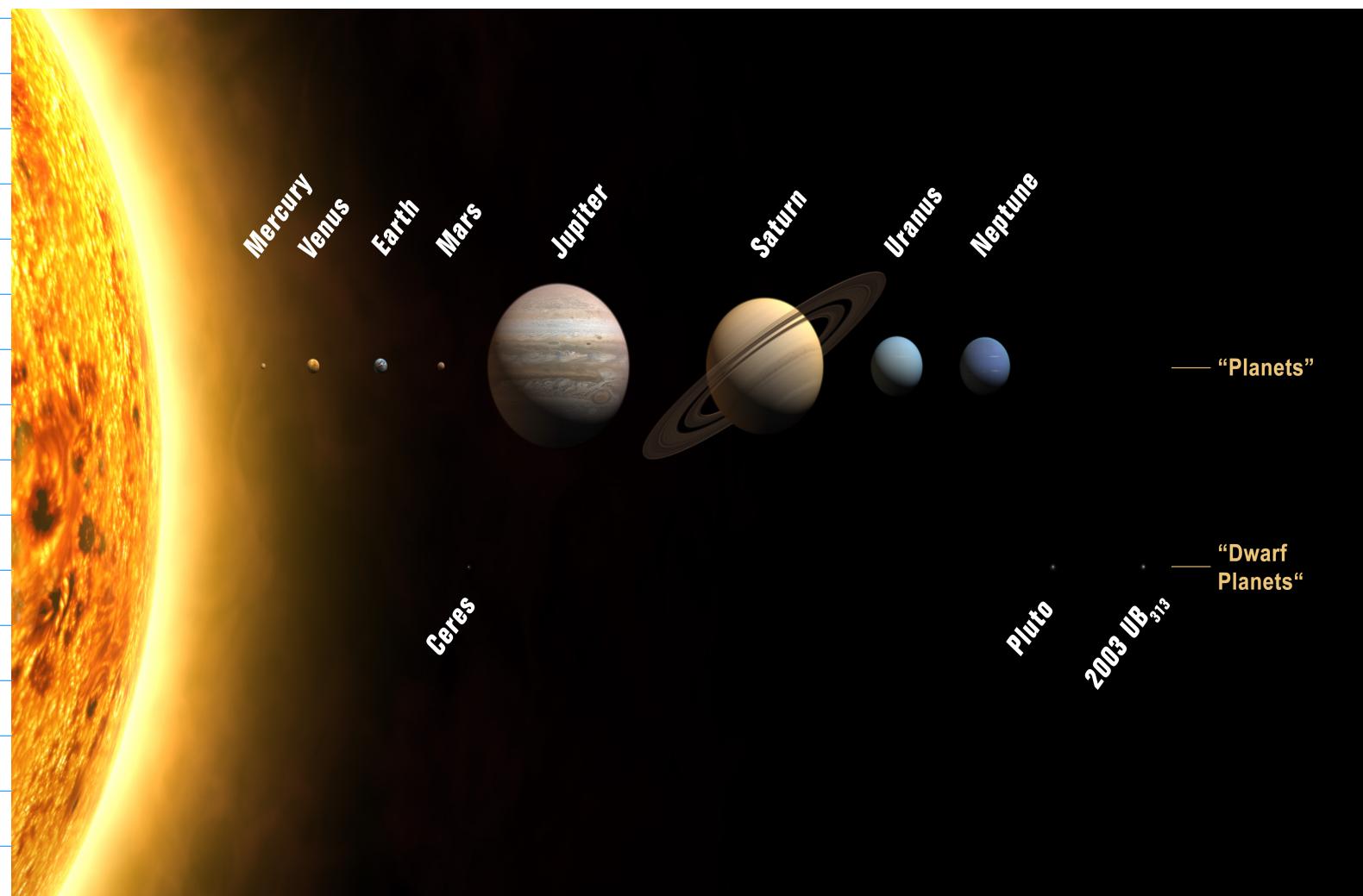


SOLAR SYSTEM (SS) = SUN + OTHER
BODIES ORBITING AROUND IT

THE INVENTORY OF THE SOLAR SYSTEM:

