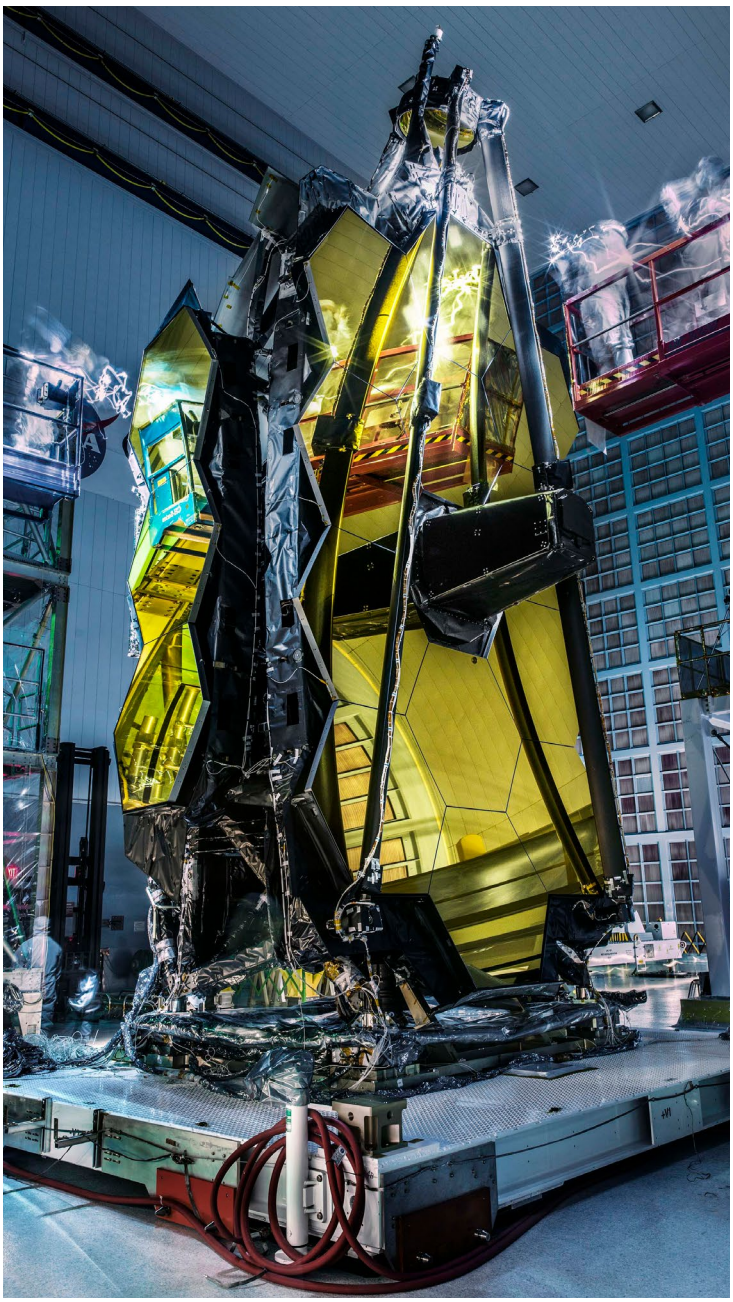
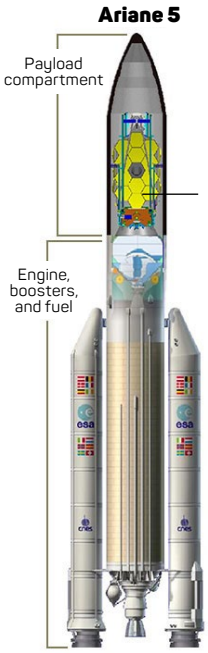
A Foldable Telescope

Some telescopes fold up like origami for their ride into space.



The James Webb Space Telescope's massive mirror folds up for launch and then unfolds once in orbit.



An Ariane 5 rocket will carry the folded telescope into space.

Putting NASA's James Webb Space Telescope into space comes with a special engineering challenge. The telescope's enormous mirror—roughly six meters (20 feet) in diameter—will need to fold up to be launched in a rocket. When it reaches space it must automatically unfold. Other parts of the telescope, like its sunshield, will also need to fold up and then expand. That's a challenging task, since no humans will be around to help once it reaches orbit. Webb will be roughly 1.5 million kilometers (.93 million miles) away from Earth, much further than the Moon, by the time it unfolds.

Webb's huge mirror has an incredible capacity to capture infrared light and will allow scientists to study planets, stars, and galaxies in unprecedented detail. By looking at some of the faintest and most distant objects in the universe, astronomers will be peering back in time—nearly to the Big Bang!

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LEARN MORE about the launch of JWST:
youtube.com/watch?v=v6ihVeEoUdo