

# NASA's new generation of space telescope

Designated as the successor to the Hubble telescope, the *James Webb Space Telescope* – on course for launch in June 2013 – will be larger than its predecessor, sit further from the Earth and have a giant mirror to enable astronomers to see the farthest reaches of the universe

## JAMES WEBB SPACE TELESCOPE – JWST

Named after **James E. Webb**, Nasa Administrator during *Apollo* lunar exploration era of 1960s

**Sunshield:** Tennis court sized shield blocks sunlight, keeping telescope extremely cool and increasing sensitivity to infrared radiation

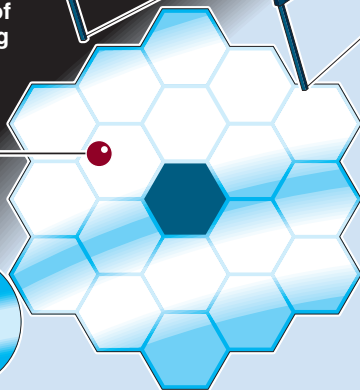
Length: 22m  
Width: 12m

## PRIMARY MIRROR

JWST's mirror is almost three times the size of Hubble's, giving it much greater light-gathering capability

**JWST**  
Diameter: 6.6m

**Hubble**  
Diameter: 2.4m



Primary mirror

Secondary mirror

Three main instruments gather images in infrared range of electromagnetic spectrum

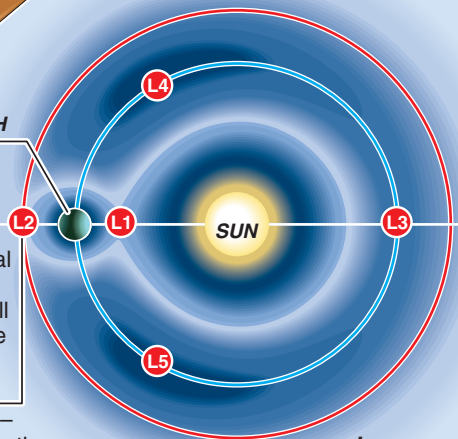
Spacecraft control systems

**LAGRANGE POINTS:**  
One of five positions in space where combined gravitational forces of Sun and Earth can hold a small object – like a satellite – in a stable position

**ORBIT:** JWST will sit at **Lagrange Point 2** – 1.5 million km from Earth. As Earth orbits Sun, JWST will orbit with it – but stay fixed in same spot in relation to Earth and Sun

EARTH

SUN



**Lagrange Points** were discovered by French mathematician **Louis Lagrange** in 1772