

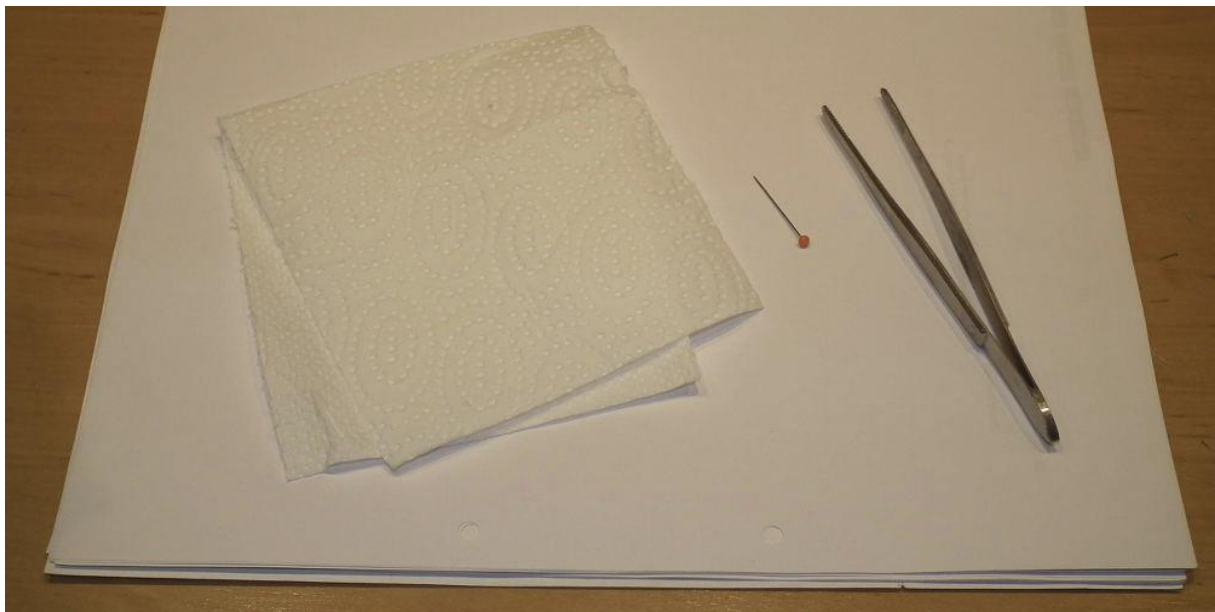
Illustrated construction manual: The Hand Spectroscope

© Michael Monscheuer

<https://michelswunderland.de/solderiron/spectro.html>



Solvent glue, superglue, steel ruler, adhesive film, scissors, cutter, pizza cutter and a few strips of paper 70x20mm (80g/sqm - "copy paper").



Needle to apply and spread the glue, tweezers to press the glue in hard-to-reach places, kitchen paper to wipe the needle and a thin stack of paper as a cutting surface.