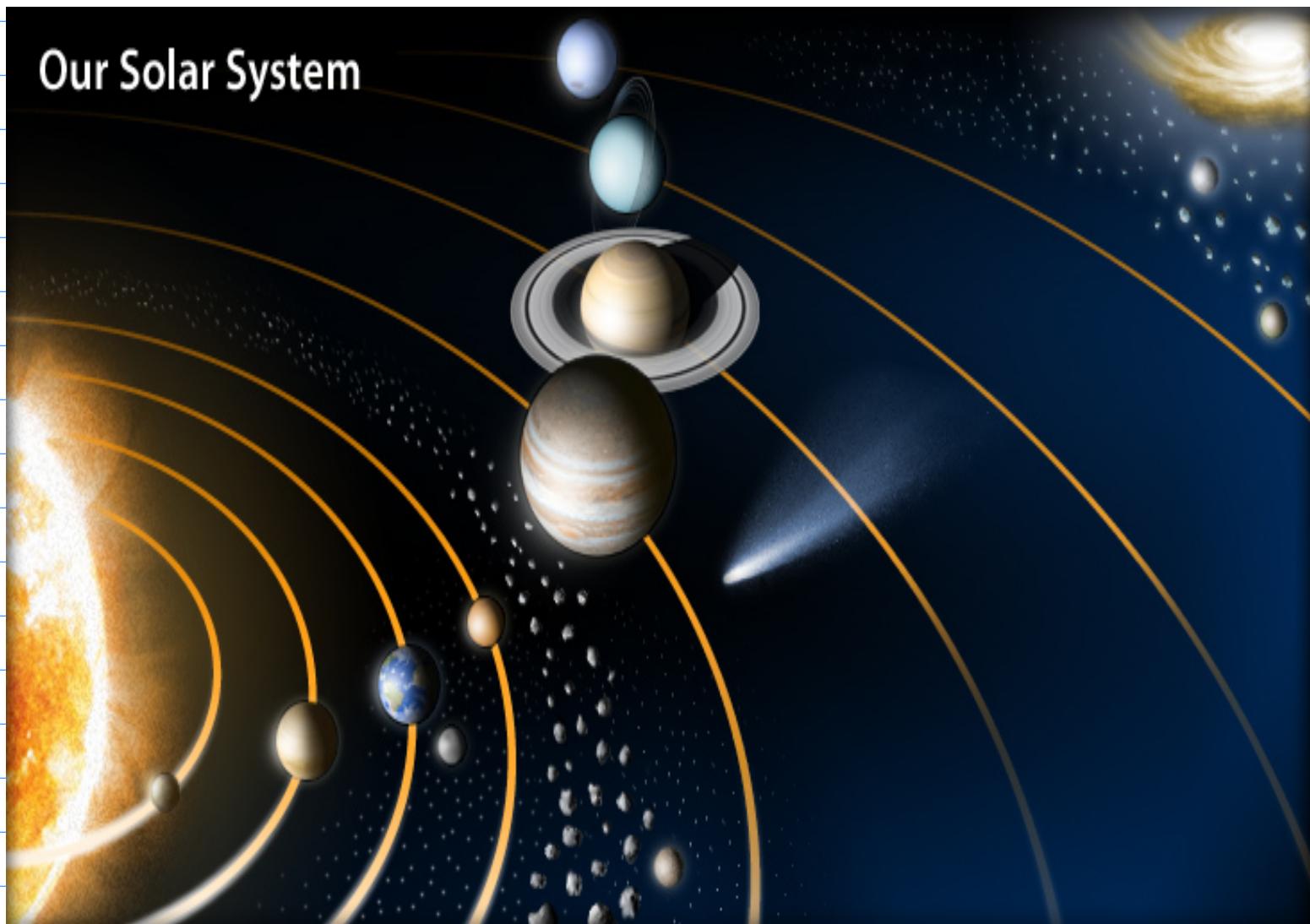
1) SUN - THE LARGEST OBJECT in SS



- ABOUT 99.9% OF THE TOTAL
MASS OF THE SS IS IN THE SUN.

