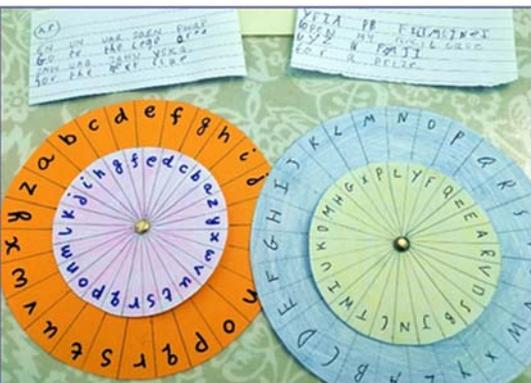
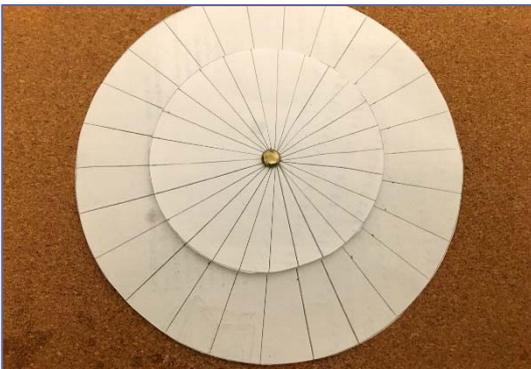
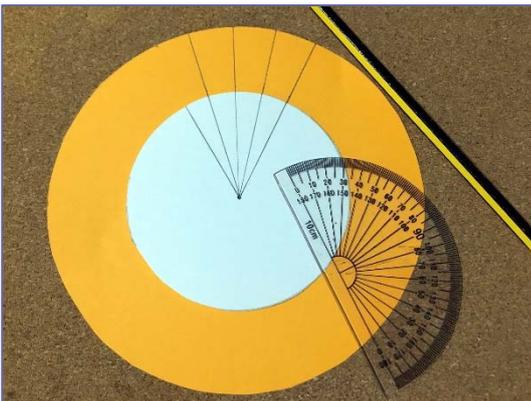


# Code Wheel



This is a good activity for older/more able children, as measuring out the 26 sections for all the letters is a bit tricky. (But we've also created a 'cheat' template to help the younger children.) By rotating the wheels, the children can share coded messages.

## Equipment

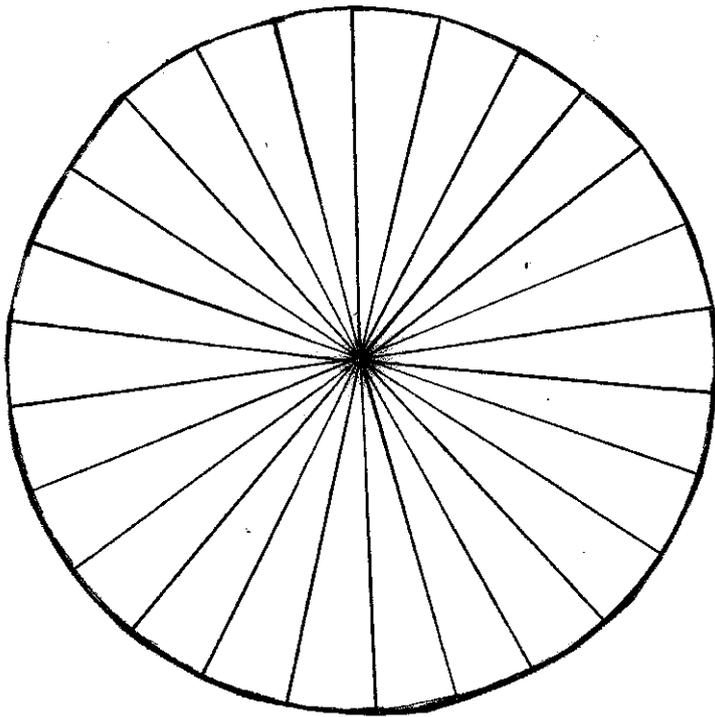
Card (plain or coloured)  
Pencils and pens  
Pair of compasses (or something circular to draw around)  
Ruler  
Protractor  
Coloured pencils  
Split pins

## Method 1 (using a protractor)

1. You need 2 circles for each code wheel. Use the pair of compasses (or bowls etc) to draw two circles, one larger than the other. Cut them out.
2. Place the smaller circle on top of the larger one and find the centre point (the compasses should have made a mark, otherwise measure with a ruler). Use a blob of BluTac, little bit of sticky tape or a paperclip to hold the circles in position. Don't use the split pin yet, it will get in the way! Use a ruler to draw a straight line from the centre point to the edge of the larger circle.
3. To make 26 sections on your circles you need to measure  $13.8^\circ$  (we rounded up to  $14^\circ$ ) all the way around. Place the protractor on the line you have drawn in the centre of the circle and start marking around the protractor at  $14^\circ$  intervals. Let the children add up in 14s if they are able.
4. Draw more lines from the centre point outwards at the  $14^\circ$  marks you have made. Repeat until all 26 sections are complete.
5. Separate the wheels so they are no longer glued together, they will need to rotate later.
6. Write the alphabet in the sections on the larger wheel. Write numbers, letters or symbols on the inner wheel. Colour in the wheels in different colours.
7. Connect the wheels with a split pin.
8. Now you are ready to write a message in code to a friend. Then give them the coded message and the wheel start position (eg AP), and let them decode your message.

## Method 2 (using the template)

1. Print out and cut out the template. Make another larger circle.
2. Attach the two circles in the centre with a split pin. Using a ruler, extend the lines from the small circle out to the edge of the large circle.
3. Follow steps 6 to 8 above.



Template for inner circle of code wheel. Print, cut out then place in centre of a second, larger circular piece of card. Use a ruler to extend the lines from the inner circle to the edge of the outer circle.

