



OSIRIS-REx

ASTEROID SAMPLE RETURN MISSION

Scientists chose Bennu as the target of the OSIRIS-REx mission because of its composition, size, and proximity to Earth. Bennu is a rare B-type asteroid (primitive and carbon-rich), which is expected to have organic compounds and water-bearing minerals like clays.

Bennu Facts:

Equatorial Diameter: ~500 m

Polar Diameter: ~510 m

Average Speed: 63,000 mph

Rotation Period: 4.3 hrs

Orbital Period: 1.2 yrs

Orbital Inclination: 6 degrees

Earth Approach: Bennu comes close to Earth every 6 yrs

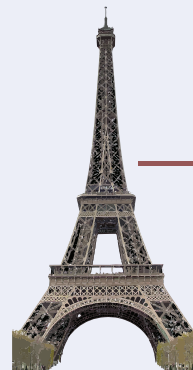
Primitive asteroids have not significantly changed since they formed nearly 4.5 billion years ago. Because of this, we hope to find organic molecules on Bennu like those that may have led to the origin of life on Earth.



~510 m



443 m



324 m

Bennu

Empire State Building

Eiffel Tower

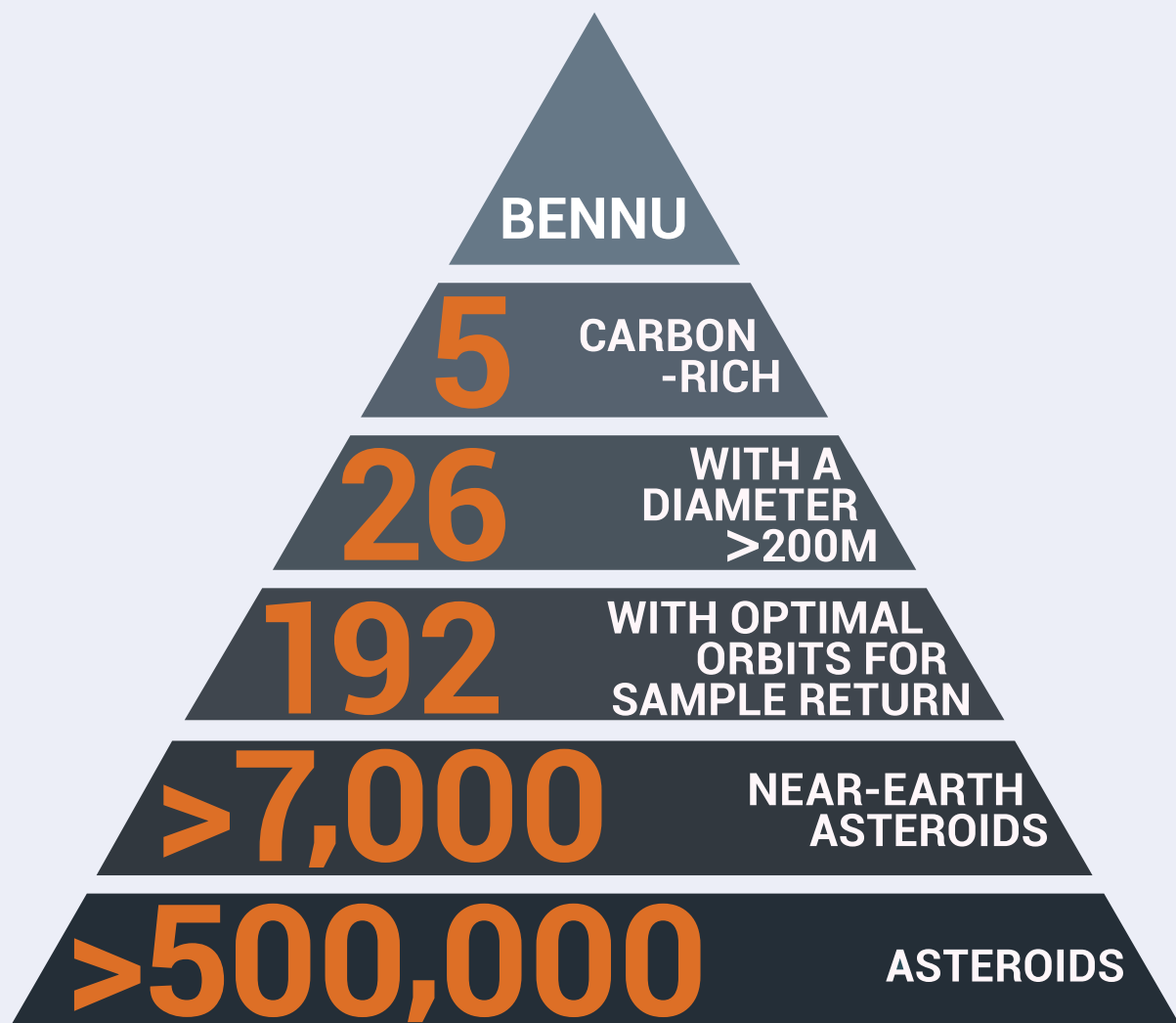
Size Comparison of Bennu



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The goal of the OSIRIS-REx mission is to collect a sample from an asteroid and bring it back to Earth. But just how did the OSIRIS-REx team choose Bennu from the over 500,000 known asteroids in the Solar System?



Bennu is a B-type asteroid with a ~500 meter diameter. It completes an orbit around the Sun every 436.604 days (1.2 years) and every 6 years comes very close to Earth, within 0.002 AU. These close encounters give Bennu a high probability of impacting Earth in the late 22nd century. Bennu's size, primitive composition, and potentially hazardous orbit make it one of the most fascinating and accessible NEOs ... and the ideal OSIRIS-REx target asteroid.