- THE DIAMETER OF THE SUN IS 109 TIMES THE DIAMETER OF THE EARTH, OR ABOUT 10 TIMES THE DIAMETER OF JUPITER (THE LARGEST PLANET in SS)

2) 8 PLANETS MOVING IN NEARLY CIRCULAR ORBITS AROUND THE SUN AND SEVERAL DWARF PLANETS.



PLANET

AVERAGE DISTANCE
FROM THE SUN IN AU
(APPROXIMATE)

MERCURY	TERRESTRIAL (EARTH-LIKE) PLANETS	0.4
VENUS		0.7
EARTH		1
MARS		1.5

JUPITER	JOVIAN (JUPITER- LIKE PLANETS)	5
SATURN		10
URANUS		20
NEPTUNE		30

DWARF PLANETS :

PLUTO , Eris (2003 UB₃₁₃), ...
(40 AU) , (97 AU)

Why is PLUTO NO LONGER CONSIDERED
TO BE A PLANET ?

THE DISCOVERY OF Eris in 2005
PROMPTED THE INTERNATIONAL
ASTRONOMICAL UNION (IAU) TO
COME UP WITH THE FOLLOWING
CRITERIA FOR A BODY IN SS TO
BE CLASSIFIED AS A PLANET:

- 1) IT HAS TO REVOLVE AROUND THE SUN;
- 2) IT HAS TO BE MASSIVE ENOUGH
TO ASSUME APPROXIMATELY SPHERICAL
SHAPE UNDER ITS OWN GRAVITY;
- 3) IT IS THE ONLY BODY OF THAT SIZE
AT THAT DISTANCE FROM THE SUN
(i.e. IT HAS CLEARED ITS ORBIT).

PLUTO FAILS CRITERION 3).

