



The Tech Challenge

for lower secondary

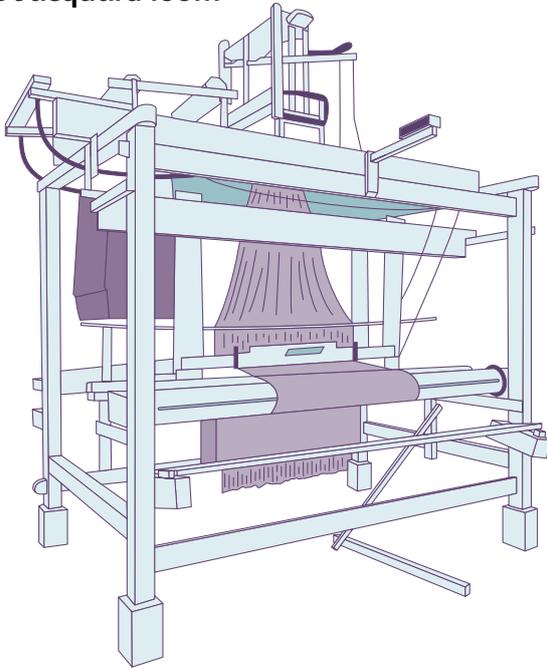
Name: _____



Find out how developments in technology have helped us in every aspect of our lives.

Start on Level 1 – Making It

Find the Jacquard loom

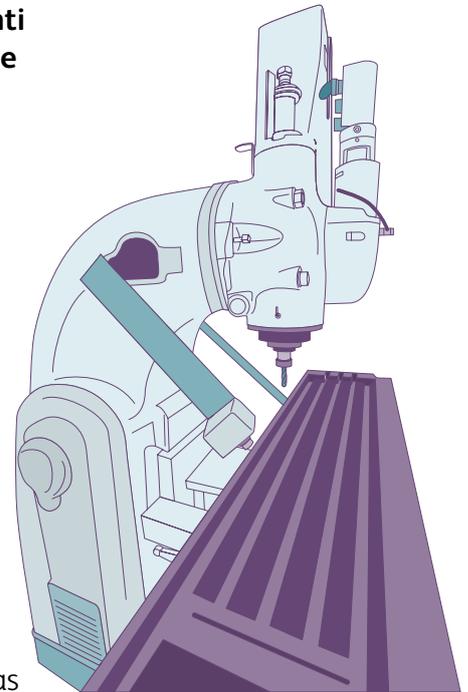


This loom was one of the first ever programmed machines.

What are the punched cards for?

Computer coding skills are needed across all areas of work including fashion, health, sport and food& drink

Find the Ferranti milling machine



This is one of the first numerically-controlled machines to be used in a Scottish factory. The machine was controlled by a code.

The code was made up of the digits

_____ and _____

Watch the film on the touchscreen.

What was the machine used for?

Computer code is a set of instructions which tells your computer what you want it to do. Today, many machines need code to operate.

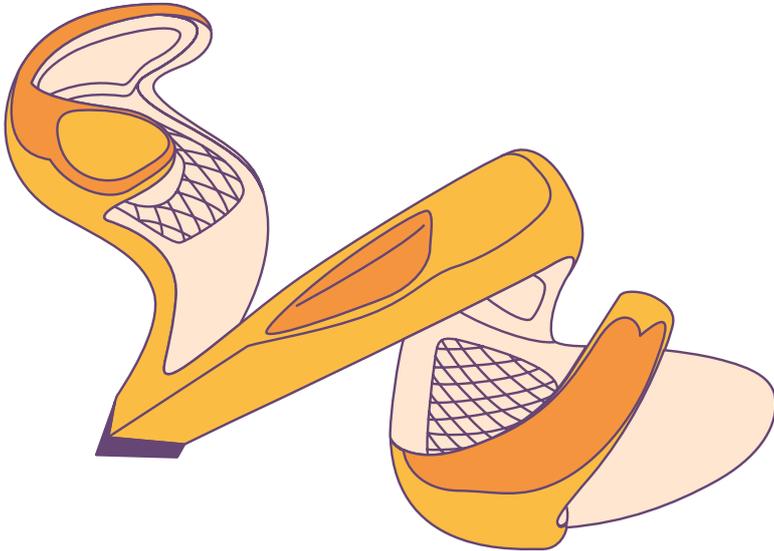




Go to Level 1 – Fashion and Style

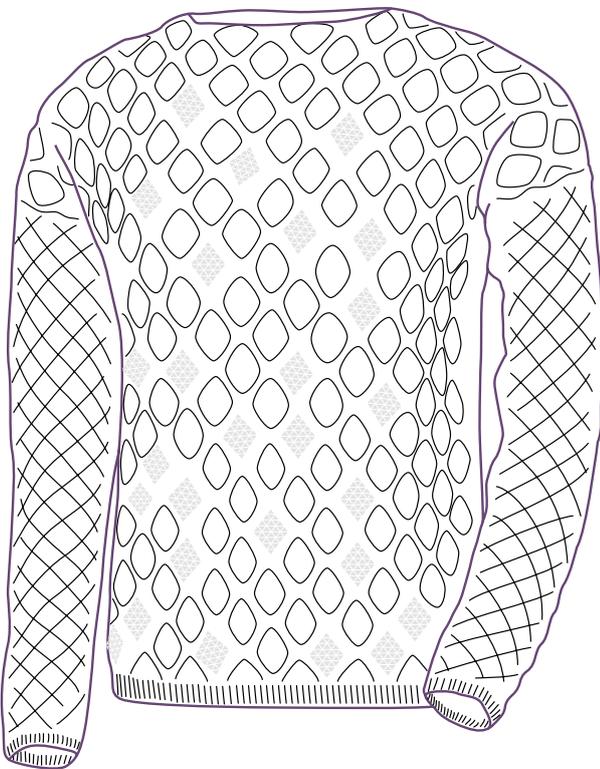
Find these objects

What are they?



