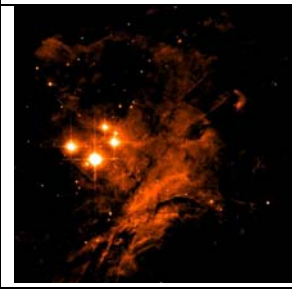
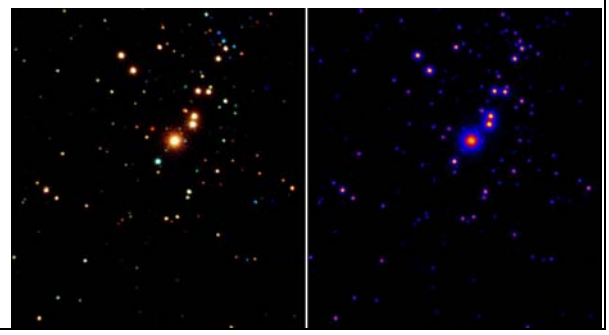
Chandra Astrophysics Institute
Summer 2008

	True Color	False Color
Visible Light		
X-Ray Light		

	True Color	False Color
Visible Light	Photons from the Orion Nebula were collected through 3 different colored filters and recorded onto a detector. The 3 filtered images were formatted in ds9 image processing software, and put together under a RGB frame to create a true color image. The color represents the energy of the Orion nebula.	An image of the Orion Nebula was taken and a “heat” color setting was applied to it. The different colors represent different amounts of light that are received by the detector from different parts of the Orion Nebula.
X-Ray Light	This photo is an RGB frame of different energy levels. Red represents the presence of low-energy X-ray photons (300 eV-1,600 eV), green represents the presence of medium-energy X-ray photons (1,600 eV-4,000 eV), and blue represents the presence of high-energy X-ray photons (4,000 eV-8,000 eV). The strength of the color represents the number of photons of that energy level that struck that pixel.	This is the picture of the Orion Nebulae under the “b” color setting. The color of the nebulae represents the number of photons collected or the flux.

The cloud of gas only appears in the visible light images because it does not emit any X-Ray light. Also, stars that have high flux don't necessarily have to emit a high level of X-Ray light, so the appearance of the stars on the different images can be different.