

标准英语分级读物·学生卷·第2级

太阳系 OUR SOLAR SYSTEM

原版美国阅读教程

用英文阅读，学百科知识

完美实现国家新课程标准要求

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太阳系

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最佳学习安排

训练正确阅读习惯，提高理解分析能力

- 第一步，正式的学习开始之前，请先认真阅读封面封底，以了解本书的特点。
- 第二步，在开始阅读某一本书时，首先阅读目录页，然后粗略翻阅全书各页，看一看照片的图表。根据以上粗读所获信息判断出本书的基本内容和主题。
- 第三步，想一想你已经掌握了多少关于本书主题的知识。
- 第四步，开始阅读。阅读的重点放在与主题相关的新知识上。哪些是你通过阅读本书获得的新知识，用简洁的方式做上标记。
- 第五步，边读边标出你有切身体会的地方，你喜欢或支持的观点或做法。
- 第六步，遇到当页注释中没有的生词，要尽量根据上下文猜出它的意思，而不要马上查词典，以免打断阅读。将这些生词标出来，读后查词典印证你的猜测。
- 第七步，读完后，总结文章主要讲的是什么，并在文中找出具体内容支持你的判断。

掌握地道英文写作，学习纯正英语表达

- 第八步，完成阅读后，分析本书文章的写作方法，写出本书提要。
- 第九步，与同学们就本书主题展开讨论，并提出自己的观点和结论。

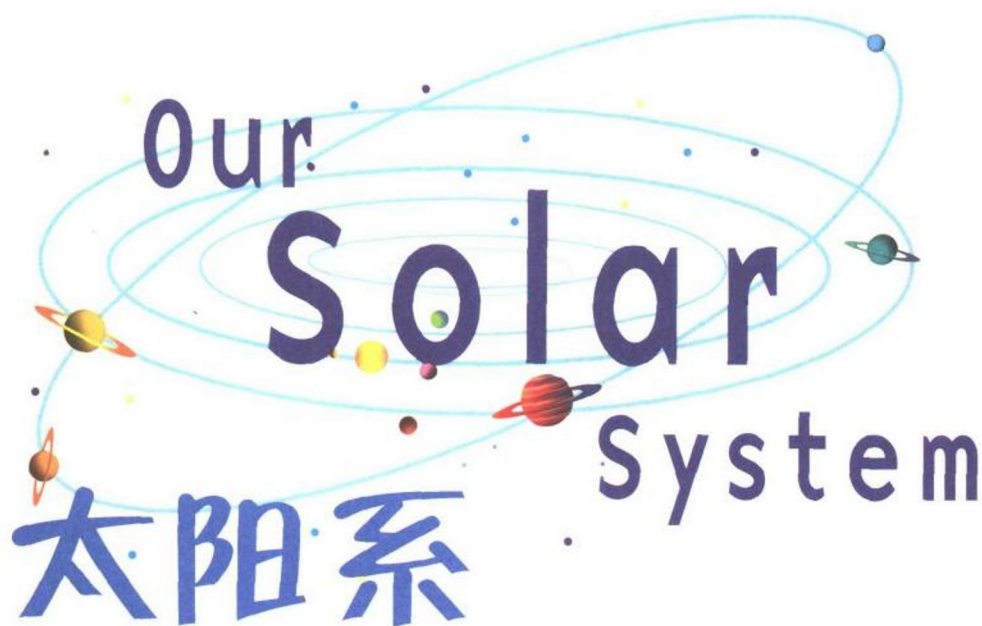
重要提示

利用词汇注释巩固和扩充词汇量

为扩充学生词汇量，超出高中课本范围的词汇在读本各页中做了注释，并汇总在书后词汇表中，以方便学习和记忆。

利用音标学习单词发音

为规范本读物的音标标注方法，并更充分地体现美式发音的特点，本读物采用标准的 Jones 国际音标和 K.K 音标，Jones 在前，K.K 在后，同时标注同一个单词。此两种音标为目前使用最多的音标系统，而 K.K 音标又能充分体现美式发音的特点。音标查证以商务印书馆的《牛津高阶英汉双解词典》（第四版）为准。



Our Solar System

太阳系

BY RACHEL KRANZ

王金玉 李毅 注

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What Is Our Solar System?

