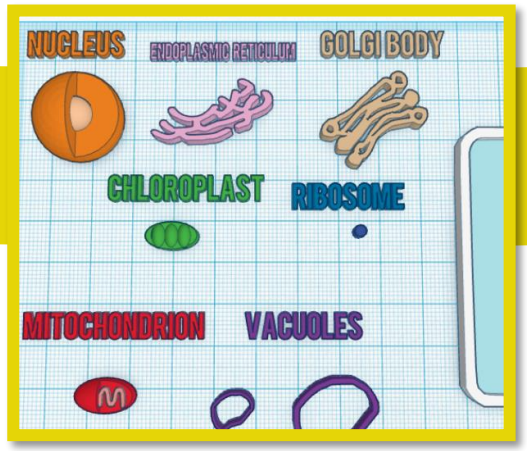
Cell Structures



To create a model of a plant or animal cell, using computer aided design (CAD) and the 3D printer.

Category:	3D printing
Age or Stage:	Lower KS2 Upper KS2 SEND
Key words:	Cells, organelles, mitochondria, cellulose, cell wall, chloroplast, cytoplasm, nucleus
Subject areas:	Science, Design and Technology, Computing, STEM
Resources:	3D printer Computers or tablets Tinkercad

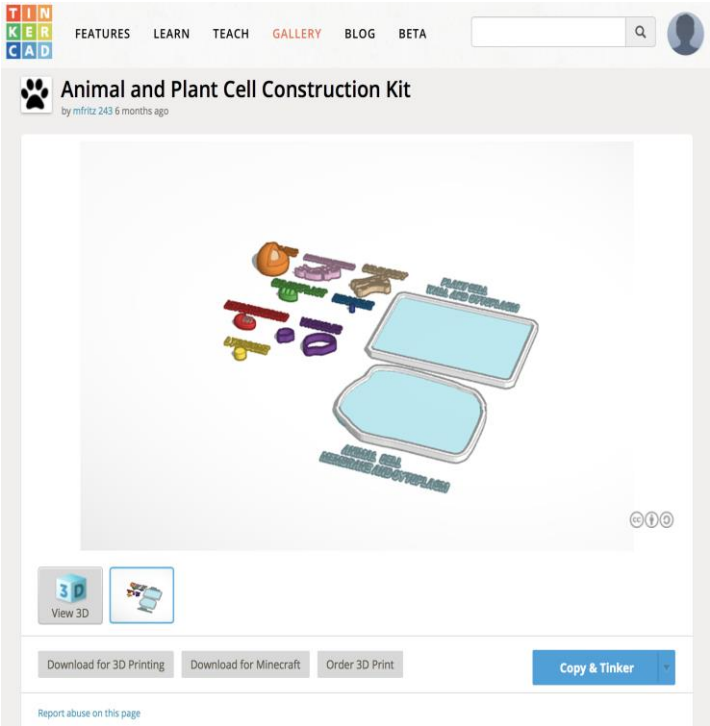
Lesson overview

In this lesson, children create a model of an animal or plant cell. They will copy and paste the organelles in to the relevant cell before printing out their cell.

As an alternative for children to have a more sensory input, this lesson can be used to print out the cell parts which can be added in to the cell membranes after they have been printed out.

Lesson guidance

1. Ask children to log on to the PCs and navigate to Tinkercad link: https://www.tinkercad.com/things/8dTkeY0y44i



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2. Ask children to select Copy & Tinker to open in Tinkercad.
3. Advise the children whether they are to create a model of a plant or animal cell.
4. Ask the children to copy and paste the required organelles into the relevant cell membrane and cytoplasm. You may want to advise them to duplicate some of the organelles, depending on your children's ability levels.
5. When the students have completed their cells, ask them to export their file as an .stl file, ready for printing.

Extension exercises

Extensions can be varied to fit your Programme of Study, but could include:

- Creating the other type of cell structure
- Finding some DNA in the gallery and adding that into the nucleus