

# MAKING A CAM MECHANISM

I can combine materials with temporary or  
fixed joints

I can use cams in my products

I can cut safely and accurately to a marked  
line



## Step 1

Close the one end of the box securely with tape.





## Step 2

Measure  
from the  
bottom of the  
box, 5cm up  
and mark it.



### Step 3

Then measure across from the first mark, 5cm and put a mark.





## Step 4

Then turn the box over so you can see the top. Again measure 5cm up and then 5cm across and put a mark there.



## Step 5

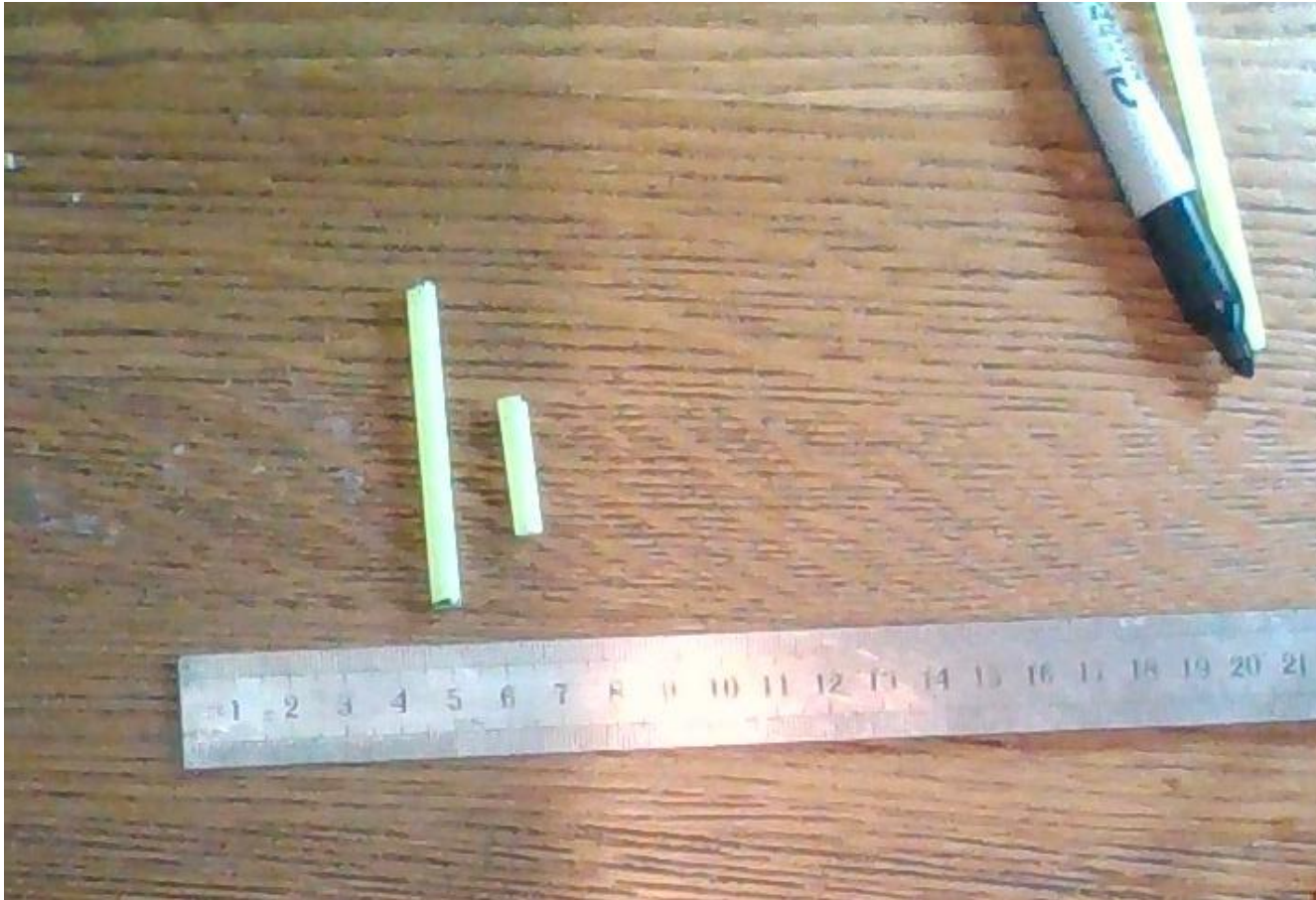
Get the plastic straw.  
Measure 2.5cm and mark  
it. Use your whiteboard  
pen to make a clear mark.  
Cut it nice and straight.





