



Barringer Crater

- This crater is located in Arizona, USA
- It was created 50,000 years ago by a chunk of **METAL** from space
- It measures about **1.2 km** in diameter



Size of crater compared to a stadium



Ceres

- Ceres is the largest object between the orbits of Mars and Jupiter
- It is made mostly of **ROCK** and **ICE**
- Ceres is about **950 km** in diameter



Ceres (bottom left) compared to the Earth and Moon



Earth

- It orbits the Sun between Venus and Mars
- Earth is made of **ROCK**, a **METAL** core and both solid and liquid **ICE** (water, that is) on its surface
- Its diameter is **12,650 km**



Size of Earth compared to Jupiter



Size of Earth compared to Jupiter

- Its diameter is **12,650 km**
- On its surface is **METAL** core and both solid and liquid **ICE** (water, that is) on its surface
- Earth is made of **ROCK**, a **METAL** core and both solid and liquid **ICE** (water, that is) on its surface
- It orbits the Sun between Venus and Mars

Earth

Ceres (bottom left) compared to the Earth and Moon



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Ceres

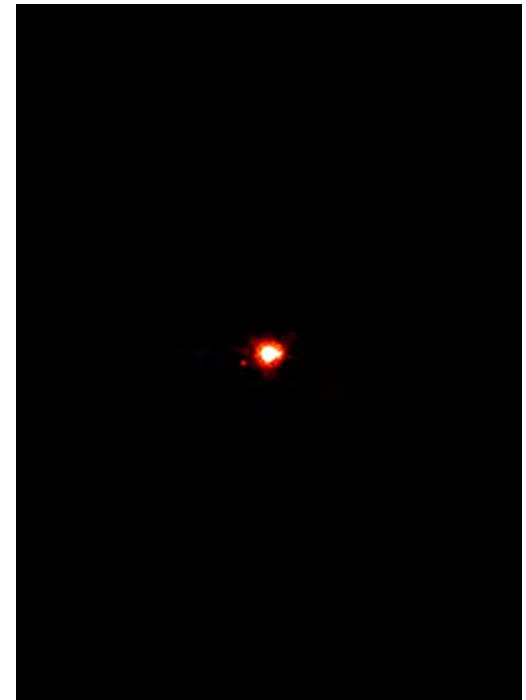
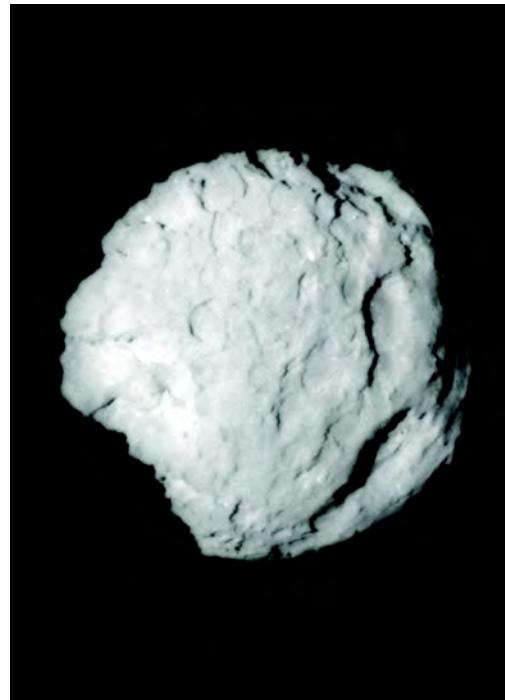
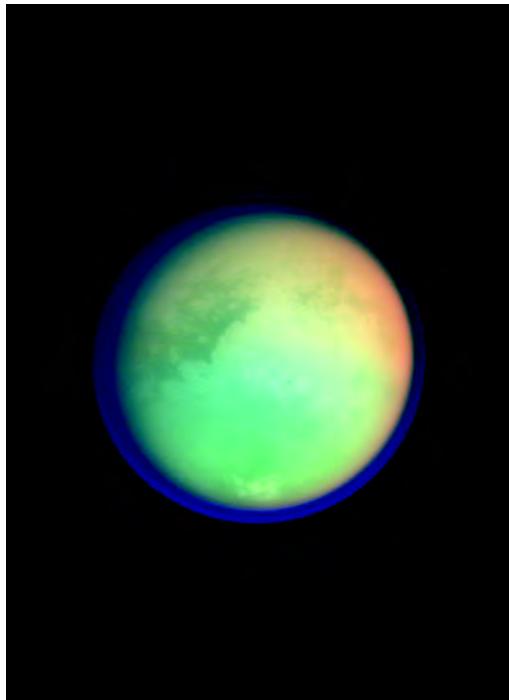
Size of crater compared to a stadium



