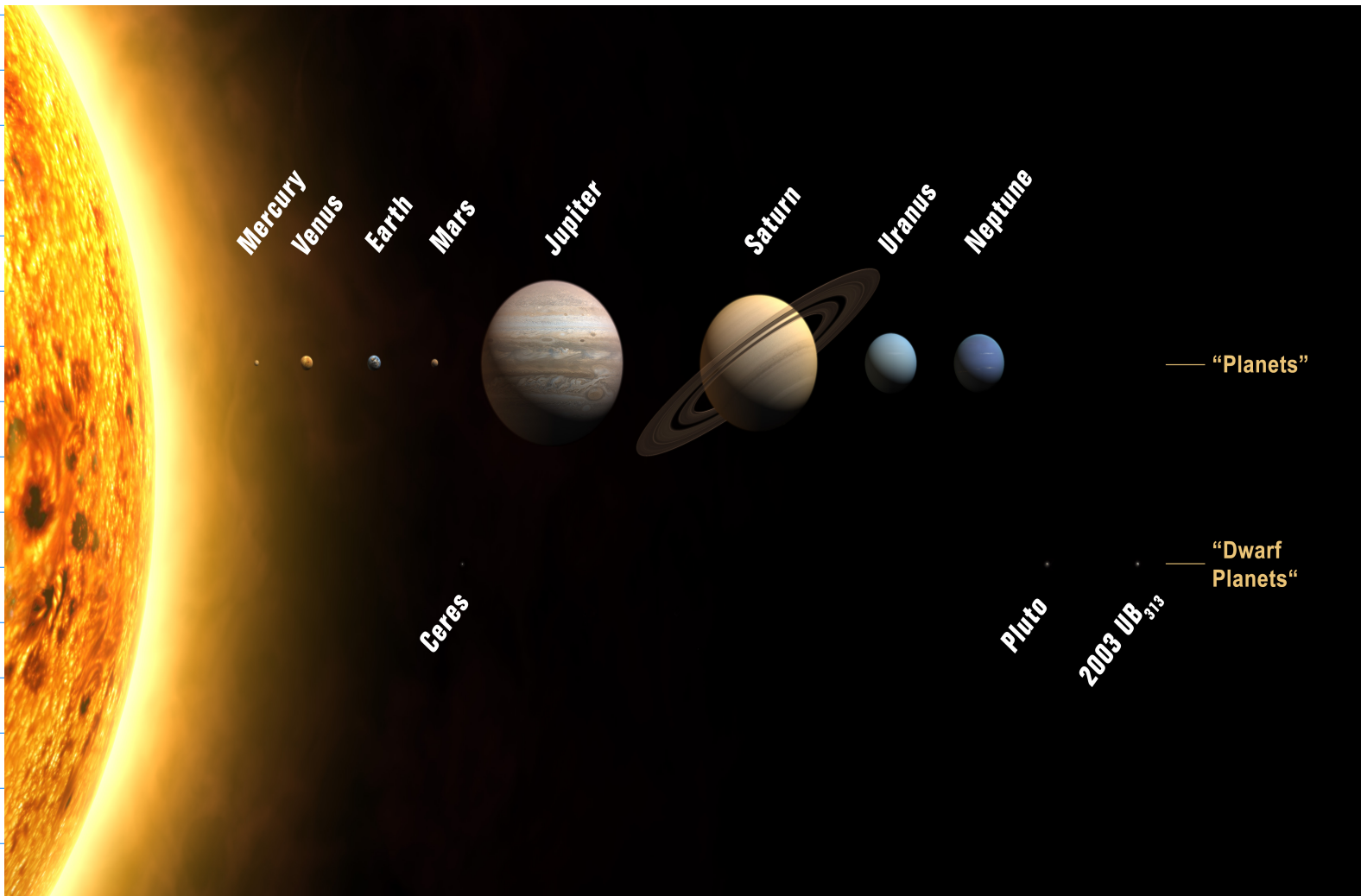


SOLAR SYSTEM (SS) = SUN + OTHER BODIES ORBITING AROUND IT

## THE INVENTORY OF THE SOLAR SYSTEM:

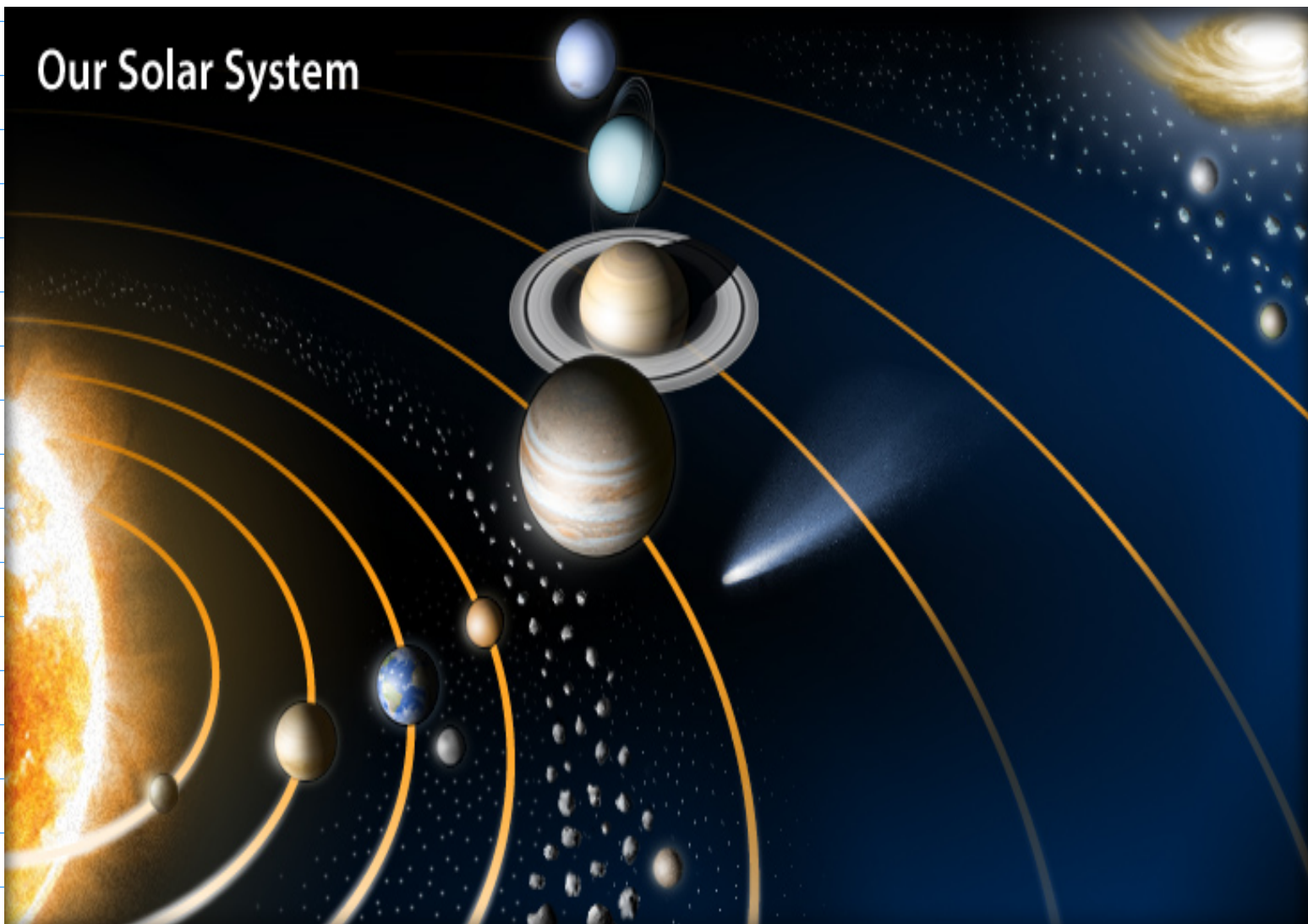
1) SUN - THE LARGEST OBJECT IN SS



- 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 (40 AU), Eris (2003 UB<sub>313</sub>), ...  
(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:

