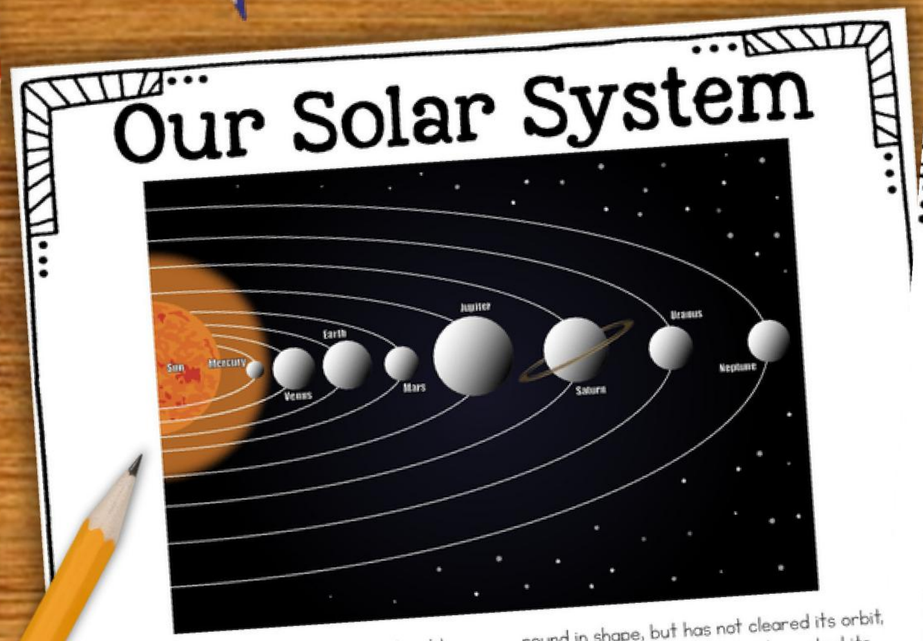
PASSAGE & ACTIVITIES

GRADES 2–4



Our Solar System

Do you look up at the sky at night and wonder about the stars and planets you see? Do you see the Moon? Our universe may be filled with billions of galaxies. Our solar system is a very small part of the unknown, but it is still very big. Our solar system has many planets and many dwarf planets.

The Planets in the Milky Way

Our solar system has eight planets in it and many dwarf planets. The planets in our solar system are, in order, Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune. A planet is a celestial body that orbits the sun, is round in shape, and has cleared its orbit, meaning that there are no other objects that control its orbit.

round in shape, but has not cleared its orbit, which means that other objects control its orbit. Scientists recognize five dwarf planets in our solar system, although there are more. Dwarf planets are Ceres, Makemake, Haumea, Eris, and Pluto. Ceres is found between Mars and Jupiter.

There is another class of dwarf planets called plutoids. Plutoids are dwarf planets that are farther away than Neptune. Pluto is the only member of this subcategory of planets, along with Haumea, Makemake, and Eris. Pluto used to be a planet, but in 2006 it was reclassified as a dwarf planet in 2008.

The inner planets are Mercury, Venus, Earth, and Mars. These planets are all rocky. The next set of planets are called Jovian planets because they are huge compared to the terrestrial planets. They are also gaseous planets and do not have a rocky surface. Those planets are Jupiter, Saturn, Uranus, and Neptune. Jupiter and Saturn are known as the gas giants and Uranus and Neptune are called the ice giants.

Who are the First Scientists to Study the Universe

For thousands of years, humans thought that the Earth was the center of the universe and that the sun revolved around it. This is called a geocentric model.

A scientist named Nicolaus Copernicus was the first to develop a heliocentric system, which means that the sun was at the center of the universe. However, the heliocentric system was very controversial and very few people believed Copernicus. It was not until Galileo began to look at the sky through a telescope that he was able to prove that Copernicus was right. Galileo was the first scientist to look deeper into mathematics and physics and started to understand that Earth was not the center of the solar system.

The development of the telescope helped lead to the discovery of more plants and moons, and lenses in the telescope helped lead to the discovery of more plants and moons, and



In 1990, the Hubble Space Telescope was the first telescope to be launched into outer space. It is solar powered and has different cameras and instruments that provide data of objects in space. In 2000, the first photos and data was sent back. In 2000, the long-term space station was built. It is the largest human-made object in space and is used by astronauts.

