



Heavenly Bodies

- Know about the stars
- Understand what the solar system is
- Learn about the moon and its phases

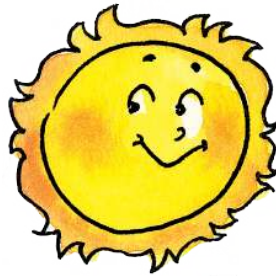


WARM-UP

1. Match the following:



You see me in the sky during the day time. I give you heat and light.



I am made up of land, water and air. I go around the sun.



I am smaller than the sun and the earth. I go around the earth.

STARS

On a clear night, we can see many stars in the sky. Stars are big balls of fire. They are very, very far from us. The sun is the closest star to earth. That is why it appears so big.

Stars have light of their own. Some of these stars form different patterns or designs in the sky. These groups of stars are called **constellations**.

Constellations have been named after animals or mythical people. Ursa Major (the Great Bear) and Orion (Hunter) are two famous constellations in the sky. They can be seen easily on a clear night.



Ursa Major



Orion

▲ *some constellations*



Info Bits

- A **heavenly body** is a natural object visible in the sky.
- A **satellite** is an object that moves around a planet.
- Pluto is no longer considered to be a planet.

Go to the school library and find out the names of two more constellations.

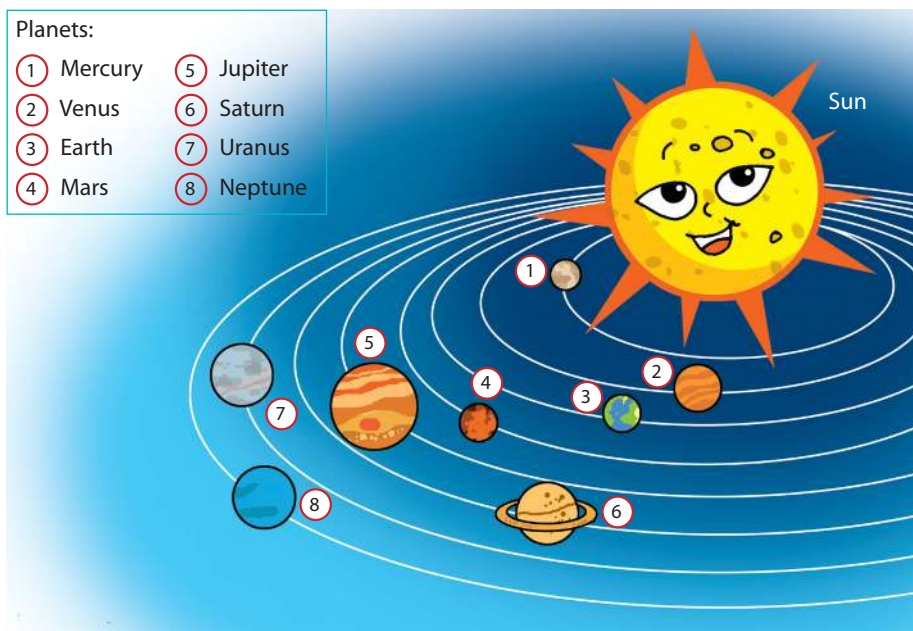
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PLANETS

Our earth goes around the sun. There are other bodies, known as **planets** that go around the sun. There are eight such planets including the earth. The sun, the eight planets and their satellites along with some other heavenly objects and material form the **solar system**.

The **eight** planets in our solar system are **Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus** and **Neptune**. The sun is at the centre and all the planets move around it in their own paths, called **orbits**.

Planets do not have any light of their own. They get light from the sun. The sun is a star and it is very hot. The sunlight that falls on the planets is thrown back. This makes the planets glow. The planet nearest to the sun is the hottest.

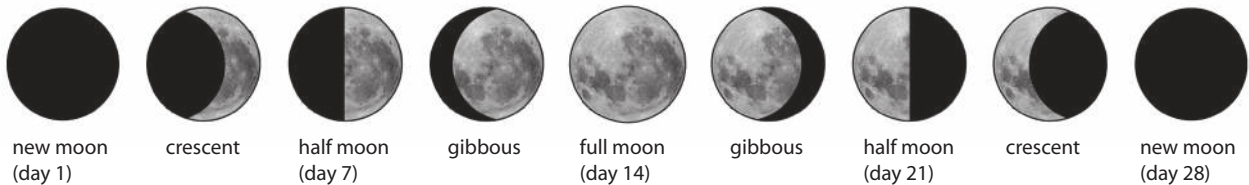


▲ *solar system*

THE MOON

The moon is called the earth's satellite as it revolves around the earth. It has no light of its own. It gets light from the sun. This light is thrown back to the earth as moonlight.