- It measures about **1.2 km** from space ago by a chunk of **METAL**
- It was created 50,000 years ago by a chunk of **METAL**
- This crater is located in Arizona, USA

Barringer Crater





Titan

- Titan orbits Saturn
- It is made of **ROCK** and **ICE** and has a thick atmosphere
- It is **5,150 km** in diameter, between the size of the Earth and Moon



Size of Titan (center) compared to the Earth and Moon

Wild 2

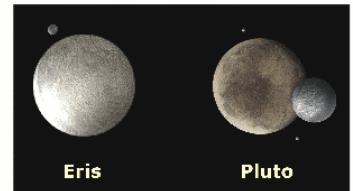
- Wild 2 orbits the Sun between Mars and Jupiter, though its orbit used to be much more distant
- It is made of **ICE** and **DUST**
- It is about **4 km** across



Size of Wild 2 compared to Manhattan

Eris

- The orbit of Eris is very distant, mostly beyond Pluto's orbit.
- It is made of **ICE** and **ROCK**
- The diameter of Eris is about **2,600 km**



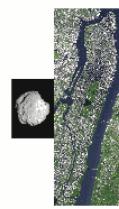
Size of Eris compared to Pluto



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- It is made of **ICE** and **ROCK**
- The diameter of Eris is about 2,600 km

Eris

Size of Wild 2 compared to Manhattan



- It is about 4 km across
- It is made of **ICE** and **DUST**
- Wild 2 orbits the Sun much more distant between Mars and Jupiter, though its orbit used to be much more distant

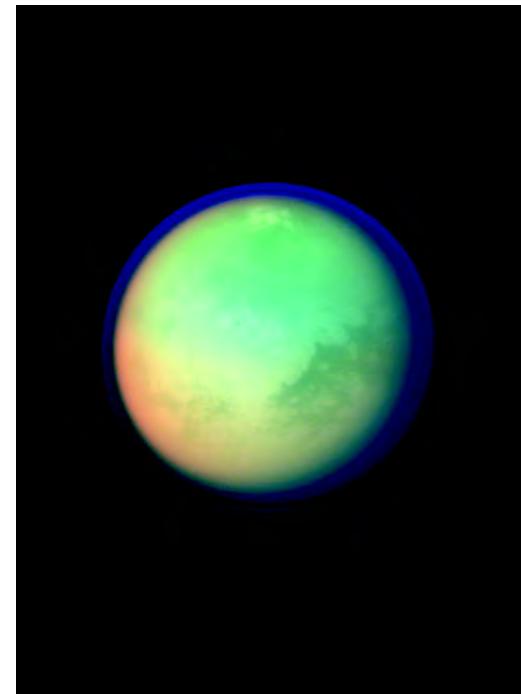
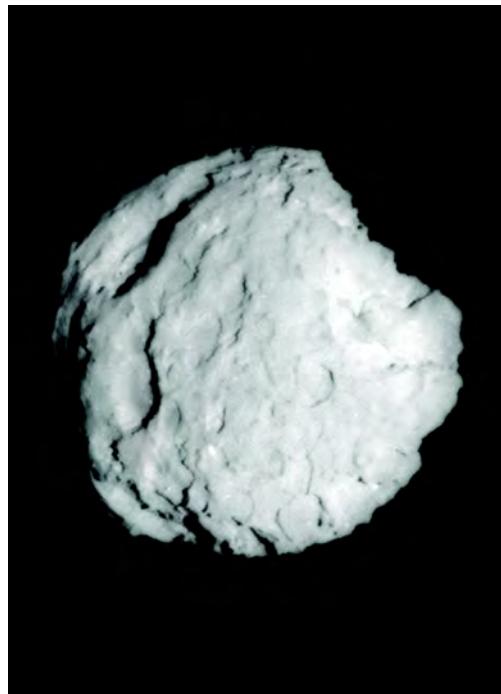
Wild 2