Chances are you know your neighborhood very well. You probably know a lot about the country you live in, too. You may even know some interesting facts about Earth. But how much do you know about the solar system, of which Earth is a member? You are about to take a tour of this vast and remarkable place.

The word “solar” means “about the sun.” It comes from the Latin word *sol*, which means “sun.” The solar system is the Sun and everything that moves around it. It includes:

- ★ the Sun
- ★ the nine planets that orbit, or move around, the sun
- ★ the moons that orbit some of the planets
- ★ other objects, including big chunks of rock called asteroids, and balls of ice, rock, and dust called comets.

a chunk of 一块
asteroid ['æstərɔɪd,

'æstərɔɪd] n. 小行星
chunk [tʃʌŋk, tʃʌŋk]
n. (厚) 块

comet ['kɒmɪt, 'kəmit]

n. 彗星

orbit ['ɔ:bɪt, 'ɔrbit] v. 作轨道运行

remarkable [rɪ'mɑ:kəbl,
rɪ'mɑrkəbl] a. 引人注目的

take a tour 游历, 考察

vast [vɑ:st, væst] a. 巨大的, 庞大的

It's a
FACT!

Our Sun is big and bright—but many other stars are much, much bigger and brighter. Our Sun is considered a medium-sized star.

Our Sun, which is the center of the solar system is really a star. It is just like the stars you see in the sky at night, except that it is much closer.

All of the light in the solar system comes from the Sun. It is the only object in our solar system that can produce light by itself. Even moonlight comes from the Sun.

Jupiter ['dʒu:pɪtə(r), 'dʒʊpətə]

n. 木星

Mars [mɑ:z, mɑ:z] n. 火星

Mercury ['mɜ:kjʊrɪ, 'mɜ:kjəri]

n. 水星

Neptune ['neptju:n, 'neptun]

