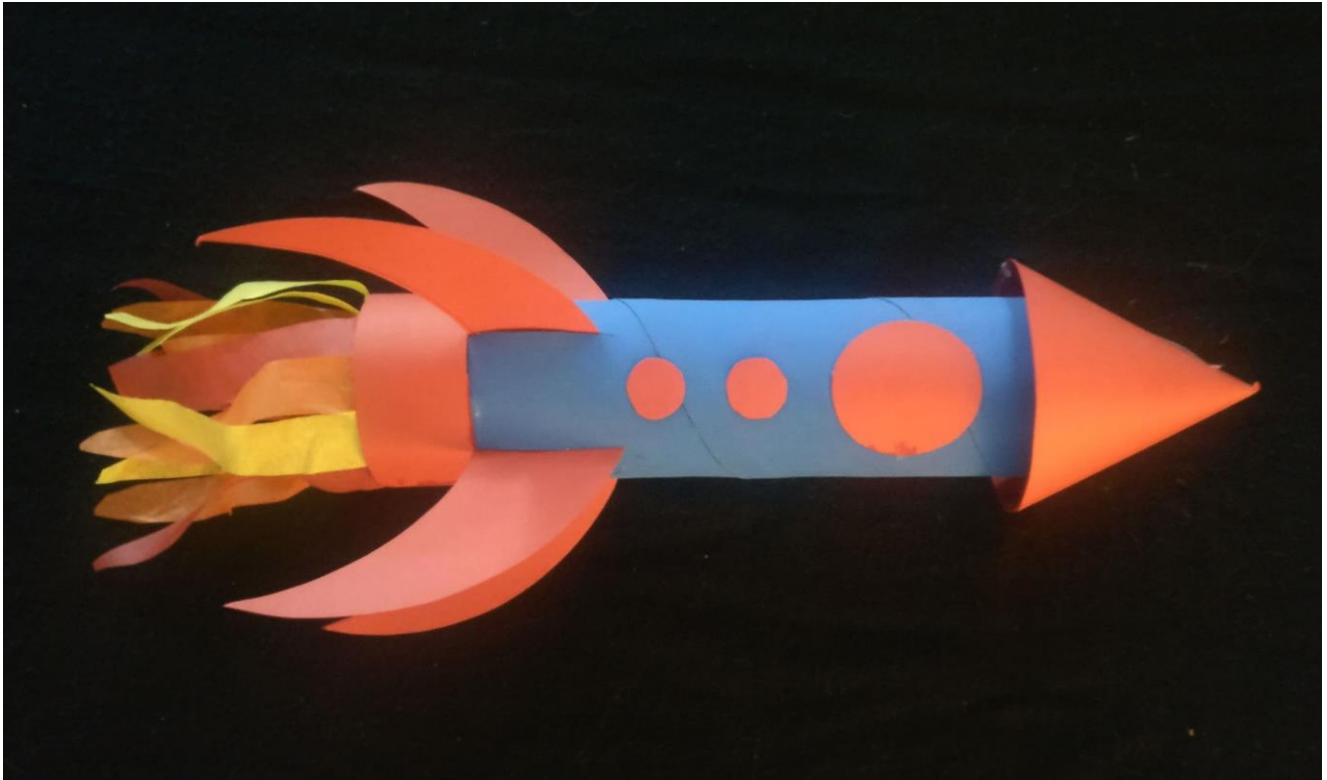


FLYING ROCKET CRAFT: MASTER CLASS



The following materials and tools will be required:

MATERIALS AND TOOLS

Coloured card
Coloured tissue paper
Coloured poster paints
Paintbrush
Pencil
Scissors
Small bowl
Bottle cap
Kitchen roll tube
Glue stick
5 pence piece



This activity should be carried out under adult supervision

THE IMPORTANCE OF ROCKETS

The aim of the British space programme is to enable sustainable economic growth, secure new scientific knowledge and provide benefits to everyone. The first official British space programme began in 1952, and in 1959, the first satellite programme was started. During the 1960s and 1970s, a number of efforts were made to develop British launch capability. A British rocket named Black Arrow R3 did succeed in placing a single British satellite, Prospero, into orbit from a launch site in Australia back in 1971. Prospero remains the only British satellite to be put into orbit using a British vehicle.

The use of rockets to put satellites into space is extremely important, for it is beneficial to humankind as well as our planet for several reasons. For example, satellites are used for Earth observation, monitoring pollution, Earth and space weather observation, food and water security and scientific research. As well as this, satellites are vital to everyday human life such as allowing you to call your friends and family on your mobile phone, navigational systems and watching television. Without realising it, satellites make our daily lives possible and continue to advance and improve the wellbeing of society.

Skyrora has developed this fun activity to demonstrate the basic concepts behind aerodynamics which are namely the fins and nose of the rocket. The fins of the rocket keep it stable enough to fly straight through the air: if a stable rocket is nudged by a crosswind the fins will manoeuvre the rocket back into the direction it was originally flying. Rockets must be aerodynamic to glide through the air with ease. The shape of the nose cone and the fins will be tailored to how fast the given rocket is intended to fly.

Learn how to make your own rocket at home following the steps below:



STAGES OF WORK

STEP 1 Paint the kitchen roll tube using the paint colour of your choice.



STEP 2 Place the bowl upside down on top of your coloured card. Using the bowl as a template, draw a semi-circle around the bowl.

STEP 3 Move the bowl 5cm further down the card and draw another semi-circle around the bowl. Repeat this step so that you are left with two crescent shapes. Cut these shapes out from your card.



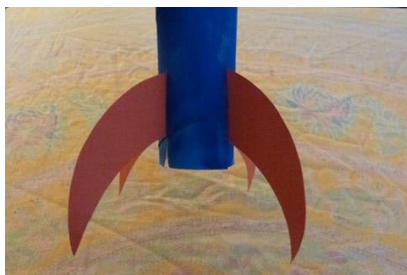
STEP 4

Fold the two crescent shapes in half. Cut halfway down the fold line from the top of one of the crescent shapes, and from the bottom of the other. Place the crescent with the cut from the bottom on top of the crescent with the cut from the top, and slot one crescent into the other to make the four fins for your rocket.



STEP 5

Take the kitchen roll tube and cut four 10cm long cuts up each side of the tube. Then push the rocket fins up to slot into the cuts you have made at the bottom of your tube.



STEP 6

Take a new piece of coloured card and place your bowl upside down on top. Use the bowl as a template to draw a circle onto the card. Cut the circle out from the piece of card, then cut a quarter from the circle like so:



STEP 7

Fold the edges of the circle in towards each other and glue them down to form a cone shape. This will be the nose of your rocket.

STEP 8

Glue the nose cone to the top of the kitchen roll tube.



STEP 9

Cut a strip of card along the bottom of a sheet of card at 3cm wide and using glue, wrap around the bottom of the kitchen roll tube underneath the rocket fins.



STEP 10

Draw around the bottle cap on a piece of card. Draw twice around the 5 pence piece on the same piece of card. Cut the three circles out and glue them to the kitchen roll tube in a row to make the rocket windows.



STEP 11

Cut a full-length strip of card from a sheet of card at 3cm wide. Cut 8 strips of tissue paper in the colours of your choice, at around 10cm long. Glue the strips of tissue paper to the strip of card. This will be the fire that shoots out the bottom of the rocket.

STEP 12

Turn the strip of card with the attached tissue paper over and glue along the length of the card. Turn the strip of card back over and roll the card up so that the glue sticks to the inside of the bottom of the rocket. Your rocket is now ready for lift off!