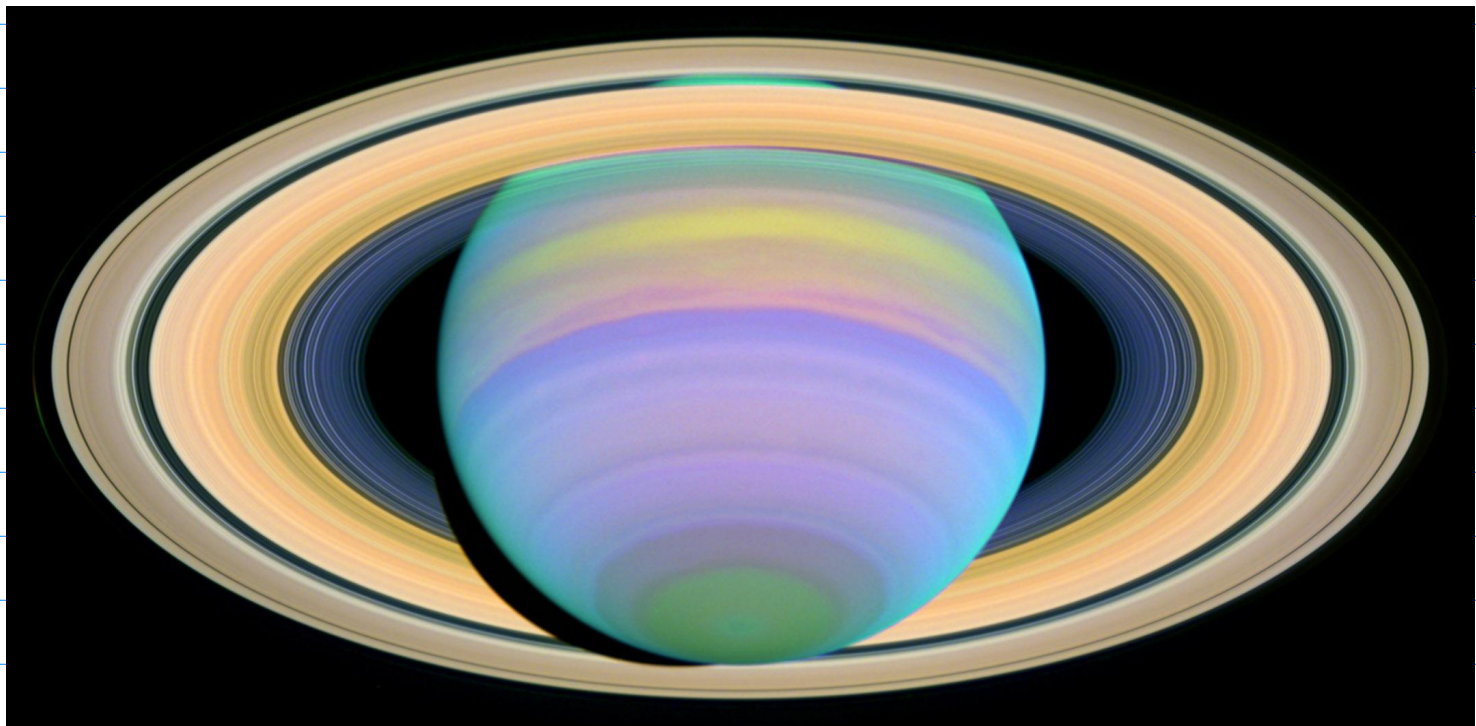
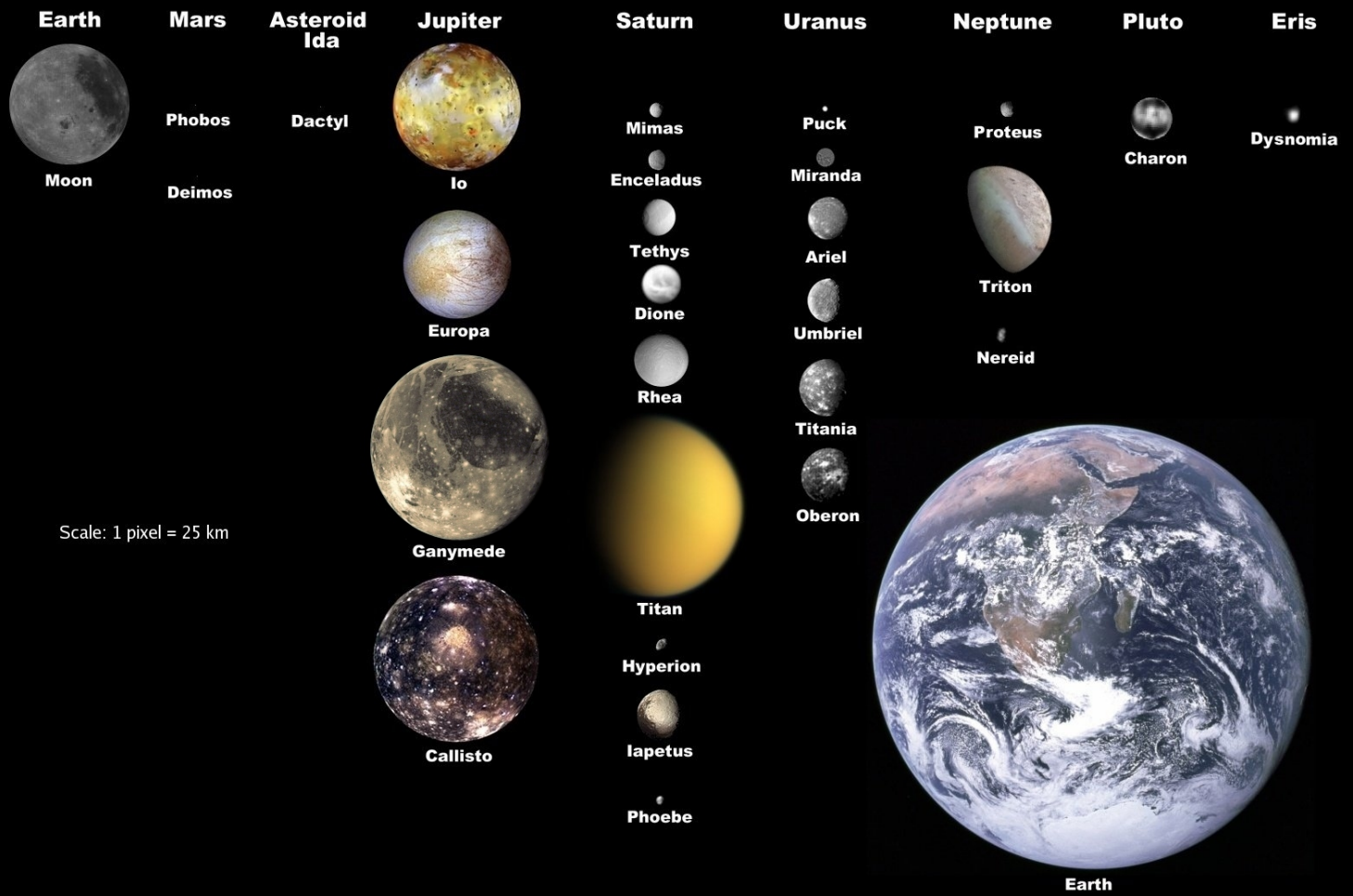
- 1) IT HAS TO REVOLVE AROUND THE SUN;
- 2) IT HAS TO BE MASSIVE ENOUGH TO ASSUME APPROXIMATELY SPHERICAL SHAPE UNDER ITS OWN GRAVITY;
- 3) IT IS THE ONLY BODY OF THAT SIZE AT THAT DISTANCE FROM THE SUN (I.E. IT HAS CLEARED ITS ORBIT).