n. 海王星

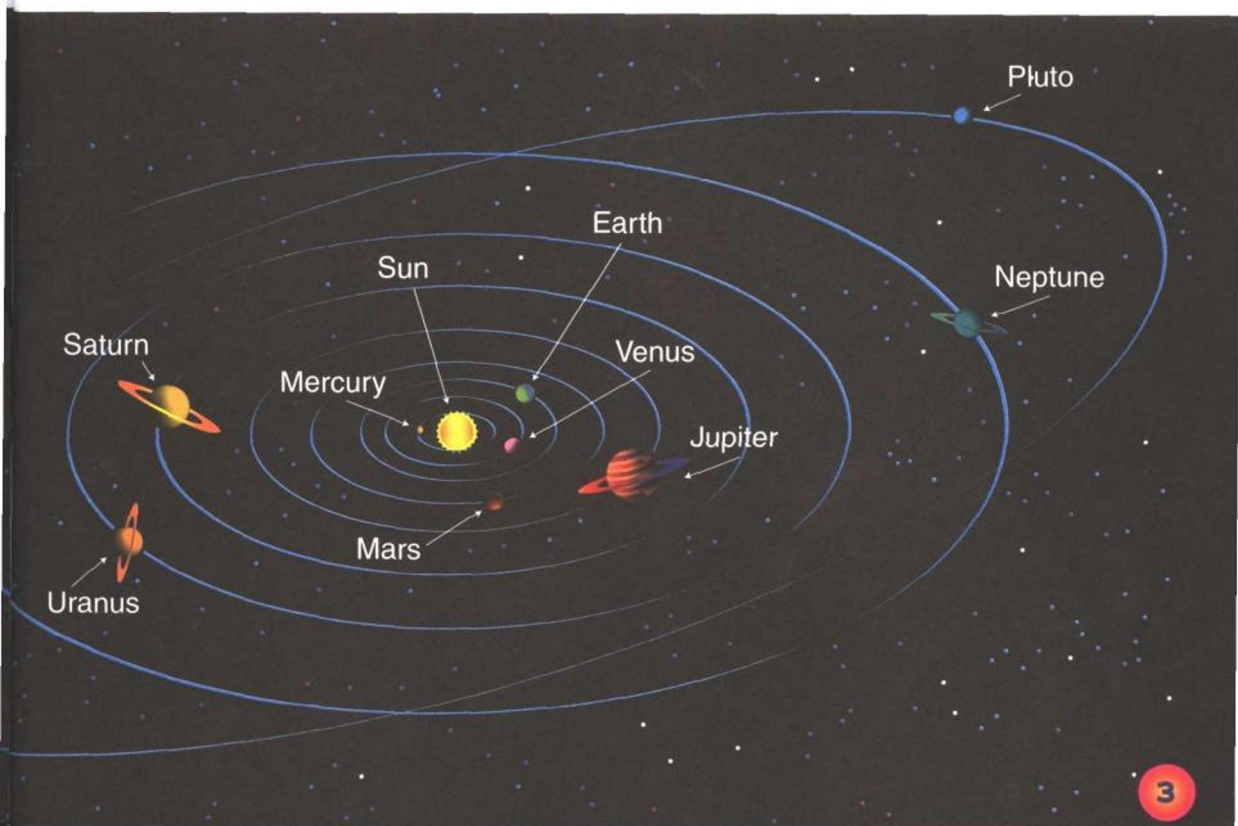
Pluto ['plu:təʊ, 'pluto] n. 冥王星

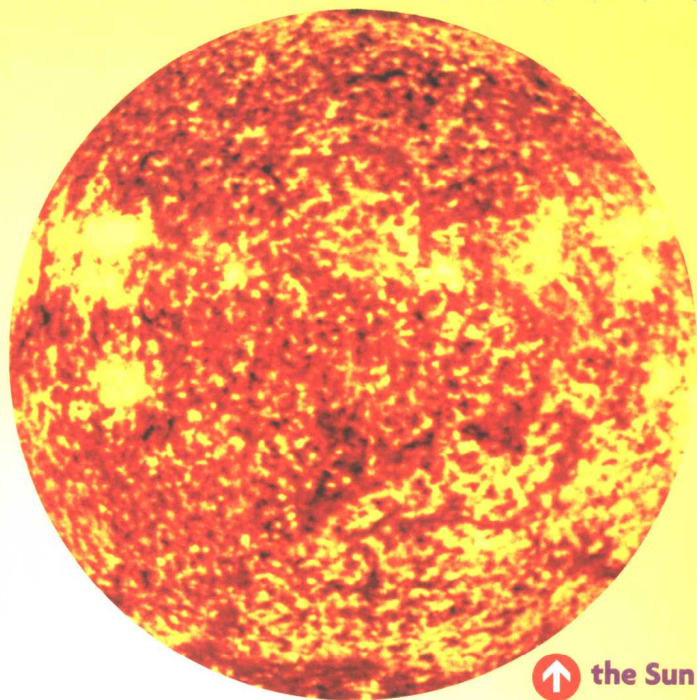
Saturn ['sætən, 'sætən] n. 土星

star [stɑ:(r), stɑ:] n. 恒星

Uranus ['jʊərənəs, ju'reinəs] n. 天王星

Venus ['vi:nəs, 'vinəs] n. 金星





↑ the Sun

Most of the heat in our solar system comes from the Sun, too. The surface temperature of the Sun is about 10,000 degrees Fahrenheit (5,538 degrees Celsius). The inner core, or center, of the Sun is even hotter—27 million degrees Fahrenheit (14,999,982 degrees Celsius)!

Luckily for us, the Sun is very far away—93 million miles, in fact. If it were much closer, Earth would be too hot to support life. If the Sun were any farther away, Earth would be too cold. The Sun is just the right distance away from Earth to support the forms of life that have developed here.

Celsius ['selsiəs, 'selsiəs]

a. 摄氏温度计的

core [kɔ:(r), kɔr]

n. 核心

Fahrenheit

['færənhaɪt, 'færən, haɪt]

a. 华氏温度计的

inner ['ɪnə(r), 'ɪnə]

n. 内部的, 里面的

What makes our Sun so hot and bright? Like other stars, the Sun is a huge ball of spinning gases. These gases are helium and hydrogen. In the core, these gases undergo reactions that produce huge amounts of energy.

