



WHAT IS A DOME?

A **dome** is defined as a big hemispherical roof. A **geodesic dome** is a structure made of interconnected triangles. The triangle will maintain its shape. The triangle is made of the least number of sides possible for a geometric shape, keeping three sides into place. Generally domes are made of small triangles and triangles are stable shapes. Triangles don't bend, twist, or collapse when hard loaded. A famous geodesic dome is *Spaceship Earth* at EPCOT in Walt Disney World, Florida. Geodesic domes are commonly used in children playgrounds:



FACT: A dome is stronger than a flat roof for example, in rain or snow conditions. Engineers prefer different shapes to make stronger structures, in particular, triangles, arches... and domes!

DOMES vs. CONVENTIONAL ROOF

1. **Lower Cost.** The construction method is easier involves less labor and materials.
2. **Faster Construction.** A six man crew can build a 3000 sq. ft. Dome in three to four weeks.
3. **Lower heating and cooling costs.** Five times more fuel efficient than conventional building.
4. **Less Maintenance.** No more leaking roofs and very little painting to be done on exterior.
5. **Fire safe.** As disaster resistant as rock, any damage easy to repair on exterior.
6. **Secure.** The dome has survived EARTHQUAKES, HURRICANES, TORNADOES.
7. **Marginal Economies Building:** constructed in 40 states in the USA and 10 foreign countries on marginal conditions the dome is cheaper than other structures.

HISTORY

In 1954, an architect and inventor by the name of **Buckminster Fuller** received a United States patent for what would become his legacy: the geodesic dome. While he technically didn't invent the concept (that would be a German engineer in the 1920s), Fuller is credited for popularizing the building technique, one that uses substantially fewer materials to build a strong, lightweight, and easily assembling structure.



Compare!	DOME	FLAT ROOF
COST m2	30 U\$A	200 U\$A
TIME (16 m2)	3 DAYS	10 DAYS
Resistant in natural disasters	500 PSF	40 PSF
Maintenance (Anually)	0,2% INITIAL INVEST	1,0% INITIAL INVEST
Air Conditioning EFFICIENCY	B	C