

## How to Flex a Hexaflexagon

This handout describes how to flex a hexaflexagon to reveal its hidden faces. It is designed to accompany our handouts and templates for making hexaflexagons: How to Fold a Trihexaflexagon and How to Fold a Hexahexaflexagon. Once you have made a hexaflexagon, follow these instructions to learn how to flex it.

1. Hold your hexaflexagon (or place it on a table) with the Maths Craft logos facing upwards. Using both hands, place your fingers on three alternate corners (shown in the image on the left below).

2. Push these three corners towards the centre of the hexaflexagon. The hexaflexagon should begin to rise in the middle (as in the central image above). Keep pushing until your fingers meet at the bottom of the hexaflexagon and the top forms a " $\gamma$ " shape (shown in the image on the right above).
3. You should now be able to carefully open the top of the hexaflexagon to reveal the inner face, as shown in the three images below. The face with the Maths Craft logos is now facing downwards. If the flexagon does not open, don't force it, simply go back to Step 1 and try the other three corners.

4. Repeat these four steps to continue flexing your hexaflexagon to reveal its hidden faces. A trihexaflexagon has three faces, while a hexahexaflexagon has six faces. See if you can find them all!
