

One of the quickest way to get started in rocketry is to build a chip cup rocket. Building a chip cup rocket takes about five minutes - and four minutes of that is waiting for the glue to set!

### Things you will need



- a small amount of 5 minute epoxy
- a small yoghurt pot to mix it in
- plastic gloves to keep epoxy off YOU – your local petrol station usually has some!
- a disposable stirrer
- a drinking straw
- a bit of sticky tape
- a rocket motor – obtainable from your local model shop
- a pointy stick – Kebab sticks are great for this !
- a launch rod (a very straight coat hanger will do)
- and a polystyrene chip cup!

Epoxy glue comes in two parts, a resin and a hardener. You need the 5-minute sort as the 1-minute sort is too darn fast and the longer setting sort is too darn boring!

Some people are allergic to epoxy so you should NOT get it on your skin - wear plastic gloves to be sure. If you spill some epoxy, methylated spirits will clean it up BEFORE it hardens. Afterwards, you don't have a prayer.

Rocket motors are graded for their power. B motors are stronger than A motors, for instance. For your first chip cup rocket, choose an A motor. You also want one with a short delay - the last number in the motor designation is the delay in seconds before a parachute ejection charge goes pop. An A8-2 is almost ideal for starters. You can buy model rocket motors at most hobby shops.

Decorate your chip cup before you start turning it into a rocket.

Tape a 25mm length of drinking straw to the side of your motor. Make sure it is straight!



Protect your work surface with newspaper. Mix up about 3ml of each epoxy component. Stir it for 30 seconds.



Dip the open end of the rocket motor (NOT the nozzle end) in the epoxy and swish it around. Get it good and goey!



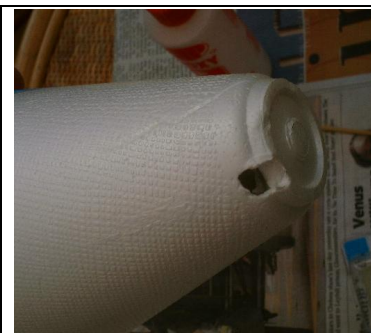
Plunk it down in the middle of the chip cup and swish it around to coat the sides at the very tip of the chip cone. Set the chip cup in a drinking glass and make sure that your motor is straight up and down.



Wait a couple of minutes, while you are waiting for the epoxy to get a little bit stiff.



Take your pointy stick or launch rod and, from the inside, poke it through the Styrofoam chip cup in front of bit of drinking straw (now called a launch lug)



# Chip Cup Rockets

## Aviation Activity Work Sheet



Ta da! Your 1st Chip Cup Rocket is done and ready for launch. Since motors are sold in packs of threes, you should make the other two up now while you have your materials in one place and only one mess to clean up.

Only put the igniters in your rockets immediately before you launch them. Follow the motor instructions carefully!!! Read up and follow the [Safety Code](#) like your life depended on it! *(we realise the safety code link is not correct at present and are working to resolve this)*

Chip Cup rockets work fine with As and Bs and Cs. Do NOT use a D motor until you know a LOT more about rockets. Chip Cup Ds are unstable and dangerous unless you move the Centre of Gravity ahead of the Centre of Pressure. Once you know a bit more about rockets, you will understand how to do that!!!



Make sure that your chip cup rocket is safe for take offs as well as landings. Here's Genni attaching the igniter leads with the motor pointed AWAY from her. She is wearing the controller 'safe' key on a lanyard around her neck.

With an A motor, a chip cup MIGHT be safe to fly from a big back garden but check it out. Be especially considerate of neighbours and pets!!!



If you are launching a rocket for the first time, get some advice and help from someone that has done it before. Paul Lavin at the Model Rocket Shop would be happy to offer friendly advice – call 01582 462720.

Why not have chip cup rocket drag race with friends? The best-built rockets are the last ones to come down (because they went the highest!)

Chip Cups are pretty amazing to fly at night - the whole airframe lights up - but remember to recover your rockets. Even though they are a one-use rocket, don't be a litterbug. They are really hard to photograph at lift off. Here you can see one that took off a half second later from the testing ground.

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## Aviation Activity Work Sheet



This is a picture of someone flying his chip cup in the middle of winter. Chip cup rockets are fun and go surprisingly high but like all rockets, they demand care in launching to avoid damage to property or injury to yourself or others.

Supplies of Chip Cups rockets and other related materials – why not contact the following supplier.

[www.modelrockets.co.uk](http://www.modelrockets.co.uk)