

Stars form in different ways from diffuse clouds of gas and dust. As local regions of the stellar nursery collapse under gravity, the centers become denser and hotter and form protostars, which become main-sequence stars when their cores are hot enough for fusion to begin. A region of molecular clouds triggered by a nearby supernova explosion or other disturbance is called a stellar nursery, as tens of thousands of new stars start forming. Spiral galaxies such as our Milky Way contain a diffuse interstellar medium (ISM) that is mostly hydrogen and helium, with a tiny amount of heavier elements from the deaths of previous stars.