

My Discovery Telescope

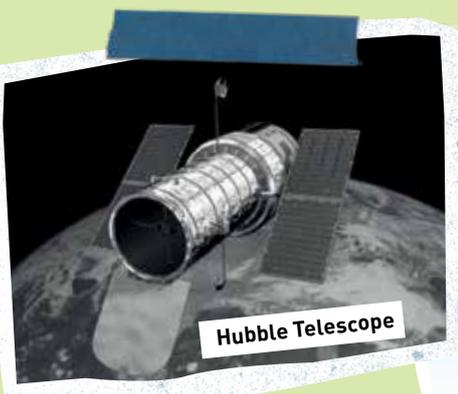


THAMES & KOSMOS

Have you ever wanted to be able to take a closer look at things that are far away? The Moon and stars, for example? Or a bird perched up in a tree? Or a boat sailing out on the open ocean? Now you can do all of this with the My Discovery Telescope!

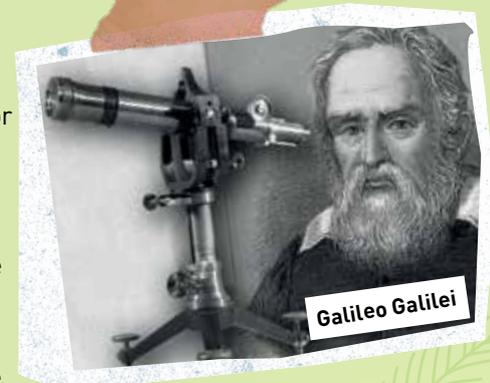
Introduction

A telescope is a device that allows you get a better look at far away objects by enlarging them. Your telescope is a type of telescope called a refracting telescope. Telescopes are the most important optical instruments in astronomy, the branch of science that deals with celestial objects, outer space, and the universe as a whole. Some telescopes are really famous, like the Hubble Space Telescope, which is out in space and sends back amazing pictures of very distant stars.



Telescopes have been around for about 400 years. We don't know exactly who invented them.

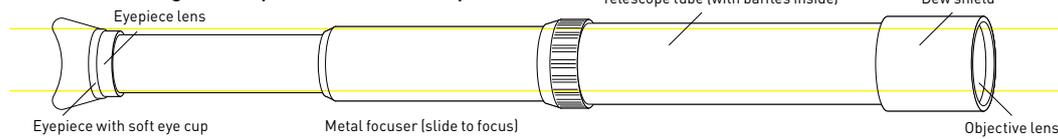
However, Galileo Galilei (who lived from 1564 to 1642) was the first person to explore the sky using the device. Among other things, he examined the surface of the moon and discovered that it had mountains and craters. This was an important step for astronomy.



Of course, your telescope isn't just for looking at the night sky. You can also use it to look at objects on Earth in the distance that you would like to look at more closely. Scientists call this terrestrial observation (from the Latin *terra* = earth). But it can also be used whenever you are too far away from the action. So, for example, you can use your telescope if you are sitting high up in the stands at a soccer or baseball game and you want to have a closer look at the players on the field.



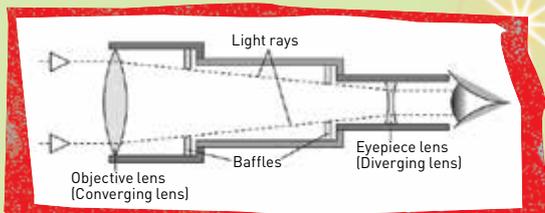
Classic refracting telescope (Galilean telescope)



How do you use a telescope?

Your telescope has a twelve-times magnification power. This means that you can see objects roughly twelve times larger through the telescope than you can with just your eyes alone. In order to look at an object, hold your telescope so that the dew shield and the objective lens are pointing away from you and facing toward the object. Press the eye cup firmly around either of your eyes (whichever works best for you) when you do this. The eye cup is specially shaped and soft, so you can comfortably press it to your eye socket. This is ideal for observing things because it means no light can enter into your eye from the side. Choose which eye is best for you.

The object that you want to look at should be at least five meters (or about 15 feet) away. Now use your other free hand to slide the wide part of the telescope at the front (called the tube) backward or forward until you can see the object in focus.



The front of your telescope, which points toward the object you are looking at, is called the objective. Here, there is a large converging lens that bundles the light rays. Inside your telescope, there are also some rings called baffles. These allow only the bundled light rays to pass through the middle and eliminate the light rays around the edges (called scattered light). At the other end (the end you look into), there is another lens, which, on a Galilean telescope, is called a diverging lens. As this lens is in the eyepiece, it is called the eyepiece lens or ocular lens (from the Latin *oculus* = eye).

When you slide the two parts of the telescope toward each other, you are reducing the distance between the two lenses. This allows you to bring the image that you want to look at into focus.

The light rays are a long way apart. You capture these rays using the objective and the lenses bring them closer and closer together. They are then so close together in the eyepiece that you can now see them much more clearly with your eye.

When observing, it helps if you can keep your telescope still. It is not easy to hold your telescope without wobbling, even though your telescope is not particularly heavy. Try resting the elbow of the arm you are using to hold the telescope on a wall, on a parked car, a stable tree branch, or something similar. It is best to try it out and see what works best.

WARNING! Never look directly at the sun either with the naked eye or with the telescope! There is a risk of blinding! Do not place near windows or in direct sunlight. Magnified light may result in a risk of fire.

!! WARNING! Not suitable for children under 3 years. Choking hazard — small parts may be swallowed or inhaled. Keep the packaging and instructions as they contain important information.

Happy exploring!



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