

# ORIGINS OF OUR SOLAR SYSTEM

## SOLAR NEBULA



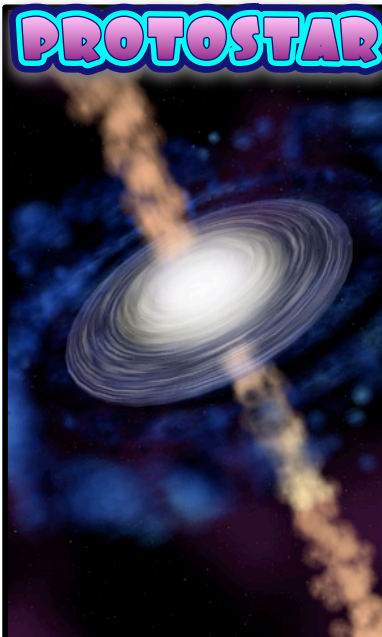
THE SOLAR NEBULA IS DISTURBED AND COLLAPSES UNDER ITS OWN GRAVITY.

AS THE CLOUD COLLAPSES, IT HEATS UP AND COMPRESSES IN THE CENTER. IT HEATS ENOUGH FOR THE DUST TO VAPORIZE.



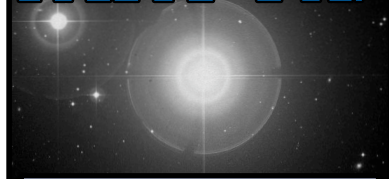
collapsing solar nebula

## PROTOSTAR



The center compresses enough to become a protostar and the rest of the gas orbits/flows around it.

## Double Star



FIRST BRAKE POINT. DEPENDING ON THE DETAILS, THE GAS ORBITING STAR/PROTOSTAR MAY BE UNSTABLE AND START TO COMPRESS UNDER ITS OWN GRAVITY. THAT PRODUCES A DOUBLE STAR.

THE GAS COOLS OFF ENOUGH FOR THE METAL, ROCK AND ICE TO CONDENSE OUT INTO TINY PARTICLES.

## ACCRETION DISK

THE METALS CONDENSE ALMOST AS SOON AS THE ACCRETION DISK FORMS.



THE DUST PARTICLES COLLIDE WITH EACH OTHER AND FORM INTO LARGER PARTICLES.

this goes on until the particles get to the size of boulders or small asteroids.

## ASTEROIDS

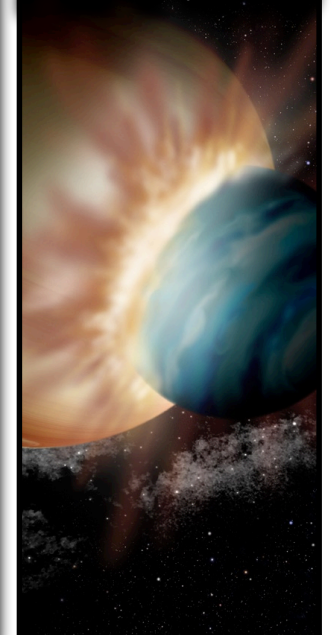


## beginning

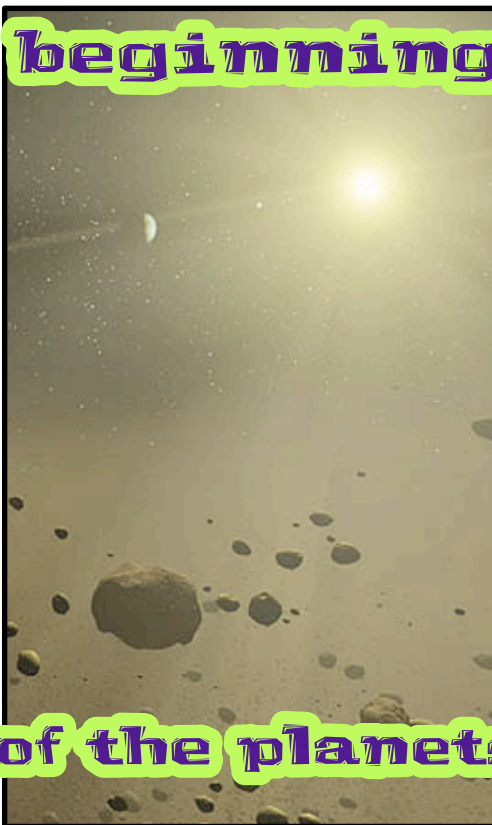
Their gravity gives them an edge over smaller particles; it pulls in more, smaller particles, and very quickly, the large objects have accumulated all of the solid matter close to their own

At about this time, about 1 million years after the nebula cooled, the star would generate a very strong solar wind, which would sweep away all of the gas left in the protoplanetary nebula.

## PROTO PLANETS



## of the planets



# PLANETE- SIMALS

AT THIS POINT, THE SOLAR SYSTEM IS COMPOSED ONLY OF SOLID, PROTOPLANETARY BODIES AND GAS GIANTS. THE "PLANETESIMALS" WOULD SLOWLY COLLIDE WITH EACH OTHER AND BECOME MORE MASSIVE.

EVENTUALLY, AFTER TEN TO A HUNDRED MILLION YEARS, YOU END UP WITH TEN OR SO PLANETS, IN STABLE ORBITS, AND THAT'S A SOLAR SYSTEM.

# PLANETS

# THE END

WE ARE HERE NOW, WE ARE LIVING  
AND BREATHING... LIFE IS GOOD. :)