

3M Young Innovators Challenge



AeroTech Challenge

Materials list

Permitted materials – Aircraft

- ▶ Paper and cardboard
- ▶ Foam
- ▶ Polystyrene
- ▶ Table tennis balls
- ▶ Pipe cleaners
- ▶ Drinking straws
- ▶ Thin plastic sheet
- ▶ Balsawood
- ▶ Balloons
- ▶ Aluminium foil and other thin film or foil
- ▶ Thread, string
- ▶ Adhesive tape, glue, elastic bands or other fastening/connecting materials
- ▶ Blu-Tack™, Plasticine® or similar
- ▶ Paperclips
- ▶ Lightweight decorative materials

Excluded materials

- ▶ Carbon fibre sheet
- ▶ Pins or metal fastenings

Very important: please ensure the aircraft does not have any sharp edges which could cause injury during flight.



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Permitted materials – Launching device

- ▶ K'Nex®, Lego® and Meccano®
- ▶ Wood including bamboo sticks, lollipop sticks, dowel or sheet
- ▶ Corrugated or flat plastic sheets
- ▶ Foam
- ▶ Polystyrene
- ▶ Plastic tubing or guttering
- ▶ Paper or cardboard in any form
- ▶ Rope, string, wool or other thread
- ▶ Wire
- ▶ Elastic or elastic bands
- ▶ Balloons
- ▶ Bicycle or hand pump
- ▶ Levers and pulleys
- ▶ Foil, film or other similar sheet materials
- ▶ Paper clips, staples, split pins, glue guns, adhesive tape, glue or other similar connecting materials

Excluded materials

- ▶ Commercial rocket launching kits

Dimensions

- ▶ The aircraft must weigh no more than 250g including any attachments necessary to connect it to the launching device. There are no restrictions on its dimensions or wing span
- ▶ The aircraft can be of any type e.g. aeroplane, jet, airship, glider, bi-plane, rocket or helicopter. Aircraft that make use of relevant design principles will score more highly than just a simple projectile
- ▶ The launching device must be no larger than 1 metre in height, width or length. There are no restrictions on its weight. Designs that use particularly innovative means of launching will score highly
- ▶ The aircraft must be released/propelled by the launcher; it may not be launched by a person by means such as throwing or kicking

Forces acting on an aircraft