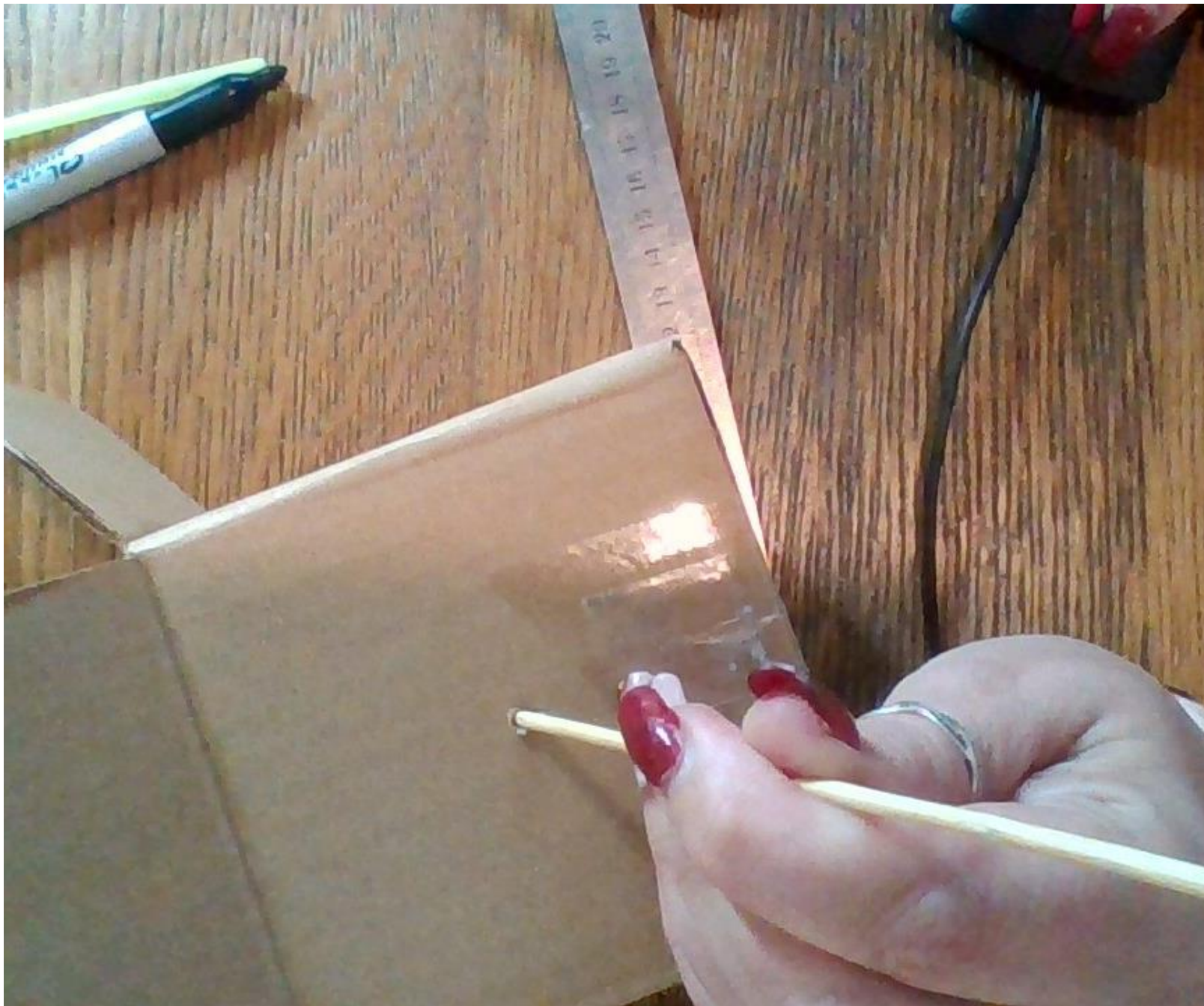
## Step 6

Measure 6cm on the straw, mark it clearly and cut off. Put to one side for later.



