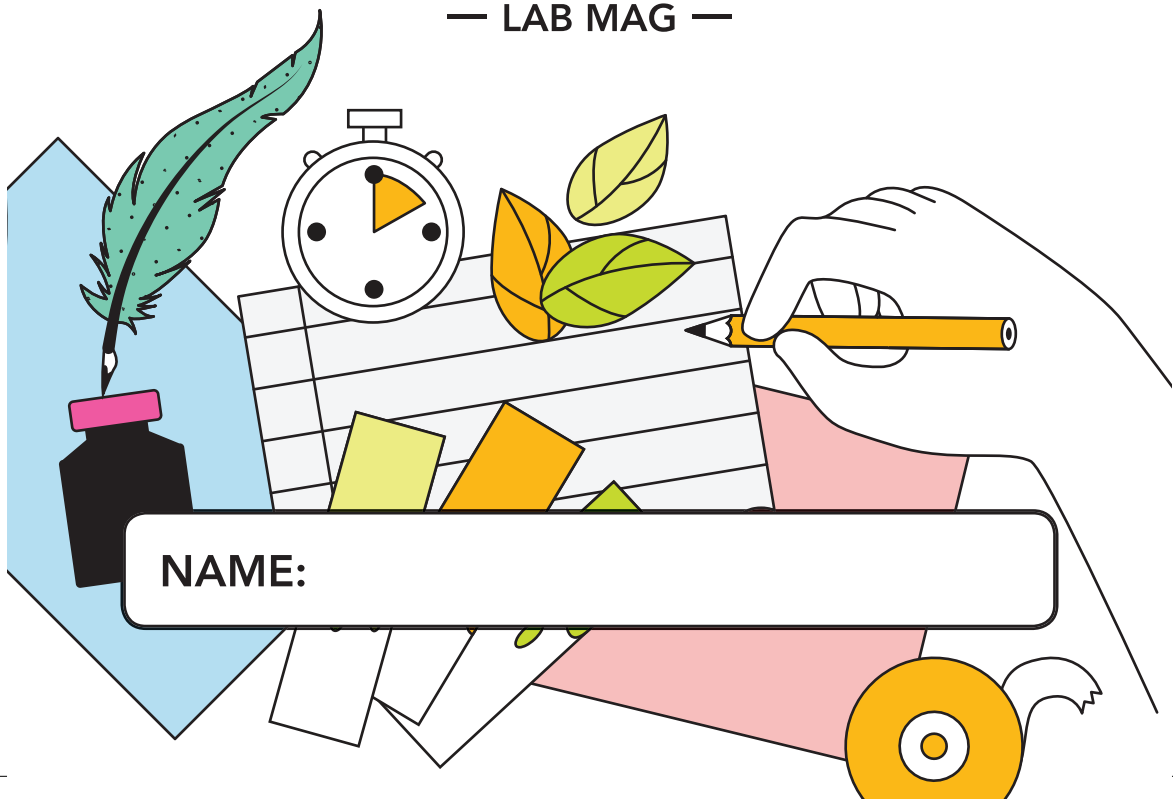


ISSUE 03



— LAB MAG —



NAME:

Science of Stars

Did you know that the Sun is actually a star?

A star is a massive ball of exploding gases. Most scientists believe that the universe was created after a big explosion called the Big Bang. After the Big Bang, stars began to form from clouds of gas and dust.

The locations of stars in the universe are not random. In fact, they are grouped in galaxies – each galaxy contains billions of stars. The galaxy we live in is called the 'Milky Way'.

Stars have different lifespans and they burn with different levels of intensity. Smaller stars tend to live longer. The death of a star occurs when its supply of gas runs out.

Fun Fact

Shooting Stars

Have you ever seen a flash of light streak across the sky and disappear? That was probably a meteor, or what we call a 'shooting star'.

- A meteor is a chunk of rock or dust that burns up as it enters Earth's atmosphere.
- Some meteors survive long enough in the atmosphere to hit the Earth's surface. These are called *meteorites*. A meteorite strikes our atmosphere at around 32km (20 miles) per second.

Constellations

People have noticed patterns of stars in the sky. They call these patterns 'constellations'. Constellations are named after characters or objects taken from ancient Greek myths. They are made up of the most prominent stars in the sky.

There are a total of 88 constellations. Some are only visible at certain locations. Constellations change over time and can also look different depending on the viewer's location.

There are smaller patterns within each constellation. These are called 'asterisms'. The Plough, or Big Dipper, is a famous asterism and it forms part of the constellation Ursa Major. Star maps are available for us to identify constellations in the night sky. Some of the easiest constellations to find are the Ursa Major, Leo, and Cygnus!

