What is a nebula?

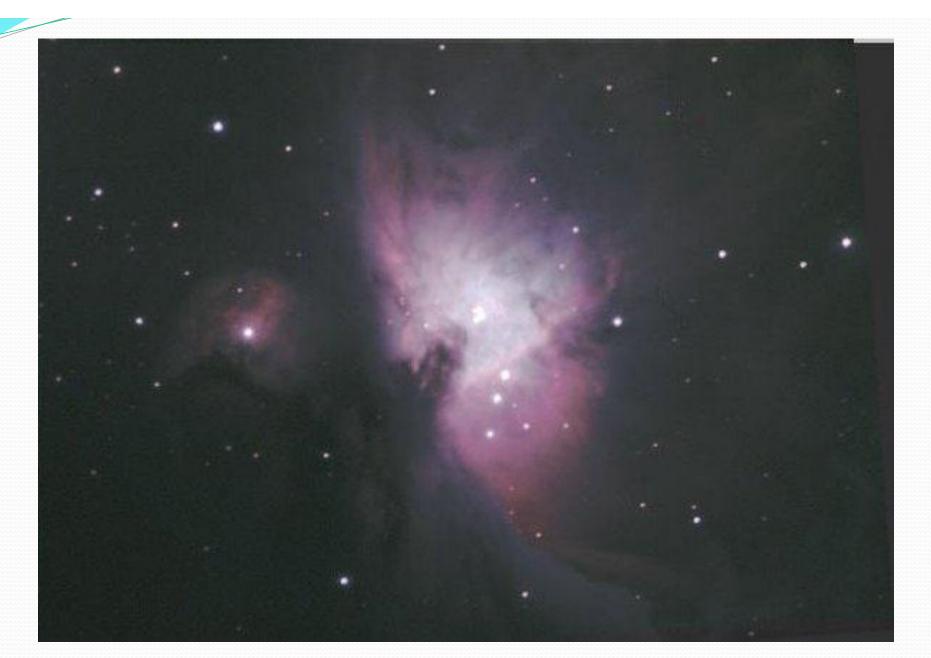
A star "nursery"

A cloud of gas and dust in space

The Orion Nebula



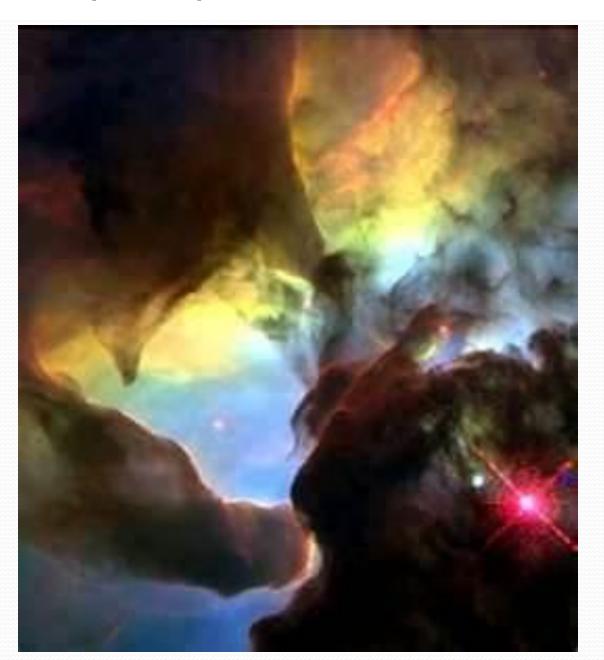
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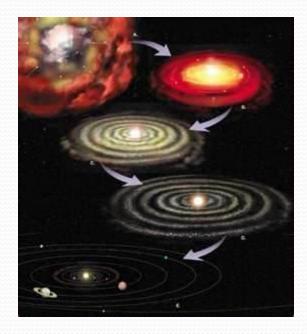


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What is the Nebular Theory?

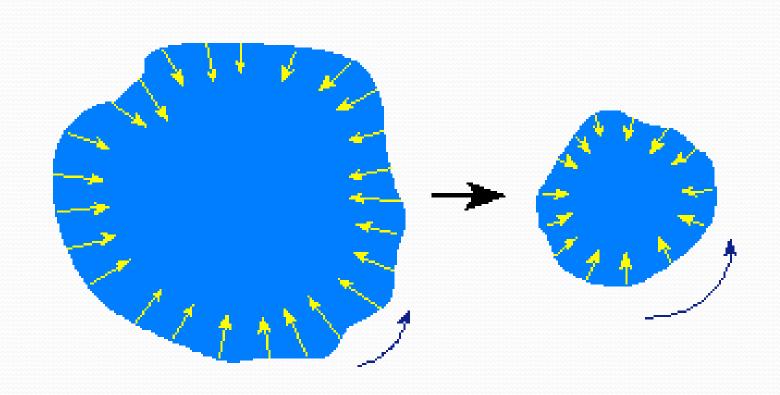
An explanation of how the solar system was formed from a nebula.



