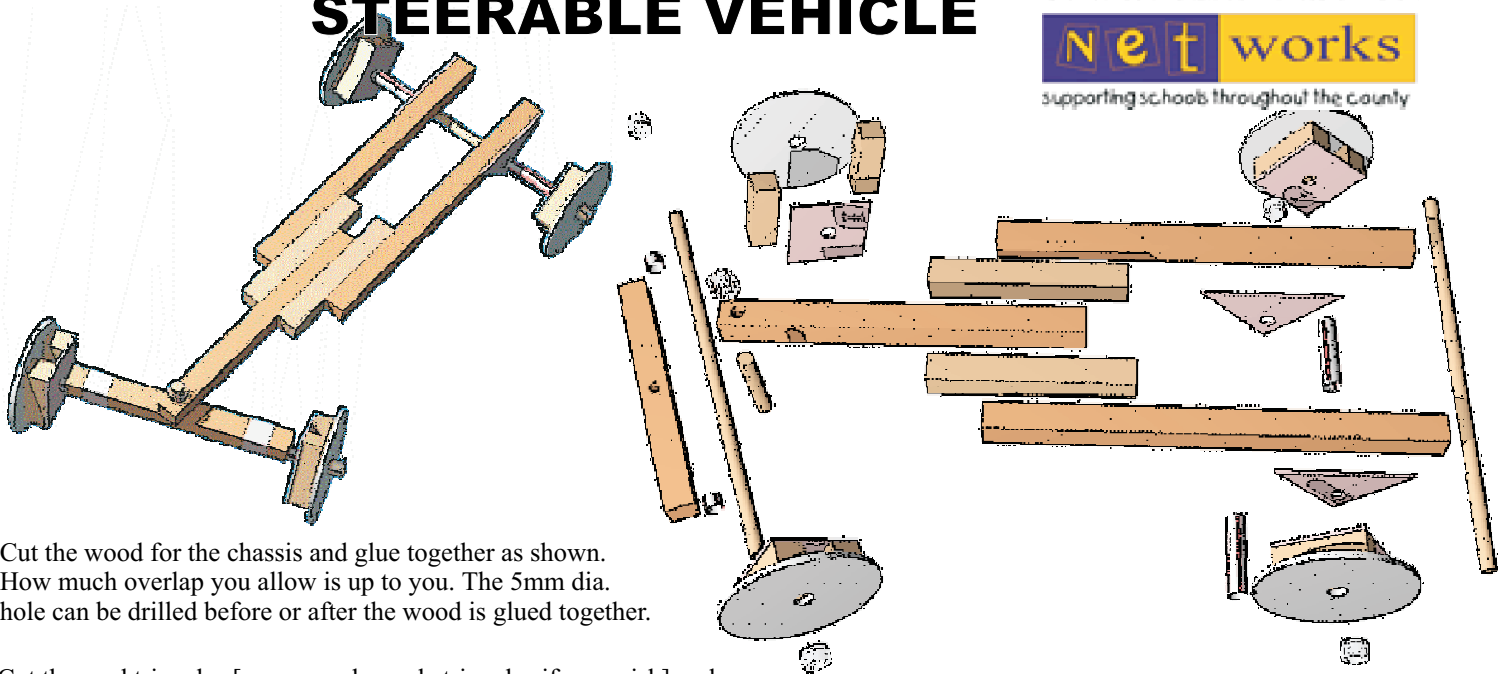


STEERABLE VEHICLE

Standards and Effectiveness Division

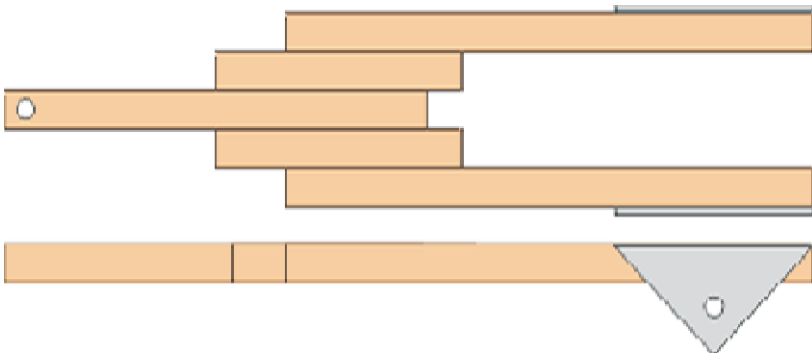
net works
supporting schools throughout the county



