



AGYA promotes scientific creativity.
AGYA Tri-Hexaflexagon Template

With the pattern below, we want to share our passion for scientific creativity.

Discover the fascinating topography of the hexaflexagon and the mysteries of flexigation: when you fold the strip of paper diagonally in three places, you form a flat hexagon. This hexagon can then be flexed to reveal a third hidden face in addition to the two that were on the back and on the front. This so-called tri-hexaflexagon was discovered by chance by Arthur Stone more than seventy years ago while, as a young researcher, he was playing with scraps of paper from his notebook.

Materials needed: scissors and glue

Enjoy folding and flexing!



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Simple instructions for folding
an AGYA Tri-Hexaflexagon

If you use the template from the first page:
please start here!

1

Cut out the template. Fold the template in the middle.
The coloured faces of A and B have to be outside. Glue
the coloured faces of A and B in the not coloured back
together.



If you use the template from the AGYA note pad:
please start here!

2

Crease each of the lines in both directions. Orient the
template as shown, using the colours to help you.



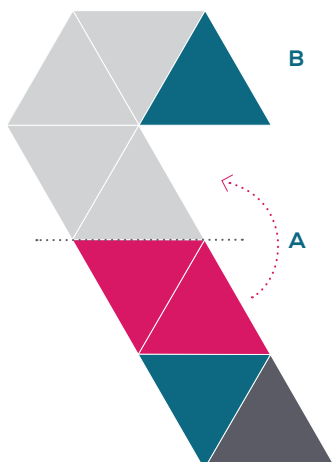
3

Fold the template once, as shown. The left side should
go behind the right side.



4

Fold the bottom part of the strip up and away from
you, as shown. Side A should go behind side B. Be sure
the colours look like the illustration.



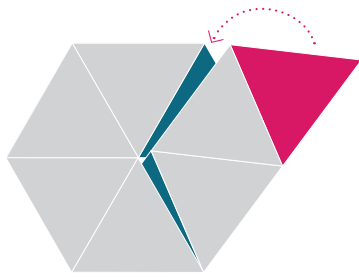
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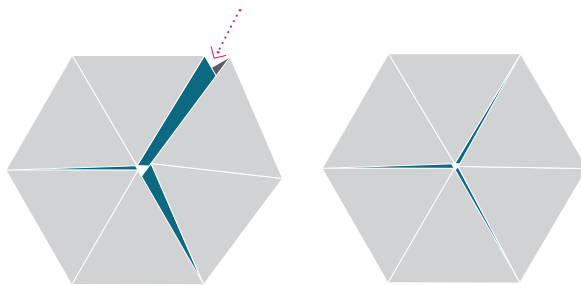
5

Note that the grey triangles go in front of the blue triangles. The tri-hexaflexagon should now look like the illustration. It should have all grey triangles showing, with one additional tab in pink.



6

The back of the magenta tab is grey. Fold the magenta tab away from you and under, gluing or taping the grey backsides together. **Now you have an AGYA Tri-Hexaflexagon with a grey and magenta coloured face!**



7

Your hexagon can now be flexed to reveal a third hidden face (in petrol) in addition to the two (grey and magenta) that are on the back and on the front.

To change the face of your AGYA Tri-Hexaflexagon, place the thumb and forefinger of your left hand on the two triangles labelled with a star (*) and pinch them together so that their backs are touching (a). Next, use the pointer finger of your right hand to push the two triangles labelled with a circle (o) towards the centre (b).

The tri-hexaflexagon will begin to open from the centre like a flower (c). Using your thumbs, peel back the edges from the centre so that they bend outward like the petals of a flower (d). Now your hexagon has a grey and a petrol coloured face (e). Repeat this process to continue flexing your tri-hexaflexagon and reveal its hidden sides (f).