All of them were designed using 3D printing technology.

How do you think 3D printing technology might help fashion designers?



In Scotland, employers need 11,000 people every year to fill jobs using digital technology and this number is increasing

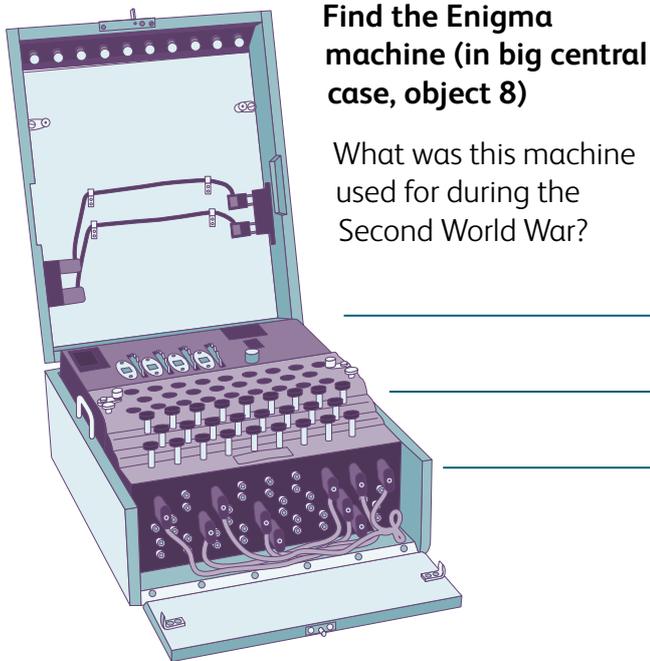




Go to Level 3 – Communicate

As we use the Internet more, it has become important for ourselves and businesses to keep personal information safe. Some of the objects in this gallery are about keeping information safe.

The number of jobs which involve keeping online information safe is growing



Find the Enigma machine (in big central case, object 8)

What was this machine used for during the Second World War?

Find the enhanced personal role radio beside the 'At war' sign (in big central case, object 7)

This radio uses encryption. This means that the information sent is coded so that a secret message cannot be read by anyone else.

Online passwords can be encrypted. Why do you think online security is important?

Go to Technology by Design

Find the Engineering humans section

Technology is used in different areas of work including games design, health care and education.

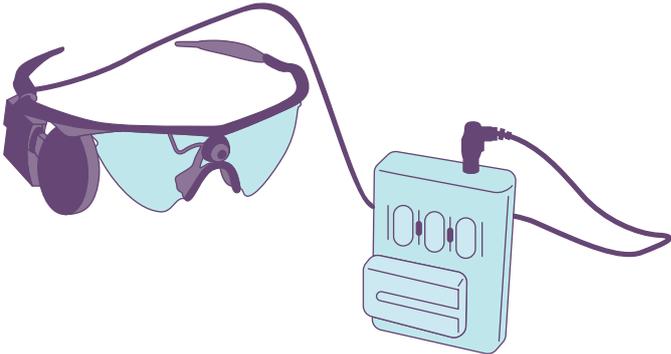
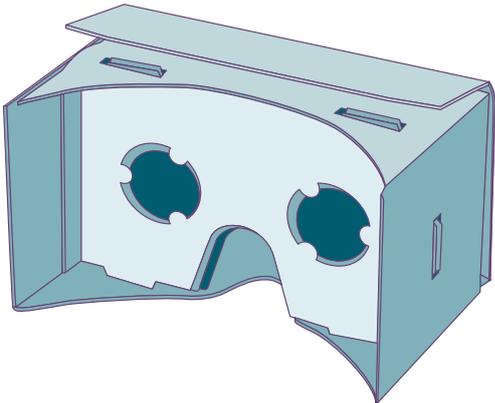


Find the following objects

Draw arrows to match them with the technology they need to work.

smartphone

computer





Go to Level 5 – Energise

Find the Smarter iKettle

This is the world’s first Wi-Fi kettle.

What device controls it?

Above it, find another object which can be controlled using this technology.

What is it?

How would this object help people save energy and money?

It is thought that over the next few years nearly every device in the home will be connected to the Internet.

There are lots of different pathways into a job using digital skills, including going to college, university or training on the job

Go to Enquire

Go to Getting under the skin

3D printing is often used in medical teaching and research.

Find the 3D printed model of the human brain.

Why do you think models like this are useful for scientists and doctors?

So now you know more about: **Digital Technologies**

Almost everything we use from smartphones to home appliances was designed by someone with digital technology skills.

Find out more at www.myworldofwork.co.uk and www.digitalworld.net. Find out what subjects you need to study at school for different jobs, what skills you need, how many jobs there may be in the future and lots more.

If you have a passion for technology and enjoy being creative and solving problems, then you may want to consider a job which involves using digital technology skills

