

Start with a Book: Space Rangers

Nebulas — Where Stars Are Born



Introduction

A nebula is an interstellar cloud of dust and gas. Some nebulas are called “star nurseries” because that’s where stars are formed, or “born.” Our own Sun was born 4.6 billion years ago!

Supplies (for each child)

- Clear glass jar with a lid
- Plastic spoon
- Water
- Tempera paint (at least 2 colors, blues, purples, and pinks work well)
- Glitter
- Cotton balls (about 18 per child, depending on the size of the jar)

Get kids thinking

In this activity, kids will create a model of a nebula. A nebula looks like a big cloud of dust and gas located in interstellar space. They are very far away — the closest one to Earth is called the Helix Nebula and it is 700 light years away. That means even if you could travel at the speed of light, it would take you 700 years to get there!

ASK KIDS: If nebulas are so far away, how do we know what they look like? Astronomers use very powerful space telescopes, such as the Hubble telescope, to take pictures of nebulas.

Share photographs of the Helix Nebula and the Orion Nebula. If you have access to the Internet, watch this video from NASA, [Flight Through the Orion Nebula](#).

[smithsonianmag.com/smart-news/take-trip-through-orion-nebula-nasas-awesome-video-1-180967825/](https://www.smithsonianmag.com/smart-news/take-trip-through-orion-nebula-nasas-awesome-video-1-180967825/)

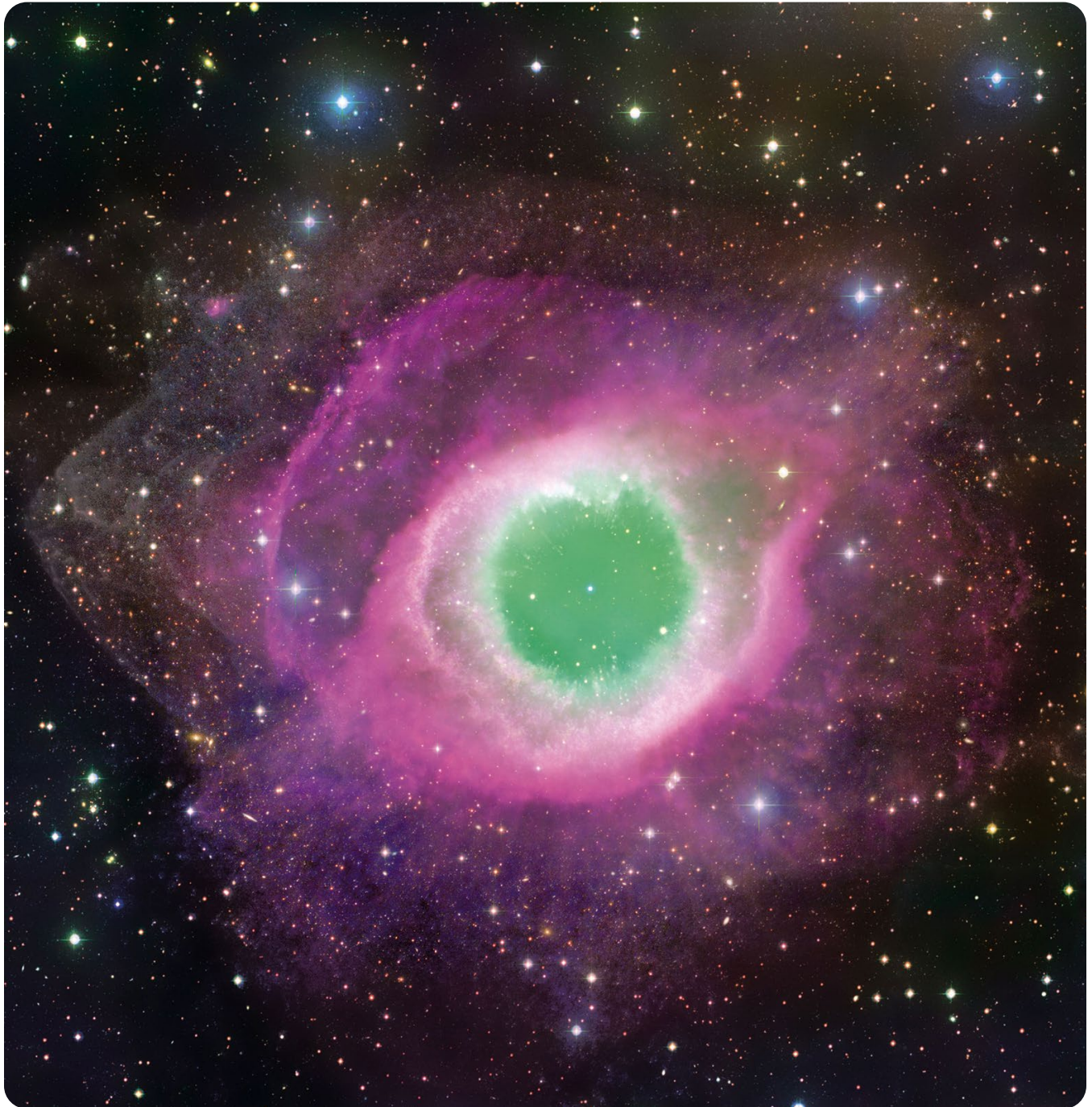




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Helix Nebula





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Orion Nebula



On a clear night, if you look at the constellation Orion, you might get a glimpse of a star nursery. Below Orion's belt (near the tip of his sword) about 1,350 light years from Earth, the nebula looks like a mudge in the sky. But that hazy smudge is Orion Nebula, which creates some of the Milky Way's newest stars.





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Let's get started!

Have kids fill one-third of their glass jars with water. Tell kids to add a few drops of tempera paint to the jar and stir.

Then have kids add 3-6 cotton balls (depending on the size of the jar) to the water mixture in the jar, pressing down with the spoon. Next, ask kids to sprinkle in about a teaspoon of glitter.

Tell the kids to repeat steps 1-4 two more times, or until their jar is full. Screw on the lid and your nebula jar is ready to display.

The nebula jar is a colorful (and even calming) object for a child's room, plus they can proudly say to visitors, "look, I made a nebula" and then explain what that word means!



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