Every second, the Sun changes 600 million tons of hydrogen to helium, creating energy. Some of that energy reaches Earth in the form of sunlight. It takes eight minutes for this energy to reach us. Some of the energy reaches other planets. Some disappears into space.

**It's a
FACT!**

The Sun is so hot that if just one spark from its core were to land on Earth, it could set fire to everything within sixty miles of it! The Sun is so enormous that one million Earths could fit inside it.

enormous [ɪ'nɔ:məs, ɪ'nɔrməs] a. 巨大的

helium [ˈhi:ləm, ˈhiliəm] n. 氦

hydrogen [ˈhaɪdrədʒən, ˈhaɪdrədʒən] n. 氢

reaction [rɪˈækʃn, rɪˈækʃən] n. 反应

spark [spɑ:k, spɑ:k] n. 火花, 火星

spinning [ˈspɪnɪŋ, ˈspɪnɪŋ] a. 旋转的

undergo [ˌʌndəˈɡəʊ, ˌʌndəˈɡo] v. 经历, 经受



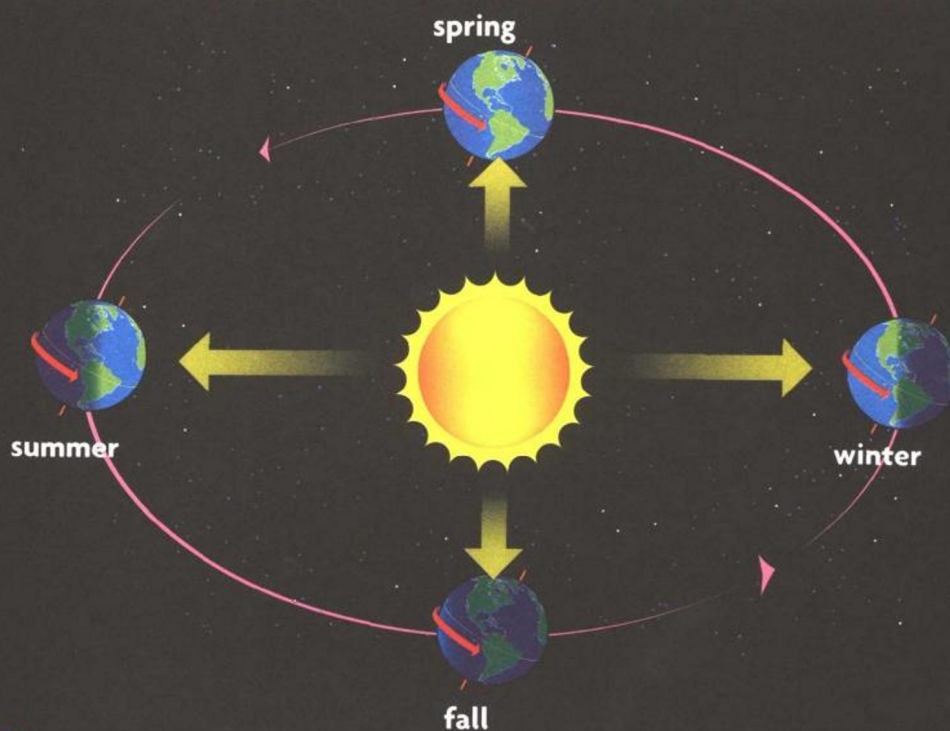
Nothing on Earth could grow without the Sun's energy.

The nine planets in the solar system all orbit the Sun. They are held in their orbits by the Sun's gravity, or force of attraction for them. Each planet's orbit takes a different amount of time. For example, Earth's orbit takes 365 $\frac{1}{4}$ days. That's why we say that a year on Earth takes 365 days.

attraction [ə'trækʃn, ə'trækʃən] n. 吸引力

gravity ['grævəti, 'grævəti] n. 引力, 重力

hemisphere ['hemisfiə(r), 'heməs, fir] n. 半球



This diagram shows Earth in orbit around the Sun over the course of a year. This movement causes the seasons in many parts of the world. The seasons in the Northern Hemisphere are shown here.