Scientists also send unmanned machines to explore other planets, like NASA's Cassini spacecraft that brought us new photos of Saturn and the Mars Rovers that landed on and explored Mars. These unmanned vehicles send photos and data back to Earth. Scientists study the data to find out new information.

SOLAR SYSTEM & PLANETS

KEEP SCROLLING TO SEE WHAT'S INSIDE!

WHAT'S INCLUDED?

- **13 Informational Articles** (2 Differentiated Levels Each)
- **Color & Black and White Versions**
- **Vocabulary Cards** with Visuals
- **Graphic Organizers**
- **QR Code Research Pages** (SafeShare & YouTube)
- Printable **Fact Sort** Cards
- **Teacher Notes & Implementation Ideas**
- **Includes Articles On:**

Solar System Overview, Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, Moon, and Stars



planet

A celestial body which orbits the sun, is round ins have, and has cleared its orbit.

dwarf planet

Orbits the sun and is round in shape, but has not cleared its orbit.

Note-Taking Guide

Name:

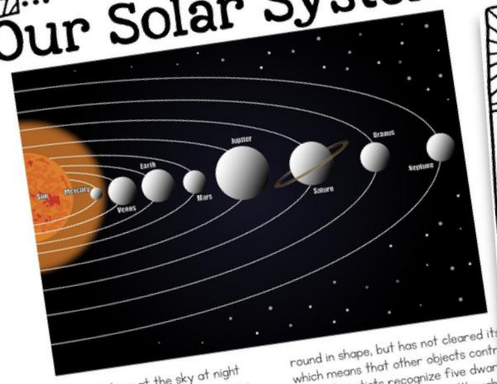
Note-Taking Guide

Name:

VOCABULARY CARDS

NOTE-TAKING PAGES

Our Solar System



Do you ever look up at the sky at night and wonder, what is out there? Do you see twinkling stars? Planets? The Moon? Our universe is a vast space of blackness made up of many solar systems and galaxies. The size of the whole universe is unknown, but we

round in shape, but has not cleared its which means that other objects contr orbit. Scientists recognize five dwarf planets in our solar system, although are many more. The dwarf planets Ceres, Pluto, Haumea, Makemake, and

Mercury



Size: smallest of the eight planets

Position: First

Moons: none

Composition: Rocky

Orbit: 88 Earth Days

Rotation: 176 Earth Days

Mercury is the planet closest to the sun. It is a bright orange color. Mercury circles the sun faster than any other

It was a Greek astronom the first to figure out that Venus, the planet closest to the sun instead of Earth.

Venus



Size: similar to Earth

Position: Second

Moons: none

Composition: Roc

Orbit: 225 Earth D

Rotation: 243 Ea Days

Venus is the second closest planet to the sun. The Romans named it after the Goddess of love and beauty because the planet shines so bright in the night sky. In fact, Venus was the brightest of the

Even though Venus is not the planet closest to the sun, it's the hottest in th solar system. The dense atmosphere traps heat, similar to the greenhouse effect that warms the Earth. Venus reaches temperatures up to 870° Fahrenheit.

Earth



Size: 24,874 miles in circumference

Position: Third

Moons: one

Composition: Rocky

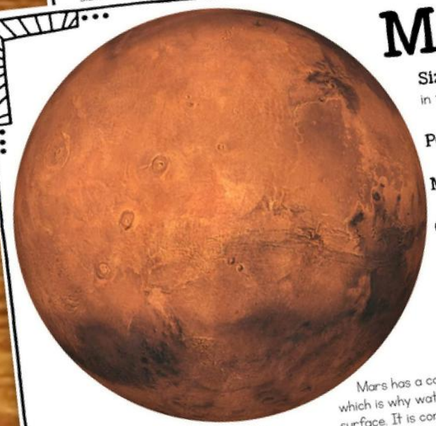
Orbit: 365.25 days per Earth year

Rotation: 24 hours

Planet Earth, the third planet from the sun, is our home. Earth is the only planet that has free oxygen in the atmosphere,

collapsed due to gravity, it started to spin

Mars



Size: se in the so

Positio

Moon:

Comp

Orbit

Rota 37 mil

The forth planet from the sun is sometimes referred to as the Red Planet The Romans named war, due to its blog civilizations also nam upon its red color. F Egyptians named it means 'the red one named it 'the fire s

