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ALUMINIUM FEDERATION

BLOODHOUND ALUMINIUM DESERT WHEELS DESIGN & TECHNOLOGY CHALLENGE

– Guide to Working With Aluminium Drinks Cans –

Use this guide to give you a head start on working safely with aluminium, then adapt and improve your own designs.

Work sensibly with aluminium: wear rough handling gloves (see photos) and keep your hands away from cut edges. Snip off barbed edges with scissors. Keep your gloves on to pick up waste metal and tidy up the work area. Excess material can be recycled.

DO NOT USE STEEL CANS. Steel is not magnetic but aluminium is not, so check whether a magnet is attracted to the can. If it is, do not use it – steel is very springy and awkward to fold, so leads to a higher risk of cuts.

When you have created your wheels, attach them to your test car and run it down a ramp:

- How does it run?
- How fast does it go?

Keep improving and adapting your design to make the fastest desert wheels possible!



How to create a flat sheet of aluminium from a can



1
Pinch and nip to make the first hole in the can – avoid stabbing actions.



2
Continue the cut to remove the top, then remove any sharp points with scissors.



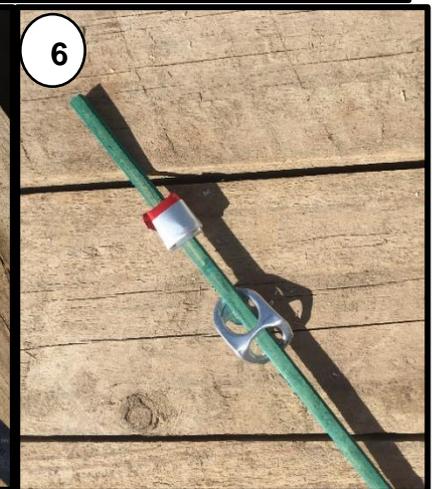
3
Cut down, then cut around the base to remove the bottom of the can.



4
Fold gently to flatten the sheet out.



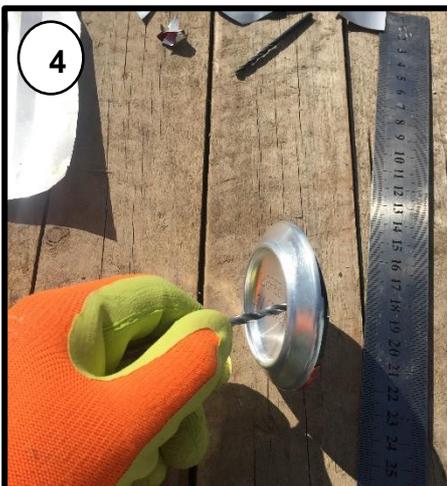
5
Use a ballpoint pen to score lines to strengthen the sheet. Cut out any shapes you need.



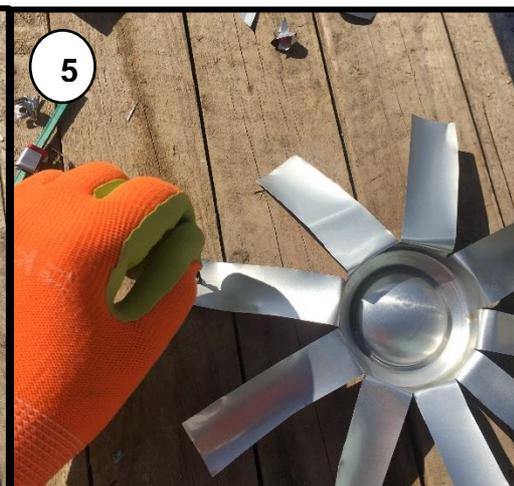
6
Use any part of the can to help form the wheels.

How to make a simple wheel

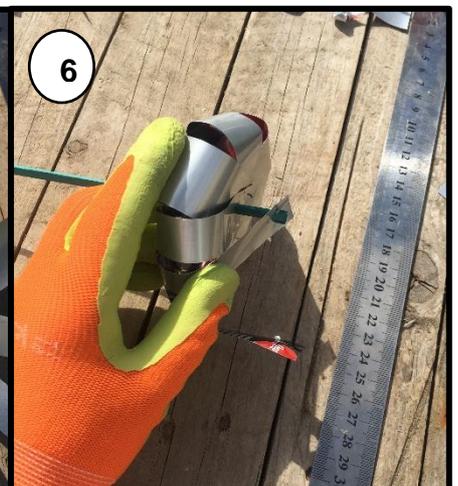
Follow steps 1 to 3 above. Then continue with steps 4 to 6 below:



4
Use a bradawl or drill bit to make axle holes – just twisting it in by hand works fine.



5
Cut down strips towards the base of the can, then drill holes into the end of each strip.



6
Insert the axle, then fold and thread each strip onto the axle.