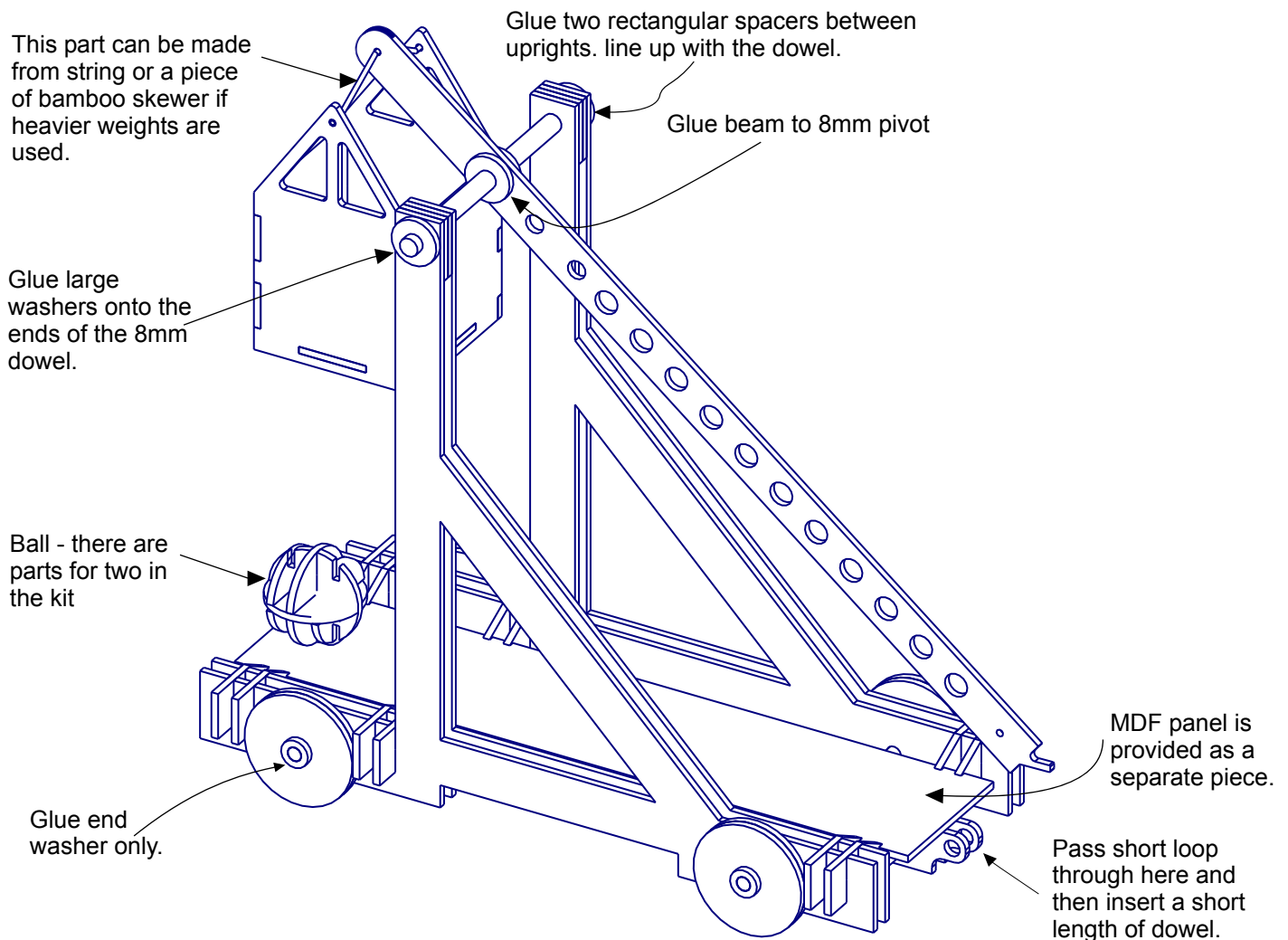
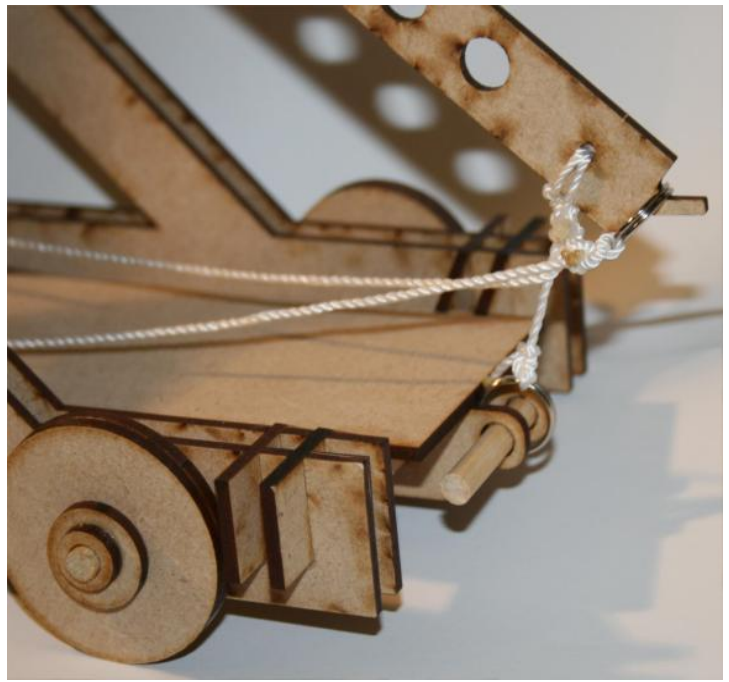