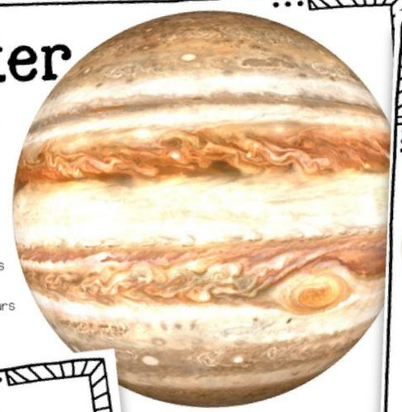
Mars has a cold, thin which is why water cann surface. It is considered planet. Although it is only

Physical C

Mars gets its ru

- iron-rich minerals in covering on its surf
- Earth is its soil, full
- NASA has conclude minerals oxidized, a color.

Jupiter



Size: largest planet in the solar system

Position: Fifth

Moons: 63

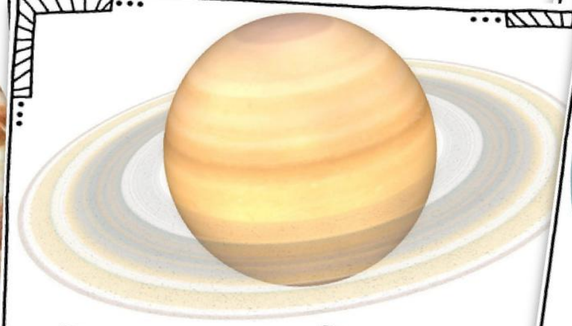
Composition: gases

Orbit: 11.86 Earth Years

Rotation: 10 hours

The deepest clouds that you can see a blue in color. All of these amazing color are always shifting across the planet.

Saturn



Saturn is the sixth planet from the sun. The word Saturn is the root of the word

rthest from the e human eye.

Size: second largest planet in th solar system

Position: Sixth

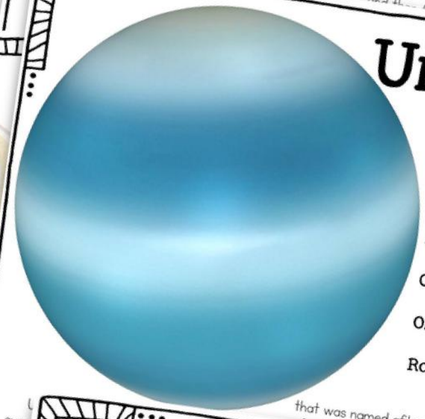
Moons: 62

Composition: gases

Orbit: 29.4 Earth Years

Rotation: 10.5 hours

Uranus



Size: third largest planet by diameter

Position: Seventh

Moons: 27

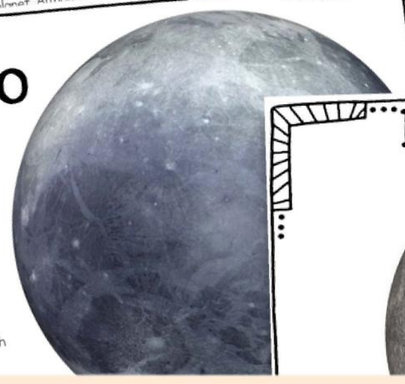
Composition: gases

Orbit: 84 Earth Years

Rotation: 17 hours

that was named after a Greek god instead

Pluto



Size: second largest dwarf planet

Moons: 5

Composition: rock, water ice

Orbit: 248 Earth Years

Earth's Moon



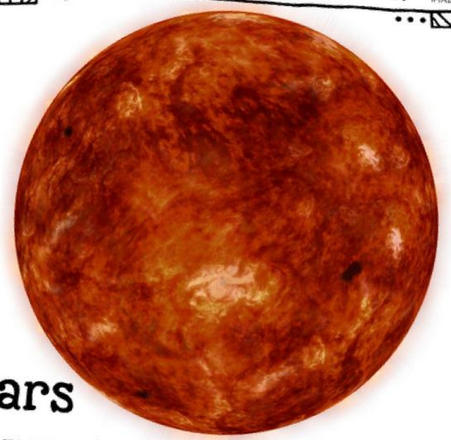
face or side, be to both rotate a Earth.

