Clever Learning
Introduction to 3D printing
Quick guide for parents/carers

cleverlearning.co.uk/intro3DprintActivity.php

Activity in brief

1. Buy the activity (parent or carer)
2. Watch the tutorial
3. Log in to Tinkercad
4. Create some 3D designs
5. Identify your finished, chosen design by adding "PRINT THIS" to its name
6. We will check the design and leave comments if needed
7. Adjust your chosen design if required
8. We will 3D print the design and post it to you

Activity in more detail
Use these notes to support your child

1. Buy the activity (parent or carer)
   a. Visit cleverlearning.co.uk/intro3DprintActivity.php
   b. This activity is available to UK customers only
   c. Please check your postal and email addresses are correct in PayPal
   d. Choose a colour for the final printed object
   e. Click on the 'Buy' button – this will take you to a secure PayPal page where you can complete the purchase
   f. You will be emailed a class code and nickname for your child
   g. Please encourage your child to follow good practice and keep their login private
2. Watch the tutorial
   a. Please make sure your child watches the whole tutorial (using the link above) so that they see all of the hints and tips
   b. The video lasts for around 20 minutes
3. Log in to Tinkercad
   a. Go to tinkercad.com
   b. Click on the "Join your class" button
   c. Enter the class code you were provided with
   d. Enter the nickname you were provided with
4. Create some 3D designs
   a. Using the skills outlined in the tutorial, have a go at designing some small, simple 3D objects
   b. You could try designing a small charm or a keyring, for example
   c. Be creative, but follow the guidelines in the tutorial carefully
   d. Check the tutorial for advice on a suitable size of design (more information below)
   e. You can create and save as many designs as you like
5. Identify your finished, chosen design by adding "PRINT THIS" to its name

 a. Choose just one design that you like best and that meets all of the requirements given in the tutorial

 b. To show clearly which design you have chosen, and that you are finished making changes, add "PRINT THIS" to its name

6. I will check the design and leave some comments

 a. I will leave a comment on the chosen design in Tinkercad, so check back after a day or two

 b. Only people with the class code and nickname can read the comments (including me)

7. Adjust your chosen design if required

 a. Edit the chosen design, according to any comments given

 b. Make sure you save your changes, still making it clear which is the chosen design (if there are several saved)

8. I will 3D print the design and post it to you

 a. If the chosen design is OK, I will print it

 b. It will be printed in a non-toxic plastic called PLA

 c. PLA filaments are made using glucose, usually derived from corn

 d. Your object will be printed in the colour you chose, but please note that it may not match exactly the colour displayed on the screen

 e. Each object is printed in one single colour – it will not be as it appears in the Tinkercad design tool

 f. If, after any suggested edits, it is still not suitable for printing, I will make the minimal changes needed to allow it to be printed

 g. I may adjust the size of your object to help me manage the print-time, the amount of filament used and the postage

 h. The actual size will depend on the volume of the object, so it is difficult to generalise about a suitable length or width. There are more details in the tutorial, and you can see an example on the website

 i. I will post it to the address given by you when you made your purchase

 j. The class code and nickname will be valid for at least four weeks after you have completed your design, but you can sign up for a free Tinkercad account of your own at any time

 k. After the classroom has expired, you will not be able to access your saved designs. Before this, you can download your creations as STL or OBJ files, which can be opened in most 3D design software

 l. Your printed object should last for many years, but note that PLA is a natural substance and is biodegradable in the long run