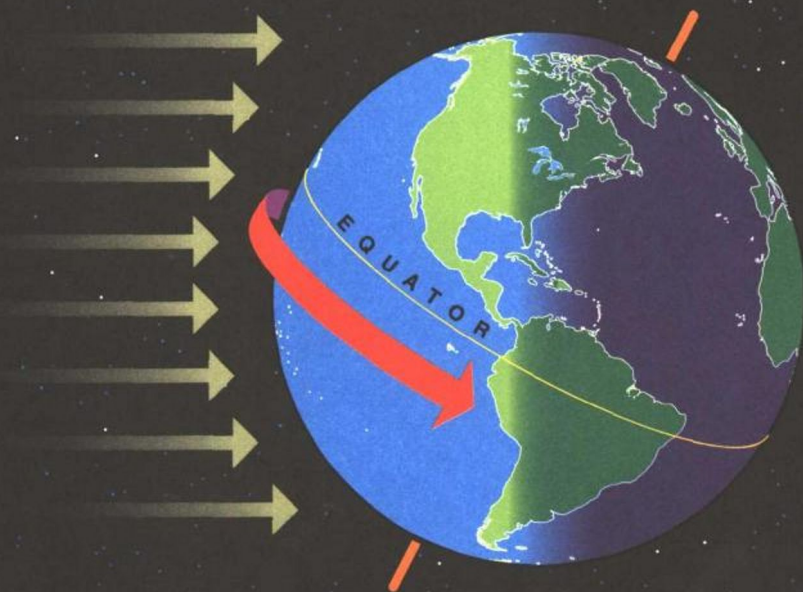
While the planets are orbiting the Sun, they are also rotating, or spinning around an axis like a toy top. One complete rotation of Earth takes twenty-four hours, or one day and one night. When our part of

Earth is facing the Sun, it is daytime for us. When our part of Earth is turned away from the Sun, it is nighttime. Some planets spin faster than Earth, so their days are shorter. Some spin slower, so their days are longer.

axis ['æksɪs, 'æksɪs] n. 轴

rotate [rəʊ'teɪt, 'rɒtət] v. 旋转

rotation [rəʊ'teɪʃn, rɒ'teɪʃən] n. 自转



It takes Earth twenty-four hours to rotate once on its axis.
What part of Earth is in daytime in this diagram?

The Four Inner Planets: Mercury, Venus, Earth, and Mars

Mercury

Mercury, the planet closest to the Sun, is much smaller than Earth. Earth's diameter (the distance through Earth from the North Pole to the South Pole) is 7,900 miles. Mercury's diameter is only 3,000 miles.

diameter

[daɪ'æmɪtə(r), daɪ'æmətə]

n. 直径

Mariner

['mæɪnə(r), 'mæɪnə]

n. (美国发射到金星、火星和水星附近的) 水手号不载人航天探测器

probe [prəʊb, prob]

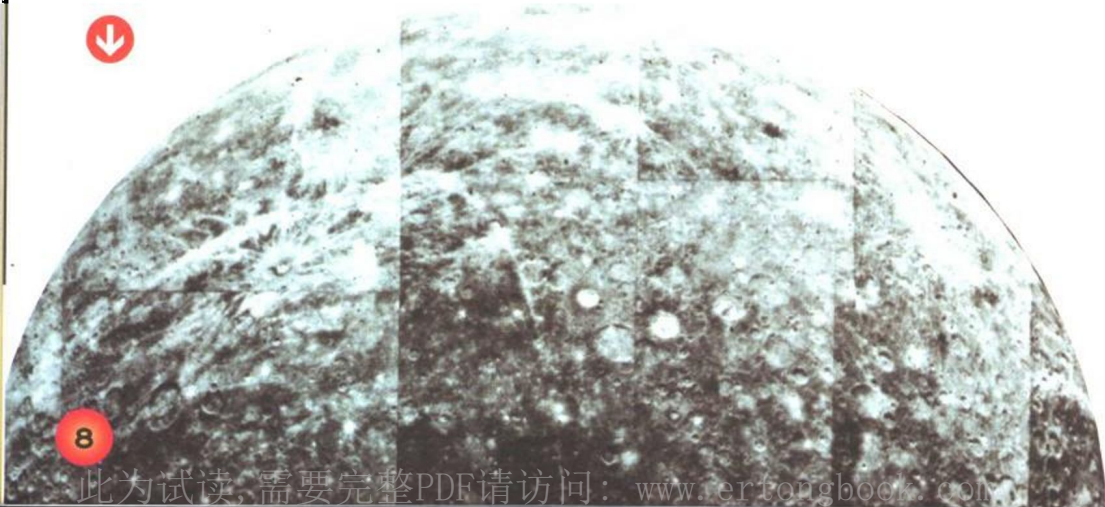
n. 探测器

scorching ['skɔ:tʃɪŋ, 'skɔ:tʃɪŋ]

a. 灼热的

This image of Mercury was put together from photos taken by the Mariner 10 probe.