The Moon'

here are many n's formation. the moon was ion that tore a celestial body e roughly the s earchers think ppened about 45 solar system was postulates that tw have collided and One last theory is

Sometimes we see a full moon, sometimes a half moon, and for a couple of nights we see nothing. This is known as the New

Stars



Stars are enormous, shining spheres made of plasma, a substance in between a liquid and a solid. Billions of stars exist in the Milky Way Galaxy, including our own sun. There are billions of galaxies in the universe. Many of these galaxies have planets orbiting within them, just like our solar system.

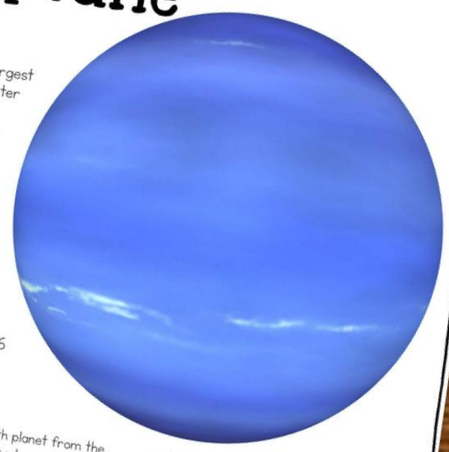
History of Star Gazing

Since the beginning of human civilization, stars have been important for

the laws of motion and gravity. These important milestones led astronomers to conclude that the stars in the night sky are just like our own sun.

When photography and spectroscopy were discovered in the 19th century scientists were able to better observe stars. Spectroscopy is the study of wavelengths of light. These discoveries led to the development of astrophysics, which

Neptune



Size: fourth largest diameter

Eight

ion:

arth

hours 6

the eighth planet from the rst planet whose existence d by mathematical ther than visual Both British and French ggested that a ll from another large body the orbit of Uranus. oth astronomers ne's position in our solar e was finally viewed pe on September 23, amed comes from Roman

mythology and means the god of the sea.

Physical Characteristics

Neptune has a shockingly blue cloud cover due to a compound that scientists have yet to identify. The planet also has a hydrogen-helium atmosphere that absorbs red light. Neptune is known as an ice giant because it has a thick, swampy mix of methane ices, water, and ammonia. It is 58 times greater in volume than Earth. Neptune has a rocky core.

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12 ENGAGING INFORMATIONAL ARTICLES (2 DIFFERENTIATED LEVELS EACH)