3) PLANETARY SATELLITES AND RINGS

<u>PLANET</u>	<u>KNOWN SATELLITES</u>	<u>RINGS</u>
---------------	-------------------------	--------------

MERCURY	NONE	NO
---------	------	----

VENUS	NONE	NO
-------	------	----

EARTH	1 (THE Moon)	NO
-------	--------------	----

MARS	2	NO
------	---	----

JUPITER	63 +	YES
---------	------	-----

SATURN	61 +	YES
--------	------	-----

URANUS	27 +	YES
--------	------	-----

NEPTUNE	13 +	YES
---------	------	-----

Selected Moons of the Solar System, with Earth for Scale

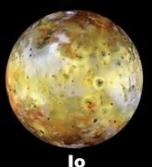


Moon

Mars

Asteroid
Ida

Jupiter



Io

Phobos
Deimos

Dactyl



Europa



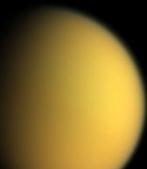
Ganymede



Callisto

Saturn

Mimas
Enceladus
Tethys
Dione
Rhea

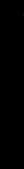


Titan

Hyperion
Iapetus
Phoebe

Uranus

Puck
Miranda
Ariel
Umbriel
Titania
Oberon



Neptune

Proteus
Triton
Nereid



Charon

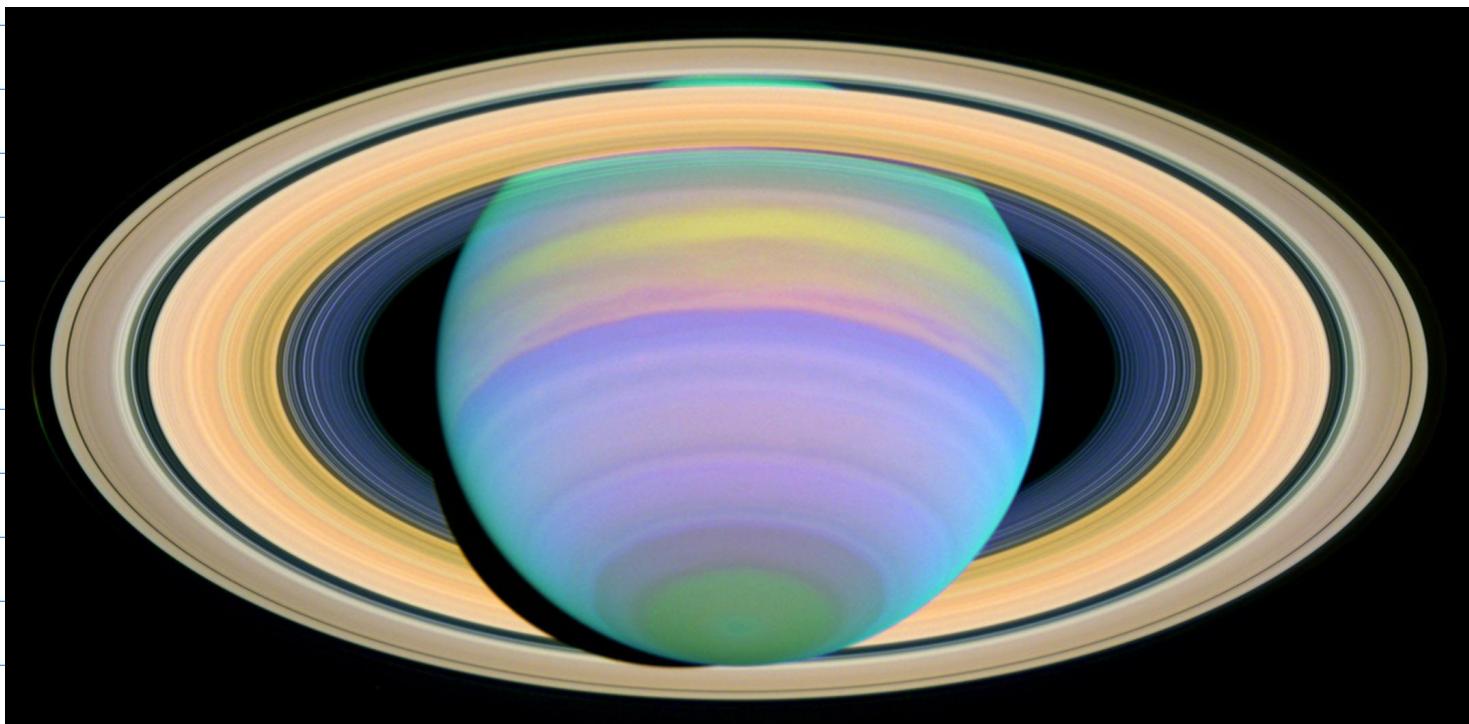
Pluto

Eris
Dysnomia

