

Hexaflexagons

Trihexaflexagons

Materials:

Strips of cartridge paper about 5 cm × 40 cm, glue stick, scissors, ruler, 60° set-square (or protractor).

Method:

Draw a line across the strip at 60° to the edge, near one end, then draw 60° angles to form a strip of 10 equilateral triangles.

Cut off the waste.

Fold the strip along the lines, alternately folding the strip toward and away from you. The triangles should stack nicely.

Lay the strip flat and write temporary fold code numbers on it, as shown, in pencil. Arrows show where numbers are to be written on the other side.

Pairs of faces with the same number should now be folded face to face in numerical order. Faces marked G should be glued together.

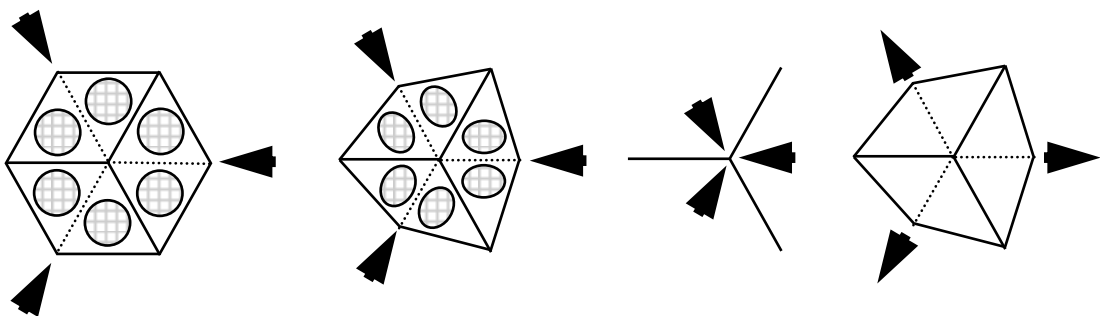
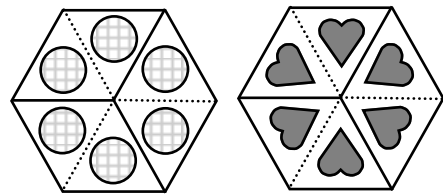
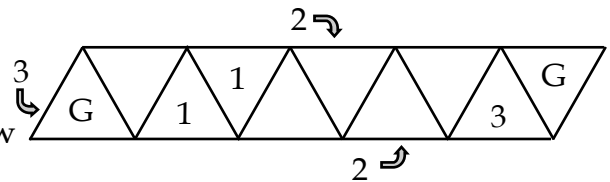
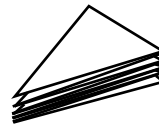
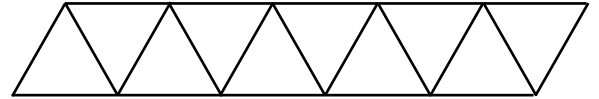
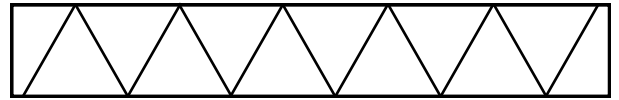
Decorate the two hexagonal faces differently.

“Flex” the hexaflexagon to expose the third face as follows:

Push every second vertex downwards, to meet below the centre, then pull open the centre at the top.

Decorate the third face.

Flex again and again.....



Reference: Martin Gardner , *Mathematical Puzzles and Diversions*, Pelican, 1965