Web Sites

Our Solar System Overview

Web Sites

Mercury

Web Sites

Venus

Web Sites

Earth

Web Sites

Mars

Web Sites

Jupiter

Web Sites

Saturn

Web Sites

Uranus

Web Sites

Neptune

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Pluto

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Earth's Moon

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FAQ

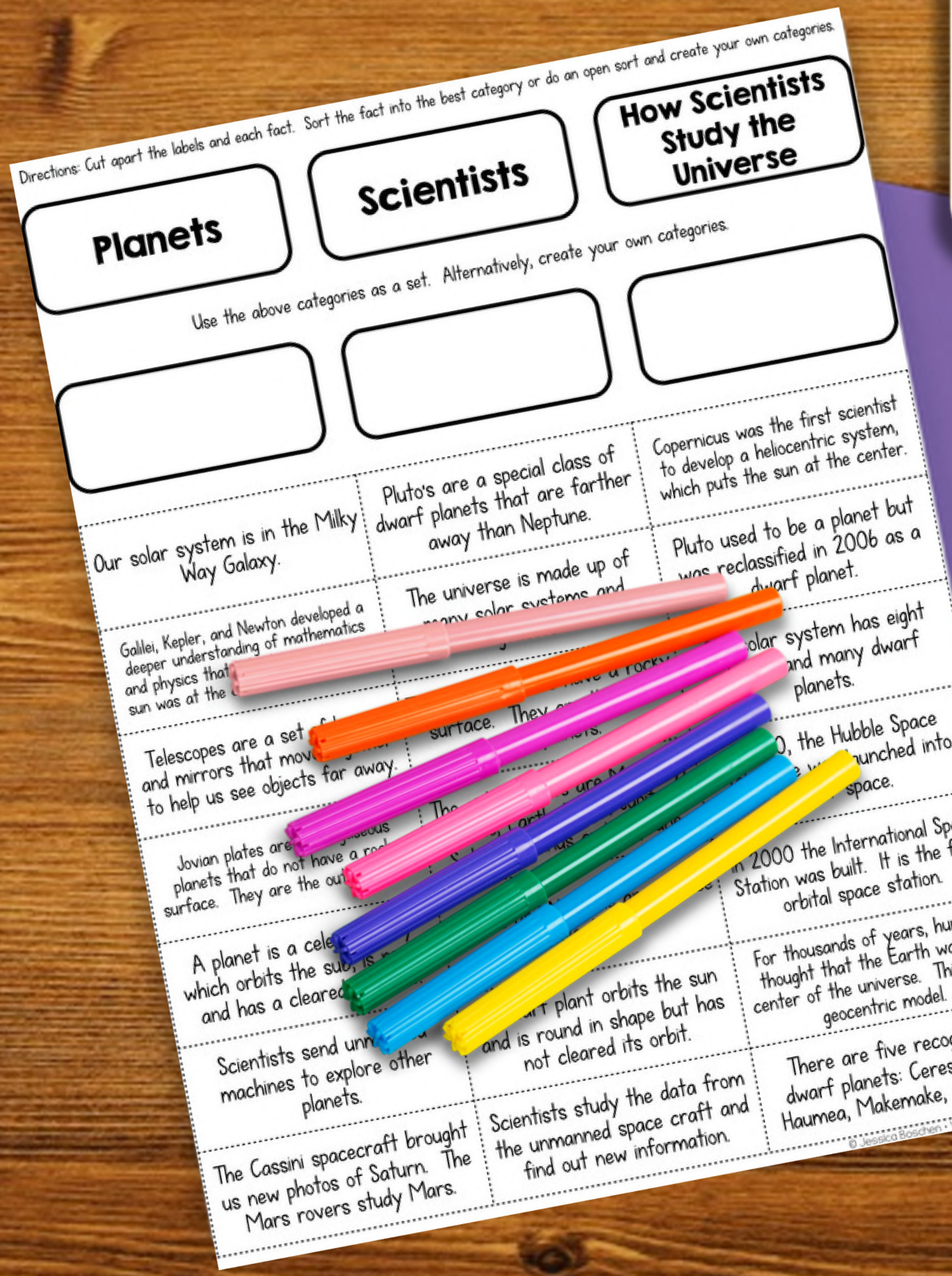
Sign In

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FACT SORT

EACH TOPIC HAS ITS OWN SET OF FACTS.



SAMPLE PROJECT FOR FACT SORT

Environment
where it lives

Ladybugs live in meadows, forests, and gardens.

Ladybugs live for about one to two years.

The changes a ladybug goes through is called metamorphosis.

Actions
does, can

Female ladybugs lay eggs on the underside of leaves.

If food is not available, ladybugs will eat each other.

Ladybugs are helpful because they eat plant-sucking insects such as aphids.

An adult ladybug may eat up to 75 aphids each day.

Ladybug larva eat hundreds of aphids during this stage.

