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Founded by Betty Debnam



Next Week: Holiday traditions

A Star in the



Mini Fact:

Some experts believe the magi could have seen a comet around 3 or 4 B.C.

In the Christmas story, a group of magi (MAY-jie), or wise men, followed a bright star to find the Christ child.

Magi were early astronomers*. They recognized the positions of all the stars. When a new star appeared in the sky, they knew it.

They also believed in astrology (uh-STRAW-luh-jee), or the idea that the positions of the stars affect people's lives. Scientists no longer believe this.

When the magi saw a new star appear in the eastern sky, they believed it was a symbol that a new leader of the Jewish people had been born.

Astronomers' ideas

For hundreds of years, astronomers have been trying to figure out an explanation for the Christmas star. No one knows for sure what it was.

Part of the difficulty in answering this question is that no one knows exactly when the magi went on their journey.

The top scientific explanations for the star include:

- a supernova
- a comet
- several planets coming so close to each other that they seemed like one bright star.

Stars and supernovas

A star is a giant ball of gas. It stays together because different forces are in balance.

Nuclear explosions from inside the star push out. At the same time, the mass, or weight, of the star pushes in. The two forces balance each other.

When the star grows old, it starts running out of nuclear fuel. It stops creating as many explosions.

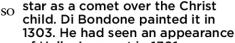
With less force pushing out but the same gravity pulling in, the star begins to collapse.

The pressure of the collapsing star heats up the core of the star to about 100 billion degrees Fahrenheit. Finally, it becomes so hot,

it blows up. The exploding burst of light can appear as a super-bright star in the sky, or supernova.

Supernova fireworks

When a star explodes, it creates shock waves of glowing gas spreading out into space. We can still see the glowing remains of supernovas from star explosions millions of years ago. Sometimes they're so bright that people on Earth can see them with the naked eye.



This painting by Giotto di

of Halley's comet in 1301.

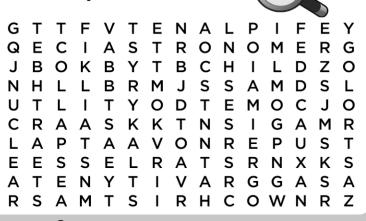
Bondone shows the Christmas

An astronomer is a scientist who studies heavenly bodies, such as planets and stars. The Mini Page® © 2020 Andrews McMeel Syndication

Try 'n' Find

Words that remind us of the Christmas star are hidden in this puzzle. Some words are hidden backward or diagonally, and some letters are used twice. See if you can find:

ASTROLOGY. ASTRONOMER, CHILD, CHRISTMAS, COLLAPSE, COMET, EARTH, EAST, GAS, GRAVITY, ICE, MAGI, MASS, NUCLEAR, ORBIT, PLANET, STAR, SUPERNOVA, SYMBOL, TAIL.



Cook's Corner **Holiday Gift Cookies**

You'll need:

• 1 box yellow cake mix

1. A heavenly body

(4-letter noun)

or force inside

(7-letter verb)

seen in the dark sky

3. Burst due to pressure

1. Ralph made a wish on a

3. Hank's balloon can

2. Melanie clearly saw the moon

- 1/2 cup flour
- 1/3 cup canola oil
- 2 eggs
- 1 (4-ounce) container of applesauce

What to do:

1. Mix and blend well all ingredients in a large bowl except for chocolate chips and pecans.

chips

• 1/2 cup chopped

pecans (optional)

- 2. Gently stir in chips and pecans.
- 3. Place teaspoonfuls of dough 2 inches apart on an ungreased baking sheet.
- 4. Bake at 350 degrees for 12 to 14 minutes.
- 4. Allow to cool. Place 10 to 12 cookies on a small decorative plate and cover with colored cellophane. Tie with a bright ribbon. Makes about 3 dozen cookies.

2. To have a bright,

(5-letter verb)

(9-letter verb)

glowing appearance

4. To identify or to know

from an earlier experience

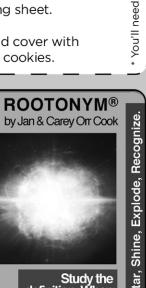
very high above his head.

if he blows too much air inside.

on the stone path.



help with this





Study the definition. When you know the fill in the lette

4. Juanita will her aunt since she studied her photo. ©2020 Cassius One LLC --- www.myvocabulary.com

Comets

Comets (KOM-ihts) are balls of ice, rock and dust orbiting the sun. Scientists believe they were formed when planets and the sun were born about 4.6 billion years ago.

When a comet orbits near the sun, some of its ice melts and becomes gas. The gas



Comet NEAT

and dust become the comet's tail. The gas forms a cloud surrounding the comet.

Sunlight reflects off the gas and dust, making the comet shine. Comet gases

also glow on their own. If the comet comes close enough and glows brightly enough, we can see it from Earth.

Planets

Planets travel in regular orbits around the sun. We can see some of them moving across the night skies.

The orbits of Jupiter, Saturn and Mars brought them close together in about 7 B.C. From Earth, this group of planets could have looked like one giant shining star.

There was another grouping of planets about 3 or 4 B.C., but it might not have been as visible.

However, the magi, who studied star patterns, would have known it was there. They might have believed it was a sign.

Resources

On the Web:

spaceplace.nasa.gov/supernova/en/

At the library:

 "50 Things To See With a Telescope — Kids" by John A. Read

Mini Jokes

Sonja: Which is lighter, the sun or the Earth? Sam: The sun! It rises every morning!

Eco Note

Humanity's widespread use of artificial light is affecting the world's animals and plants, and researchers say it should be limited where possible. Scientists from the University of Exeter in the United Kingdom say their analysis of more than 100 studies reveals that light pollution causes changes to animal behavior and physiology, especially hormone levels and patterns of waking, sleeping and activity. They say even low levels of artificial light can have bia effects.

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For later:

Look in your newspaper for articles about developments in space.

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