

EXPLORING EXOPLANETS - WORLDS BEYOND OUR SOLAR SYSTEM

6TH, 7TH, 8TH GRADE READING

Improve students'
literacy skills

Sub Plan

Science Applicability



Reading Comment



★★★★★ Extremely satisfied - Great resource to work on student reading comprehension and it tied into the topic I was teaching. My students have been struggling with reading and I've been incorporating more reading into my lessons. Thank you for the resource.



SCROLL
to take a look inside!

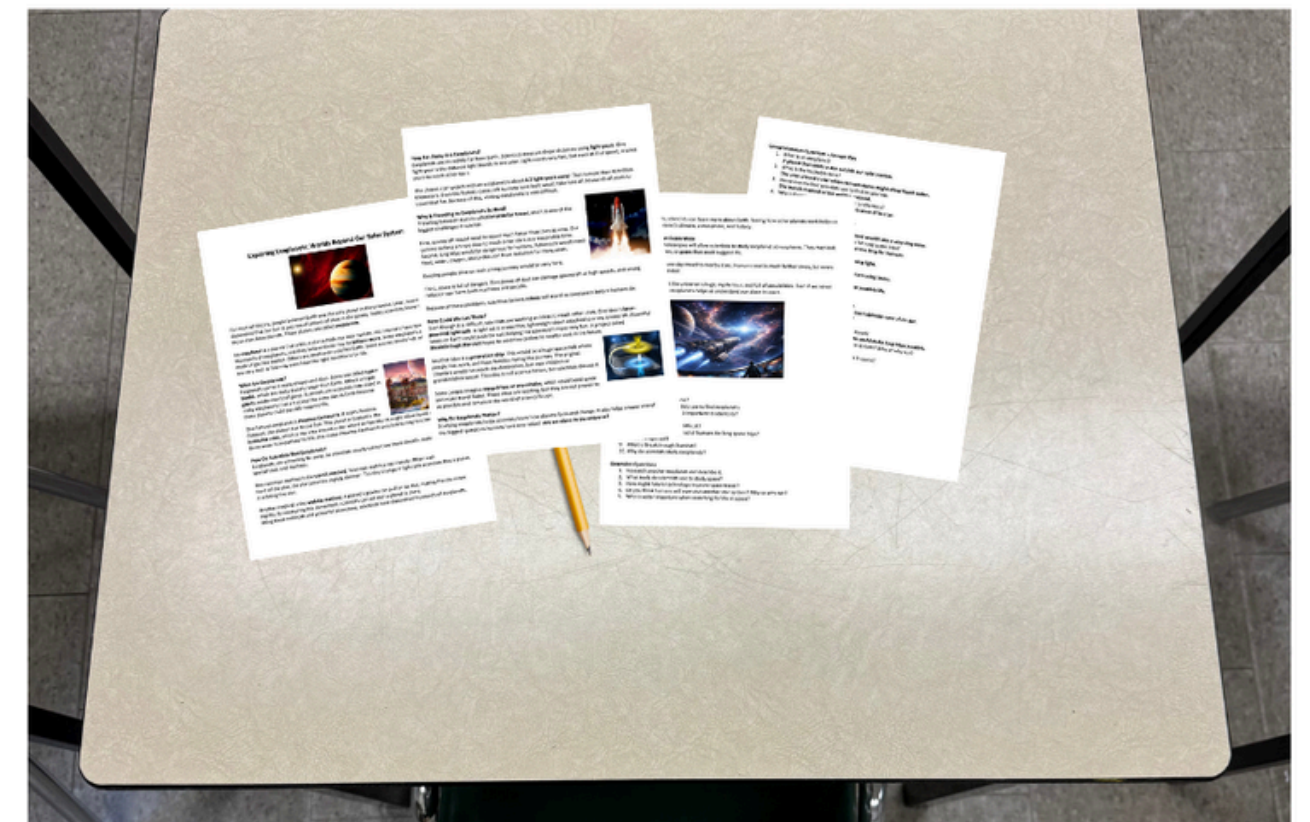


THE PROBLEMS YOU FACE

- Limited time to teach scientific literacy and strengthen students' reading and analysis skills.
- Need meaningful extension activities to engage fast-moving learners.
- Difficulty creating effective last-minute sub plans that still support student learning.

NO-PREP - PRINT/UPLOAD

- Questions and Answer Key
- **No Prep, Ready-to-Use:** Print or assign digitally with Google Docs, Microsoft Word, and PDF formats for flexible classroom use
- **Includes Varied Question Types:** Knowledge, thinking, connecting, application, and open-ended questions.



What Will Your Students Learn?

