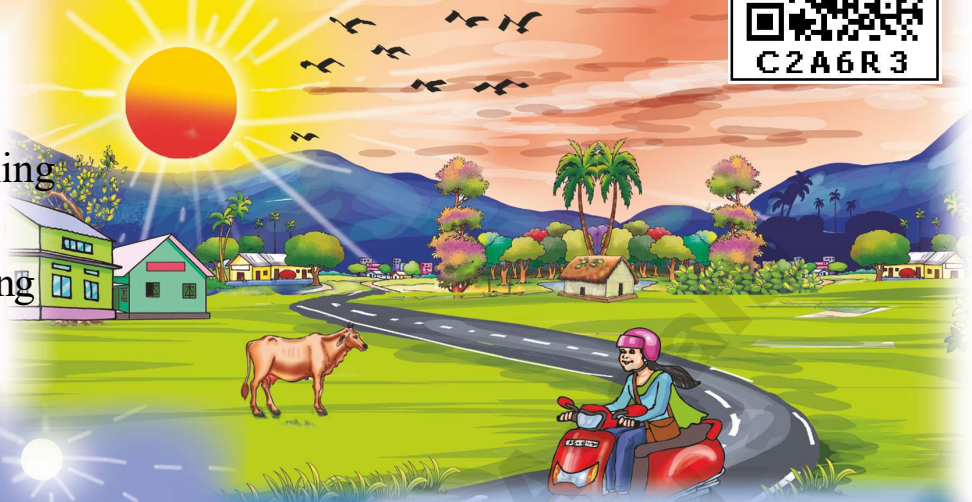


Chapter- 7 About the Sky



Let's sing along—

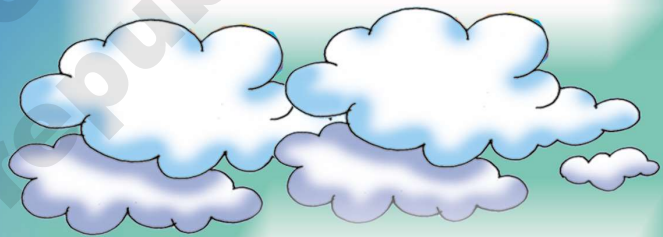
I looked at the sky
In the early morning
Just like a red ball
The sun was shining



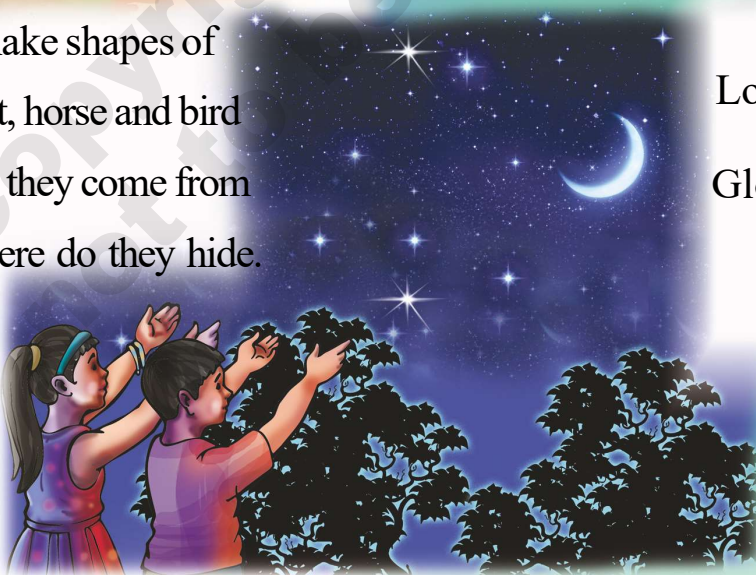
The bright sun was moving up
Slowly in the sky
Burning brighter
Shining brighter
Feeling hot don't know why.



Clouds make shapes of
elephant, horse and bird
Where do they come from
And where do they hide.



Looking at the stars
In the sky at night
Glowing with the moon,
Twinkling their light.



- After reading the poem, discuss what do you see in the sky.

The earth where we live in is very beautiful. Different kinds of animals, birds and insects, trees and plants also live on this earth. The sky also look very beautiful with the moon, the sun, the stars. During the day, clouds in the sky move slowly just like fluffy cotton balls. Sometimes these clouds become grey in colour like the smoke and cover the sun overcasting the sky with darkness.