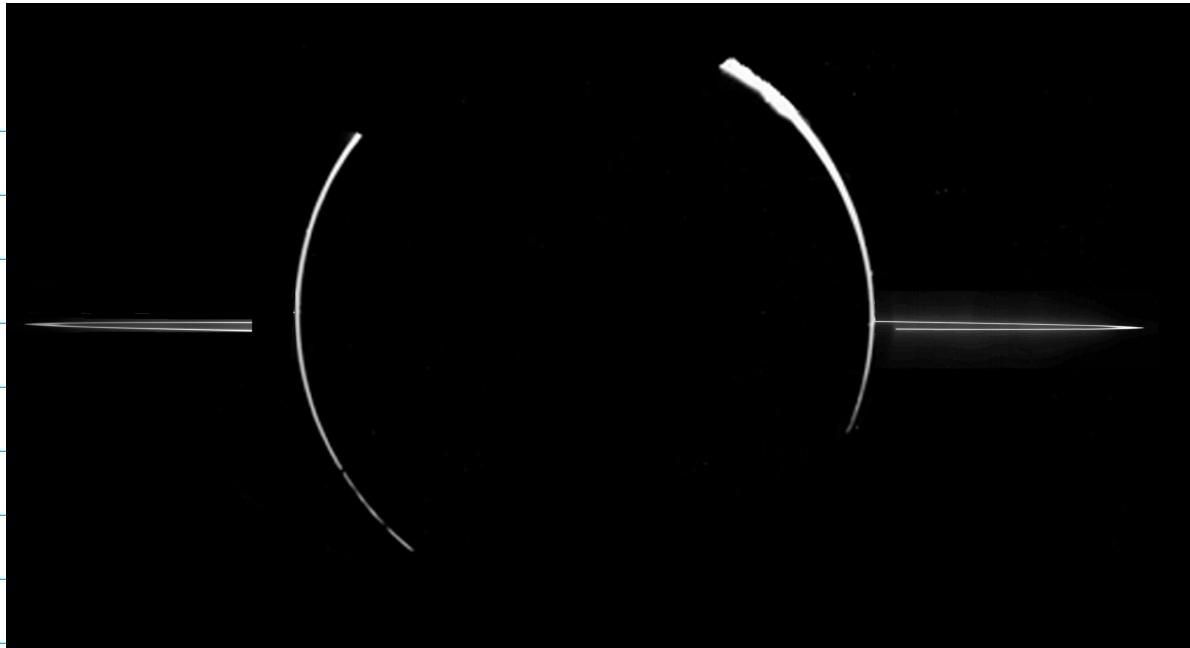


Earth

Scale: 1 pixel = 25 km



SATURN AND ITS RINGS



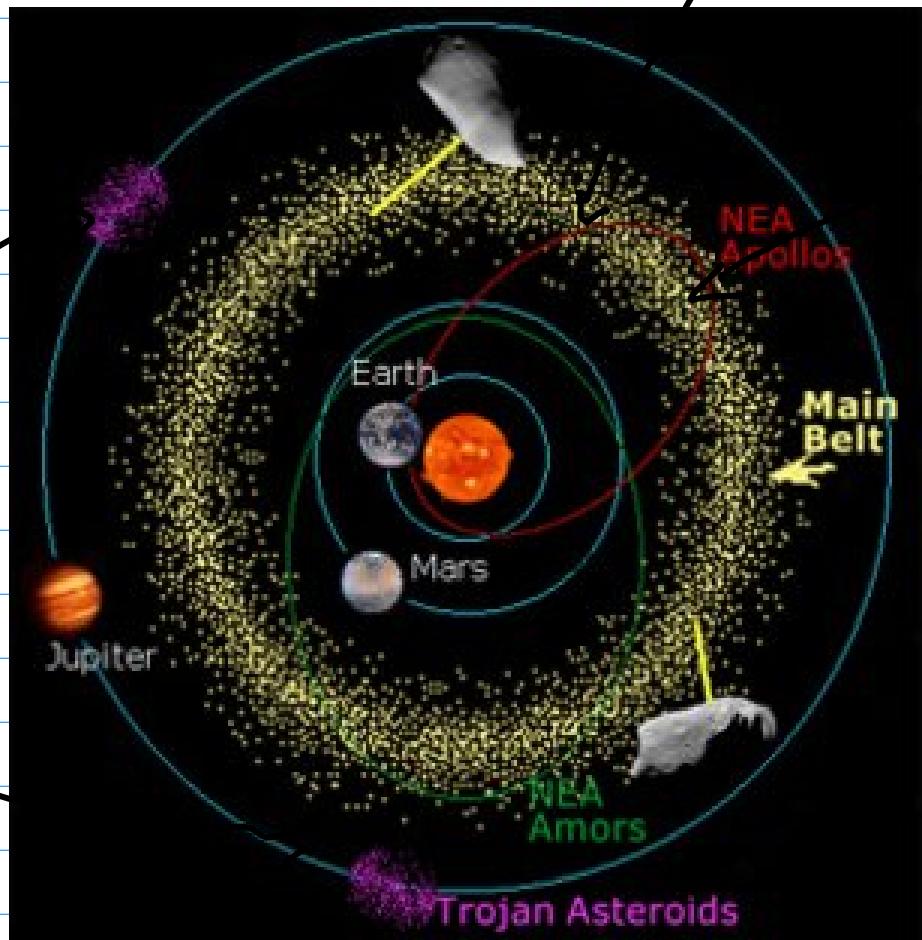
JUPITER AND ITS THIN RING

4) ASTEROIDS

ASTEROID BELT

APOLLO
ASTEROIDS

TROJAN
ASTEROIDS



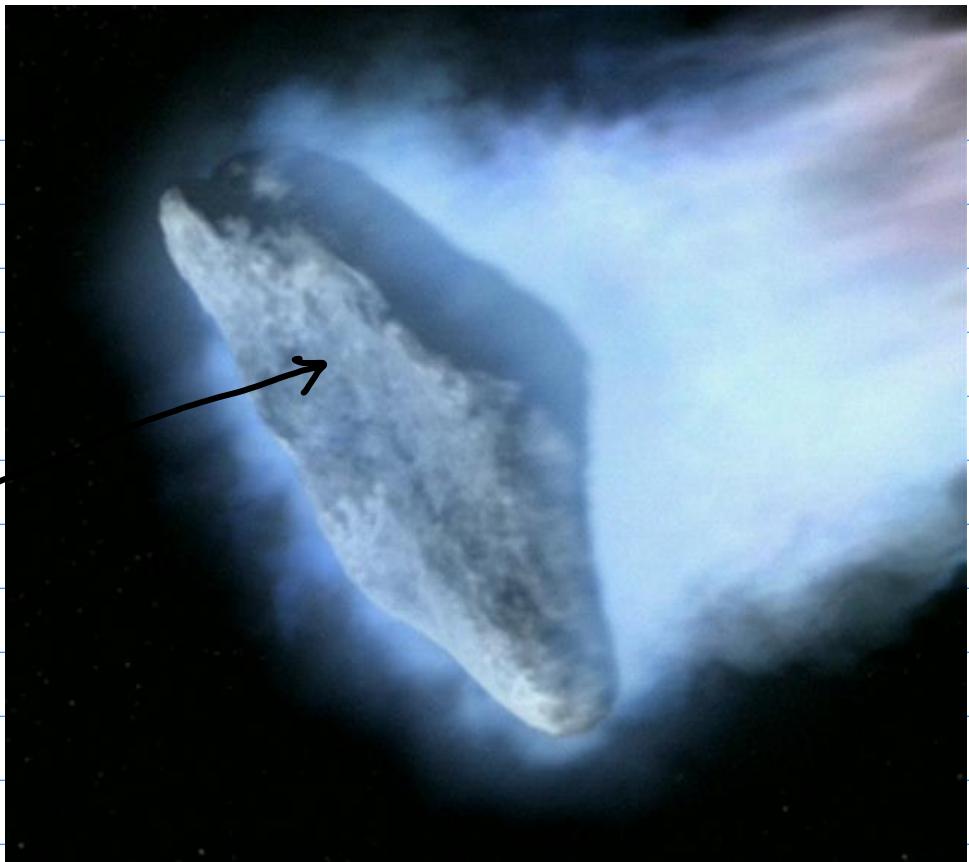
5) COMETS

COMET

HALE-BOPP
(1997)



THEY ARE CHUNKS OF FROZEN
GASES WITH SOLID PARTICLES
MIXED IN



6) METEOROIDS → METEORS → METEORITES

↑
SMALL SOLID
OBJECTS

↑
"SHOOTING
STARS"

↑
FINDS ON
EARTH

7) INTERPLANETARY MEDIUM (GAS
AND DUST)