# The James Webb Space Telescope

The James Webb Space Telescope is the successor to the Hubble telescope and is now the most powerful and largest space telescope. Scientists can now look at what our universe was like about 200 million years after the universe was formed. The telescope can see some of the first galaxies ever formed and can look inside dust clouds to see where new stars and planets are forming.

JWST. Image source: NASA

Hubble Image source: NASA

**This is what Hubble can see.** The instruments on Hubble can see some of the infrared spectrum, but it mostly sees ultraviolet and visible parts of the spectrum. Webb's instruments work mostly in the infrared range of the electromagnetic spectrum, with a bit in the visible range. When stars and planets are forming, there are clouds of dust around them that absorb visible light, so we can't see them with most telescopes. Infrared light that is given off by these areas can go through the dust and can be detected by the Webb telescope.

**Differences in design.** The size of each telescope is similar, but the James Webb Space Telescope primary mirror is much bigger than Hubble's, giving it 6.25 times more collecting area. It also has a 15 times larger field of view. The mirror of the James Webb Space Telescope is also much lighter since it is made of beryllium which is a very strong substance that makes the mirror very durable. The mirror of James Webb Space Telescope folds up so that it can easily be stored.

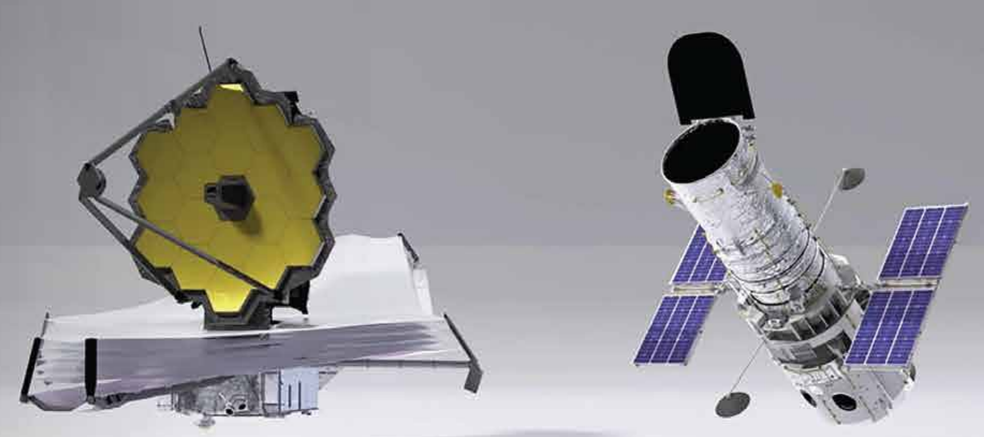


Image source: NASA

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