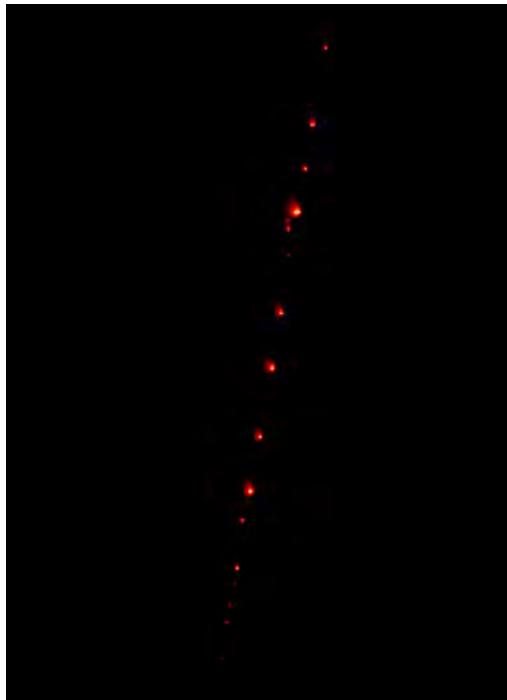
Size of Titan (center) compared to the Earth and Moon



- Titan orbits Saturn and has a thick atmosphere
- It is 5,150 km in diameter, between the size of the Earth and Moon
- It is made of **ROCK** and **ICE**

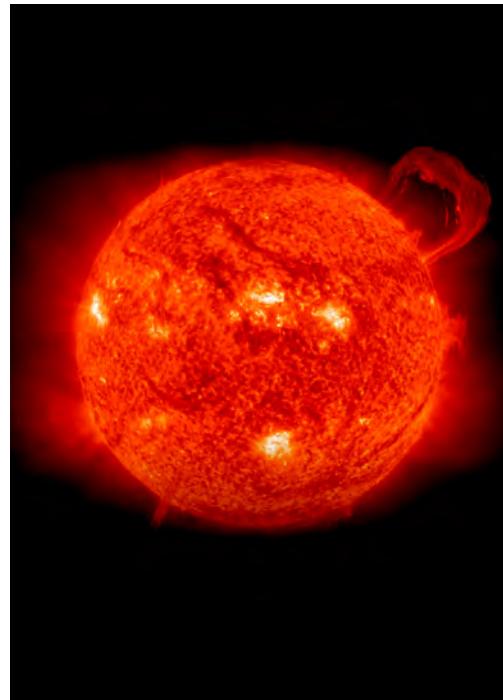
Titan





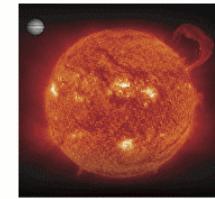
Shoemaker-Levy 9

- Its orbit originally took it beyond Pluto. After it was captured by Jupiter's gravity, it was torn apart and eventually smashed into Jupiter.
- Made of **ICE** and **ROCK**
- Largest pieces were **1km** and left huge marks on Jupiter



Sun

- The Sun is located in the center of our Solar System
- It is made mostly of hydrogen and helium **GAS**
- The Sun is **1.4 million km** in diameter



Size of Sun compared to Jupiter



Victoria Crater

- This crater is one of the smaller craters on Mars
- The rim's jagged edges are due to erosion caused by **ROCK** and **DUST**
- It is **750 meters** across



Size of crater compared to a stadium

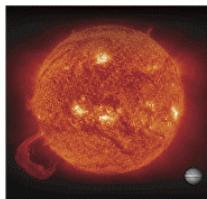
Size of crater compared to a stadium



- This crater is one of the smaller craters on Mars
- The rim's jagged edges are due to erosion caused by ROCK and DUST
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- The Sun is 1.4 million km in diameter
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Victoria Crater

