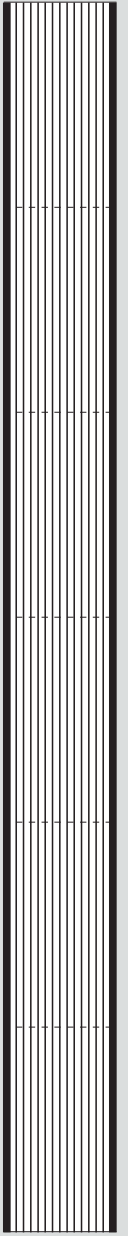


**Assembly Instructions.** Please read before you start. This telescope is easy to assemble. Just follow the 6 steps described on or beside the different parts, and you cannot go wrong. Have fun viewing!

*A few tips:* To keep the folds nice and even, grooves should be made with a blunt knife or an empty ball point pen cartridge (not incised lines, only grooves). We recommend a solvent-containing all-purpose glue, for example Uhu or Tesa, as otherwise the lenses will not adhere securely.

**Caution:** Do not get glue on the lenses! However, should this happen, the lenses may be re-ordered from Astro Didaktik\*. The performance of the telescope can be improved by reducing the opening of the objective with a round diaphragm. The picture will then become less bright but somewhat sharper.

**Important:** Never point the telescope directly at the sun! This can lead to permanent eye damage! Exception: Using a reliable sun filter, which reduces light by at least 99.999%, it is possible to view the sun in a safe way. Astro Didaktik\* offers for this purpose Baader AstroSolar™ sun filter foils in A4 format. Send an email to info@astro-didaktik.ch or order via internet at www.astro-didaktik.ch



**Step 6:** Cut out strip, crease and glue around the tube where **Step 6 cont.** is written.

**Step 1:** Cut out this part, Make a groove and bend back along the dotted lines. Glue flap on the back of the opposite side. You now have the hexagonal objective tube.

# A M 12 The Galileo Telescope

Terrestrial ("Dutch") telescope as designed by Galileo Galilei · Order No. 112.GALLE · DGBM / Registered Design © K. Hüning AstroMedia\*



Lenses have been in use for more than 2000 years, but the telescope itself was only discovered at the beginning of the 17<sup>th</sup> century by the children of the Dutch spectacle maker Jan Lippershey, whilst they were playing with their father's lenses. In the year 1609 Lippershey introduced the first telescope with a 31/2 times magnification to the market. The news of this magnifying telescope spread quickly throughout Europe. Galileo Galilei (1564-1642), Professor of physics in Venice, also heard about this new discovery and after some deliberation became clear to him that the telescope should have two lenses: a larger, convex lens with the curve going outside as an objective (i.e. pointing in the direction of the object to be viewed) and a smaller concave lens with the curve going inside as an ocular (i.e. the eyepiece). Even before the first Dutch telescope arrived in Venice, he had already built his own much better telescope.

The night his telescope was finished, Galileo Galilei directed it onto the sky. Although his magnification was not stronger than his cardboard model he managed to make some pioneering discoveries. He could see that the planet Jupiter was circled by moons, that the Milky Way consisted of millions of stars and much more besides. These discoveries led to a revolution of the world view. The Galilean (Dutch) telescope shows an upright image, however quite a small one. For this reason almost all telescopes today are manufactured according to another principle invented by Johannes Kepler (1571-1630): his design uses a convex lens both for the objective (Astronomical or Kepler Telescope). The image is upside down, but the picture is sharper and larger, and this is the most important factor when observing the stars. For opera glasses and similar purposes the Galilean principle is still used today.

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  - A\*\*M 6: The Cross Staff
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  - A\*\*M 8: The Solar Compass
  - A\*\*M 9: Sun-Viewing Glasses
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*The Sextant:* The classical instrument of mariners and discoverers. Measures angles with an accuracy of 5 minutes of an arc  
*The Newton Telescope:* Dobson mounted reflective telescope with BAADER mirror and 2 eyepieces for magnification up to 30 x

*This Galileo Telescope belongs to:.....*  
**Important:** Never point the telescope directly at the sun! This can lead to permanent eye damage!  
 Exception: Using a reliable sun filter in front of the objective lens, for example BAADER AstroSolar Sun Filter Foil from Astro Didaktik\*.  
*Built in:.....*

**Step 2 cont.:** Glue the 6 striped flaps of the objective lens holder here. The lens is fitted inside the tube.

**Step 6 cont.:** The reinforcing ring is attached here. Wrap around and glue securely.

# The Galileo-Telescope

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Astro Didaktik Switzerland

This edge should be flush with the edge of the ocular tube.