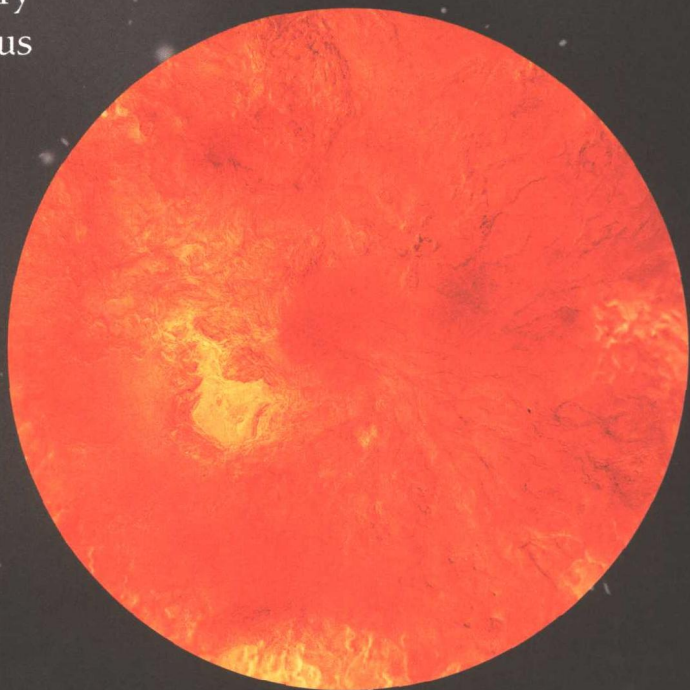
Mercury orbits the Sun very quickly. A year on Mercury takes only eighty-eight Earth days. But the planet rotates very slowly. A day on Mercury is fifty-nine Earth days! During the day, the temperature reaches a scorching 806 degrees Fahrenheit (430 degrees Celsius). At night, the temperature drops to a freezing -274 degrees Fahrenheit (-170 degrees Celsius).



Venus

Venus is the second-closest planet to the Sun. Sometimes you can see Venus in the sky, especially in the early morning or early evening. For this reason, Venus is sometimes called the “morning star” or the “evening star,” even though it is not a star at all.

The bright, starry appearance of Venus is caused by the thick layer of clouds around it. These clouds reflect light from the Sun.



layer ['leɪə(r), 'leə] n. 层

starry ['stɑ:ri, 'stəri]

a. 布满星星的, 明亮的



Venus is about the same size as Earth, but the two planets are very different. Venus is very hot, and the lovely clouds that surround it are made of sulfuric acid. Sulfuric acid is a very strong acid that can burn right through metal!

Venus is one of the only two planets that rotate in a backward direction. Earth rotates from west to east, but Venus rotates from east to west.