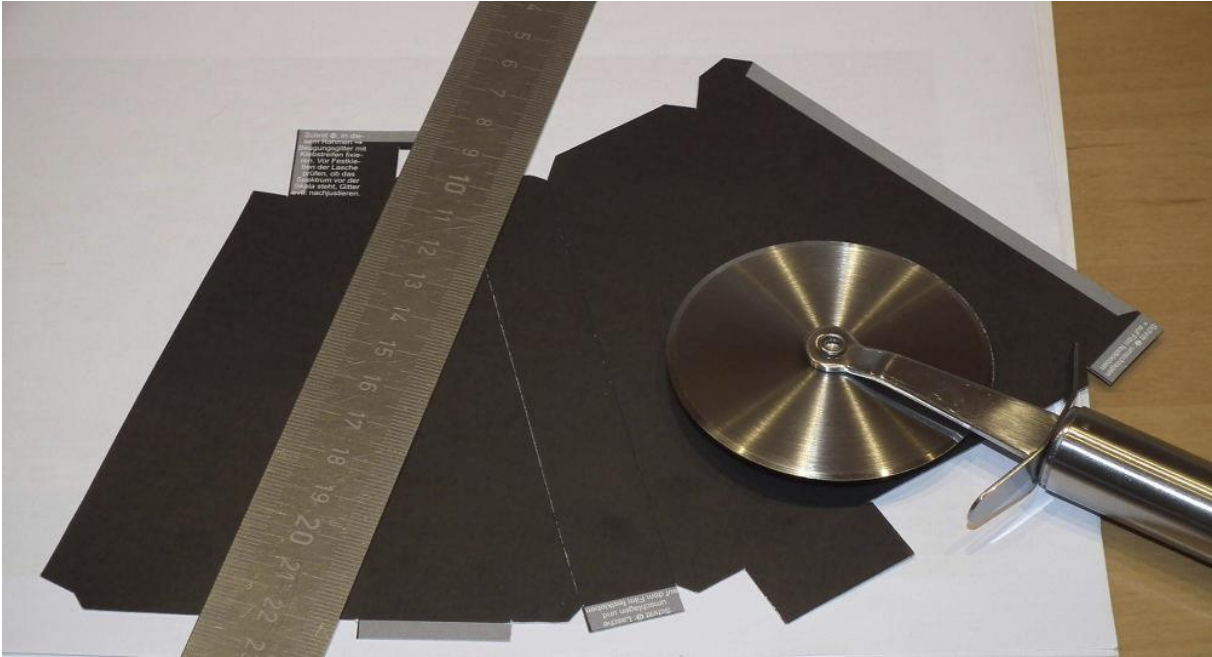
Step 1



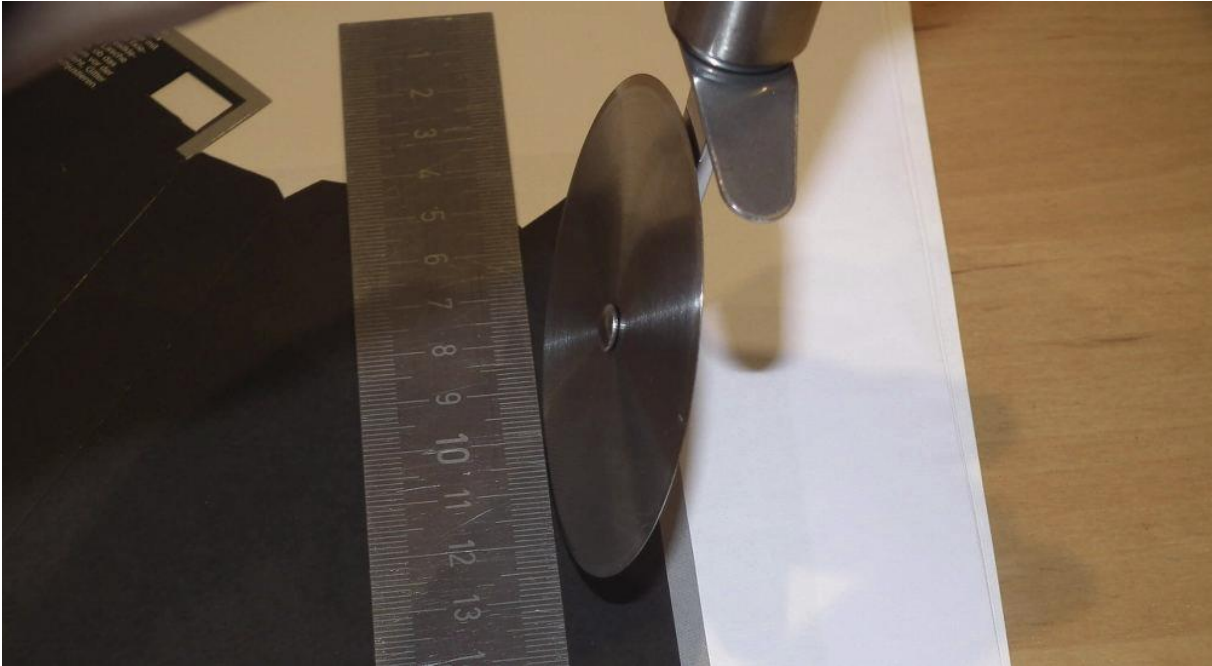
First cut out the pieces roughly from the sheet - this makes it easier to cut out exactly:



