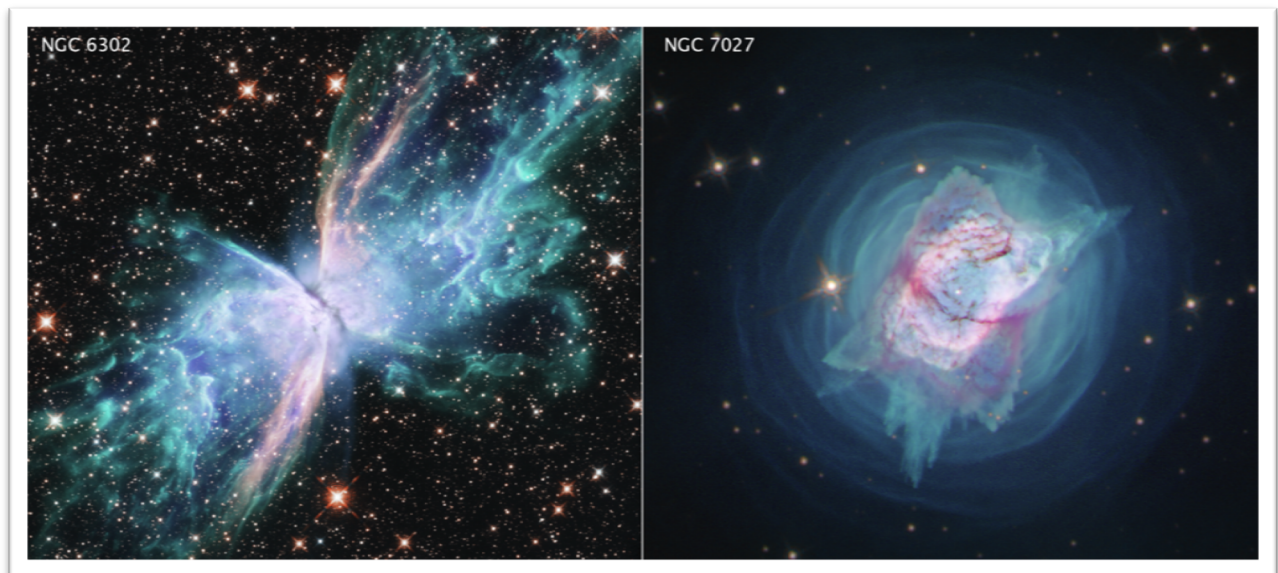


## "Milky"-Way Nebulas

NASA, with the help of the Hubble Space Telescope, capture the colorful and mysterious formations of nebulas. They are created from the gas and dust from supernovas or become star nurseries where new stars will be formed. With chemistry and experimentation create your own nebula, but they won't take billions of years to form!



The Butterfly Nebula (left), and the Jewel Bug Nebula (right). *NASA, ESA and J. Kastner (RIT)*

### Supplies:

- Paper plate or glass dish
- 3 colors of food coloring
- 1 cup of milk (preferably higher fat content)
- 1 Tablespoon Dish soap
- Q-tips

## Instructions:

1. Pour the milk into your plate or dish.
2. Add as many droplets of food coloring as you want into each plate. Observe how the droplets don't disperse and remain as individual droplets. The fat content in the milk creates a denser environment making it difficult for the color to move.
3. Dip one end of the Q-tip into the dish soap and then into the center of the plate.
4. Watch as your nebula begins to take form. Milk and dish soap cause a chemical reaction when they come together. The food coloring allows us to see this reaction more clearly! The molecules of in the dish soap and the fat molecules in the milk are attracted to each other and work hard to join together. The dish soap also breaks the surface tension allowing the food coloring to move freely.
5. Use the Q-tip to swirl the colors to create beautiful, mesmerizing patterns. Expand by mixing different colors together. What happens if you use different dairy products all with different fat contents, will it produce different nebulas?
6. Learn more cool facts and check out more nebulas from NASA at <https://spaceplace.nasa.gov/nebula/en/>