beam [bi:m, bim] v. 发射

crater ['kreɪtə(r), 'kretə] n. 陨石坑, 火山口

lava ['lɑ:və, 'lavə] n. 熔岩

Soviet Union 苏联

sulfuric [səl'fjuərik, səl'fju:rik] a. 含硫的

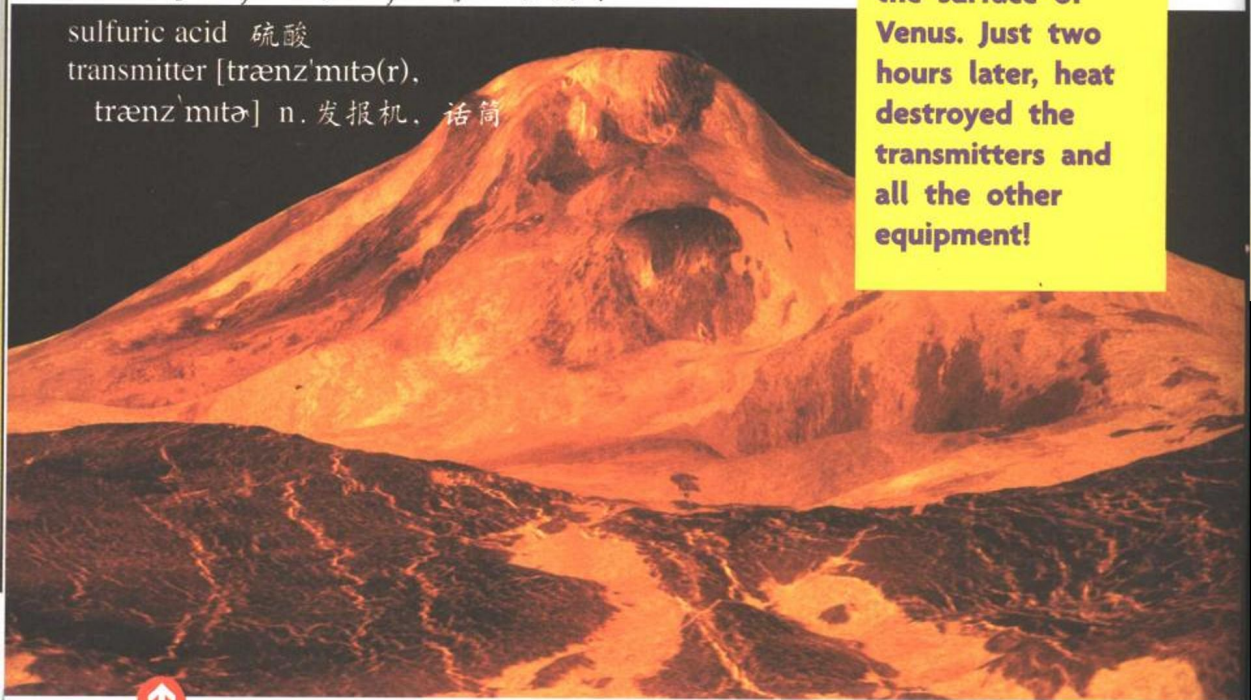
sulfuric acid 硫酸

transmitter [trænz'mɪtə(r),

trænz'mɪtə] n. 发报机, 话筒

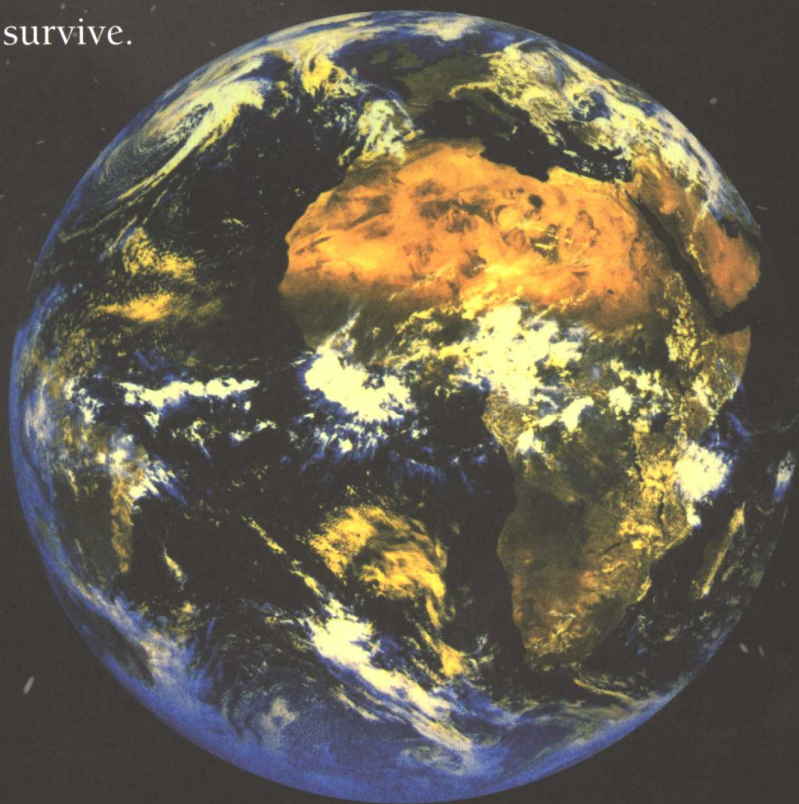
**It's a
FACT!**

In 1982, the former Soviet Union sent a spaceship to explore Venus. There were no people on the ship, only scientific equipment. Radio transmitters beamed back to Earth the first color photos of the surface of Venus. Just two hours later, heat destroyed the transmitters and all the other equipment!