Size of Sun compared to Jupiter



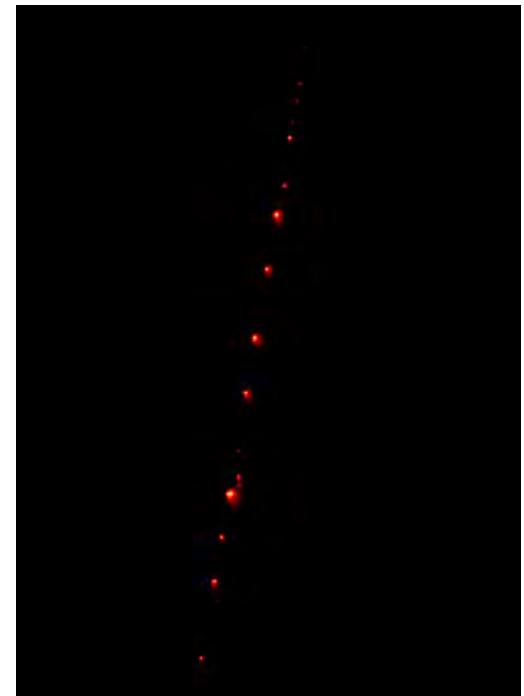
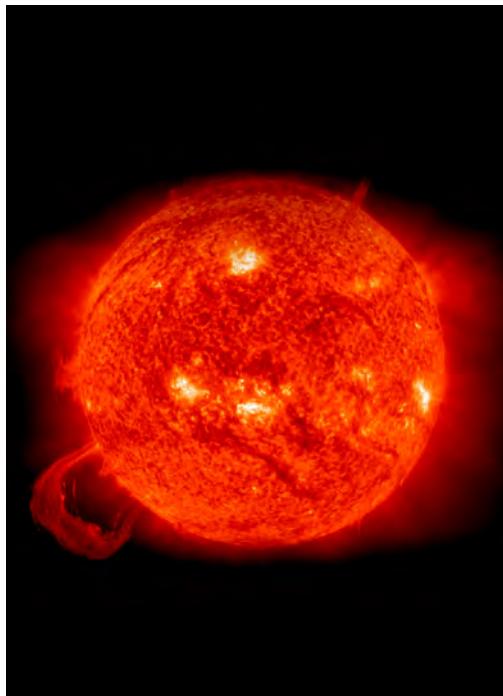
- The Sun is 1.4 million km in diameter
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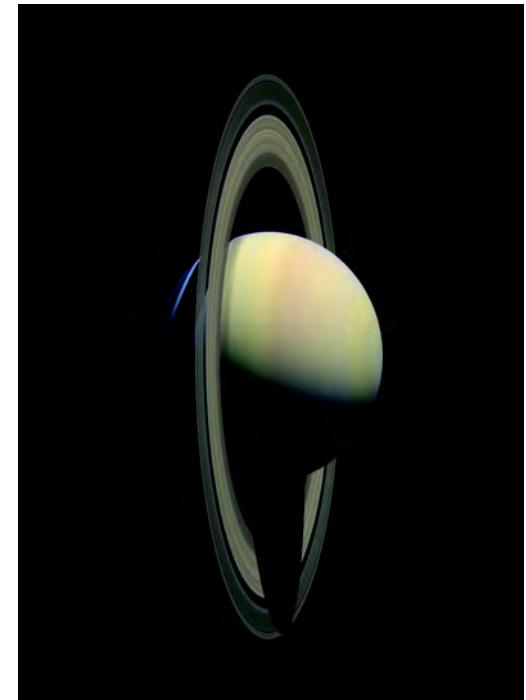
Sun

- Its orbit originally took it beyond Pluto. After it was captured by Jupiter's gravity, it was torn apart and eventually smashed into Jupiter.
- Made of ICE and ROCK
- Large pieces were 1 km and left huge marks on Jupiter



Shoemaker-Levy 9





Phobos

- Phobos closely orbits Mars and will eventually collide with it
- It is mostly made of **ROCK** but may have **ICE** inside
- Phobos is about **11 km** across



Size of Phobos compared to Manhattan

Pluto & Charon

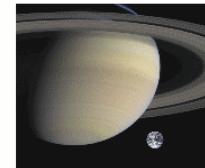
- Pluto and Charon orbit each other, together are mostly outside Neptune's orbit
- These round objects are made of **ICE** and **ROCK**
- Pluto is about **2,300 km** across



