SPACE-TELESCOPES.GALAXIES.IM

A golf-ball of gold

The gold on Webb's mirrors is a mass, not a size.

The James Webb Space Telescope left Earth on 25 December 2021. The fact sheet writes "December 25, 2021 07:20am EST (2021-12-25 12:20 GMT/UTC)" and names the vehicle "Ariane 5 ECA." Other official pages write 7:20 AM ET, or 7:20 AM, and 12:20 UTC or UT. The date is not in doubt.

Fact sheet item	Official wording
Folding design	"So big it had to fold origami-style to fit in the rocket and unfolded like a "Transformer" in space."
Primary mirror	"6.5 m (21.3 ft) approximately." 18 segments. Material: "beryllium coated with gold." Clear aperture: 25 m². Mass of the primary: 705 kg. Focal length: 131.4 metres.
A single segment	"20.1 kg for a single beryllium mirror, 39.48 kg for one entire primary mirror segment assembly (PMSA)."
Gold coating	Thickness "100 × 10^{-9} metres (1000 angstroms)." Calculated mass: "48.25g of gold, about equal to the mass of a golf ball." "A golf ball has a mass of 45.9 grams. Note mass does not equal size!"
Sunshield	Five layers, "like having sun protection of SPF 1 million." Size: 21.197 m × 14.162 m. Operating temperature: "under 50 K (-370 °F)." Mission duration on the sheet: "5 - 10 years."

A short quiz

1. How much gold does the fact sheet calculate is on the mirrors?
2. How many primary-mirror segments does it list?
3. Why does the fact sheet warn that mass does not equal size?

Answers. 1. 48.25 grams. 2. 18. 3. Because it compares that mass to a golf ball of 45.9 grams, not to a golf-ball-sized lump of gold.

Wording from NASA Science, Webb Fact Sheet, checked 17 November 2026. Launch-time wording from the fact sheet, the launch page, and the FAQs is left as each page wrote it.
Free fact sheet from space-telescopes.galaxies.im · ReallyByte — Fun. Educational. Useless. · reallybyte.com