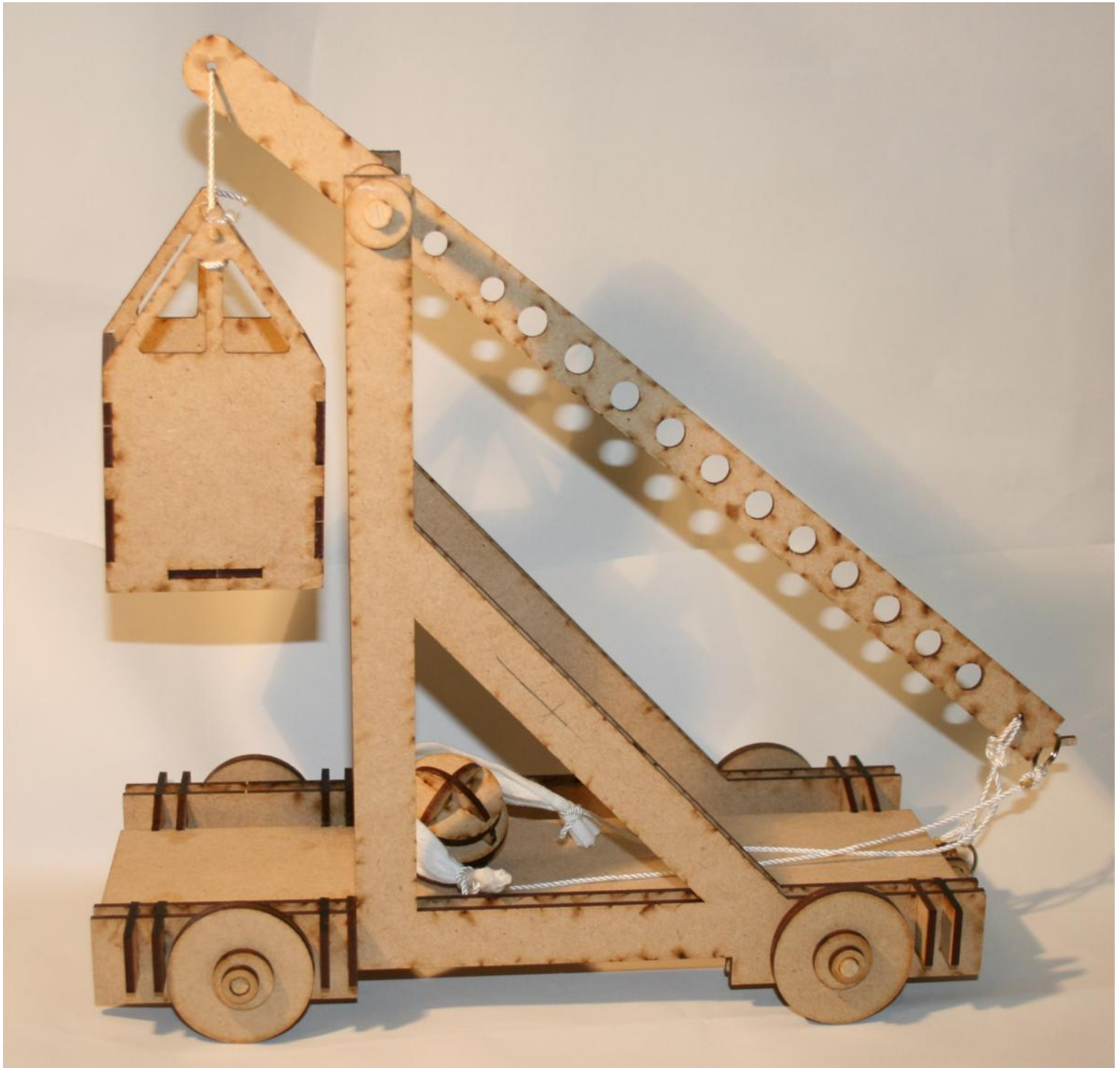


