

How to make a set of devil sticks.

Materials & tools required:



Wooden dowel

Purchase from any hardware store:

Width: 12mm (or 12.5mm) Total length: 1450mm

You can usually get the shop to cut it for you.

The lengths you need are: 2 x 450mm and 1 x 550mm



Rubber inner tube

Ask at your local bike shop for 1 or 2 used inner tubes.

You'll need to cut the inner tube into the following sizes:

- 1 piece: 18mm wide, 670mm long,
- 2 pieces: 42mm wide, 530mm long,
- 2 pieces: 85-95mm wide, 500mm long.



Scissors



Wood saw



Electrical tape



Pen / texta



Weighing scales



Contact adhesive



Staple gun

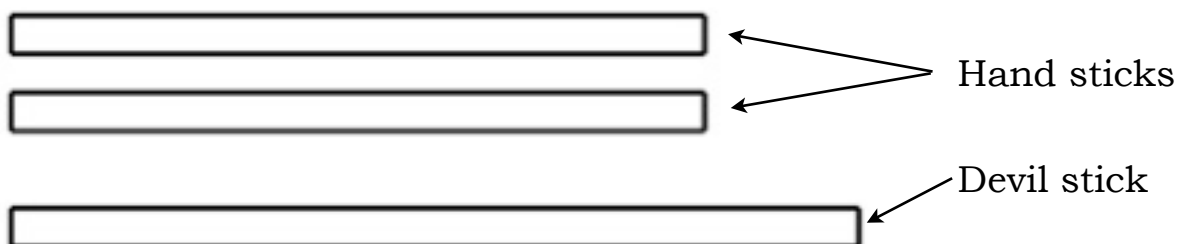
Note: having a staple gun is ideal, but if you do not have access to one then you can skip those steps. Instead, ensure that plenty of electrical tape is used to secure the rubber.

Part 1: Preparing the dowel

Step 1:

Use the ruler and wood saw to cut the wood dowel into 3 pieces:

- 2 shorter lengths at 450mm each (hand sticks)
- 1 long length at 550mm (devil stick)



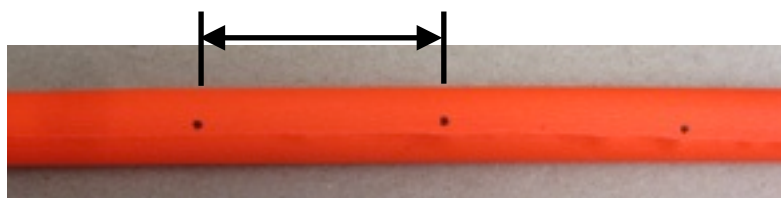
Step 2:



Cover the devil stick (long dowel) with contact adhesive.

Step 3:

Use a pen to mark the devil stick (long dowel) with dots at 40mm intervals along its length as shown below:



The dots will help you wrap and attach the rubber later on in Part 3. Put your devil stick aside for now, as it's time to prepare the rubber inner tubes.

Part 2: Preparing the rubber inner tubes

Step 1:



Cut the valve off the rubber inner tube.

Step 2:



Cut the rubber inner tube open along its length.

Note: If the inner tube has a line you can follow, use it to get a straight cut

Step 3:

Wash both sides of the rubber and dry it out with a towel.

Step 4:

Cut the rubber into 5 pieces, to these sizes:

- 1 piece: 18mm wide, 670mm long = (A)
- 2 pieces: 42mm wide, 530mm long = (B) & (C)
- 2 pieces: 85-95mm wide, 500mm long = (D) & (E)

Once you finish cutting, you will have the following set of rubber pieces:

(A) 

(B) 

(C) 

(D) 

(E) 

Part 3: Wrapping the devil stick with rubber:

Step 1:



Attach (A) to one end of the devil stick using electrical tape as above.

Step 2:



Use the staple gun to firmly secure the rubber to the dowel.

Note: if the staple does not go all the way in, tap the staple firmly into the wood dowel using a hammer.



1.



2.



Step 3: Remember the dots you drew on the devil stick?

You're going to use the dots to wrap the strip of rubber diagonally around the devil stick. As you wrap it around, cover each dot as you go. This gives a nice even stripe to the devil stick as below:



Note: If there isn't enough rubber to get to the end of the dowel, re-wrap it more tightly. If there is more rubber than you need, once it is fastened to the devil stick you can cut the excess off.