Rainbow in the sky-

Sometimes, just after the rainfall in the morning or afternoon, we can see a colourful curve called rainbow. After rainfall when sunlight falls on the tiny droplets of water in the clouds, a seven coloured curved rainbow is visible



Seven colours of a rainbow are: Violet, Indigo, Blue, Green, Yellow, Orange and Red



Look at the two pictures given above. What do you see? It is day when the sun rises and night when it sets. We do not see the sun during night in the sky. The sun looks like a big red ball in the morning and evening. Do not look directly at the sun during noon. Because at this time, the bright sunlight is painful to the eyes. This extreme sunlight is harmful for the eyes. It gives both heat and light. Celestial bodies that give heat and light are called stars. The sun is a star. On a cloudy weather, sometimes when the clouds cover the sun, we do not see it. At noon, the sun rays fall directly on the earth's surface, that is why we feel hot. You must have noticed that the sun rises from one direction and sets in the opposite direction.

The sun rises in the east and sets in the west.

Let's try to find out- There is an easy way to determine the directions.

Stand facing towards the sun in the morning and stretch out your arms on both sides.

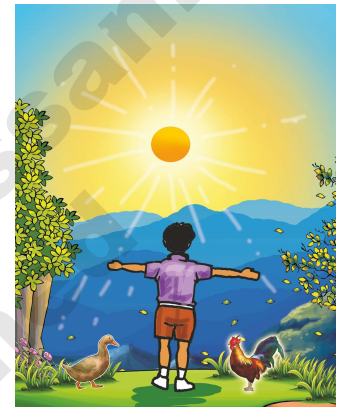
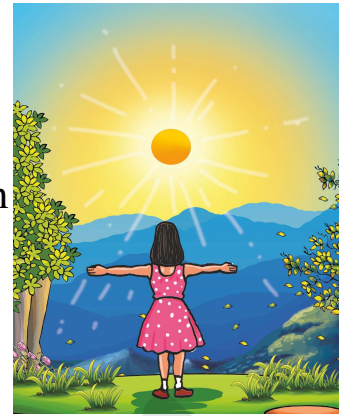
- ✿ The east is in your front side and the west is in your backside.
- ✿ Your left-hand side is the north direction and your right-hand side the south direction

Look at the given picture and write –

- What is to the east of the boy?
- On which direction of the boy is the duck?
- On which direction of the boy is the cock?

There are four principal cardinal directions

North, South, East, West



- What do you see in the night sky?

We can see infinite stars in the night sky. But we do not see the stars during the daytime. Why?

When you look up at the sky at night, you will see some objects twinkling and some others have steady lights. Like the sun, stars emit their own light. But the objects which are steady do not have their own light. They glow only when sunlight falls on them. These objects are called planets. Planets do not have their own heat and light. Sunlight makes them bright. Our earth is also a planet. The earth gets its light from the sun. Every organism of the earth gets energy from the sun.

All the planets in the sky including our earth move around the sun in a certain circular path. This path is called the **orbit**. The time taken by the earth to move around the sun on its own orbit is 365 days and 6 hours. We call it a year.

There are 8 planets moving around the sun, including the earth.

Think and answer

➤ What will happen if the earth does not move around the sun?



With the sun at the center, the family that has been formed with the earth and all other planets and satellites is called the family of the sun. Till now, the family of the sun is known to have 8 planets, their satellites and asteroids. This family is called the solar system. The planets of the solar system in the order of their distance from the sun are— Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune

The moon brightens the sky at night. It moves around the earth. The shape of the moon does not appear always the same. Sometimes it is spherical like a plate and sometimes it is crescent-shaped, just like a sickle used for farming. Although, the spherical shaped moon seems to be of the size of the sun, but in reality, the sun is many times bigger than the moon. However, the sun is very far from us and the moon is nearer to us. Since the moon is nearer, it appears to be of the same size as the sun. The moon is the natural satellite of the earth. The sun has its own light, but the moon does not have its own light.

The moon is the earth's satellite. The moon moves around the earth. The sunlight is reflected on the moon's surface. Hence, the moon appears bright. It does not have its own heat and light.

Grandmother is talking to her grandchildren on a full moon night—



Grandson: The moon looks so big in the sky tonight. It's bright too. It seems like it has the same size as the sun, isn't it *grandma*?