READING COMPREHENSION ARTICLE & QUESTIONS

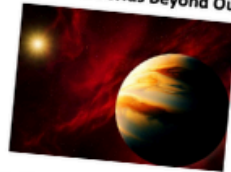
Comprehension Questions

1. What is an exoplanet?
2. What is the habitable zone?
3. Name one method scientists use to find exoplanets.
4. Why is this important to scientists?
5. What
6. Why
7. Why
8. What
9. What
10. Why

Extension

1. Res
2. Wh
3. Ho
4. Do
5. W

Exploring Exoplanets: Worlds Beyond Our Solar System



For most of history, people believed Earth was the only planet in the universe. Later, scientists discovered that our Sun is just one of billions of stars in the galaxy. Today, scientists know that many of those stars have planets. These planets are called **exoplanets**.

An **exoplanet** is a planet that orbits a star outside our solar system. Astronomers have now discovered thousands of exoplanets, and they believe there may be **billions more**. Some exoplanets are huge and made of gas like Jupiter. Others are small and rocky like Earth. Some are extremely hot, while others are very cold. A few may even have the right conditions for life.

What Are Exoplanets?

Exoplanets come in many shapes and sizes. Some are called **super-Earths**, which are rocky planets larger than Earth. Others are **gas giants**, made mostly of gases. Scientists are especially interested in rocky exoplanets that are about the same size as Earth because these planets could possibly support life.



One famous exoplanet is **Proxima Centauri b**. It orbits Proxima Centauri, the closest star to our Sun. This planet is located in the **habitable zone**, which is the area around a star where temperatures might allow liquid water to exist. Since water is important for life, this makes Proxima Centauri b very interesting to scientists.

How Do Scientists Find Exoplanets?

Exoplanets are extremely far away, so scientists usually cannot see them directly. Instead, they use special tools and methods.

One common method is the **transit method**. Scientists watch a star closely. When a planet passes in front of the star, the star becomes slightly dimmer. This tiny change in light tells scientists there is a planet there.

Article with
Comprehension
Questions

6th, 7th, 8th Grade

Print & Digital

PDF



- What Are Exoplanets?
- Types of Exoplanets (rocky, gas giants, super-Earths)
- The Habitable Zone and the Search for Life
- Proxima Centauri b and Nearby Star Systems
- How Scientists Find Exoplanets (Transit Method, Wobble Method)
- Light-Years and Distances in Space
- Why Interstellar Travel Is So Difficult
- Robots vs. Human Space Travel
- Light Sails and Breakthrough Starshot
- Generation Ships and Future Travel Ideas
- Why Exoplanets Matter
- The Future of Space Exploration

Your Reading

Exploring Exoplanets: Worlds Beyond Our Solar System



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Another method is the **wobble method**. A planet's gravity can pull on its star, making it wobble slightly. By measuring this movement, scientists can tell that a planet is there. Using these methods and powerful telescopes, scientists have discovered thousands of exoplanets.

How Far Away Are Exoplanets?

Exoplanets are incredibly far from Earth. Scientists measure these distances using **light-years**. A light-year is the distance light travels in one year. Light moves very fast, but even at that speed, it takes years to reach other stars.

The closest star system with an exoplanet is about **4.2 light-years away**. That is more than 40 trillion kilometers. Even the fastest spacecraft humans have built would take tens of thousands of years to travel that far. Because of this, visiting exoplanets is very difficult.

Why Is Traveling to Exoplanets So Hard?

Traveling between stars is called **interstellar travel**, and it is one of the biggest challenges in science.

First, spacecraft would need to travel much faster than they do now. Our current rockets are too slow to reach other stars in a reasonable time. Second, long trips would be dangerous for humans. Astronauts would need food, water, oxygen, and protection from radiation for many years.

Keeping people alive on such a long journey would be very hard.

Third, space is full of dangers. Tiny pieces of dust can damage spacecraft at high speeds, and cosmic radiation can harm both machines and people.

Because of these problems, scientists believe **robots** will travel to exoplanets before humans.

How Could We Get There?

Even though it is difficult, scientists are working on ideas to reach other stars. One idea is **powered light sails**. A light sail is a very thin, lightweight sheet attached to a tiny spacecraft. Powerful lasers on Earth could push the sail, helping the spacecraft move very fast. A project called **Breakthrough Starshot** hopes to send tiny probes to nearby stars in the future.

Another idea is a **generation ship**. This would be a huge spacecraft where people live, work, and have families during the journey. The original travelers would not reach the destination, but their children or grandchildren would. This idea is still science fiction, but scientists discuss it.

Some people imagine **warp drives or wormholes**, which could bend space and make travel faster. These ideas are exciting, but they are not proven to be possible and remain in the world of science fiction.

Why Do Exoplanets Matter?

Studying exoplanets helps scientists learn how planets form and change. It also helps answer the biggest questions humans have ever asked: **Are we alone in the universe?**

By studying exoplanets, scientists can learn more about Earth. Seeing how other planets work helps us understand our own planet's climate, atmosphere, and history.