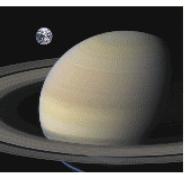
Size of Pluto & Charon compared to Earth and Moon

Saturn

- Saturn orbits the Sun between Jupiter and Uranus
- Saturn is mostly made of **GAS**
- The main body is **120,000 km** across



Size of Saturn compared to Earth



Size of Saturn compared to Earth

- The main body is **120,000 km** across
- Saturn is mostly made of **GAS**
- Saturn orbits the Sun between Jupiter and Uranus

Saturn

Earth and Moon



Size of Pluto & Charon compared to Earth and Moon

- Pluto is about **2,300 km** across
- These round objects are made of **ICE** and **ROCK**
- Pluto and Charon orbit outside Neptune's orbit

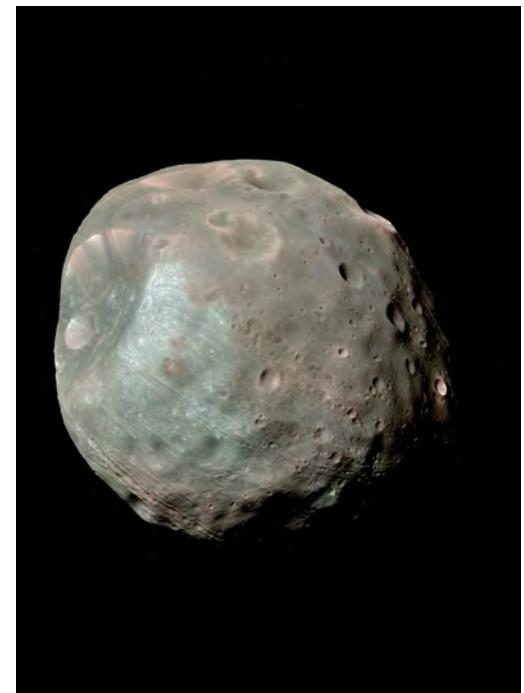
Pluto & Charon

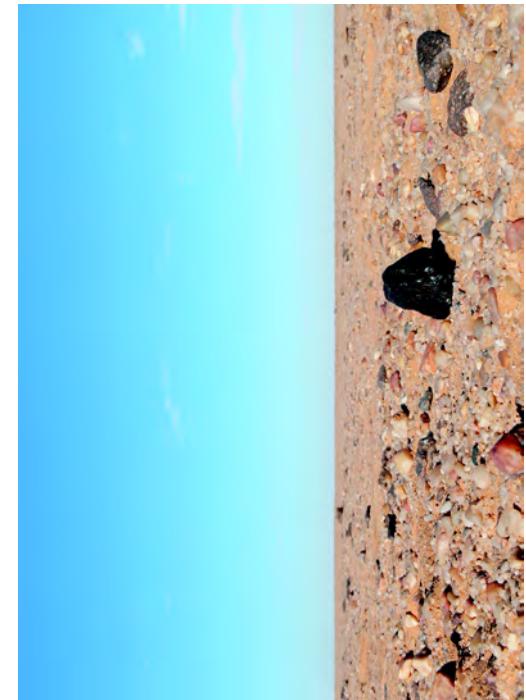
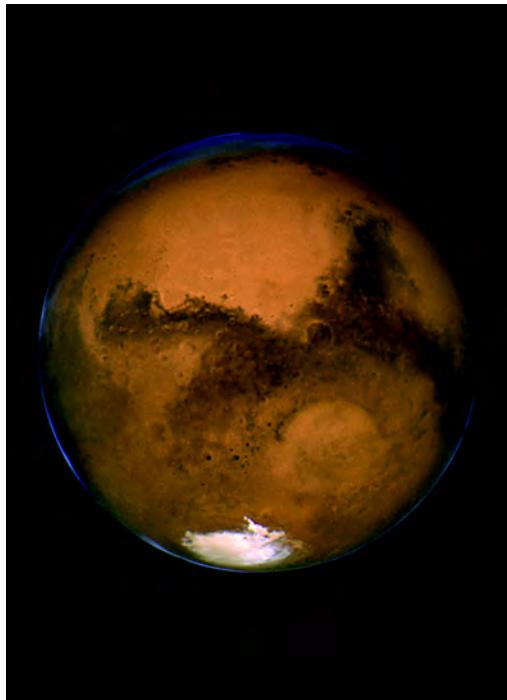
Size of Phobos compared to Manhattan



