

Celestial Objects in Space

Asteroids

- Irregular shaped _____ objects
- many _____ around the _____ and this is called an _____

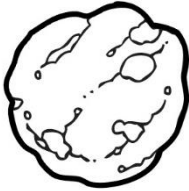
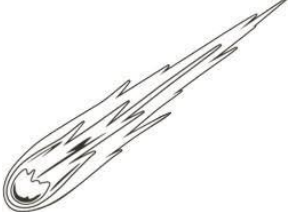
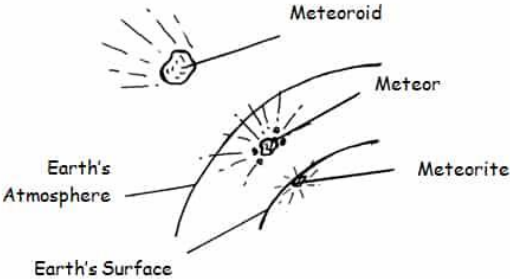
Comets

- chunks of frozen _____, _____ & _____ that orbit the sun
- tail is formed when the comet comes close to the _____

Meteors & Meteorites

- A _____ is a clump of rock or _____ which is pulled towards Earth by _____
- In Earth's atmosphere it heats up, begins to glow and becomes a _____
- If the object is not _____ before it contacts the Earth's surface it is called a _____

What's the difference?

| | | |
|---|--|---|
|  | <p style="text-align: center;">Asteroid</p> | <ul style="list-style-type: none"> - Small; inactive - made of _____ - Orbits the _____ |
|  | <p style="text-align: center;">Comet</p> | <ul style="list-style-type: none"> - small; sometimes active object - made of _____ |
|  | <p style="text-align: center;">Meteoroid</p> | <ul style="list-style-type: none"> - small particle from an _____ or _____ - orbits the _____ |
| | <p style="text-align: center;">Meteor</p> | <p>A meteoroid that _____ up in the Earth's atmosphere</p> <ul style="list-style-type: none"> - a _____ star |
| | <p style="text-align: center;">Meteorite</p> | <p>A meteoroid that _____ its passage through the Earth's _____ and impacts the Earth's surface.</p> |

Moons/Satellites

- Large _____ objects which revolve around a _____
- many planets have more than one moon
- Earth's moon has _____ atmosphere and has _____
- after the invention of the telescope _____ saw 4 moons of Jupiter
- Moons can come in a variety of _____ and with a variety of _____

Man-Made Satellites (Artificial Satellites or machines)

1000's of artificial satellites

- More than _____ countries have put more than _____ satellites into orbit
- Orbit outside the Earth's atmosphere at altitudes of _____ km to _____ km

Human occupied satellites

- Space shuttle
- The international space station is 350 km from Earth and takes 90 minutes to orbit Earth

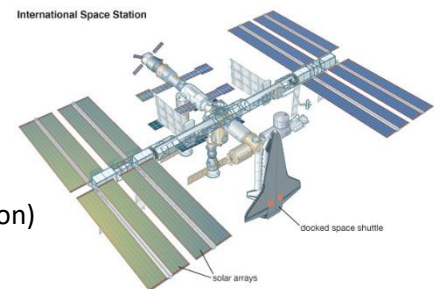
Staying in Orbit

- The _____ of Earth's _____ constantly pulls the satellite towards Earth
- The _____ motion of the satellite and the _____ of Earth prevents it from falling into the atmosphere

Types of Orbits

Low Earth Orbit Satellites:

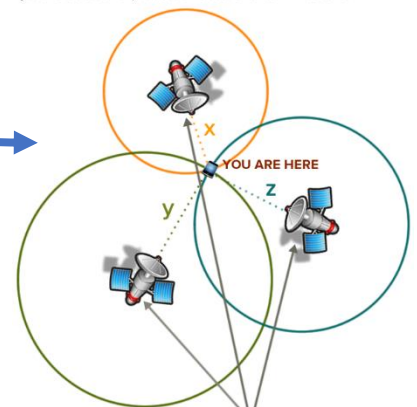
- Altitudes up to _____ km
- Human occupied & Earth observation (International Space Station)



Medium Earth Orbit Satellites:

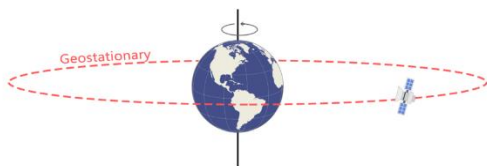
- Altitudes up to _____ km
- GPS satellites

With the distances between you and *three* satellites, you reduce the possible locations down to *one*:



Geostationary Orbit Satellites:

- Its path is directly over the equator with a period equal to the period of the Earth's rotation.
- Appear motionless in the sky
- Used to broadcast TV and radio



In addition to knowing and transmitting the precise time, each satellite knows and transmits its precise location.

At this point, there's enough info to get the phone's location.