

Grade: 3rd Grade

Unit : 7 Astronomy: Our Solar System and Beyond

Unit Overview: Read through the Unit Introduction and respond to the questions below.

Why is this unit important?

[Unit 7 Essential Questions](#)

This unit will build upon what students have already learned about astronomy and introduces them to new information about this science. Through reading and listening to read-alouds, students will learn more about our solar system, our galaxy, other galaxies, and the universe. Students will be introduced to the concept of gravity and its effects on Earth and in other places in space. A foundation of knowledge will be laid for more in-depth study in later grades of topics such as matter, light-years, and black holes. Students will learn about the difference between a hypothesis and a theory, and dive into the Big Bang theory of how the universe may have originated. Students will also hear about key people and events involved in the study and exploration of outer space. Students will be introduced to this content through an informational text that takes the students on a journey through the universe, beginning with our own planet, Earth. The journey continues to the sun, the inner and outer planets, and then to other objects that exist in our solar system. From there, the trip takes us to our galaxy, other galaxies, and billions and billions of stars in the universe. They'll find out why the planets stay in orbit and why we don't go flying off the earth into space!

What are 3-5 key takeaways students should have by the end of this unit?

- Compare and contrast two people, things or ideas, verbally and on a graphic organizer. (RI.3.8, RI.3.9, W.2)
- Plan, draft, revise, edit, and publish an informative piece about the life of an astronaut (W.3.2, W.3.4, W.3.5)
- Use conjunctions to understand cause and effect and demonstrate through written sentences. (L.3.1)
- Identify cause and effect and sequence ideas (RI.3.3, RI.3.8)
- Demonstrate understanding of singular and plural possessive nouns through correct punctuation usage (L.3.2)

	<ul style="list-style-type: none"> • Apply knowledge of suffixes to unfamiliar words in text and content (L.3.4, RF.3.3)
<p>What formal writing piece will students complete during this unit?</p>	<p>The formal writing piece for the Astronomy unit is a multi day informative writing project that describes a day in the life of an astronaut on the International Space Station. Students will gather information, take and organize notes, and use the writing process to plan, draft, revise, edit, and publish the final piece. The writing piece can be done with or without the use of technology, but having students use computers to research, write, and publish their informative writing is highly recommended.</p> <p><i>Formal writing: Informative Writing (Day in the Life)</i></p> <p>Students will gather information, take and organize notes, and use the writing process to plan, draft, revise, edit, and publish the final piece. The writing piece can be done with or without the use of technology, but having students use computers to research, write, and publish their informative writing is highly recommended.</p> <p><i>Informal Writing:</i></p> <p>Everyday writing opportunities come in many forms, including short and extended responses requiring evidence from the text. Students will write reflections about what they've learned and give opinions. Students will also use graphic organizers to gather and categorize information from reading or from the read-aloud, or to plan for writing. Many lessons provide opportunities for students to collaborate, share ideas, and give feedback on their writing.</p>
<p>How does this unit reinforce what has been taught in previous grades?</p>	<p><u>Astronomy (Grade 1)</u></p> <ul style="list-style-type: none"> • Explain that the sun, moon, and stars are located in outer space • Classify the sun as a star and explain that the sun is a source of energy, light, and heat • Identify Earth as a planet and our home

- Identify Earth's rotation or spin as the cause of day and night
- Explain that other parts of the world experience nighttime while we have daytime
- Explain that Earth orbits the sun
- Describe stars as hot, distant, and made of gas
- Explain that astronomers study the moon and stars using telescopes
- Explain what a constellation is and identify the Big Dipper and the North Star
- Identify the four phases of the moon: new, crescent, half, full
- State that the moon orbits the earth
- Explain that astronauts travel to outer space
- Describe the landing on the moon by American astronauts and the importance of the first trip to the moon
- Explain that our solar system includes the sun and the planets that orbit it
- Identify that there are eight planets in our solar system: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune
- Classify Pluto as a dwarf planet

Cycles in Nature (Grade 2)

- Recognize that Earth orbits the sun
- Explain that it takes one year for Earth to orbit the sun
- Explain that a cycle is a sequence of events that repeats itself again and again
- Describe the seasonal cycle: spring, summer, autumn (fall), winter
- Identify that the tilt of Earth's axis in relation to the sun causes the seasons
- Recognize that most of Earth's surface is covered by water
- Identify the three states of matter in which water exists: solid, liquid, gas

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