You should two  
pieces of straw  
that look like this.





## Step 7

Carefully make a hole on both sides the box where you marked earlier. Push the dowel(axle) through. Push the small piece of straw on the dowel, then the cam then the other piece of straw. Carefully push the wood through the other hole.



Through he first side





Small piece of straw.



Add the cam.





Last piece of straw and  
through the other hole.



## Step 8

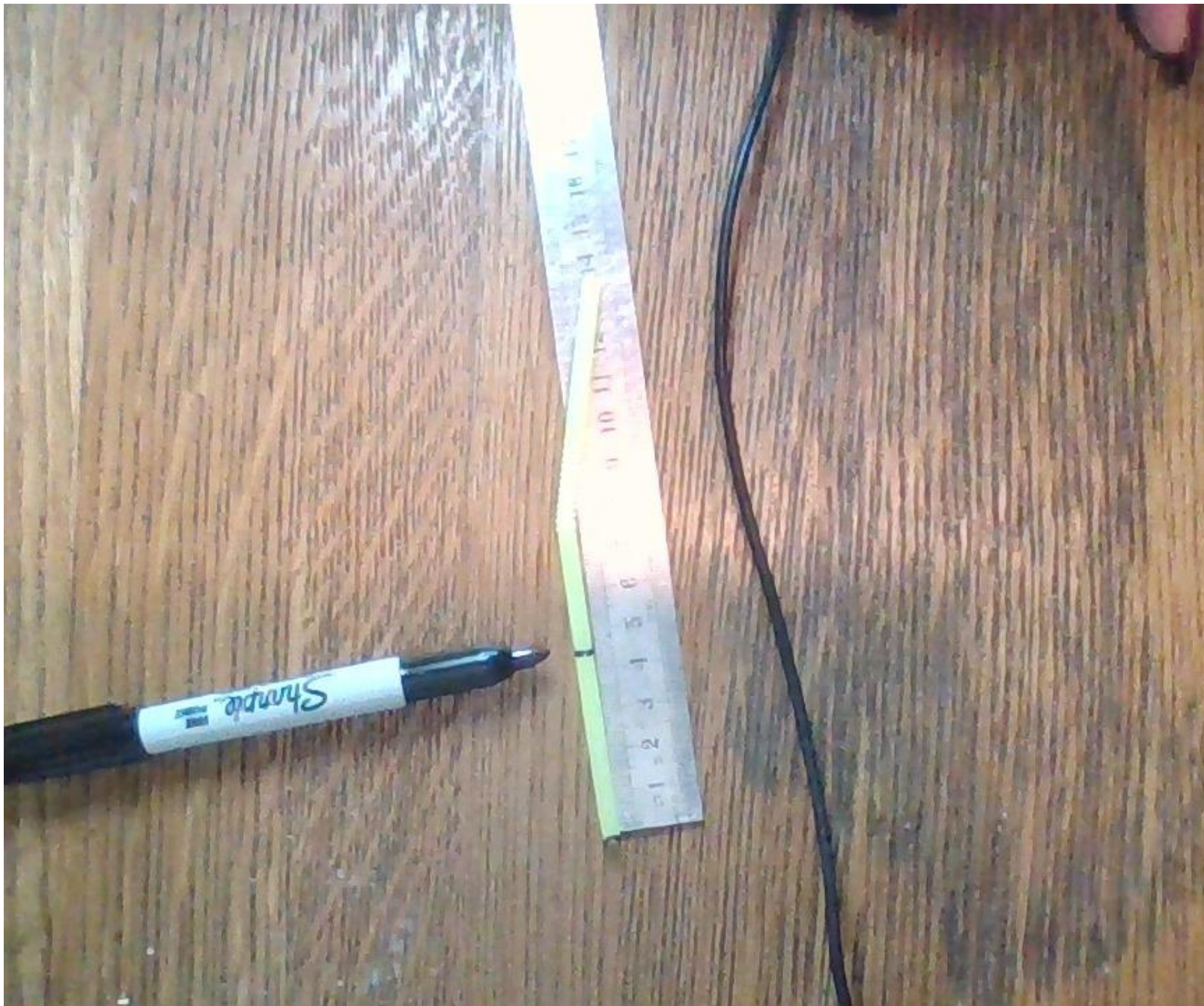
Secure the follower to the bottom of the other dowel (slider). This needs to be approximately 12cm long. Measure and check before cutting it. You may need adult help securing them. (glue gun may be needed)





