



LIFE·PAC®

Science



Alpha Omega Publications®

# SCIENCE 408

## OUR SOLAR SYSTEM AND THE UNIVERSE

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Alpha Omega Publications®

804 N. 2nd Ave. E., Rock Rapids, IA 51246-1759

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# OUR SOLAR SYSTEM AND THE UNIVERSE

During the first three days of Creation, God made our planet Earth. The fourth day He reached into the vastness of outer space. He filled that space with an infinite number of other heavenly bodies.

Many years ago, a shepherd boy named David was watching his sheep. The night was dark and still. The moon rose over the horizon. A million stars began to twinkle in the sky like diamonds. Reaching for his harp, David expressed his gratitude to a loving God. He sang (Psalm 19:1), "The heavens declare the glory of God; and the firmament [sky] sheweth his handiwork."

Since the day of Creation, boys and girls have wanted to know more about the universe. How big is it? What force moves the sun, the moon, and the stars through space? How are the heavenly bodies kept on their courses?

In this LIFE PAC® you will take an imaginary trip into space. You will learn about the sun, moon, and planets. Hopefully, you will sense the excitement astronomers experience every time they peer into space through their huge telescopes.

## OBJECTIVES

**Read these objectives.** The objectives tell you what you should be able to do when you have successfully completed this LIFE PAC.

When you have finished this LIFE PAC, you should be able to:

1. Tell about the opinions of the ancients in relation to the origin of the universe.
2. Explain the difference between fact and opinion.
3. Identify two astronomers and their discoveries.
4. Explain how some important instruments are used in astronomy.
5. Describe the sun and its relation to the earth, planets, and galaxies.
6. List the planets in order from the sun.
7. Tell some of the ancient myths about the sun.
8. Explain why the sun is important to us.
9. Identify and tell about meteors, comets, and asteroids.

10. Describe the main features of the moon.
11. Give some reasons why God created the stars for "signs."
12. Explain the difference between astronomy and astrology.
13. Recognize some stars and constellations.
14. Tell why we should not go to astrologists or fortunetellers.

## VOCABULARY

**Study these new words.** Learning the meanings of these words is a good study habit and will improve your understanding of this LIFEPAK.

**asteroid** (as' tu roid). Any of the very small planets revolving around the sun.

**astrology** (u strol' u jē). A false science that claims to tell a person's future by studying the heavenly bodies.

**astronaut** (as' tru not). A traveler in outer space.

**astronomers** (u stron' u murz). Scientists who study the stars, the sun, the moon, and the universe.

**astronomy** (u stron' u mē). The scientific study of the universe beyond the earth.

**atmosphere** (at' mu sfir). The air surrounding a planet.

**axis** (ak' sis). An imaginary line that passes through an object such as the moon and about which the object turns.

**comet** (kom' it). A heavenly body with a starlike center and a tail of light.

**constellation** (kon stu lā' shun). A group of stars; "star pictures."

**crater** (krā' tur). A round, ringlike hole on the surface of a heavenly body.

**diameter** (dī am' u tur). Measurement of a round object from one side to the other through the center.

**elliptical** (i lip' tu kul). Shaped like an ellipse; an oval, egg-shaped; having both ends alike.

**galaxy** (gal' uk sē). A very large system of stars, gas, and dust far out in space; billions of stars.

**gravity** (grav' u tē). The natural force that causes objects to move toward each other.

**infinite** (in' fu nit). Having no limits or boundaries.

**Jupiter** (jü' pu tur). The largest planet in our solar system.

**Mars** (märz). The fourth planet from the sun.

**Mercury** (mēr' kyur ē) The planet closest to the sun.

**meteor** (mē' tē ur). A mass of stone or metal that comes toward the earth from outer space. The mass burns up as it enters the earth's atmosphere.

**meteorite** (mē' tē u rīt). A mass of stone or metal that has fallen to the earth from outer space.

**meteoroid** (mē' tē u roid). An object in space that looks like a meteor when it enters the earth's atmosphere. Meteoroids range in size from specks of dust to asteroids that weigh thousands of tons.

**myth** (myth). A legend or story.

**Neptune** (nep' tün). The eighth planet from the sun.

**opinion** (u pin' yun). A belief with no positive knowledge or proof.

**orbit** (ôr' bit). The path of the earth or one of the planets around the sun.

**phase** (fāz). A step in a series of changes which happen in regular order to the moon.

**Pluto** (plü' tō). A dwarf planet.

**revolve** (ri volv'). To orbit or go around a central point.

**rotation** (rō tā' shun). Turning in a circle on an axis. The rotation of the earth causes day and night.

**satellite** (sat' u līt). A small planet that revolves around a larger planet; also a man-made object that circles the earth.

**Saturn** (sat' urn). The sixth planet from the sun.

**solar** (sō' lur). Having to do with the sun. Our earth is a part of the solar system.

**spectroscope** (spek' tru skōp). An instrument for looking at and recording light from a distant object.

**spiral** (spī' rul). A winding and gradually widening coil. A watch spring is a spiral.

**stellar** (stel' ur). Made up of stars.

**superstition** (sü pur stish' un). A belief based on fear or lack of information.

**telescope** (tel' u scōp). An instrument for making distant objects seem nearer or larger.



**trillion** (tril' yun). The number 1 followed by twelve zeros, (1,000,000,000,000); a very large number.

**universe** (yü' nu vèrs). All things, everything in space. Our world is a very small part of the universe.

**Uranus** (yü rā' nus). The seventh planet from the sun.

**Venus** (vē' nus). The second planet from the sun.

**zodiac** (zō' d ē ak). A diagram used in astrology by fortune tellers.

**Note:** All vocabulary words in this LIFEPAC appear in **boldface** print the first time they are used. If you are unsure of the meaning when you are reading, study the definitions given.

**Pronunciation Key:** hat, āge, cāre, fār; let, ēqual, tērm; it, īce; hot, ōpen, ôrder; oil; out; cup, pūt, rüle; child; long; thin; /TH/ for then; /zh/ for measure; /u/ represents /a/ in about, /e/ in taken, /i/ in pencil, /o/ in lemon, and /u/ in circus.

## I. A TRIP THROUGH SPACE

Have you ever looked up into the sky and watched the clouds float by? Have you ever looked into the dark night as David did and wondered what is far out in space?

In this section of your LIFEPAC, you will take a quick, imaginary trip to the

moon, the planets, and the stars.

When you return to our own planet, Earth, you will learn something about the discoveries of men of science and the methods they use to observe and chart the heavens.

**Review these objectives.** When you have completed this section, you should be able to:

1. Tell about the opinions of the ancients in relation to the origin of the universe.
2. Explain the difference between fact and opinion.
3. Identify two astronomers and their discoveries.
4. Explain how some important instruments are used in astronomy.
5. Describe the sun and its relation to the earth, planets, and galaxies.
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