

# 400ft Stomp Rocket®

science museum uk

## What does it do?

Stomping on the foot pad sends rockets up to 400 feet in the air.

## How does it work?

Slipping the rocket over the launch tube is like putting a cork in a bottle. Stepping hard on the foot pad creates air pressure that forces the rocket off the tube and into flight.

## Did you know?

The rockets are made of light-weight foam but have relatively heavy nose cones. Without this weight the rockets would not be able to fly very far at all. The weight, or mass, of the nose overcomes the air resistance for a truly far out flight.

## Try it out

Carefully bend the tips of the three foam fins to change the dynamics of your rocket's flight. Bending all three fin tips in the same direction causes your rocket to spin on the way up and on the way back to earth. Bending two of the three in opposite directions causes your rocket to veer off in one direction.

## Fact files

Real space rockets use the same principles as your air-powered rocket, only they have chemical fuels to create the air pressure that sends them skyward. Burning fuel expands rapidly just as the pressurised air you created by stomping on the foot pad rapidly expands as the rocket leaves the launch tube. The earliest rockets flew some 2,000 years ago in China.

## National Curriculum coverage

Air-powered rockets are a great way to explore forces as part of the KS1, KS2, and KS3 science curriculum.

## In the Science Museum

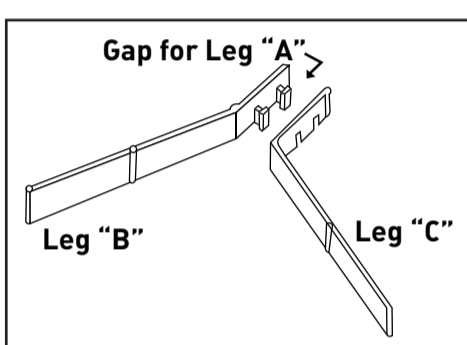
The world of rocketry is on display in the Science Museum's newly remodelled space gallery. Among the highlights is the Black Arrow Rocket, used to launch British space satellites.

## 400ft Stomp Rocket®

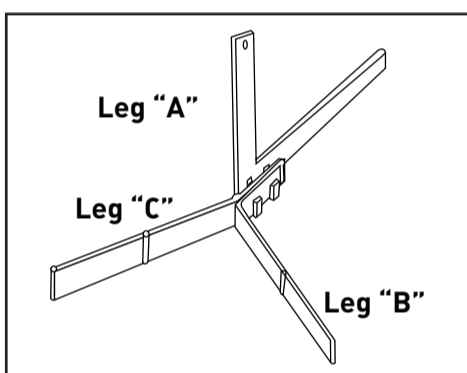
### Instructions

#### Setting up the Stomp Rocket®

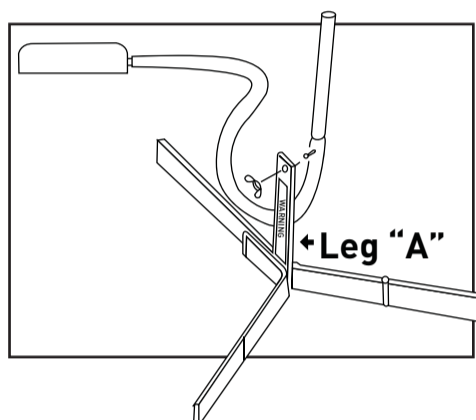
1. On a flat surface place Leg "C" (slots) over Leg "B" (notches) leaving space for Leg "A" to fit in between.



2. Slide Leg "A" BETWEEN Leg "B" & Leg "C". Push down on Leg "A" to obtain a tight fit.



3. Launch tube & hose must be attached so that black tubing runs vertical and parallel to Leg "A" of launch stand as shown in illustration. Insert carriage bolt as shown through hose, launch tube, and Leg "A" upright. Screw on wing nut and tighten.



4. Find a launch site: Find a wide open, level area to use as your launch site. Ensure there are no trees or power lines close by. Set the launch stand in the middle of that area. Is the launch tube laying flat along Leg "A"? Is the foot pad flat on the ground? Make sure launch hose is not twisted.

### Launching the Rockets

Ensure the launch pad has been set up properly as above. Place on level firm ground so the launch pad is stable. Only use outdoors clear of obstacles in all directions and away from any people or animals.

Ensure the air hose is not kinked and that the maximum distance possible is present between the foot pad and the rocket. Also see warning information below.

- Place a rocket fully onto the launcher.
- Adjust the launcher to the trajectory required and ensure the nut is tightened firmly.
- Make a short jump, landing with 2 feet together on to the foot pad, ensuring you are well balanced and will not fall over.
- Watch as the rocket flies skywards!

### Why not try these fun activities?

- Alter the angle of flight by adjusting angle of the rocket launcher on the stand. Look and see how the height and distance change with this angle. What angle makes for the longest flight?
- Can you aim the rockets so that they land on a target a set distance away?

### Warning

- Read all instructions carefully before use.
- Never aim at people or animals.
- Never put your face over the rocket, even if not about to use the rocket.
- Do not get in way or attempt to catch the rockets.



**WARNING:**



Not suitable for children under three years old. Contains small parts, which may represent a choking hazard.

Please read and retain this packaging for future reference.

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