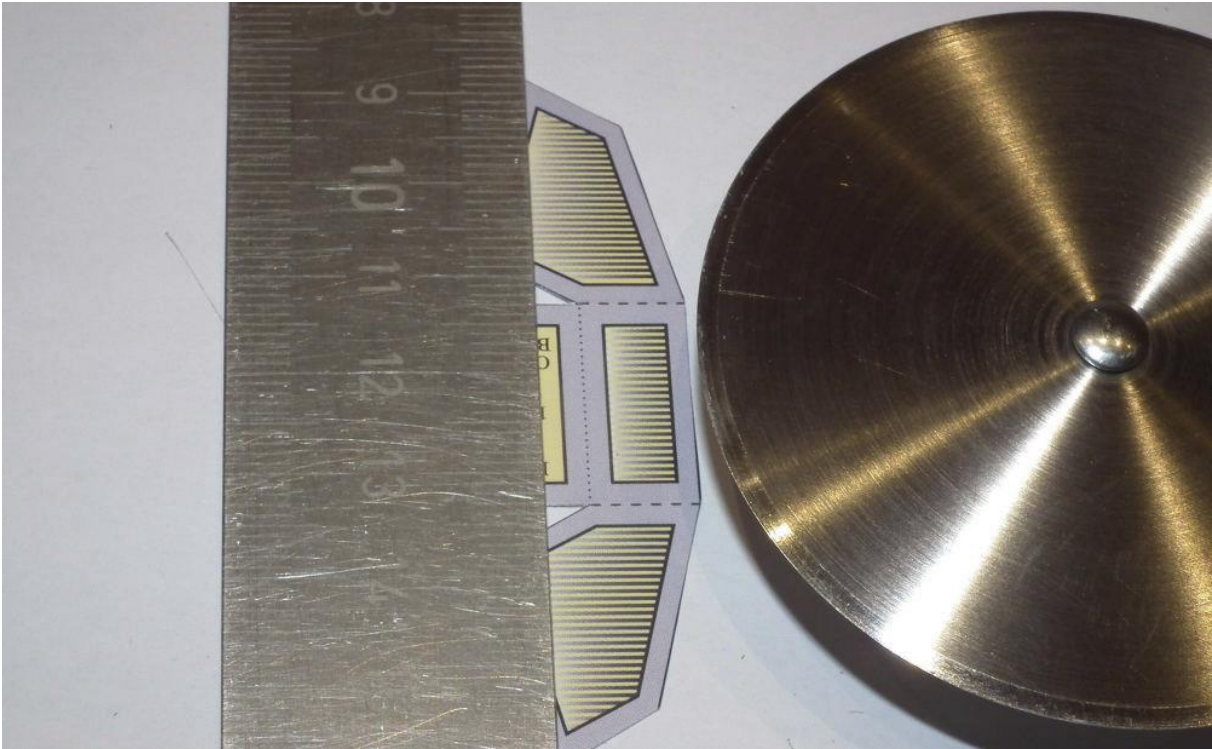
Then score the folds to be made on the back with the pizza cutter:



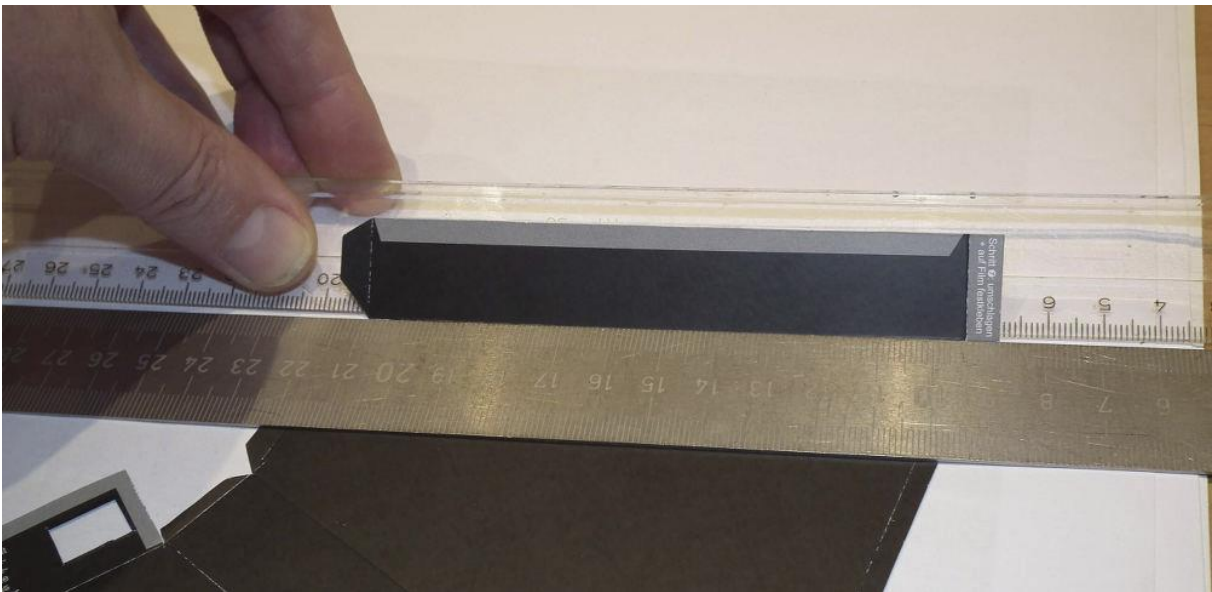
The best way to do this is to run the pizza cutter along the ruler:



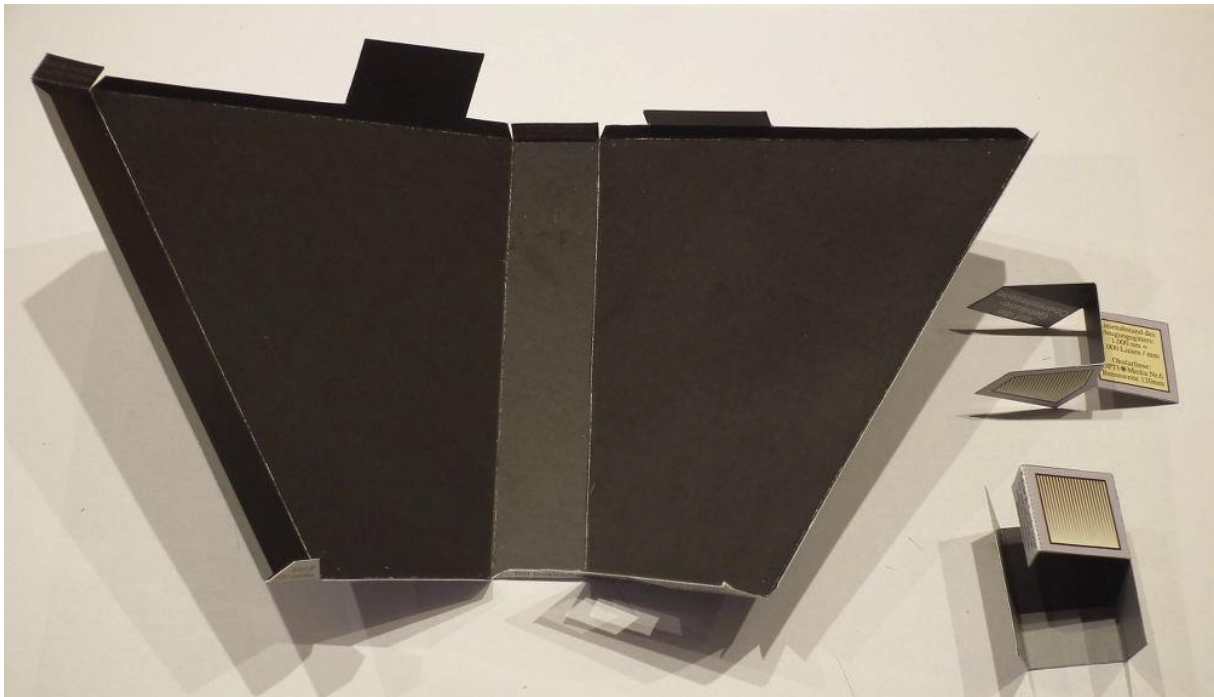
The folds to be made to the front are grooved on the upper side:



Folding is greatly simplified by the use of two rulers:



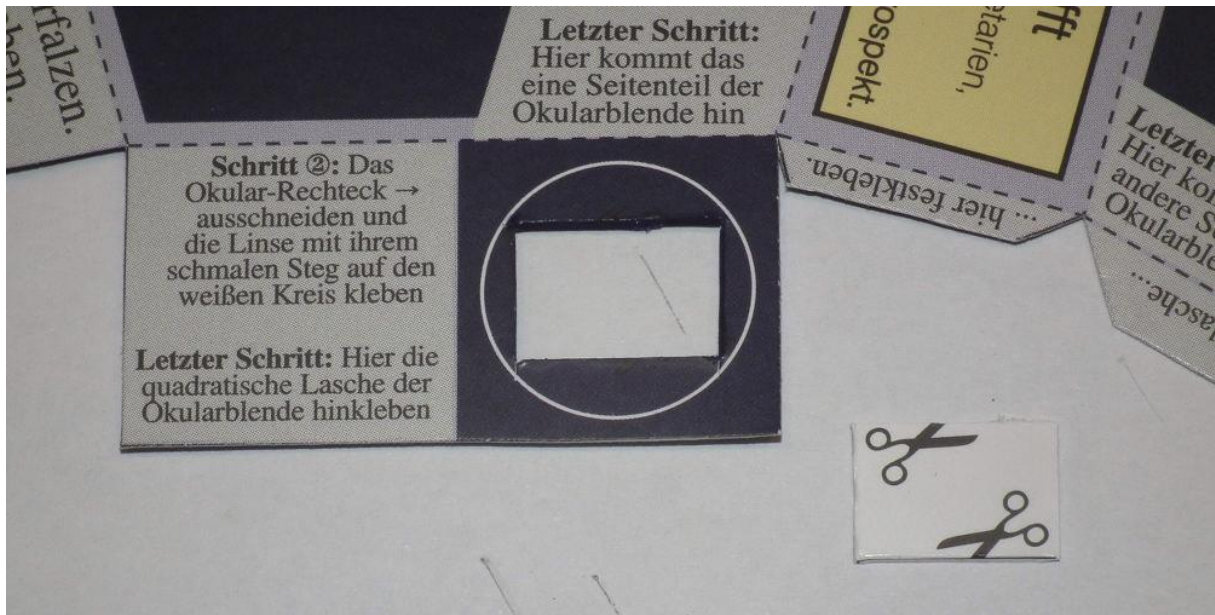
The completely prepared carton parts according to step 1