# Trebuchet Kit Instructions

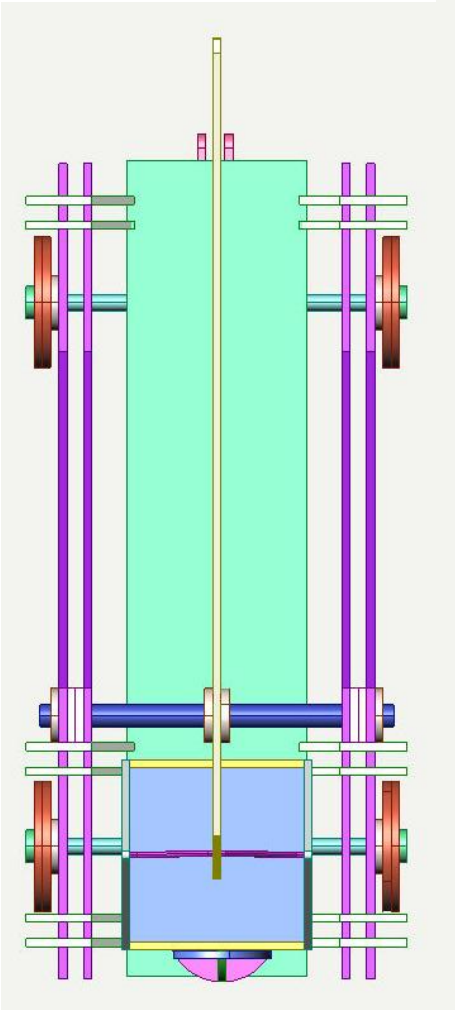


1. Break all the parts out of the MDF boards as needed.
2. All joints should be glued with PVA glue (white glue).
3. Wheels - only glue on the end washer.
4. Glue two rectangular spacers between the two uprights. Use the 8mm dowel to line them up and make sure that there is free movement
5. Glue the main beam onto the 8mm dowel and then glue a large washer either side. Make sure the beam can swing freely.
6. Glue the large washers on the end of the 8mm dowel.
7. Prepare the string and sling as in the photographs. The ends of the string need to be melted to prevent unravelling. Adult to do this using a flame!
8. Assemble the balls.
9. Use a short loop of string on the end of the beam to produce the trigger - see diagram and photograph.
10. Use coins, gravel, stones etc as the weights to place in the basket.
11. The string length from the beam to the sling should be about 200mm.

