals, out on the streets - it's up to you!

What to do:



1. Brainstorm your ideas and think about the practicality of your product.
 - a. Who will use it?
 - b. Where will it be used?
 - c. What problems could it solve?
 - d. How could you market your product so that people adopt your technology?
2. Research how smart technology is already improving people's lives and how it has evolved over the last few years - will your product be the next step in its evolution, or a completely new idea?
3. Draw and plan out your design, build a prototype or model. Alternatively you could develop a theoretical system using diagrams, drawings and animations. Whichever you choose, show how your design your work in real life and, above all, be creative!
4. Take a photo and post your design and finished product, using the hashtag #STEAMstars

What did you learn?



1. Has your knowledge of smart technology and the way we use it improved?
2. What did you learn through speaking to others in your household?
3. If your product was real, what impact would it have on your and your household?
4. Can you imagine having access to less technology? In what ways would it make your life more complicated?

Explore further:

- Click these links to find out more about careers in the tech industry:
- [The Independent: Top 10 Tech Industry Careers](#)
 - [YouTube: 7 Amazing Technologies We'll See By 2030](#)
 - [Getting a Graduate Job in IT and Technology: The Basics](#)
 - [Prospects: Overview of the UK's IT Industry](#)
 - [YouTube: The Digital Skills Gap and The Future of Jobs 2020](#)