What's happening in a nebula?

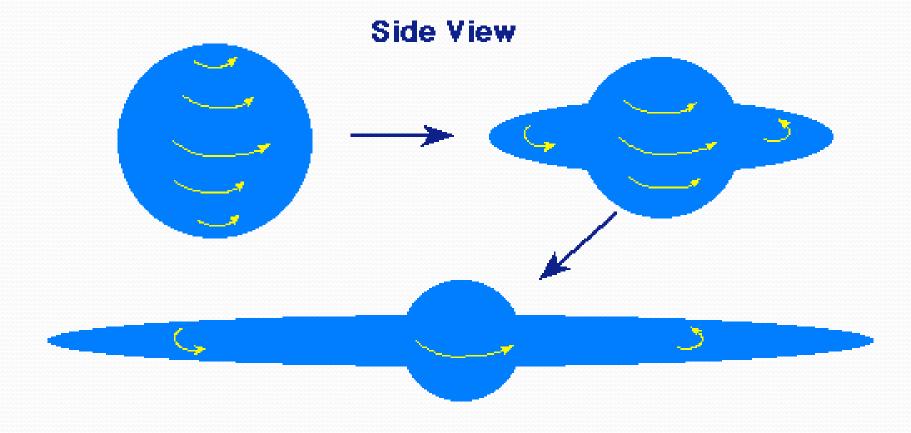
Gas pressure attempting to expand the cloud Nebula Gravitational force attempting to collapse the cloud

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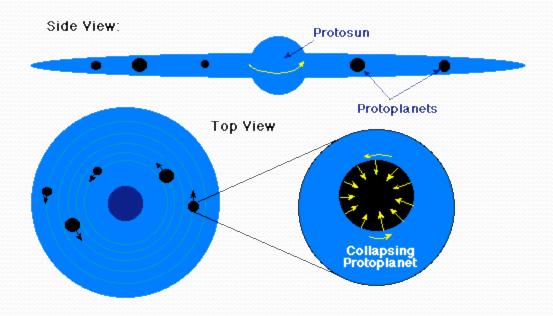


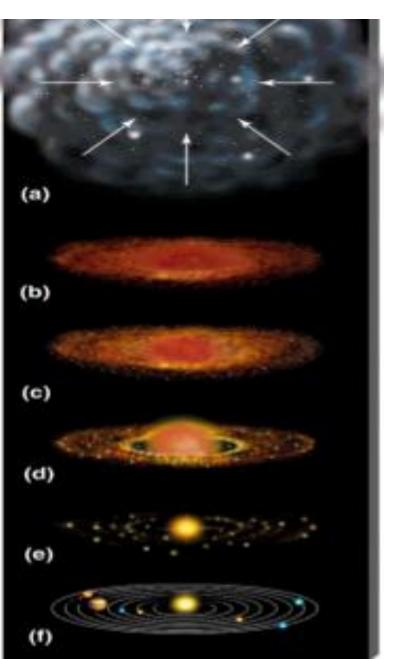
The cloud spins more rapidly as it collapses because of conservation of angular momentum

The collapsing, spinning nebula begins to flatten into a rotating pancake



99% of the mass is located in the center. The rest of the mass forms smaller bodies, our planets.





Matter outside of the center of the disk clumped into small masses called planetesimals.

gravity caused the gases and dust to be drawn together into denser cloud, the rate of rotation increases

PLANETESIMAL collide together to form larger bodies called PROTOPLANETARY BODIES

as the nebula cloud began to collapse and spin faster it flattened out to resemble a disk, with most of the mass collapsing into the center

Nebula- gas and dust

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OUR SOLAR SYSTEM

The Nebular Theory

| 4 | 3 | 2 | 1 | 0 |
|------------------|-----------------|----------------|---------------|----------------|
| I can explain | I can explain | I understand | I know that | I have no idea |
| how our solar | how our solar | that our solar | our solar | how our solar |
| system formed | system formed | system formed | system | system was |
| from a nebula | from a nebula | from a nebula, | formed a long | formed. |
| through gravity | through gravity | but am not | time ago, but | |
| and the steps of | and the steps | sure what | don't | |
| its formation | of its | caused its | understand | |
| and will be able | formation. | formation. | how. | |
| to assist my | | | | |
| classmates who | | | | |
| need help. | | | | |
| | | | | |