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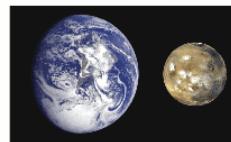
Phobos





Mars

- The orbit of Mars is between Earth and the Asteroid Belt
- Mars is made of **ROCK** with a **METAL** core and some solid **ICE** on its surface
- It is **6,800 km** in diameter, about half as wide as the Earth



Size of Mars compared to Earth

Meteor

- Meteors occur in Earth's atmosphere, about 75km above the surface
- We see the glowing pieces of **ROCK**
- The pieces of rock are mostly less than **1cm**, or the size of a coin



Size of rock compared to a coin

Meteorite

- Meteorites are pieces of asteroids that land on other worlds
- They are made of **METAL** and **ROCK**
- Almost all meteorites on Earth are smaller than **1 meter**

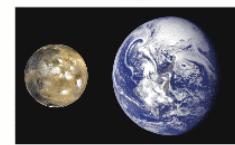




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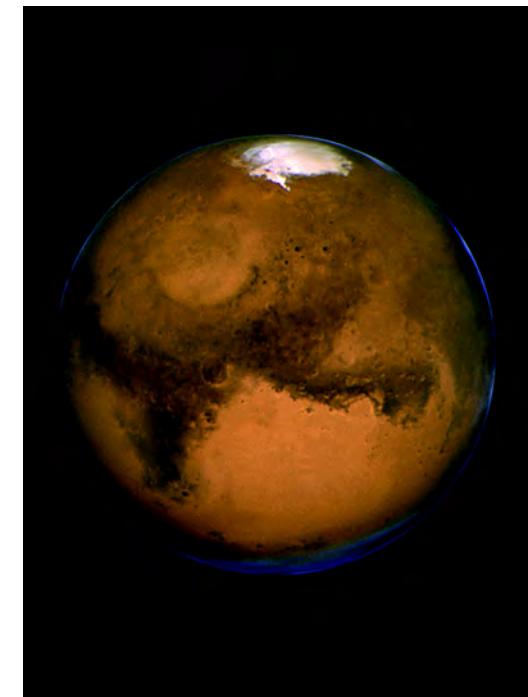
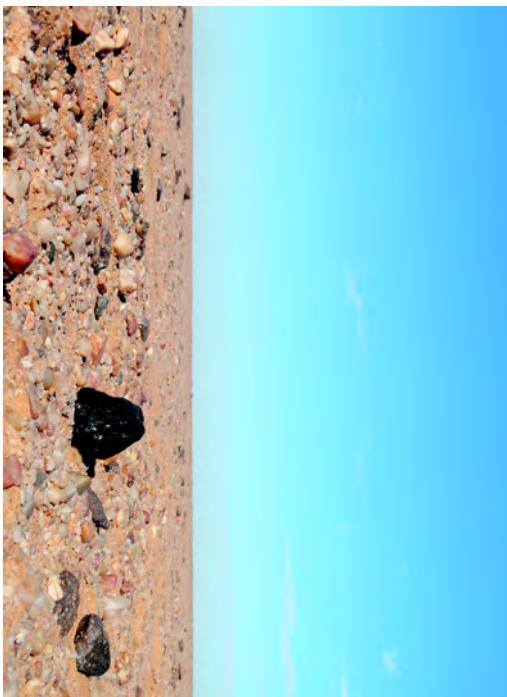
Meteorite

Size of Mars compared to Earth



- The orbit of Mars is between Earth and the Asteroid Belt
- Mars is made of ROCK with a METAL core and some solid ICE on its surface
- It is 6,800 Km in diameter, about half as wide as the Earth
- Mars has about the same surface area as the size of a coin compared to a coin.