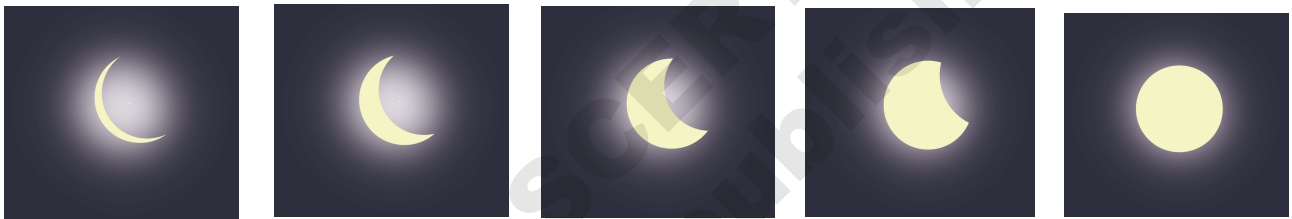
Granddaughter : But why don't we see it in the same size ?

Grandmother : Yes, you are absolutely right. The moon looks very big tonight. Because it is full moon tonight. The moonlight is very bright on a full moon night. Though you may see the moon to be as big as the sun but actually it is not so big compared to the sun.

➤ What have you understood from the conversation above?

On a moonlit night, when the moon is completely spherical and bright, it is called a **full moon** night. If you look at the night sky, you will find that the size of the moon decreases slowly each day after a full moon. Its brightness also decreases gradually. On the eighth night it looks like a half moon. In this way, till the fourteenth night of the full moon, its shape gets smaller in size every night and its brightness also becomes dim gradually. Then on the fifteenth night, the moon becomes completely invisible and there is deep darkness. That night is called a **new moon** night.

After the new moon, the moon is slightly visible in a crescent shape. From two nights after the new moon, the visible portion and the brightness of the moon increases gradually every day till the fourteenth night. In this way, the size of the moon increases till the fifteenth night when it becomes completely spherical again, which is the full moon. If you observe the moon carefully every night after the new moon, then you will see the size of the moon in the following order.



The moon does not appear the same every night. In reality, the shape of the moon does not change. This is because, the earth moves around the sun from west to east direction. The moon also moves around the earth. While circling around the earth, we can see only the portion of the moon where the sunlight falls. Since the moon circles around the earth, we see the changing shapes of the moon.



On July 20, 1969, three scientists named Neil Armstrong, Edwin Aldrin and Michael Collins landed on the moon for the first time.

Let's do it—

- Observe the moon every night in the sky from the full moon night for fifteen days. After every three nights, draw the shape of the moon that you see in your copy.

On 3rd night	On 6th night	On 9th night	On 12th night	On 15th night

- Put tick '✓' mark on the dates of the calendar from the night when the moon becomes invisible till the night it is visible again and write down after how many days have you seen the moon again.
- Let's prepare a sample of the night sky (Your teacher will help you)—
 - In a carbon paper, draw the pictures of the stars and the moon and then cut out the pictured portion as shown in the illustration below.
 - Paste the carbon paper on a white paper. Consider this paper to be the night sky.
 - Now, take a hard board paper box and paste the paper on the open side of the box.
 - Make a hole on the lower surface of the box so that a candle can be inserted.
 - Switch on the torch light and insert it through the bottom side and look at the night sky on the paper.



In the Planetarium, the sun, the moon and the stars are shown beautifully. Many people visit the planetarium at Guwahati to see the objects in the sky. There are Planetariums in Jorhat and Kokrajhar

Exercise

1. Answer the following—

- (a) How many principal cardinal directions are there and what are they?
- (b) What do you see in the sky?
- (c) Does the moon have its own light?
- (d) Name the colours of a rainbow?

2. Choose the correct answer and put a '✓' tick mark-

- (a) The moon is/ the sun is/ the stars are nearest to the earth.
- (b) It takes 10/ 15 days to change from the full moon to the new moon.
- (c) The sun should be/ should not be seen with naked eyes.
- (d) There are five/ seven colours in a rainbow.

3. Fill in the blanks—

- (a) The sun has its own heat and _____.
- (b) _____ is many times bigger than the moon.
- (c) The stars are seen smaller because they are very _____.
- (d) The moon does not have its own _____.

4. Why should we not look directly into the sun at noon?