References



Space Encyclopedia

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Call No.: J 520.3 BIN

All Rights Reserved,
Dorling Kindersley, 2010.



The Usborne Book of Astronomy & Space

Author: Lisa Miles

Call No.: J 520 MIL

All Rights Reserved,
Usborne, 2009.



Space Encyclopedia

Author: David A. Aguilar

Call No.: J 523.1 AGU

All Rights Reserved,
National Geographic,
2013.

ACTIVITY

Starry Night

Connect the dotted lines to form the constellations and match them to their correct names!

BIG DIPPER

The seven principal stars in the constellation of Ursa Major

LEO

A northern constellation east of Cancer

CEPHEUS

A constellation between Cygnus and the North Pole

LITTLE DIPPER

The seven principal stars in Ursa Minor



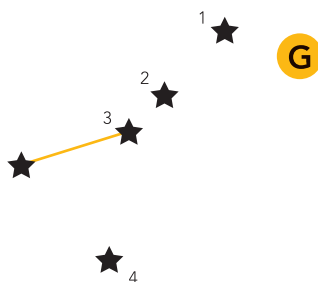


CYGNUS

A northern constellation between Lyra and Pegasus in the Milky Way

HERCULES

A northern constellation between Corona Borealis and Lyra

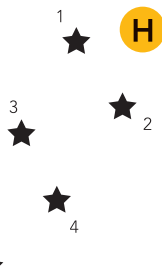


CASSIOPEIA

The wife of King Cepheus who gave birth to Andromeda and was later changed into a constellation

CANCER

A northern zodiacal constellation between Gemini and Leo



Additional references:

"Constellation Map dot to dot." *Super Colouring*, 13 January 2013, <http://www.supercoloring.com/dot-to-dots/constellation-map>. Accessed 27 August 2019.

"Big Dipper", "Leo", "Cassiopeia", "Little Dipper", "Cepheus", "Hercules", "Cygnus", "Cancer", *Merriam-Webster.com*. <https://www.merriam-webster.com/dictionary>. Accessed 27 August 2019.

MAKE!**Daytime Stars**

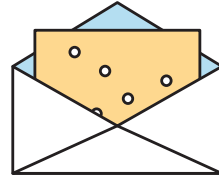
Stars are always shining. They shine even in day time. Let's find out more in this activity!

YOU'LL NEED

- Paper hole punch
- Index card
- 1 white letter envelope
- Flashlight

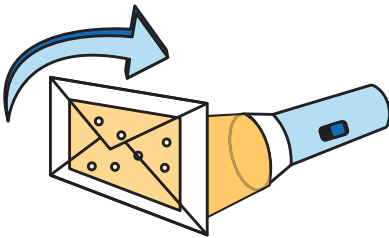
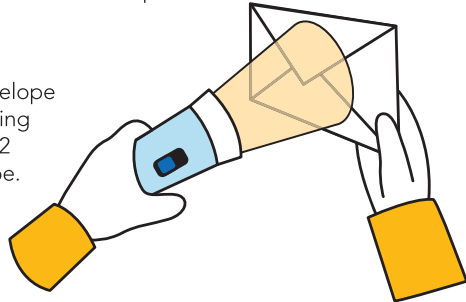
Instructions:

1. Create seven or eight holes in the index card with the hole punch.



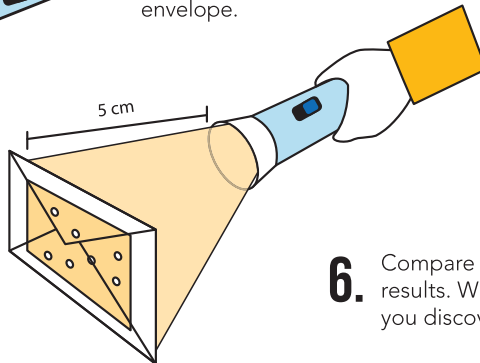
2. Insert the index card into the envelope.

3. In a well-lit room, hold the envelope in front of you with its back facing you. Hold the flashlight about 2 inches (5 cm) from the envelope. Write down your observations.



4. Move the flashlight to the front of the envelope.

5. Hold the flashlight about 2 inches (5 cm) from the front of the envelope. Write down your observations.



6. Compare your results. What have you discovered?

Additional references:

VanCleave, J. P. *Even more of Janice VanCleave's wild, wacky, and weird astronomy experiments.* New York: Rosen Publishing, 2018.

Tweenkerama Lab Mag provides creative ideas and easy DIY projects for you to learn more about S.T.E.A.M. topics in a fun manner. Click [here](#) to download Tweenkerama Lab Mag Issue #03 in full, and download the answer key [here](#).