Step 2

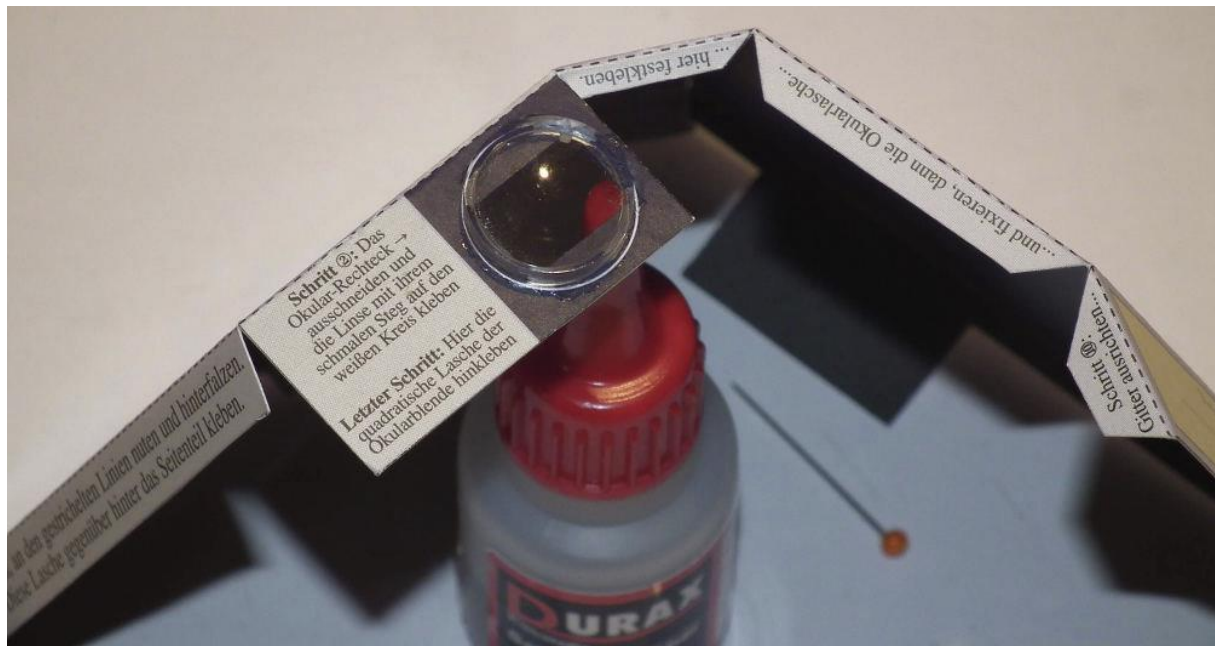


The easiest way to cut out the eyepiece rectangle is to guide the cutter along the ruler.



After applying superglue to the circle mark using a pin, place the lens on the mark - allow to dry!

NOTE: Use all-purpose glue to mount the lens if you are not familiar with the use of superglue.



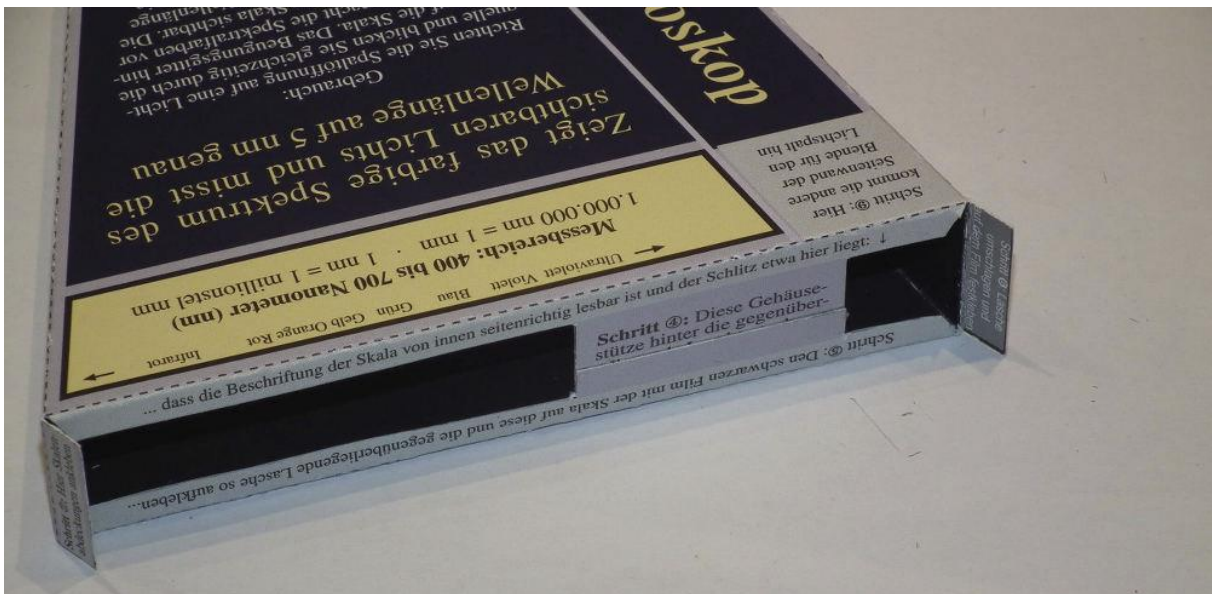
Step 3

Shaping of the housing by gluing the side flaps to the opposite side part using a solvent-based adhesive



