

An Impressive Feat

The James Webb Space Telescope Shows Us Even More of God's Creation

A TELESCOPE IS A TOOL we can use to peer into God's vast universe. One of the earliest telescopes was made by the astronomer Galileo in 1609 and could be used to view Jupiter, Venus, and the craters on the moon. Telescopes changed the way people understood our place in this vast universe. They also teach us more about God's creation.

On Christmas Day 2021, the James Webb Space Telescope was launched. It helps us view distant galaxies, possible inhabitable planets, and the edges of the universe. It too will change the way people understand how amazing God is and more about this vast universe and our place in it. Telescopes help us discover God's order in the universe, and the people who designed them used God's laws for the universe to create these wonderful tools.

Galileo's telescope was a refractor telescope, which uses two types of lenses—convex (curved outward) and concave (curved inward)—to view objects far away. The inventors of these telescopes needed to understand God's rules for how light refracts, or changes direction, when it passes through different objects. They also had to create massive glass lenses without imperfections. The largest such lens was made in the 1890s and is 43 inches (109 centimeters) across—an impressive feat!

The James Webb telescope is a reflector telescope that uses several concave mirrors to view objects far away. The inventors of reflector telescopes needed to understand God's rules for how light reflects off mirrors. Some of these mirrors are more than 30 feet across—another impressive feat! But for the best views of faraway objects, telescopes need to be in space. The Webb telescope has 18 gold-plated



mirrors that folded together to fit in the rocket that sent it to space. When the mirrors unfolded, they made a single mirror spanning 21 feet. All the individual mirrors had to be perfectly placed in order to work—and they do! Another impressive feat!

To use the James Webb telescope in space, scientists not only have to understand God's rules for light, but have to use God's rules for heat and orbital movement to know how best to use it. If the telescope becomes too hot, the images become distorted. So scientists created an aluminum-covered sunshield to keep it cool. Scientists also planned for the telescope to move in a three-dimensional halo orbit meant to keep it out of the shadows cast by the earth and the moon. Scientists have successfully used God's order in the universe to see God's order in the universe! It's an impressive feat!

Isaiah 40:21 describes God "stretching out the heavens like a canopy and spreading them out like a tent to live in." With God's gift of order in light, we can create telescopes to help us view God's great big universe in unbelievable ways—an impressive feat! **B**



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