

6. Fit the Battery Holder

Use the Sticky Pad to fix the Battery Holder to the Base with the black wire and –ve end of the Holder on the left hand side as shown.

Twist together both of the black wires from the Battery Holder and the Buzzer, wind them under the washer and screw head on the left hand side of the Base and tighten securely.

Twist together the red wire +ve end from the Battery Holder and the yellow wire from the Contact Loop and secure under the washer and head of the other screw.

7. Shape the Buzzbar

Bend the Buzzbar Wire to whatever shape you want – the more complicated the shape and tighter the bends the more difficult the game is! Two shapes you may like to try are in the pack and both work very well – we used the duckling shape.

NOTE : a) SAFETY – the coil of copper wire from which you make the Buzzbar is long and ‘springy’—be careful that it does not poke someone or yourself in the eye or scratch you. Use plenty of space when you do this part of the project.

Wear Safety Glasses or Goggles

b) You will probably require to use a pair of “nose” pliers to help you to hold the wire and make some of the bends

c) When you start to make the shape make sure you have a long enough “leg” to fit into the Base do not worry when you are finished shaping if the two legs are too long they can be cut but make sure there is still plenty to go through Base and bend over to secure.

8. Fitting the Buzzbar and Connecting to the Circuit

a) Take the red wire from the Buzzer twist the strands of the wire together and insert in one of the five holes at the front of the Base.

b) Slide one of the Insulated Sleeves on to each leg of the profile shape and insert one leg to hold the red wire from the Buzzer in position and insert the other leg into one of the other holes. Slide the Insulations Sleeves till they are hard down on the Base and secure each with a spot of glue.

c) Clip the Connecting Loop to the Buzzbar, parking it against one of the insulated Sleeves.

d) Bend the buzzbar ends under the base so that the buzzbar does not fall out when the game is picked up.

9. Power Supply and Testing

Put a 1.5 volt AA cell into the Battery Holder ensuring that the +ve terminal of the Battery is connected to the end of the Battery Holder with the red wire. Now you are ready to test your Steady Hand Game and have FUN !!!

If it does not work, check **a)** Make sure that you have a good Battery, fully charged.

b) The circuit is connected in the correct sequence. **c)** All the wiring connections are secure.

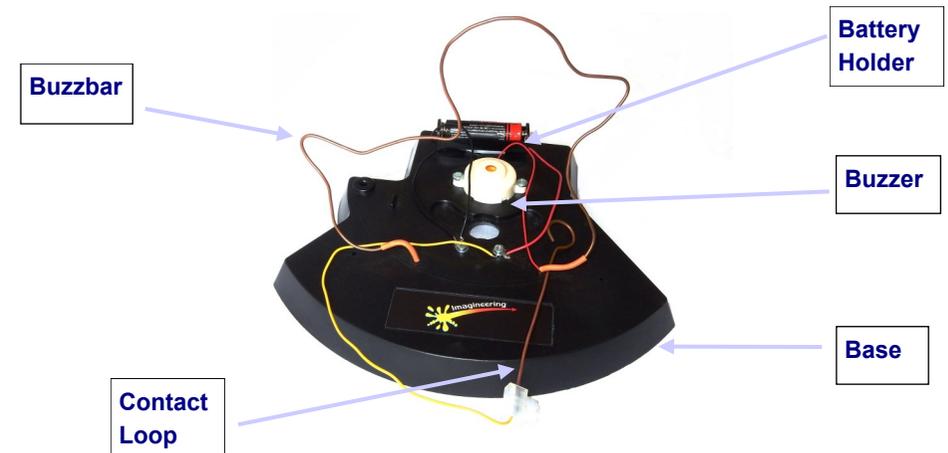


STEADY HAND GAME Mk III

INSTRUCTIONS

1. The Finished Model

The model should look like this when finished. The important parts are shown in the picture You can make the “Buzzbar” any shape you want. In this particular model the buzzbar is shaped like a duckling.



Tools Required

Snipe or ‘nose’ pliers
Posi-drive Screwdriver

Wire Strippers
Narrow flat-bladed Screwdriver

Safety

Observe all the safety rules when using any of the tools. Also take care when bending the Buzzbar both for yourself and those around you. Wear Safety Glasses or Goggles.