**Step 4:** This part is the hexagonal diaphragm inside the eyepiece tube which helps to eliminate stray light. Cut out the hexagon with the 2 attached flaps, also cut out the hole in the middle, trying to make the edge as smooth as possible. Then crease and fold the 2 flaps back.

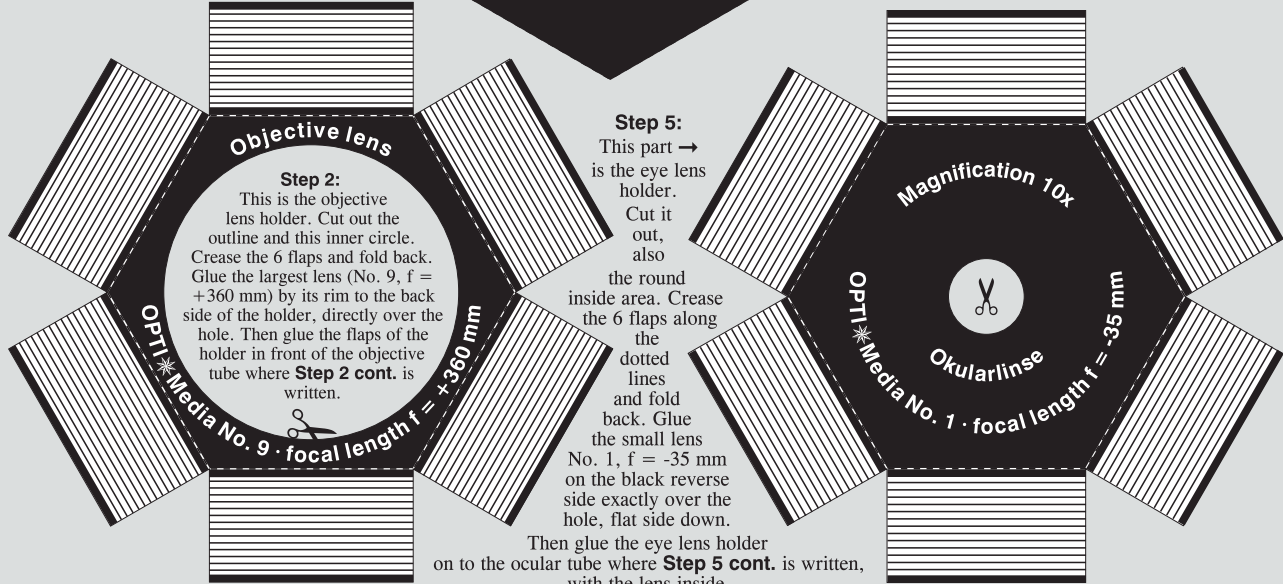
↑ fold back ↓



↑ fold back ↓

Finally insert the diaphragm into the opening of the eyepiece tube where it is marked **Step 4 cont.**, dark blue side of the hexagon first. The flaps are pushed into the tube until their edges are flush with the edge of the eyepiece tube and then glued securely in the inside of the tube.

This edge should be flush with the edge of the ocular tube.



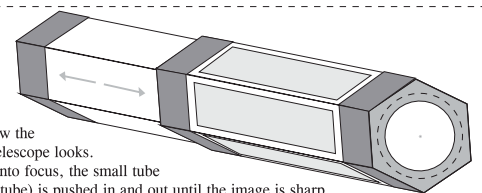
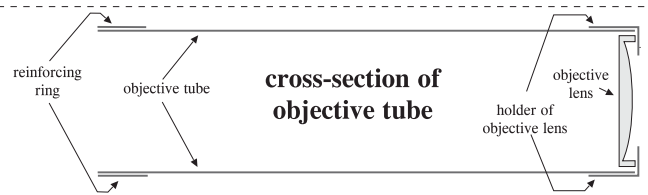
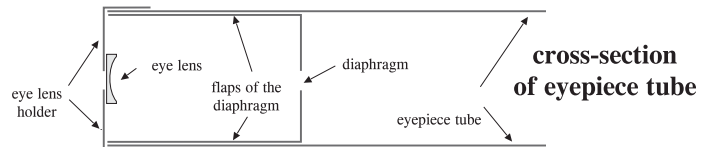
**Step 3:** Cut out, crease the dotted lines and fold back. Glue the flap to the back of the opposite side. You now have the hexagonal eye piece tube

line.

The condensing lens is located in the inside of the tube at the height of this

**Step 5 cont.:** Glue the flaps of the eyepiece holder with the ocular lens here on this end

**Step 4 cont.:** Insert the diaphragm into this opening and glue securely so that it is flush with the edge.



This is how the finished telescope looks. To get it into focus, the small tube (eyepiece tube) is pushed in and out until the image is sharp.