



James Webb Telescope

Description

Theme:

- In July 2022, NASA released the first set of images taken by the James Webb Space Telescope™ (JWST).

James Webb Telescope:

- Telescopes are sent into space to get a clearer view of the planets, stars, and galaxies. Telescopes can look back in time because light takes time to travel from one place to another. When we see distant objects, we are not seeing them how they are now, instead, we are seeing how they are when they emitted that light. For example, JWST spotted the death of a star about 2500 light-years ($2500 * 9.5$ trillion km) away. So, that death of a star happened not now but 2500 years ago.
- James Webb Space Telescope, which was launched on 25th December 2021 is an international collaboration between NASA, the European space agency, and the Canadian space agency.
- JWST is the biggest telescope in space and more efficient than its predecessor, Hubble. The mirror used in JWST is 6.5 meters wide, the biggest telescope mirror ever. The mirror is nearly three times larger than Hubble. Hence JWST is able to take the deepest and clearest pictures of space. It is placed 1.5 million kilometers away from earth.
- JWST can record infrared spectrum, whereas Hubble can only see visible and ultraviolet rays. Light gets stretched out into longer wavelength and thereby moves from visible to infrared spectrum when it travels across millions of years away. Hence JWST can be used to capture extremely distant galaxies.
- JWST consists of a high-frequency radio transmitter to send the data to earth.
- It is expected that the JWST will last for more than 10 years.
- Among the images that JWST sent, a few images were released by NASA. One image shows the galaxies over 1.5 billion light years away. The second image is of a giant gaseous exoplanet (a planet outside of our solar system) about 1000 light years away. The



third image shows the death of a star about 2500 light years away. The fourth image shows mountains and valleys about 7600 light years away. The fifth image shows a cluster of galaxies about 5.12 billion light years away.

- This information is very useful in studying the evolution of galaxies and black holes.

Conclusion:

James Webb Telescope is the biggest telescope launched in space ever. It is taking farthest, deepest and clearest pictures of space. This information is very useful in studying how new stars and galaxies are formed.

Your Turn!

What are your thoughts on this topic? Express your point of view through the comment section below. And subscribe to our blog to read answers to the trending GD topics.

Image source: [NASA website](#)

References:

- [Behind the deep view of James Webb telescope](#)
 - [James Webb Space Telescope's first images show stunning range](#)
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