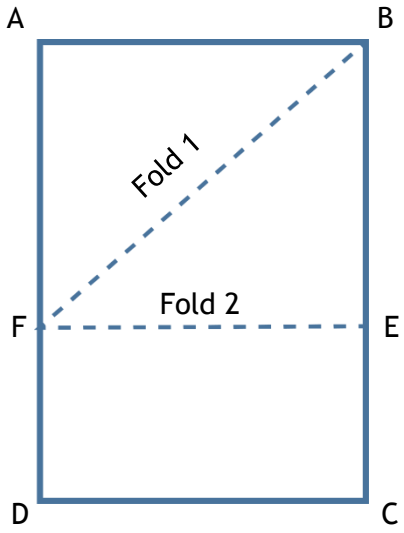
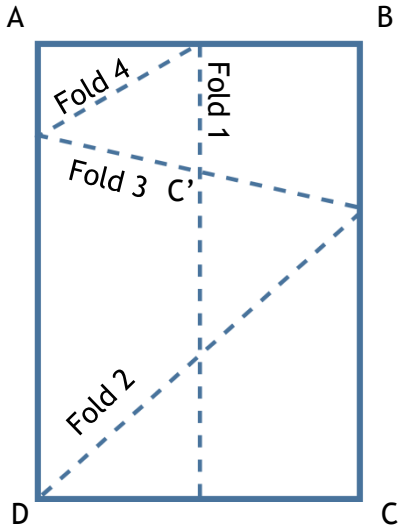
Paper size A5 [148 x 210 mm] or A4 [210 x 297 mm]. After completing each of the first 4 polygons, use a ruler and a protractor to check the accuracy of your creations.

Creating a square



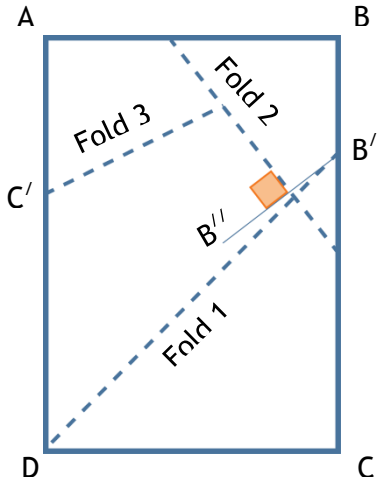
- Fold vertex A onto line BE
- Unfold back to a rectangle
- Fold edge CD about the line EF
- You have created a square

Creating an equilateral triangle



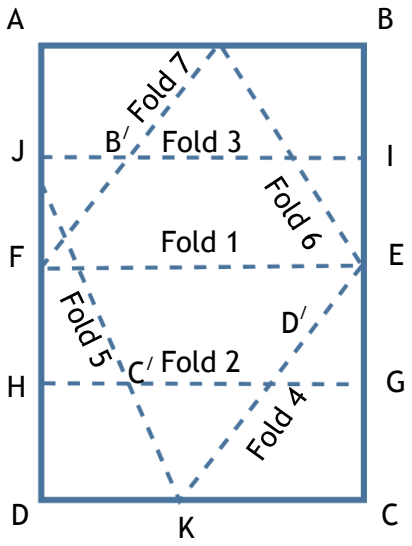
- Fold edge AD on to edge BC
- Unfold back to rectangle
- Fold edge DC to meet fold 1 at C'
- Fold vertex B to overlap fold 2
- Fold vertex A to create an equilateral triangle

Creating a kite



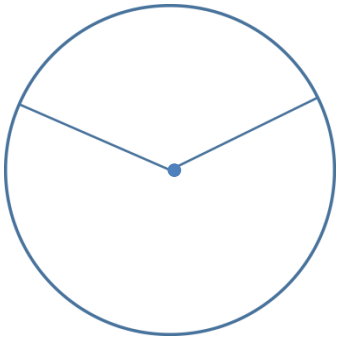
- Fold vertex C on to edge AD
- Fold vertex B on to edge C'
- Fold vertex A on to B'', the reflection of B' in fold 2, to create a kite

Creating a rhombus



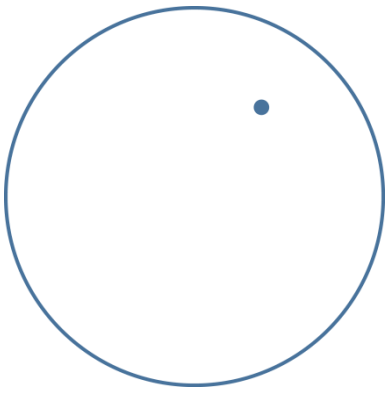
- Fold edge DC on to edge AB
- Unfold back to a rectangle
- Fold edge DC onto fold 1
- Unfold back to a rectangle
- Fold edge AB onto EF
- Unfold back to a rectangle
- Fold EC onto HG to get C/ and K
- Fold vertex DK to overlap fold 4
- Fold EB on to IJ to get B/ and L
- Fold AL on to fold 6 to create a rhombus

Creating a cone



- Cut a sector from a circle
- Fold the sector into a cone

Creating an ellipse



- Cut out a circle and draw a dot inside as shown
- Fold the circumference from any position to touch the dot
- Draw a straight line over your fold
- Repeat the above two bullet points continuously from random positions on the circumference until an ellipse appears

Teacher notes

Students will find the instructions easier to follow if they label their folds and relevant points.

Animation for the ellipse
parametricworld.tumblr.com/post/83299423619/mathani-get-you-best-paper-cut-a-circle-and/amp
More on the ellipse and the other conic sections
nrich.maths.org/1486 mathworld.wolfram.com/ConicSection.html