Mars



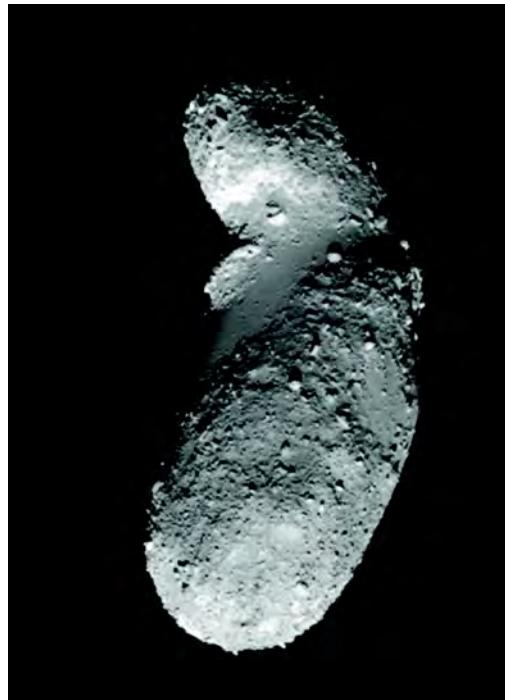


Ida and Dactyl

- Together they orbit the Sun between the orbits of Mars and Jupiter. Dactyl (the smaller object) orbits Ida.
- They are mixtures of **ROCK** and **METAL**
- Ida is about **15 km** across

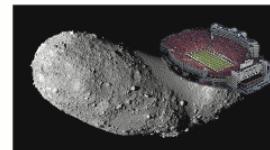


Size of Ida compared to Manhattan

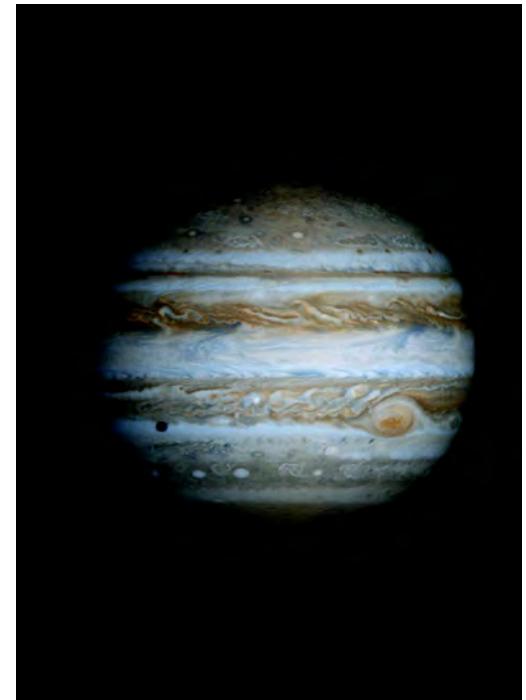


Itokawa

- Itokawa's orbit crosses the orbits of Earth and Mars but is not a threat to either
- It is made of a loose pile of boulders made of **ROCK** and **METAL**
- Its longest side is **535 meters**



Size of Itokawa compared to a stadium



Jupiter

- Jupiter orbits the Sun between the Asteroid Belt and Saturn
- It is made of **GAS**
- Its diameter is about **143,000 km**



Size of Jupiter's Red Spot compared to Earth

Size of Jupiter's Red Spot compared to Earth

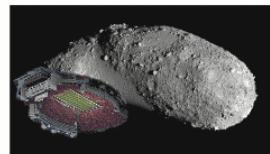


143,000 km

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Jupiter

Size of Itokawa compared to a stadium



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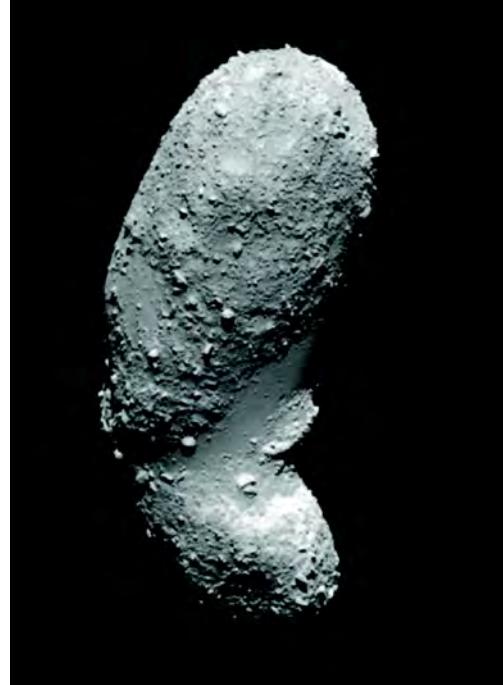
Itokawa

Size of Ida compared to Manhattan



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- Together they orbit the Sun between the orbits of Mars and Jupiter. Dactyl (the smaller object) orbits Ida.

