

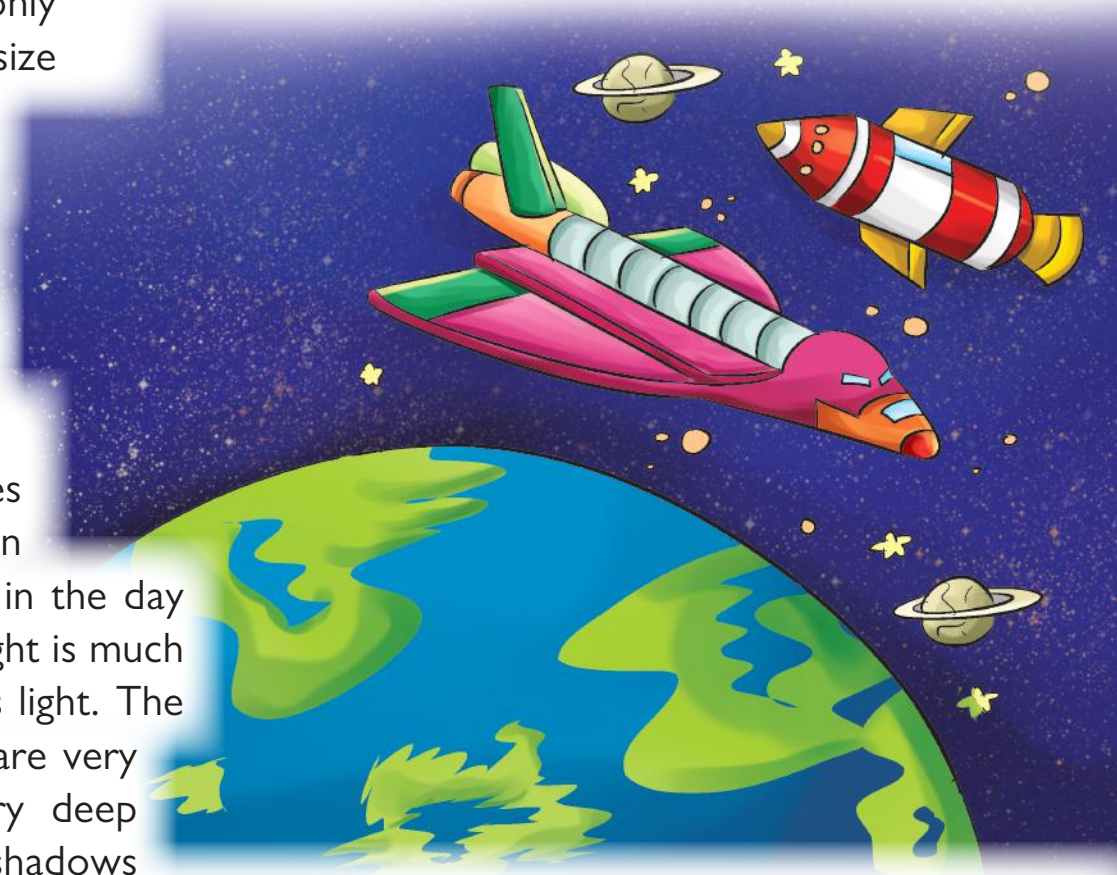
First Step on the Moon


Have you seen the Full Moon at night ? Unlike Sun, you can look at it for long. Your eyes will not tire. And moonlight is so cold ! But such a beautiful Moon doesn't have air or water and it has only rocks on it and it does not have its own light—could you believe ?

But the courageous **astronauts** have gone on a journey to the Moon. Neil Armstrong was the first man who stepped on the Moon at 10:56 p.m. on 20 July 1969 American time (21 July Indian Time).

The Moon is our nearest neighbour in space. It appears bigger than the planets and stars. This is because it is much closer to us than the **planets** and stars. It is not a planet. It is the only natural **satellite** of the planet Earth. It goes round the Earth. The Moon is only about a quarter of the size of the Earth. It is about as big as Africa and Europe put together. In weight the Earth is 81 times heavier than the Moon.

The Moon has no light of its own. It shines when the light of the Sun falls on it. It is not seen in the day time because the Sun's light is much brighter than the Moon's light. The Moon is not flat. There are very high mountains and very deep craters on it. Their dark shadows give us a look of a rabbit or an old woman at the spinning wheel. A day or night on the Moon equals to two weeks on Earth.





We live on the planet Earth and breathe in the air all around it. But the air is not dense enough on the high mountains to enable us breathe properly. So the mountaineers carry air cylinders with them for breathing. After about one thousand kilometres, there is not the least air. There is only empty space. Any men or animal will die at once in empty space. So the persons who go into space wear a special space-suit having air in it and carry air cylinders. Here 'suit' does not mean cloth-suit. Space-suit is a special cover for the whole body.