PLUTO FAILS CRITERION 3).

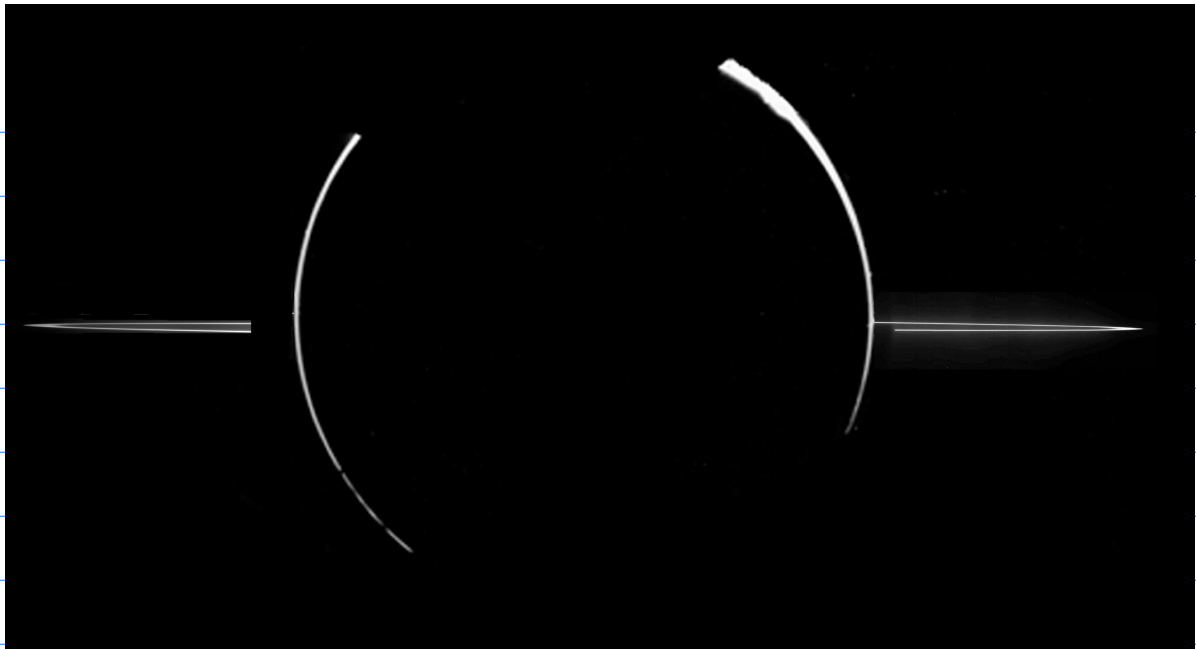
3) PLANETARY SATELLITES AND RINGS

<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



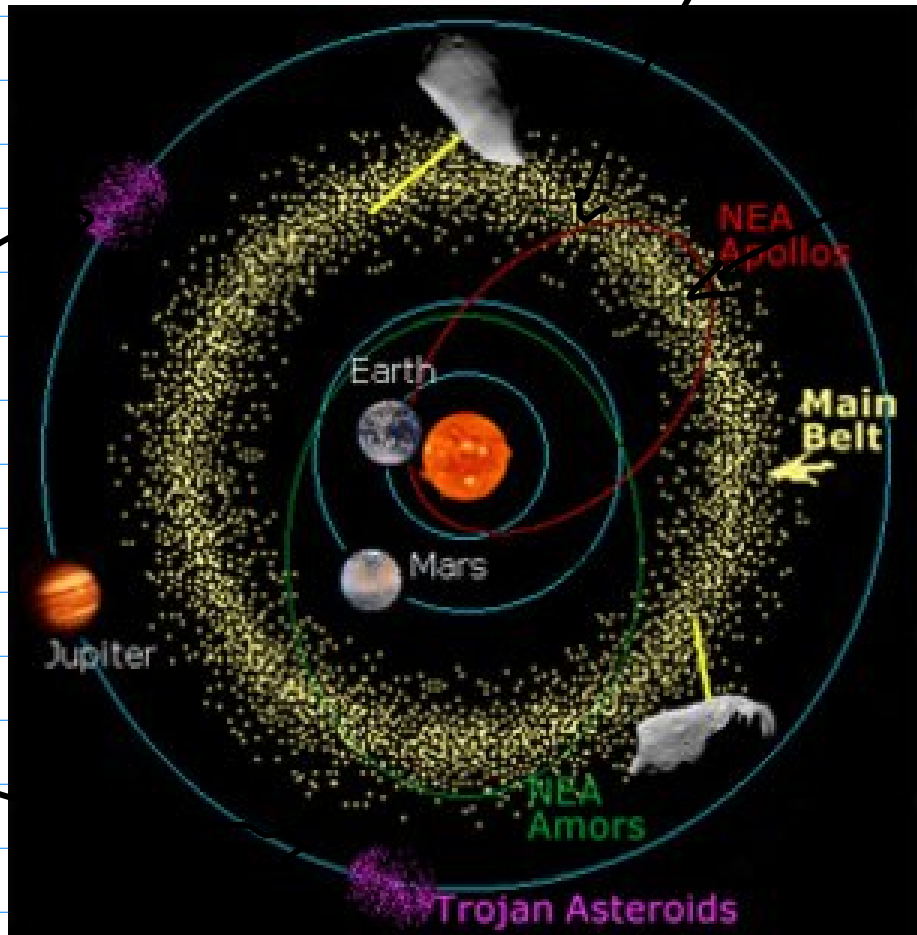
SATURN AND ITS RINGS



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