Attributes
looks, has, is

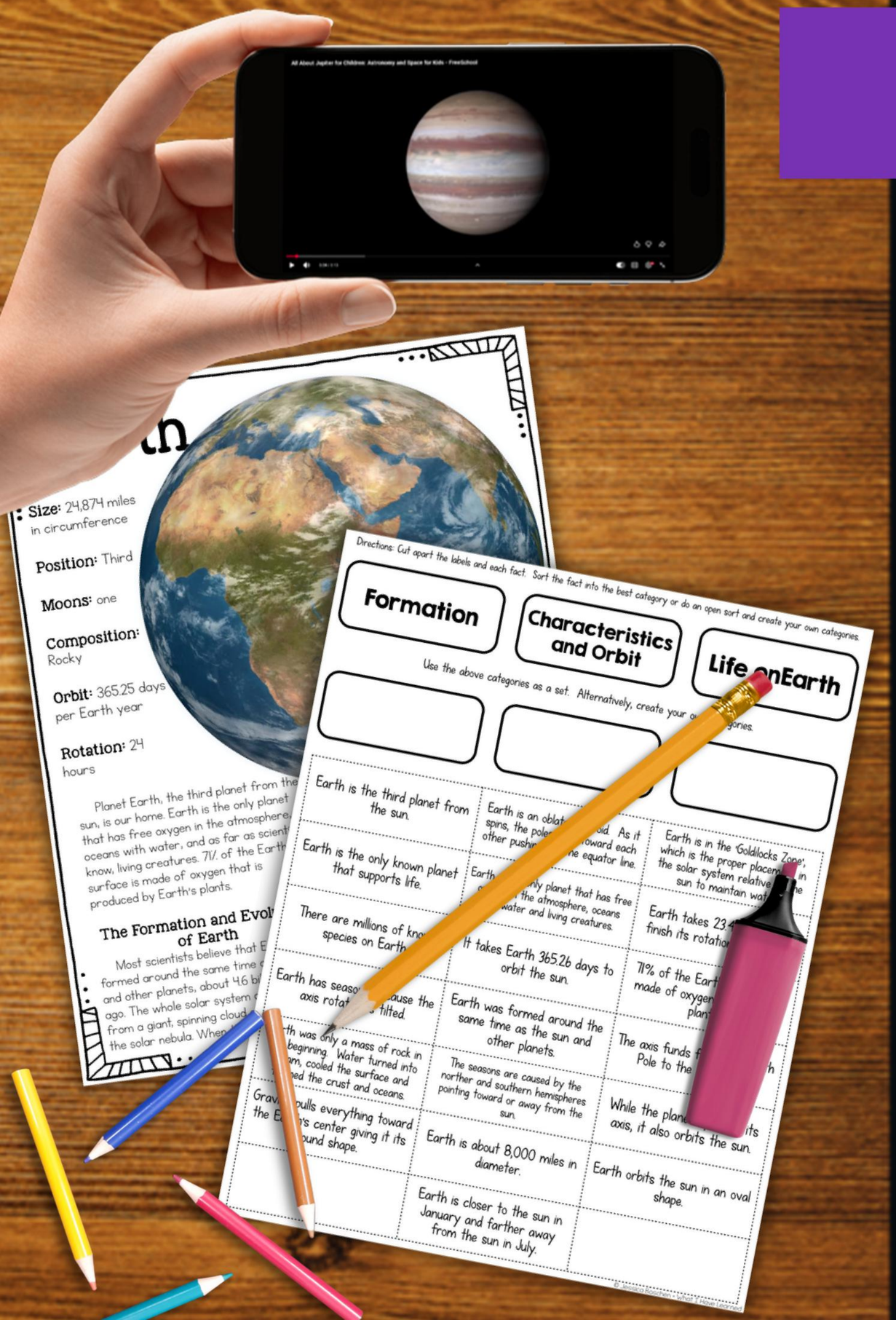
Ladybugs have six legs and a body, which looks like a tiny dome.

Ladybugs have four wings. The front two wings are wing covers to protect the back two.

Ladybugs are brightly colored to let predators know they are poisonous.

Ladybugs can be red, yellow or orange with small dots.

While this is for a different theme activity, it gives you an idea of how students can do the fact sort.



WAYS TO USE IN THE CLASSROOM

📚 **Guided Reading –** Leveled nonfiction texts for targeted small-group **instruction.**

🔬 **Science Units –** Integrate directly into space and astronomy lessons.

✍️ **Research Projects –** Structured tools for independent planet studies.

📝 **Informational Writing –** Gather evidence and write organized reports.

👩‍🏫 **Literacy Centers –** Independent reading and fact-sorting practice.

YOU WILL LOVE THIS BECAUSE



Leveled Texts for Differentiation

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Integrates Science and ELA Seamlessly

Students practice reading comprehension, vocabulary, writing, and critical thinking while learning teh solar system content.



Easy to Prep and Easy to Teach

Print-and-go pages plus digital options save time and work perfectly for centers, whole-group lessons, or sub plans.

TEACHERS LOVE IT!

Thank you for this easy to use and engaging resource.My students loved this resource. It was engaging and really helped them reflect on what they have learned.

Jennifer Morley

Colorful worksheets that had QR codes attached to really draw my students in.

Melissa R.



My passion is making learning accessible to all students. I love scaffolding learning, breaking down the concepts and building them up so that students can see the connections. I love figuring out the small components that build up to the big ideas and helping students see it all.



What I have LEARNED