The Earth pulls everything towards itself. Whatever you throw upwards, it falls back on Earth. It requires a speed of eleven kilometres per second to cross the pull of the earth. The only engine that can give such a high speed is a rocket. The fuel burns in it to throw out hot gases and these gases push it forward.

You can see the working of a rocket. Take a balloon and blow it up. Then let it go. The air will rush out and the balloon will fly in the opposite direction.

The *exploration* of space began in 1957 when Russians sent a *spacecraft* called Sputnik-I into space. It went round the Earth for 95 days. Then dogs, monkeys, men and women were sent into space. In 1965, Alexei Leonov left his spaceship and swam in space for twenty minutes.

America's first space mission was called Apollo. It was the spacecraft Apollo-I I that took men to the Moon. The rocket and spacecraft together were as high as a building of 36 floors. The spacecraft was built in three parts, the largest part, Command Module was the most important. At the bottom of it were all the engines. In the middle was the room for the spacemen with special glass windows to watch the Earth, Moon and stars. They kept their food and all other things in it. In the front was a door leading to the Lunar Module. The Lunar Module would take the astronauts from the Command Module to the Moon and bring them back. The third part was called Service module.

The three astronauts to go on this spacecraft were Neil Armstrong, Edwin Aldrin and Michael Collins. On 16 July 1969, Apollo-II was *launched* from the Cape Kennedy Space Centre in Houston, America. The spacecraft soon reached to a speed more than 11 kilometres per second. In two and a half hours, Apollo-II crossed the attraction limit of the Earth and directed towards the Moon. The mission control in Houston was receiving and sending messages from and to the spacecraft.

The astronauts had tubes fitted on their noses to breathe air in and out. The breathed out air was purified in a box and received back to breathe. They could get their food and water directly into their mouths through tubes. In the space they felt the position of *weightlessness*. There was no force of Earth to pull and hold them down on the floor of the cabin. They were swimming in the cabin.

The Moon started pulling the spacecraft as soon as it reached within the Moon's attraction limit. Then it went into orbit round the Moon. First the spacecraft went round the Moon ten times. Each *orbit* took two hours. Then Armstrong and Eldrin crawled into the Lunar Module which they called Eagle. There they looked carefully at all the machines and then Eagle left the Command Module which continued to orbit the Moon.

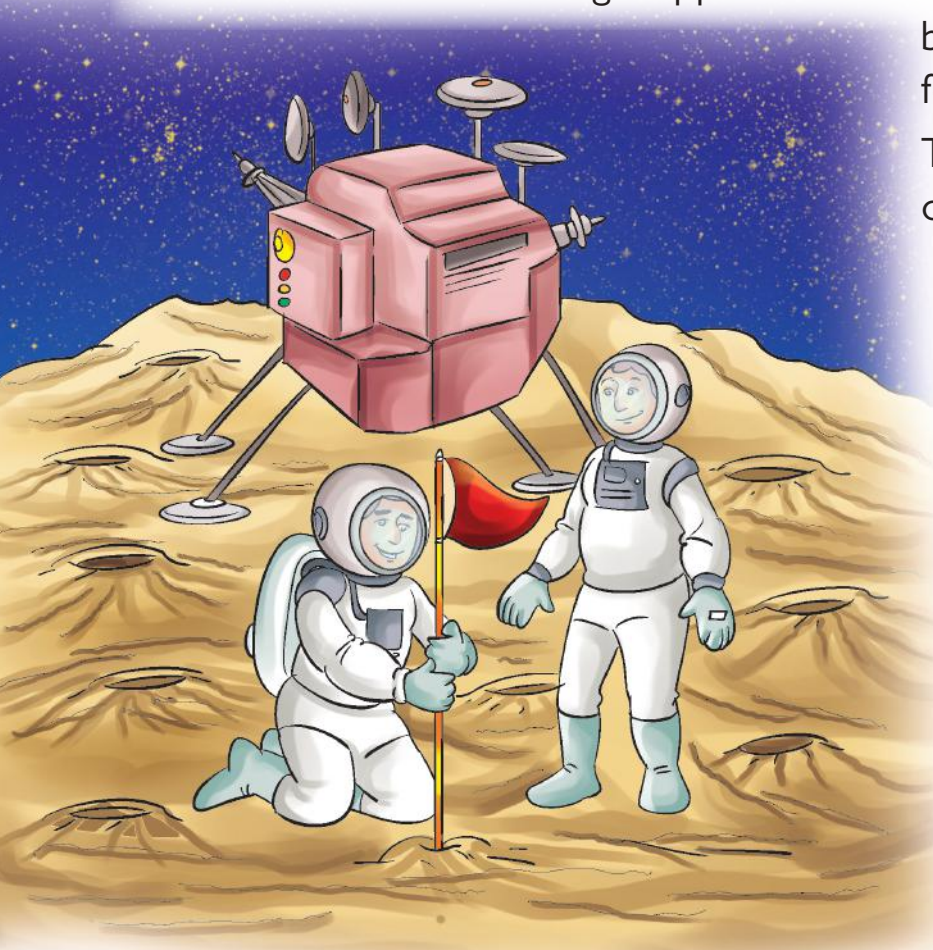
The Eagle went direct towards the Moon. Armstrong noticed a good spot. He let down the legs of the Module. It landed gently on the Moon's face. It had been about 103 hours since leaving the earth.

