

Sounding Rockets

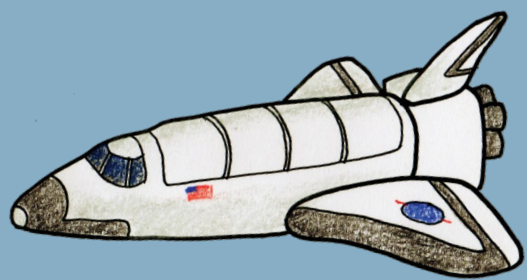
A *sounding rocket*, sometimes called a research rocket, is an instrument-carrying rocket designed to take measurements and perform scientific experiments during its sub-orbital flight. Most of these rockets carry instruments 50–1500 kilometers (31–932 miles) above the surface of Earth—flying higher than weather balloons, but lower than Earth-orbiting satellites.

Sounding rockets carry special tools specific to their science mission. They work particularly well for some NASA mission research because they are relatively inexpensive and easy to build, and they are quick to launch. They can even be used as test beds for equipment that will be used in more expensive and risky orbital spaceflight missions.

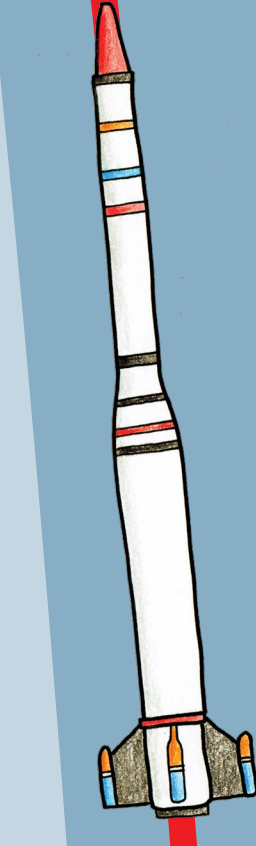
Exosphere



Jason-3 Satellite
1340 kilometers (833 miles)



Space Shuttle
322 kilometers (200 miles)

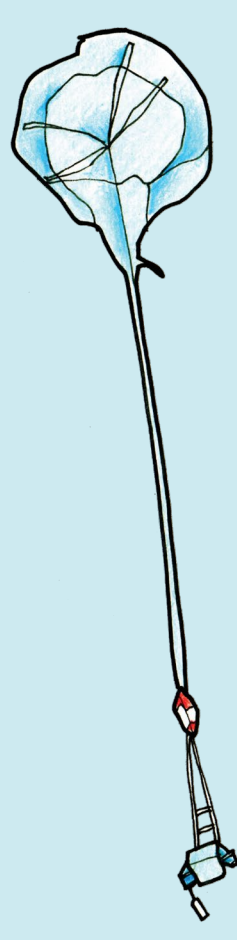


Sounding Rocket
282 kilometers (175 miles)

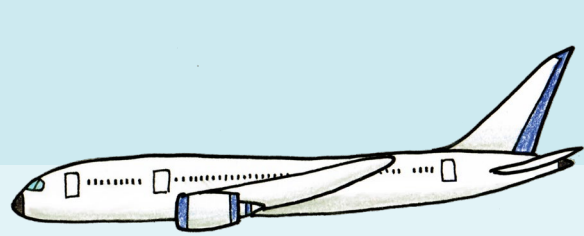
Sounding Rocket Range
50–1500 kilometers
(31–932 miles) above Earth

Thermosphere

Mesosphere



BARREL
NASA Super-Pressure Balloon
32 kilometers (20 miles)



Commercial Jet Airplane
10 kilometers (6.5 miles)

Stratosphere

Troposphere

Earth