Earth

The third planet from the Sun is our own planet, Earth. It is the only planet in the solar system where life as we know it is found. Life on Earth requires water, oxygen, and temperatures that are not too hot or too cold. Earth is the only planet that has all the right conditions for humans, animals, and plants to survive.



survive [sə'vaɪv, sə'vaɪv] v. 幸存, 活下来



It takes the Moon twenty-nine days to orbit Earth. This amount of time is known as one month. Can you see how the word “month” comes from the word “moon”?

Just as Earth orbits the Sun, a smaller body orbits Earth. This is our Moon. The word “moon” means a body that orbits a planet. All the other planets except Mercury and Venus have moons, too. In fact, most planets have more than one moon.

mythology [mɪˈθɒlədʒɪ, mɪˈθɑlədʒɪ] n. 神话
messenger [ˈmesɪndʒə(r), ˈmesɪndʒə] n. 使者
sandal [ˈsændəl, ˈsændl] n. 凉鞋
winged [wɪŋd, wɪŋd] a. 有翅膀的

HOW DID THE INNER PLANETS GET THEIR NAMES?

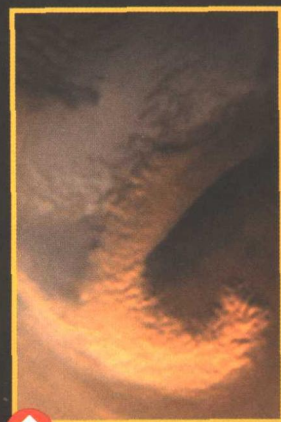
Many planets in our solar system were named after gods in Greek and Roman mythology.

- Mercury was named for the Roman messenger of the gods. Mercury had winged sandals so he could move quickly. The planet Mercury also moves quickly!
- The shining, beautiful planet Venus was named for the Roman goddess of love and beauty.
- Earth is the only planet whose English name does not come from mythology.
- The red, angry-looking planet Mars was named for the Roman god of war.

Mars

The fourth planet from the Sun is Mars. Mars is called “the red planet” because of its red cliffs and orange sky. Temperatures on Mars can reach 70 degrees Fahrenheit (21 degrees Celsius) during the day. But they drop to -207 degrees Fahrenheit (-133 degrees Celsius) at night.

There are huge windstorms and fierce tornadoes known as “dust devils” on Mars. A dust devil can make a column of dust that is five miles high.



This photo shows a dust storm on Mars.

devil ['devl, 'dɛv]

n. 恶魔, 魔王

fierce [fɪəs, fɪrs]

a. 凶猛的, 强烈的

tornado [tɔ:'neɪdəʊ, tɔr'nedo]

n. 龙卷风

windstorm ['wɪndstɔ:m, 'wɪndstɔrm] n. 风暴

THE FIVE OUTER PLANETS: JUPITER, SATURN, URANUS, NEPTUNE, AND PLUTO

WHAT ARE THE PLANETS MADE OF?

- The inner four planets—Mercury, Venus, Earth, and Mars—are made of rock. They are called the “terrestrial [Earthlike] planets.”
- Four of the outer planets—Jupiter, Saturn, Uranus, and Neptune—are made of gas. They are known as the “gas giants.”
- The fifth outer planet, Pluto, is made of ice.

Once you get out to the five outer planets, you are more than 400 million miles away from the Sun. There's not much heat or light that far out in the solar system. But the Sun's gravity is still powerful enough to keep the five planets in their orbits.



This is Jupiter and four of its moons.

terrestrial [tə'restriəl, tə'restriəl] a. 地球(上)的