

## Make your own model of the Plough constellation

The Plough, or Big Dipper as it is known in America and Canada, is made up of seven bright stars and lies within the Ursa Major constellation.

What you will need:

- template (below)
  - 7 x paper straws
  - coloured pompoms (1 orange, 6 white and 1 blue or alternatively, 8 white pompoms and felt-tip pens)
  - glue
  - tape
  - ruler
1. Cut your first straw to the correct length plus an additional 1.5cm to allow for joining to the template. Make four cuts in the bottom of the straw 1.5cm long and splay these out; tape the splayed 'feet' to the correct position on the template.
  2. Attach the correct coloured pompom to the top of the straw with glue
  3. Continue with all seven stars in the constellation

### Did you know?

#### Why are the stars/pompoms different colours?

Stars are different colours according to their temperature. Going from the hottest to the coolest, stars will appear blue, white, yellow, orange or red. In the Plough constellation, most of the stars are very hot blue/white stars, with  $\eta$  being hottest and coloured blue here to contrast with the other hot stars. The star  $\alpha$  is an orange pompom, as it is much cooler than the rest and shines more orange/red.

#### Why are there two pompoms on one of the straws?

The second point on the 'handle' is a visual binary star, meaning they are two stars that sit very close to each other in the sky.

#### Why are the straws different heights?

The different heights of the straws give the vertical separation of the constellation, giving its 'plough' shape. The positions of the straws on the template show the relative distances of the stars, with the star  $\alpha$  being furthest from us at a distance of 123 light-years from us, and  $\beta$  being the closest at a distance of 80 light-years.