Ida and Dactyl





Hale-Bopp

- Hale-Bopp orbits between Earth's orbit and the distant Solar System — far beyond the orbit of Pluto
- Hale-Bopp is made of **ICE** and **DUST**
- The tail shown here extends more than **1 million km**



Hoba

- This object landed on Earth 80,000 years ago in what is now the country of Namibia
- Hoba is made of **METAL**
- It measures about **3 meters** across



Iapetus

- Iapetus orbits Saturn
- This walnut-shaped object is made of **ICE** with some **ROCK**
- It is **1,500 km** across, or about half as wide as the Earth's Moon



Size of Iapetus compared to Moon

Lapetus

Size of Lapetus compared to Moon



- Lapetus orbits Saturn
- This walnut-shaped object is made of ICE with some ROCK
- It is 1,500 km across, or about half as wide as the Earth's Moon



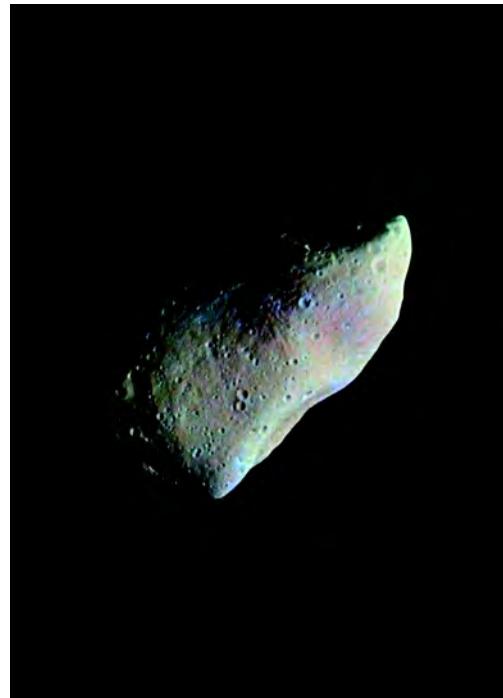
- Hoba is made of METAL
- It measures about 3 meters across
- This object landed on Earth 80,000 years ago in Namibia

Hoba

- Hale-Bopp orbits between Earth's orbit and the distant Solar System — far beyond the orbit of Pluto and DUST
- Hale-Bopp is made of ICE and DUST
- The tail shown here extends more than 1 million km

Hale-Bopp





Earth's Moon

- The Moon orbits Earth
- It is made of **ROCK** with a small **METAL** core
- The Moon is **3,500 km** in diameter or about $\frac{1}{4}$ the width of Earth



Size of Moon compared to Earth

Gaspra

- This object orbits the Sun between Mars and Jupiter
- It is made of a mixture of **ROCK** and **METAL**
- It is **18 km** on the longest side



Size of Gaspra compared to Manhattan

Hale-Bopp

- Hale-Bopp orbits between Earth's orbit and the distant Solar System — far beyond the orbit of Pluto
- Hale-Bopp is made of **ICE** and **DUST**
- The tail shown here extends more than **1 million km**





- Hale-Bopp orbits between Earth's orbit and the distant Solar System — far beyond the orbit of Pluto
- Hale-Bopp orbits between Earth's orbit and the distant Solar System — far beyond the orbit of Pluto
- Hale-Bopp is made of ICE and DUST and has a tail more than 1 million km long

Hale-Bopp

Gaspra



- It is 18 km wide
- It is made of a mixture of ROCK and METAL
- This object orbits the Sun between Mars and Jupiter

Size of Gaspra compared to Manhattan



- The Moon orbits Earth with a small METAL core
- It is made of ROCK with a small METAL core
- The Moon is 3,500 km in diameter or about $\frac{1}{4}$ the width of Earth
- The Moon compared to Earth

Earth's Moon