Topics learned

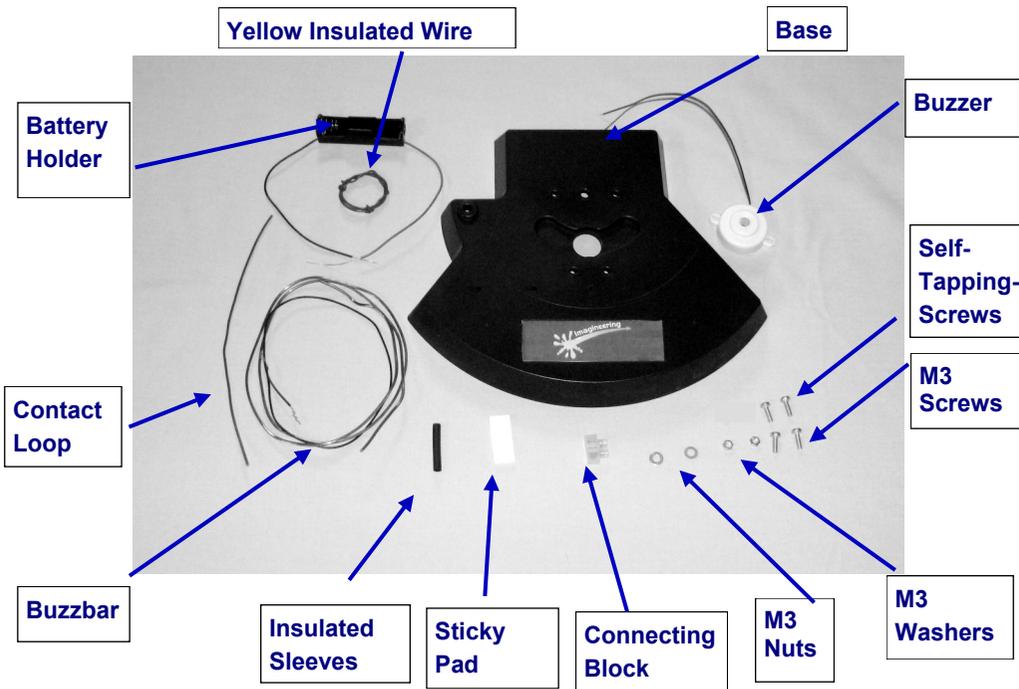
Conductors and Insulators Electrical Circuits Polarity of Battery and Buzzer
Compliance with safety rules when working with electricity.

**This is an Education Kit – not a Toy.
It requires adult supervision during construction.
The Kit contains small parts and is NOT suitable for children under 8yrs of age.**

2. Parts List

Check that you have the parts and put a tick in the column by each part.

	Description	Number	Check
1	Base	1	
2	Wire for Contact Loop	1	
3	Insulated Wire 30cm long (yellow insulation)	1	
4	Buzzer	1	
5	3.5mm x 13mm Self-tapping Pan Head Screws	2	
6	M3 x 10mm Posidrive Pan Head Screws	2	
7	M3 Nuts	2	
8	M3 Washers	2	
9	Buzzbar Wire	1	
10	Insulated sleeves	2	
11	Battery Holder (for 1.5volt AA battery)	1	
12	Sticky Pad	1	
13	Connecting Block	1	



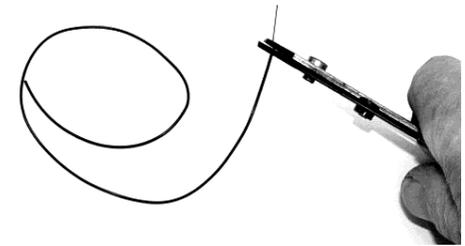
3. Contact Loop

Bend the one end of the wire with a pair of 'nose' pliers, to make a loop about the size of a 1p coin, as shown in the diagram, right.



4. Strip the Insulation

With wire strippers strip about 1.5cm from both ends of the 30cm long yellow Contact Loop wire, (take the Connecting Block and loosen the screws until you can see through from one end to the other, do not take the screws out) insert one end of the wire into the Connecting Block and insert the straight end of Contact Loop into the other end of the block, then tighten the screws ensuring that both the Contact Loop and wire are secured. Trim the Buzzer connecting wires to 14cm long and strip 1.5cm of insulation off . Trim the wires from the Battery Holder to 14cm long and strip 1.5cm of insulation off each.



5. Fit the Buzzer

Position the Buzzer on the Base as indicated and fix with the 2 self-tapping Screws. (You will find it easier to get one screw started but do not fully tighten until you get the other screw in position and started then you can securely fasten both screws.) Place a washer under the head of each of the 2 M3 screws and position in the other two holes as shown, secure with the 2 x M3 nuts which should be located in the hexagonal recesses on the underside of the base, but only screw them in half-way to allow for fixing wires later.

NOTE: Take care not to over-tighten the self-tapping screws fastening the buzzer as this could strip the plastic securing it in position.