## Step 9

Make a hole on the top mark of the box. Carefully from the inside push the slider through the hole. (4.5cm of plastic straw may be needed to keep it in place)



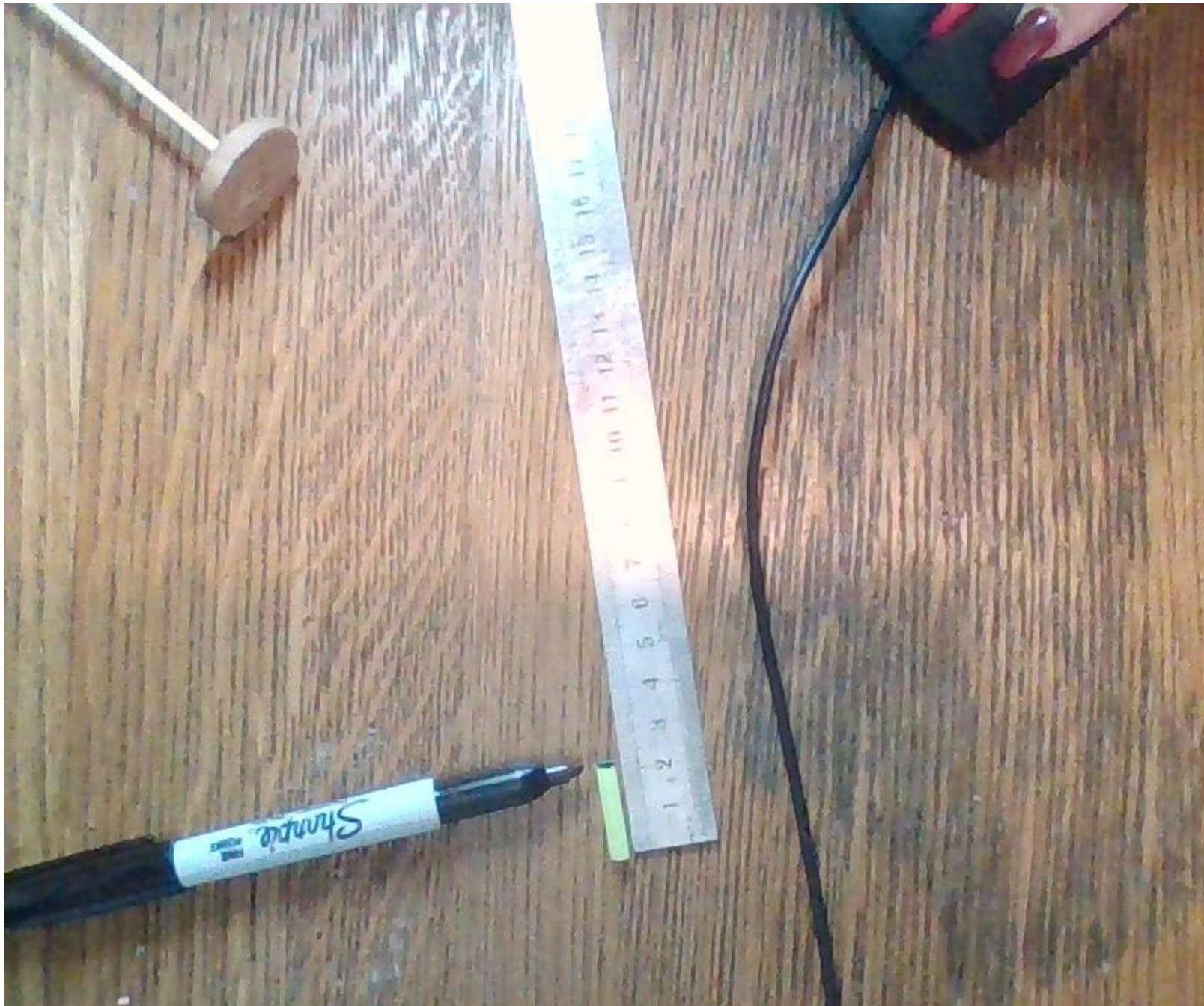
4.5cm of plastic straw





You may need to add straw  
to keep it in place.