Step 4: Repeat steps 1 and 2 above to secure the other end of (A) to the devil stick.

Part 4: Making and attaching the 'flowers'

Step 1:

Use the weighing scales to weigh (D) & (E) and make sure they are the same weight.

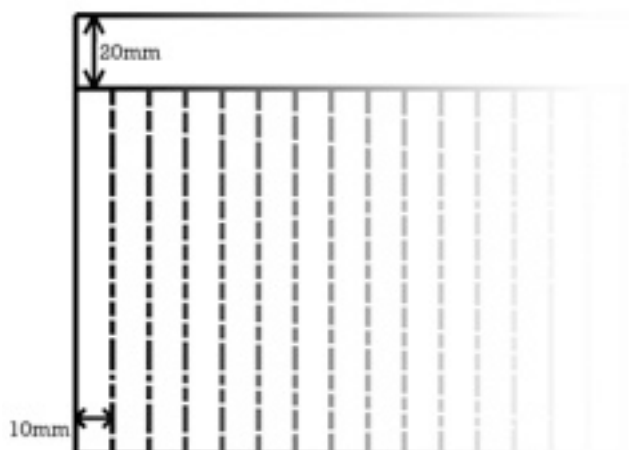
If they are not the same weight, cut a bit off the heavier piece and re-weigh them.

Aim for 40g each, and try not to have more than 1g difference between the two pieces of rubber.

Note: You **do not** need to weigh (A), (B) or (C).



Step 2: Cut both (D) and (E) as shown by the dotted lines below:



Step 3: Use electrical tape to secure one end of (D) to the end of the devil stick as shown.



Note: You need to decide whether to have your flowers curling inwards or outwards:



Inwards



Outwards

Part 4: Continued

Step 4:

Use the staple gun and hammer to secure (D) to the devil stick, just as you did in Part 3.

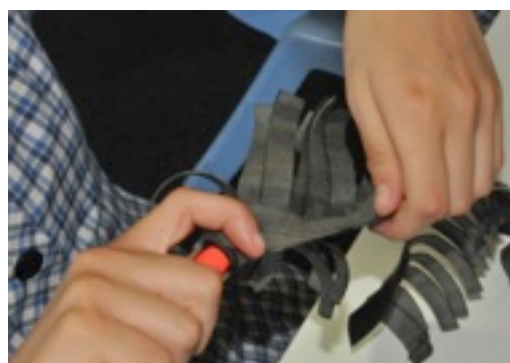
Note: see page 4 for method.



Step 5:

Carefully wrap (D) **very tightly** around the end of the devil stick to create a flower.

Note: Be sure to wrap each layer directly over the previous layer.



Step 6:



Use electrical tape to secure the end of (D).

Step 7:



Use the staple gun to further secure it.

Step 8:



Wrap the rubber once more with a few layers of electrical tape, covering the staple and finishing off the 'flower'.

Step 9:

Repeat Steps 2 to 8 above to attach (E) to the other end of the devil stick.

Part 5: Making the hand sticks

Step 1:



Wrap a small length of electrical tape around both ends of both hand sticks.

Step 2:



Use electrical tape to secure the end of (B) to one end of one hand stick as shown.

Step 3:



Use the staple gun and hammer to secure the rubber to the wood dowel

Step 4:



Once secured, the end of the wood dowel will look like this.

Step 5:

Wrap (B) diagonally down the dowel tightly. This can be tricky so get someone to help you if you need.

Try to keep the overlap between 5 and 10mm all the way down the wood dowel.



Note: If there isn't enough rubber to get to the end of the dowel, re-wrap it more tightly. If there is more rubber than you need, you can cut the excess off once you have secured it.

Part 5: Continued

Step 6:



Use electrical tape to secure the end of (B) the other end of the hand stick as shown.

Step 7:



Trim any excess rubber from the end of the hand stick.

Step 8:



Use the staple gun and hammer to secure (B) to the wood dowel.

Step 9:



Wrap two layers of electrical tape around each end of the hand stick to cover the staples.

Step 10:

Repeat Steps 2 to 9 above to complete the second hand stick using (C), the last piece of rubber.

Step 11:

Find someone to Hi-5!
You're done!

