

## 6.3: The Nebular Theory

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So...how did the solar system form and end up with all these different types of objects? Currently the best theory is the **Nebular Theory**. This states that the solar system developed out of an interstellar cloud of dust and gas, called a **nebula**. This theory best accounts for the objects we currently find in the Solar System and the distribution of these objects. The Nebular Theory would have started with a cloud of gas and dust, most likely left over from a previous supernova. The nebula started to collapse and condense; this collapsing process continued for some time. The Sun-to-be collected most of the mass in the nebula's center, forming a **Protostar**.

A protostar is an object in which no nuclear fusion has occurred, unlike a star that is undergoing nuclear fusion. A protostar becomes a star when nuclear fusion begins. Most likely the next step was that the nebula flattened into a disk called the **Protoplanetary Disk** ; planets eventually formed from and in this disk.

Three processes occurred with the nebular collapse:

1. The orderly motions of the solar system today are a direct result of the solar system's beginnings in a spinning, flattened cloud of gas and dust.

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