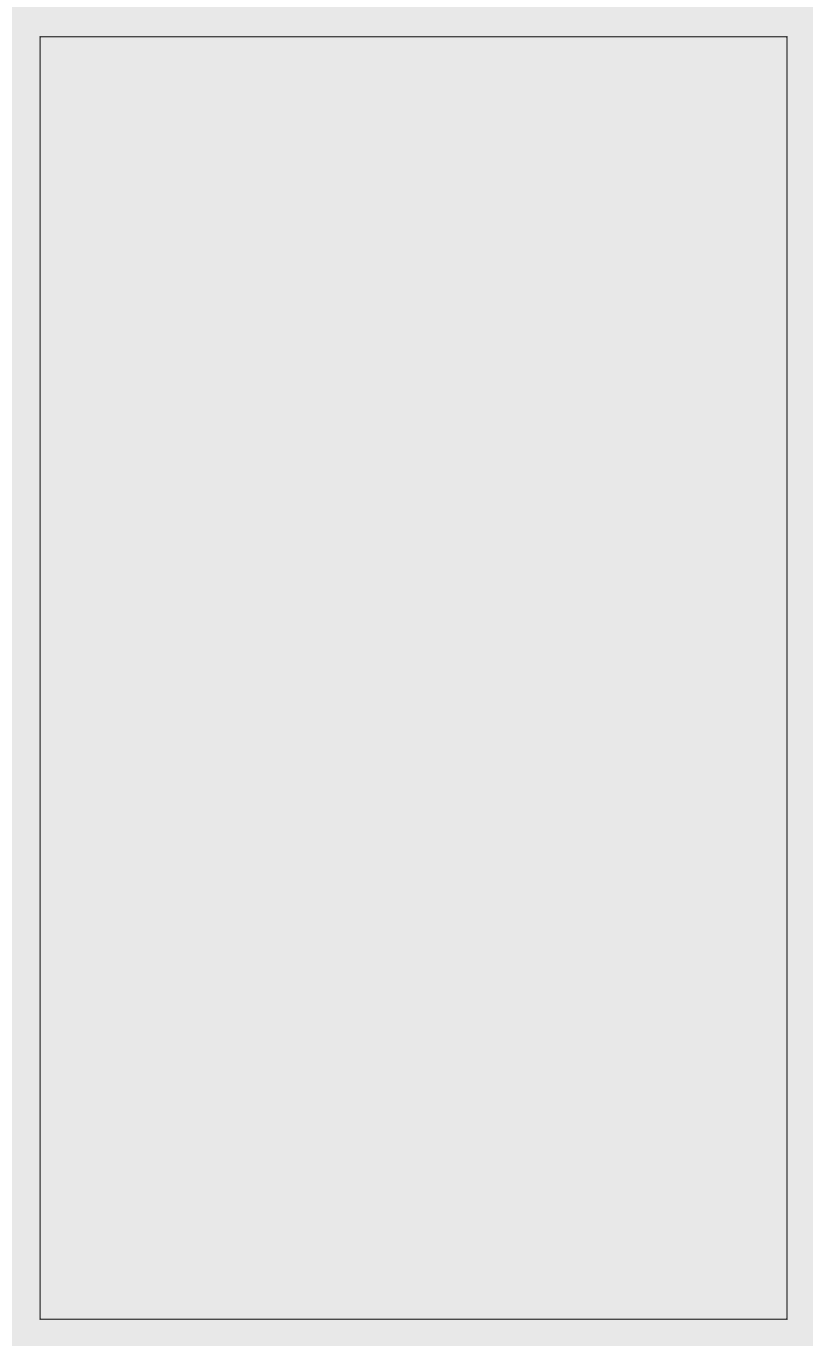
