

Lesson tasks

1. 3D Printers are becoming more and more widespread in our everyday lives. Using examples explain how 3D Printers are making a positive impact in our society.

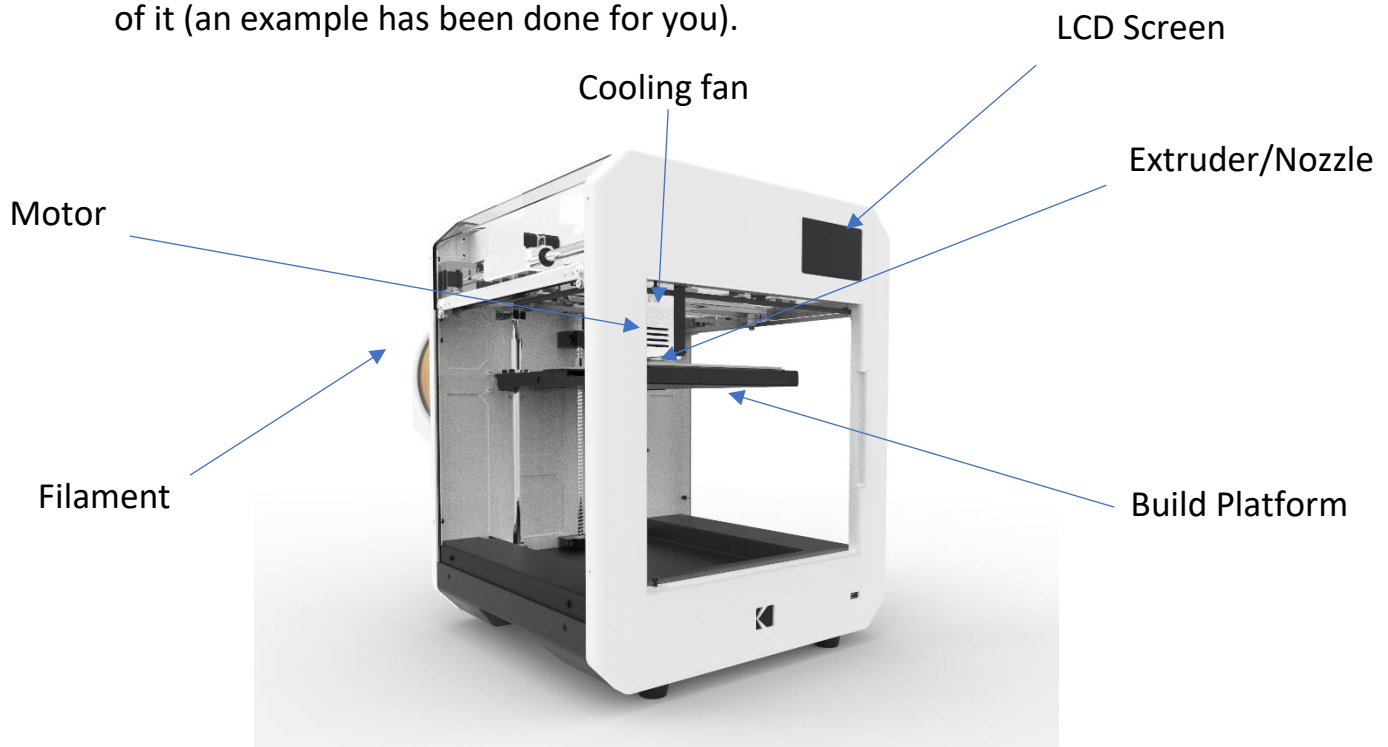
3D printers are making a positive impact in our society by helping solve problems that previously would be very difficult/expensive to solve. Examples include, helping blind people experience a scan of their unborn children and helping people who have broken bones by providing a more comfortable cast. They are also helping animals and children that are born with deformities by allowing owners to 3D Print carriages, or parents to 3D print Robotic arms that are much cheaper than traditional methods.

2. Looking at the map of all the 3D Printers in the world. Explain why Europe and the USA have the highest concentration of 3D Printers compared to Africa and parts of Asia?

Europe and the USA have a higher concentration of 3D printers as they have more developed economies and more established education systems with better buildings and resources. In some parts of Africa and Asia, many people don't have the money to spend on 3D printers as they don't earn as much as people in technological advanced countries.



3. Using the Key words from the PowerPoint, label the 3D Printer showing the key parts of it (an example has been done for you).



4. Describe how a 3D Printer works and identify some safety rules that you should follow when using a 3D Printer.

A 3D Printer works by printing products layer by layer. Plastic filament is loaded into the back of the machine and pushed through a small tube. This goes into the extruder where the plastic is heated up until liquid. A motor pushes the liquid plastic through a nozzle extruding it onto the build platform. The 3D Printer then prints out the object one layer at a time. After one layer has been printed the build platform moves down a fraction of a mm/inch and then another layer is added to the previous layer. The cooling fan blows cool air onto the layers of plastic to cool them down quick so they solidify almost immediately. The printer keeps printing until the product is complete.

Some safety rules you should follow are always wear goggles when looking closely at the machine. Never put your fingers inside the build chamber and don't leave the 3D Printer unattended.