

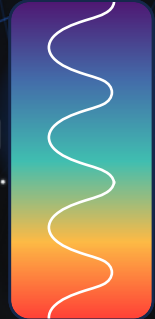
HOW SPACE TELESCOPES UNLOCK THE MYSTERIES OF THE UNIVERSE

Imagine space telescopes as powerful, specialized cameras placed in orbit around Earth or other celestial bodies. Here's a simplified explanation of how they work:

COLLECTING LIGHT

The primary job of a telescope is to collect electromagnetic radiation, including light. Space telescopes use large mirrors or lenses to gather light from distant objects in space. The bigger the telescope, the more radiation it can collect, allowing for clearer and more detailed observations.

[See more with JWST](#)



DIFFERENT WAVELENGTHS

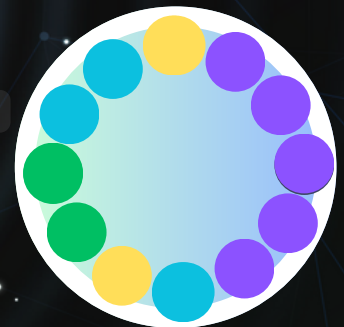
Space telescopes are equipped with instruments that can observe various types of light beyond our eyes. This includes visible light, ultraviolet, infrared, x-ray, and radio radiation as well as other forms like infrared and ultraviolet. Different wavelengths can reveal different aspects of celestial objects, helping scientists learn more about them.

[Read more from NASA](#)

FILTER WHEEL

Filters are like specialized glasses for the telescope. They allow astronomers to observe specific wavelengths of radiation while blocking others. Different filters are used to study different aspects of celestial objects, such as their composition, temperature, and chemical makeup.

[Learn more about lenses](#)



SENDING DATA

Once the space telescope captures data with a digital detector, it needs to send it back to Earth for scientists to analyze. This is typically done through radio signals. The information is received by ground-based stations and then sent to research institutions for further study. Scientists analyze data from space telescopes to study stars, galaxies, and planets, examining their composition, temperature, distance, and other properties for a deeper understanding of the universe.

[Here is how data is processed](#)

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