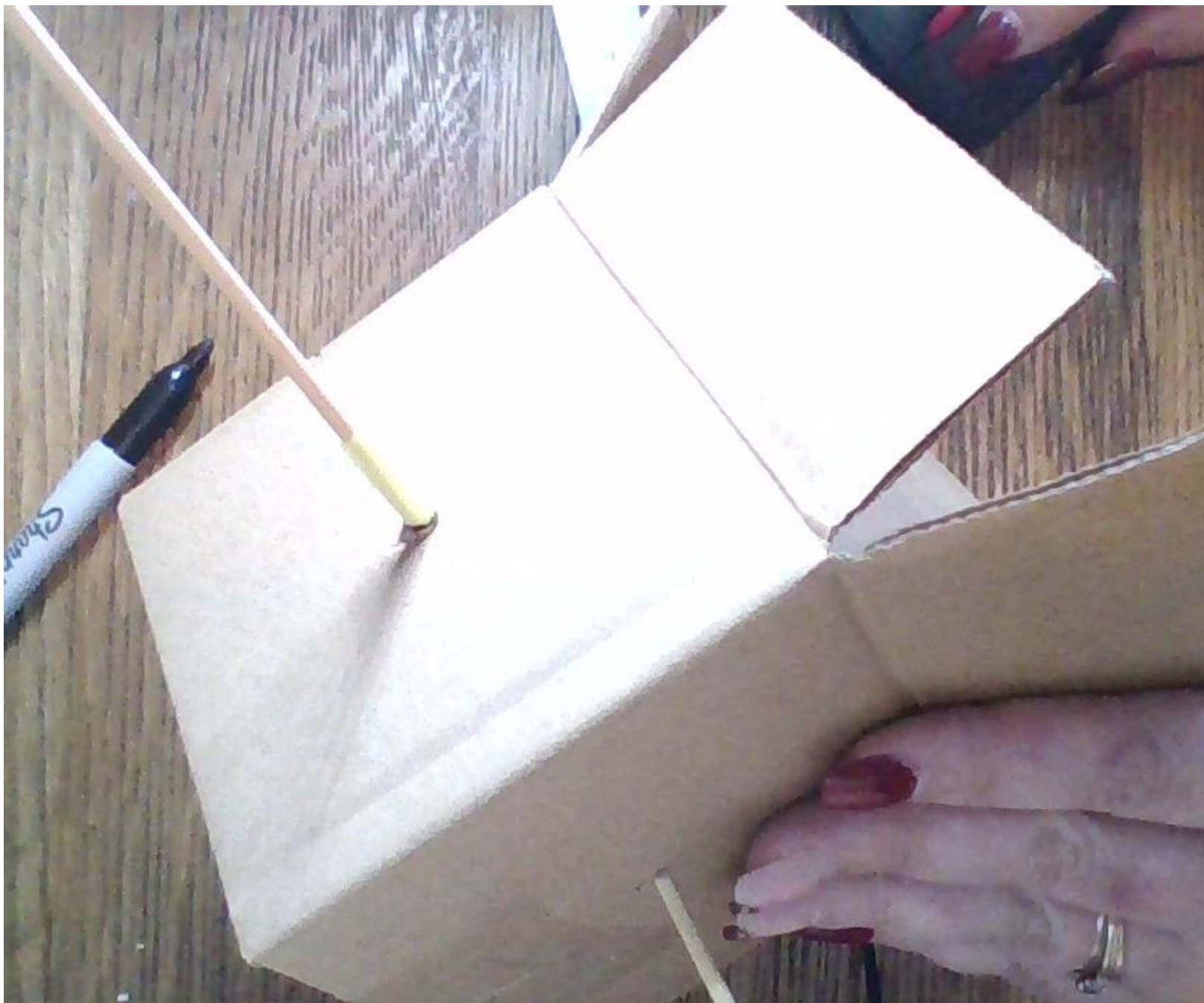