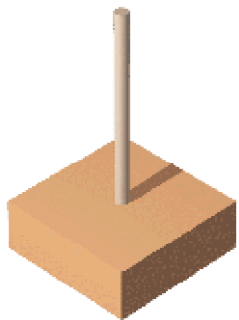
Cut the wood for the chassis and glue together as shown. How much overlap you allow is up to you. The 5mm dia. hole can be drilled before or after the wood is glued together.

Cut the card triangles [or use ready made triangles if you wish] and glue to chassis. It is a good idea to put a length of dowel through the holes before you fasten the triangles. Then you can make sure that the holes are in line.

If you want the chassis to be level when the wheels are fitted you will have to leave a 1cm. space between the holes and the wood. If you don't the vehicle will sit 'nose-up', but of course, your vehicle may have the front at the back! [Think about it!]



Build the front axle assembly by gluing a 15cm length of dowel to the wooden beam. You will have to drill the hole BEFORE gluing. A couple of pieces of masking tape will hold the parts together while the glue dries, and if you do it neatly they can be left in place as reinforcement.



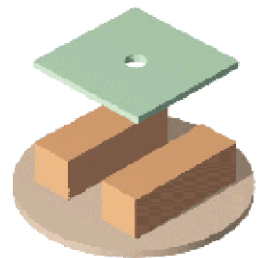
WHEEL JIG

There are lots of ways to build wheels. The way shown is probably the easiest. For each wheel you need a card disc, 2 pieces of wood and a card square [with a hole near the centre]. What is also VERY useful is a JIG which you could make yourself.

The jig is a small block of wood with a dowel standing in the centre. The dowel fits into a hole which has been drilled with the drill held in a drill stand. The dowel must stand straight.

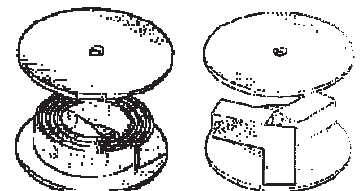
Glue the 2 pieces of wood to the card square - don't cover the hole!

Place a disc on the jig with the dowel through the hole. Push the disc right down to the bottom. Then push the card/wood unit on the dowel and glue to the disc. This will line up the holes. If you make your jig with a long enough dowel, [say 6cm plus], you will be able to build all four wheels onto the same jig.



When you are ready to fit the wheels to the chassis first make sure that the holes are big enough to allow the wheels to turn easily. Use pieces of plastic or paper straw to prevent each wheel rubbing against the frame. Keep the wheels from falling off with short lengths of 8mm PVC tubing.

You can use a second disc instead of a card square if you wish - it does make it possible to fit a paper 'tyre' [looks better!]. See opposite for possible arrangements using either wood or rolled card.



CUTTING LIST

Chassis - softwood 1cm square

- 2 pieces 15cm long and 2 pieces 7cm long.
- 1 piece 12cm OR the remainder from length [59cm]
- 2 card triangles

Front axle - softwood 1cm square

- 1 piece 10cm - and
- 5mm diameter dowel 15cm long and 2½cm

Rear axle - 5mm diameter dowel 15cm long

Wheels [as shown] - 4 card discs, 51mm diameter

- 8 pieces 1cm square softwood 3cm long
- 4 card squares 3cm x 3cm

Misc. - paper or plastic straw for spacers.

- PVC tubing [8mm] to keep wheels from falling off
- Good quality PVA glue

Put a short piece of 5mm diameter dowel [about 2½ cm] in the hole. If it is a loose fit glue it in place. When everything is dry you can push this dowel peg into the hole in the chassis. It doesn't need to be a loose fit, but it should turn. Secure with a short length of PVC tubing.