Step 4

Gluing the support to the opposite flap

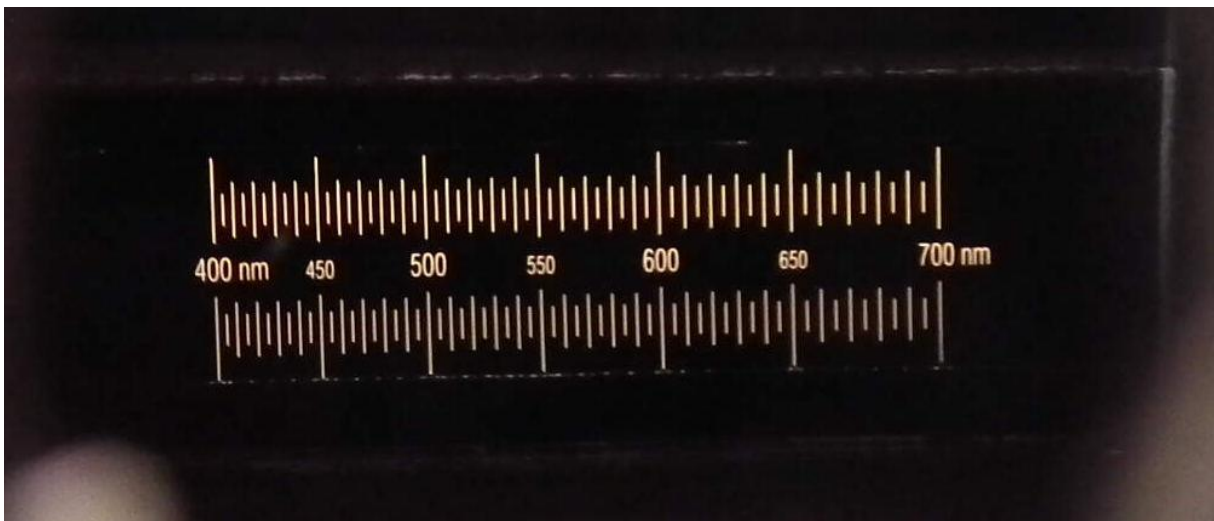


Steps 5 to 7

The cut black scale strip is glued to the tabs and the bar of the large housing opening. Then glue the small tabs that are still sticking out in the picture onto the black film.