## Step 10

Measure 2cm of the straw to place on the top of the slider to keep the distance between the box and the carousel.







## Step 11

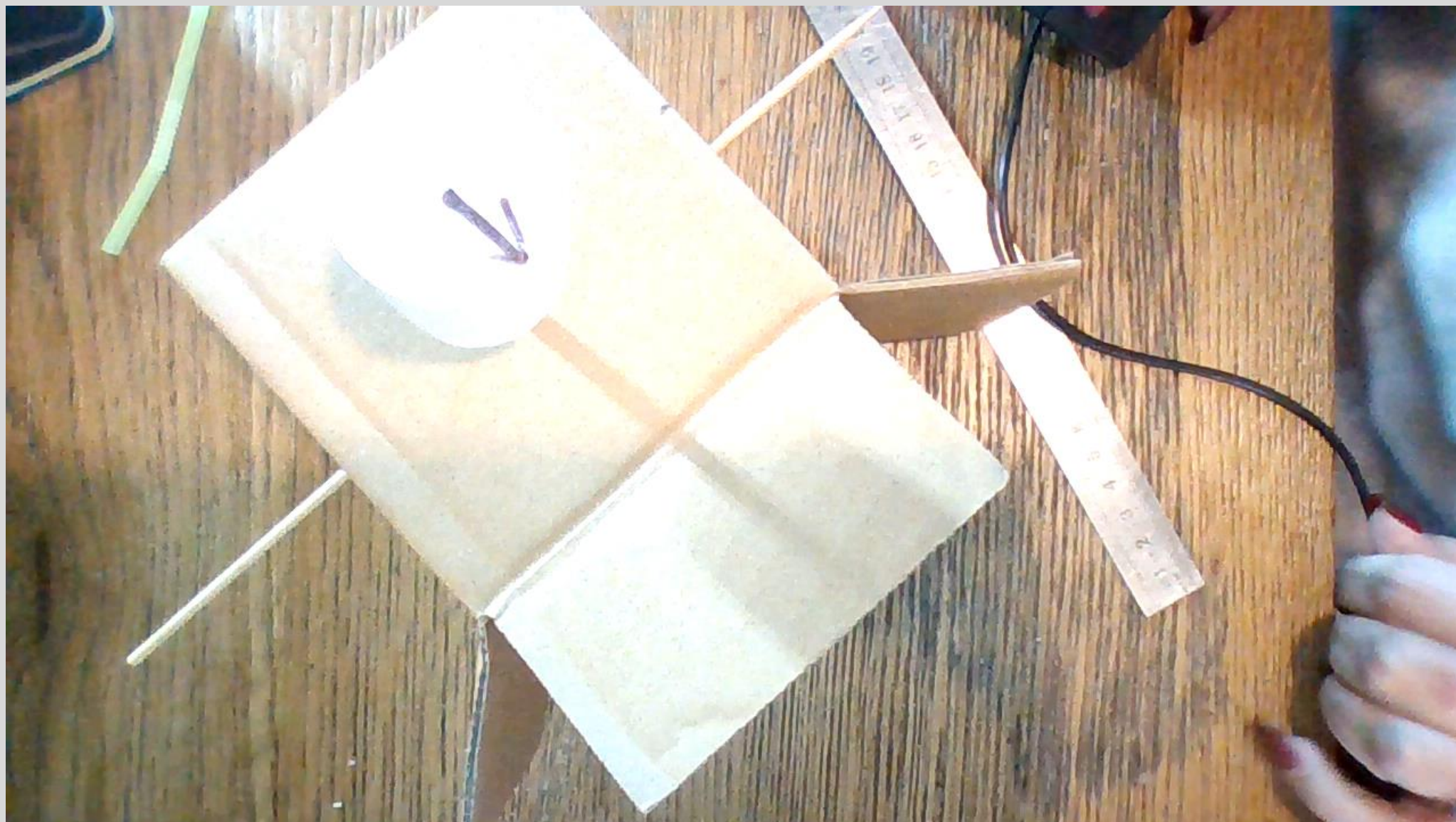
Make sure that the cam and the follower are lined up, so that when you turn the axle the follower also turns. Adjustments may be needed to get this right. (I needed to adjust a lot of times)





## Step 12

Carefully push the slider into the centre of the polystyrene cylinder. Make sure that it is on firmly, in the centre and straight. You only have 1 piece of polystyrene treat it with care. DO NOT push it to far in as it will come out of the top and not work.







## Step 13

On Wednesday you will be decorating the box and the carousel. There will be paper that you can draw and colour for the carousel and you can colour paper to decorate the box to look like the fairground in the book, with stalls and other fairground rides. Take pride in this and make it look spectacular.