



Build your own particle detector challenge

Now that you have found out a bit about particle physics, CERN and ATLAScraft we would like to challenge you to build your own model of a particle detector.

You could do this in Minecraft, with modelling blocks like LEGO or with craft and scrap materials around your home.

All the information you need to find out more about ATLAScraft and how to download your own copy of the Minecraft map is given here <https://atlascraft.web.cern.ch>

Information on other particle accelerators and detectors:

Here is some more information on some of the other particle detectors you could choose to build yourself if you don't want to do ATLAS:

The CMS at CERN:

<https://home.cern/science/experiments/cms>

The Diamond Light Source at Harwell:

<https://www.diamond.ac.uk/Public/How-Diamond-Works.html>

Fermilab in the USA:

<https://360.fnal.gov/>

KEK in Japan:

<https://www2.kek.jp/accl/eng/>

You could also find other particle accelerators for yourself if you wanted to, there are many others in different countries around the world.

Some other useful information:

This is a good place to find very clear diagrams of particle detectors to help you choose which one you would like to build and to give you ideas for how to build it whether you choose Minecraft, LEGO or scrap materials for your model:

<https://build-your-own-particle-detector.org/models/lhc-micro-models/>

The ATLAS colouring book is free to download and can help you to learn a lot about the detector and how to make a model of it:

<https://atlas.cern/colouring-book>

On this site you can see what particle collisions at ATLAS look like in the detectors:
<http://atlas.cern/atlas-live>

If you follow the instructions on this site, you will see what particle collisions look like in the CMS detector:
<http://opendata.cern.ch/docs/cms-guide-for-education#visualise-collisions>

Building models of particle detectors

This site has some amazing pictures of model particle detectors made with LEGO:
<https://build-your-own-particle-detector.org/>

