Graphic Organizer

Comparing the Hubble and James Webb space telescopes
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Hubble Space Telescope

- Orbits Earth roughly every 95 minutes at a height of about 547 km (340 miles)
- Designed to be serviced by astronauts
- The primary mirror is a single glass mirror, 2.4 m (94.5 inches) in diameter.
- Placed in orbit around Earth by astronauts aboard the space shuttle Discovery
- Mass of the mirror: 828 kg (1,825 lbs.)
- Length of mission: more than 25 years

James Webb Space Telescope

- Positioned about 1.5 million km (1 million miles) from Earth at the L2 point
- Located too far from Earth to be serviced by astronauts
- Will be launched on an Ariane 5 rocket and will take a month to reach the L2 orbital point
- Primary mirror has 18 segments made of beryllium and is about 6.5 m (21.3 ft) in diameter.
- Mass of the mirror: 276 kg (608 lbs.)
- Length of mission: 5 to 10 years (limited by fuel)
- Both are located in space, above Earth’s atmosphere.
- Both use a mirror to collect and focus light.
- Both use solar panels to collect sunlight as the source of power.