The Future of Exoplanet Exploration

In the future, stronger telescopes will allow scientists to study exoplanet atmospheres. They may look for signs of **water, oxygen, or gases** that could suggest life.

Robotic spacecraft may one day travel to nearby stars. Human travel is much farther away, but every new discovery brings us closer.

Exoplanets remind us that the universe is huge, mysterious, and full of possibilities. Even if we never visit them, learning about exoplanets helps us understand our place in space.



Comprehension Questions

1. What is an exoplanet?
2. What is the habitable zone?
3. Name one method scientists use to find exoplanets.
4. Why is Proxima Centauri b important to scientists?
5. What is a light-year?
6. Why is interstellar travel difficult?
7. Why might robots be used instead of humans for long space trips?
8. What is a light sail?
9. What is Breakthrough Starshot?
10. Why do scientists study exoplanets?

Extension Questions

1. Research another exoplanet and describe it.
2. What tools do scientists use to study space?
3. How might future technology improve space travel?
4. Do you think humans will ever visit another star system? Why or why not?
5. Why is water important when searching for life in space?

Answer Key

1. A planet outside our solar system.
2. The area around a star where temperatures might allow liquid water.
3. Scientists use the transit method and the wobble method.
4. It is important to scientists because it is in the habitable zone of its star.
5. A light-year is the distance light travels in one year.
6. Interstellar travel is difficult because the stars are so far away and travel would take a very long time.
7. Instead of humans, robots would be used for long space trips because it is dangerous and last too long for humans.

Answer Key Included Office, Google, and PDF Versions

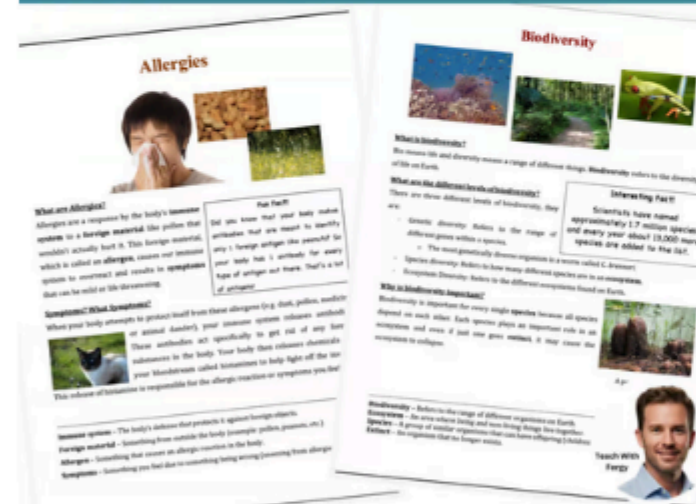


Comprehension and Extension Questions

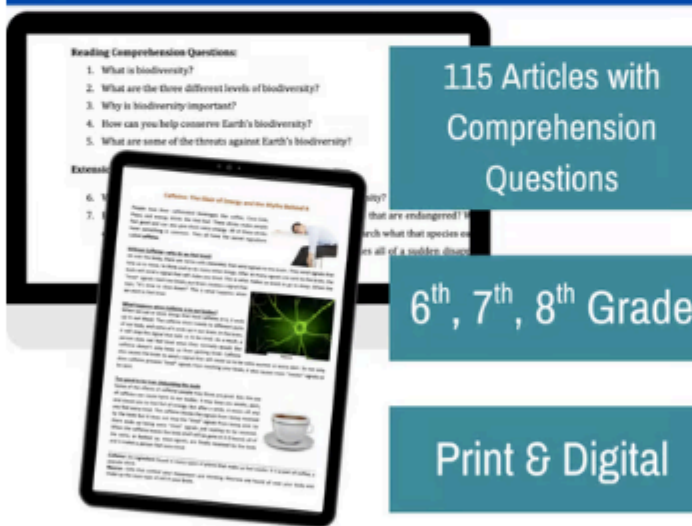
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READING COMPREHENSION ARTICLE & QUESTION MEGA BUNDLE 6TH, 7TH, 8TH GRADE



READING COMPREHENSION ARTICLE & QUESTION MEGA BUNDLE



CLASSROOM READY

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115 Articles with
Comprehension
Questions

6th, 7th, 8th Grade

Print & Digital



★★★★★ Extremely satisfied - So many comprehensive readings for all science fields. PDF and DOCX versions included so they can be edited if needed. Each one includes short answer questions at the end, the first set are easy to find the answers to in the readings, the second set require a bit more critical thinking. Includes an answer key. Great to use to fill in time or for sub plans.

6th, 7th, 8th Grade Reading Mega Bundle

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