The moon takes about 28 days to go around the earth. It appears to change shape during that time. The different shapes of the moon are called **phases of the moon**.



▲ *phases of the moon*

When the moon is between the sun and the earth, the side that faces the earth does not get any sunlight. So it is completely dark. This is the **new moon**.

After 3 or 25 days, we can see a small part of the moon. This is the **crescent moon**.

After 7 or 21 days, we can see half the moon. This stage is called the **half moon**.

After 10 or 17 days, we can see the **gibbous**.

After 14 days, the moon reaches the opposite side of the earth. What we then see is the **full moon**.

There are about 30 days between one full moon and the next full moon.

We use the **telescope** to look at far-away objects like the moon, stars and other planets. See, Riya is using her telescope to look at the heavenly bodies.

People who study heavenly bodies like stars and planets are called **astronomers**.

Planetariums are places built to tell people about astronomy and the night sky. In India, there are four planetariums; one in each big metro—Delhi, Mumbai, Kolkata and Bengaluru.



▲ *Riya using her telescope*

constellations: groups of stars that form some pattern or design

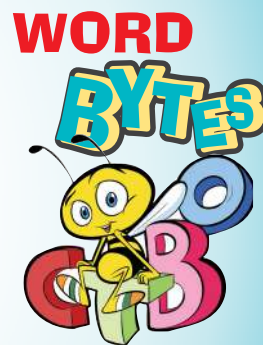
planets: round objects that move around the sun in their own orbits

solar system: the sun, the eight planets and their satellites along with some other heavenly objects and material

orbits: the fixed paths followed by the planets to move around the sun

telescope: instrument used to see heavenly bodies

astronomers: people who study heavenly bodies



- On a clear sky, we see many stars in the sky.
- There are eight planets in our solar system. All of them go around the sun.
- The eight planets are—Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.
- Moon is the earth's satellite and has no light of its own.
- The different shapes of the moon that we see in the sky are called phases of the moon.



REVIEW ZONE

A Tick (✓) the correct answer.

1. Which of the following is referred to as a collection of stars?
a. pattern b. shape c. constellation d. none of these
2. Which of the following twinkle at night?
a. stars b. sun c. sky d. planets
3. About how many days does the moon take to go around the earth once?
a. 30 b. 26 c. 29 d. 28
4. Which of the following is not considered to be a planet?
a. Earth b. Pluto c. Saturn d. Mercury



B Choose the suitable word from the following and fill in the blanks.

sun telescope Neptune planets microscope

1. The planet is farthest from the sun.
2. The is at the centre of our solar system.
3. The do not have light of their own.
4. The is the instrument which is used to look at far-away objects.

C State whether the following statements are TRUE or FALSE.

1. There are nine planets in the solar system.
2. Constellations are a group of stars.
3. The new moon is seen when the moon is between the sun and the earth.....
4. Astronomers study about heavenly bodies

D Match the following:



a. day 1



b. day 14



c. day 17



d. day 3

E Answer the following questions.

1. What makes up the solar system?
2. What is a constellation?
3. Why does the moon appear to change its shape?
4. What are planetariums?



HOTS CORNER

1. Why do we see some spots on the surface of the moon?
(Clue: There are mountains and huge holes on the surface of the moon.)
2. Which is the hottest planet in the solar system? Why?



ENHANCE YOUR LIFE SKILLS

1. Follow the moon!

Every night before going to bed, observe the different phases of the moon. Draw them in your science notebook. Record the observations for a week. Show them to your science teacher.



2. Why is Pluto no longer considered to be a planet?



ONLY A CLICK AWAY

1. An astronaut is a person who goes into space. The first person to go on the moon was Neil Armstrong. To read more about him, you can surf the link:

<http://kids.yahoo.com/science/space/article/neilarmstrong>

Find out and collect information about astronauts in a scrap book. Show it to other students in your class.



ACTIVITY BAG

1. Star-string

Draw and cut out stars of different colours. Fold over one tip of all the stars. Take a long string. Glue the stars along the length of the string. Use the ends of the string for hanging the decoration.



2. Create your own planetarium. Take a black umbrella. Collect pictures of different constellations, stars and planets. Paste them on the inner surface of the umbrella. You can take help of your elders.



Teacher's Notes

- Teacher can explain to the students that the sun is also a star. It appears brighter and larger because it is so close to us.
- Teacher can explain the concept of waxing and waning of the moon to the students.