

S-2 Orrery



In addition to the Earth, there are 7 other planets in the Solar System revolving around the Sun. Each of these planets takes a different amount of time to travel around the Sun. Mercury, the planet that is the closest to the Sun, completes one cycle in approximately 88 days, while it takes the Earth about 365 days and Saturn about 29.5 years to make a complete trip around the Sun. This exhibit reproduces 365 days in 1 minute, and you can see the speed at which each of the planets moves around the Sun.

S-9 Eclipse



During a solar eclipse, the moon comes between the Sun and the Earth, and it covers up all or part of the Sun. A lunar eclipse occurs when the moon moves into the shadow (complete shadow) of the Earth, and all or part of the surface of the moon becomes dark. Try moving the moon around to see what happens during a solar or lunar eclipse. If you look closely at the shadows, you can see a complete shadow where there is no light at all, and a half shadow where there is only partial light.

S-3 Solar Telescope



In addition to visible light, many other types of energy are released from the Sun. It is very dangerous to look directly at the Sun, but if you look through a camera with a filter that only lets in light with specific frequencies, you will see different phenomena occurring on the Sun's surface that you otherwise would not be able to see with visible light. The Sendai Astronomical Observatory observes the Sun all the time.

S-10 Planets of the Solar System



The models of the planets that are hanging from the ceiling were made by scaling down the planets to 1/50,000,000 of their actual size. Even though they are in the same solar system, the smallest planet, Mercury, has a diameter of only about 4,880 km, and the largest planet, Jupiter, has a diameter of about 143,000 km. Larger planets such as Jupiter and Saturn are made up of gases, whereas smaller planets such as Mercury, Venus, Earth, and Mars are made up of solid matter.

S-4 Inside the Sun



The Sun is an enormous ball of very hot gases. Its diameter is 109 times that of Earth. Energy is created in the center of the Sun by nuclear power (fusion), and it travels toward the outside of the Sun as energy in the form of radiation (light). This model shows a cross section of the Sun. By rotating the disk in front of the model in the direction of the arrow, you can see how the energy travels.

S-27 Meteorite



Meteorites are parts of asteroids and comets in the Solar System that have fallen to Earth. There are even a small number of meteorites that have come from Mars. Several hundred tons of matter falls from outer space to Earth every day. However, since much of it is very small, it is not thought of as meteorites. Meteorites serve as important clues for learning about outer space.

THE SOLAR SYSTEM

Exhibit Guide

仙台市天文台
SENDAI ASTRONOMICAL OBSERVATORY



S-2 Orrery



Look at how the planets move around the Sun.

S-3 Solar Telescope

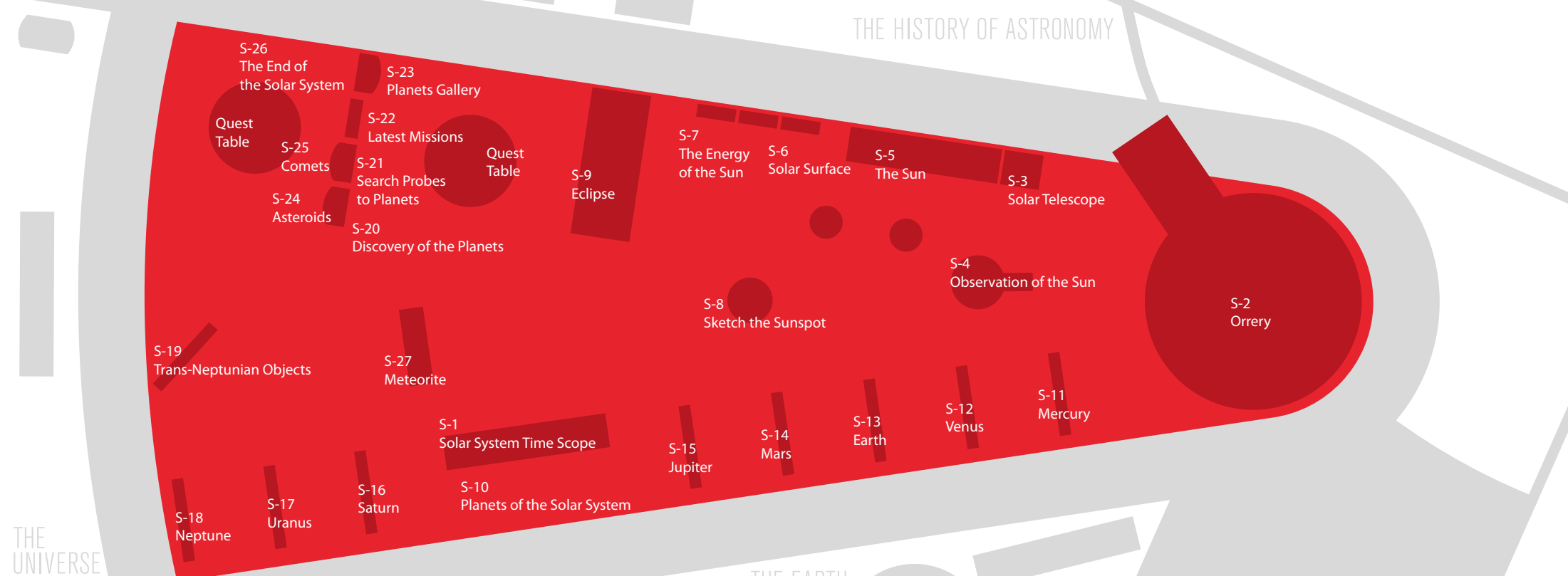


Discover what the surface of the Sun looks like right now.

S-4 Inside the Sun



What does the inside of the Sun, which is the source of all energy, look like?



THE HISTORY OF ASTRONOMY

THE UNIVERSE

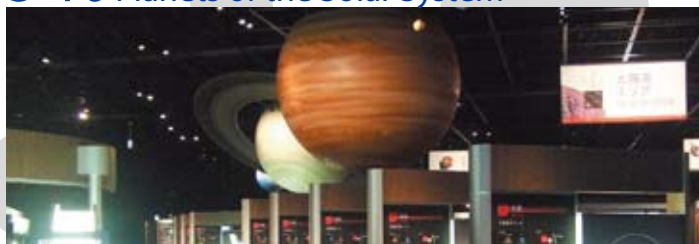
THE EARTH

S-9 Eclipse



What causes solar and lunar eclipses?

S-10 Planets of the Solar System



Even though they are in the same Solar System, planets are very different from each other.

S-27 Meteorite



Decipher the messages sent to Earth from outer space.