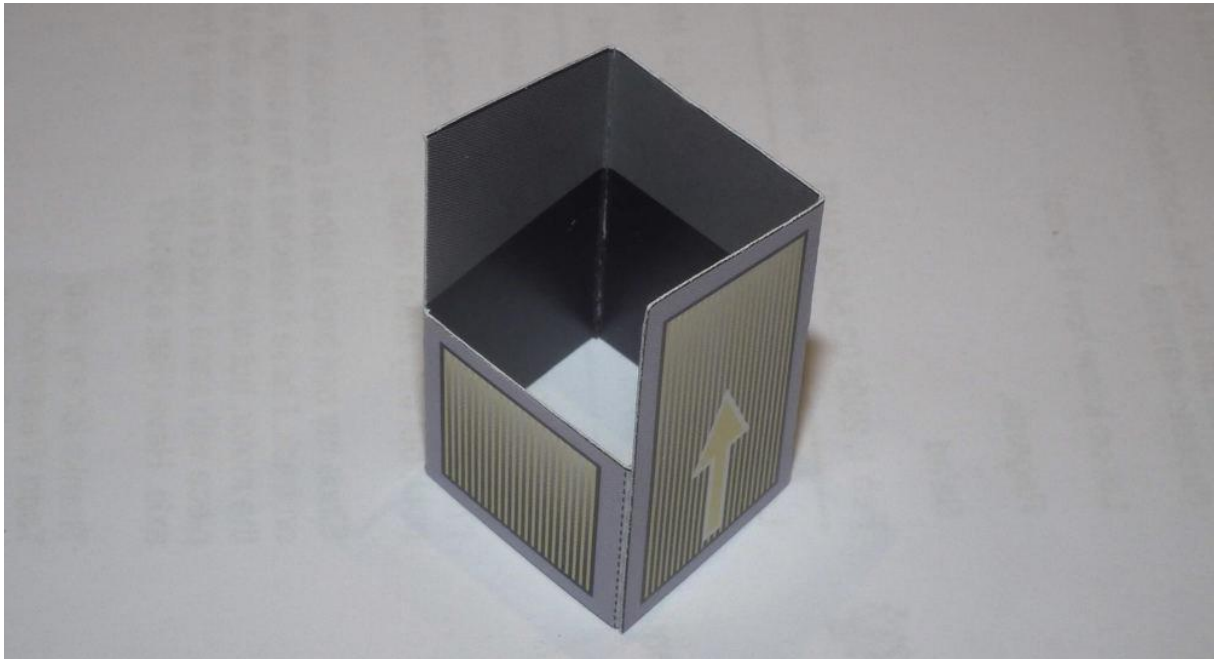
ATTENTION - Check before sticking the scale strip:



When looking through the eyepiece, the scale must be legible in the correct position.

Step 8

Gluing the light-slit panel to a rectangular tube



Step 9

Bonding the light gap cover to the housing



Step 10

Gluing the diffraction grating to the inside of the eyepiece lug



After fixing the diffraction grating and checking the projection on the scale, the eyepiece lug is glued to the housing.



Step 11

Damping the brightness of the scale by attaching a paper strip



Step 12

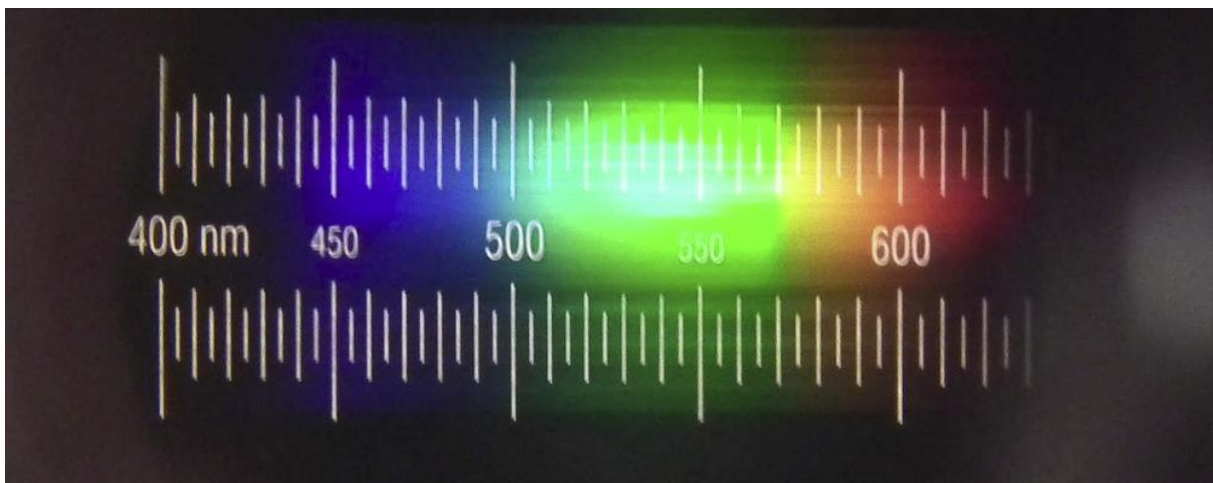
Mounting the eyepiece diaphragm



DONE!



View of the camera in the hand spectroscope



The functionally designed construction and the easy handling make the model a popular object of use.