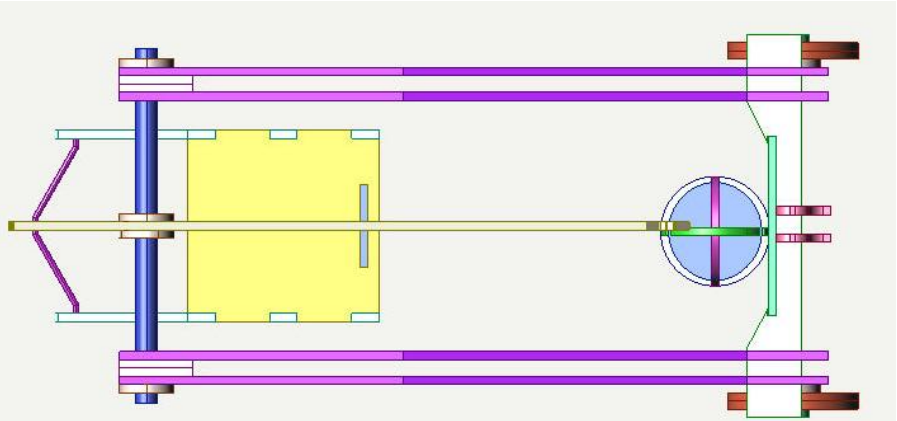


# Views of the Trebuchet drawn in Pro/Desktop

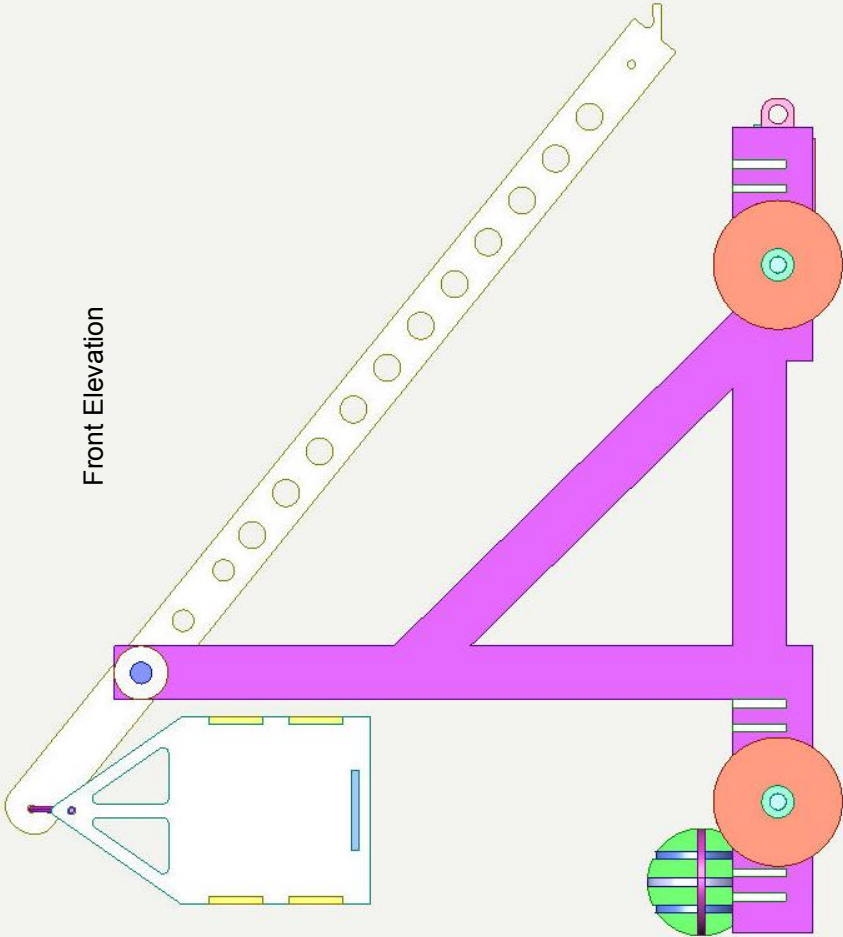
Plan view



End Elevation



Front Elevation



# How It Works

The basket or bucket which is filled with weights such as Stones or money is lifted up. The short loop on the other end of the beam is secured using a short piece of dowel (this is now the trigger).

The ball is placed in the sling; the ring is hooked onto the end of the beam; the sling is pulled as far forward on the bottom panel as possible.

When the trigger is released (by pulling out the dowel) the basket falls rapidly, the beam rotates pulling the sling round in an arc, the ring slips off and the ball is released forwards.

The length of the sling will change the projectory - shorter is higher.

This link gives a good description of how a Trebuchet works :-  
<http://members.iinet.net.au/~rmine/howtreb.html>

## Health and Safety

The ball should be released with some force do not aim it at anything breakable especially not other people!

The beam moves upwards very quickly so make sure you release it when you are well to the side and also make sure nobody else is looking over the top!

The ball can be released backwards if the machine is not set up correctly!

Do not trap fingers in the mechanism as it is fired and be careful with the falling weight.