The astronauts checked all the machines on the Eagle. They made it ready to return. Then they opened the door and put down a ladder on to the dry dust of Moon. Neil Armstrong stepped on the Moon first. It was a small step for man

but a giant leap for mankind. Eldrin followed Armstrong.

The attraction of Moon is one-sixth of the Earth. A man weighing 60 kilograms on Earth would be only 10 kilograms on the Moon. They practised walking slowly for some time to save them from falling. A slow walk was almost equal to running on the Moon.

They picked up rocks and dust. They took photographs. They found the Moon of the Coca-Cola colour. They looked at the Earth from the Moon. It looked like a shining blue ball. Since then our Earth got a new name 'blue



planet.' They could see the stars very clearly from the Moon. After three and a half hours they started for the Command Module. Then they set Apollo-II towards the Earth.

They came down in the blue Pacific Ocean on 24th July 1969. There was a grand welcome.

Five more Apollo spacecrafts reached the Moon later. It was the beginning of a new *era*, an era of exploring the *universe*. Now the scientists plan to explore Venus and Mars, the nearest planets of our Solar System. May be, one of you get the pleasure of space travel.

Word Treasure

astronaut : one who travels in a spacecraft

planet : a large round object in space

exploration : travel in order to search

weightlessness : object with out weight

universe : all existing matter

satellite : an object that orbits a planet

spacecraft : vehicle for space

orbit : path of an object



EXERCISE TIME

Comprehension Skills

A. Tick (✓) the correct option :

1. How much speed it requires off to cross the pull of the Earth ?

a. 11 km/s

b. 10 km/s

c. 9 km/s

2. The astronauts at the Moon's surface found it of _____ colour.

a. white

b. blue

c. coca cola

3. What did the Earth look like from the Moon ?

a. blue shining ball

b. green shining ball

c. white shining ball

4. If your weight is 30 kilograms on Earth, it would be _____ on the Moon.

a. 30 kg

b. 10 kg

c. 5 kg

5. The first man who stepped on the Moon's surface was :

a. Edwin Aldrin

b. Neil Armstrong

c. Rakesh Sharma

B. Fill in the blanks with the correct option :

weightless, Neil Armstrong, spacecraft, astronauts, planet

1. The courageous _____ have gone on a journey to the Moon.
2. We live on the _____ earth and breathe in the air all around it.
3. The exploration of space began in 1957 when Russians sent a _____.
4. In the space we can feel the position of _____.
5. _____ stepped on the moon first.

C. Write 'T' for true and 'F' for false statements :

1. We live on the planet earth and without breathe in the air all around it.
2. In the space we can feel the position to full of weight.
3. On 14 July 1970, Apollo-II was launched.
4. A man weighing 20 kilograms on earth would be only 50 kilograms on the moon.



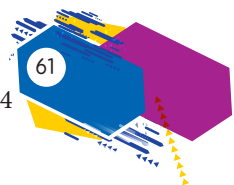
D. Answer the following questions :

1. How does the beauty of the Moon attract every one ?
2. Why there is no life on Moon ?
3. Compare the size and weight of the Moon with the Earth.
4. If your weight is 30 kilogram on Earth, what would be it on the Moon ?
5. How much time did it take to reach the Moon from the Earth ?
6. Who was the first man to step on the Moon ?
7. What is the colour of the Moon seen from its surface ?
8. What did the Earth look like seen from the Moon ?
9. How does one feel the weightless condition ?

Fun with Words

E. Match the opposite words :

- | | |
|------------|-------------|
| 1. full | a. darkness |
| 2. light | b. push |
| 3. deep | c. ordinary |
| 4. pull | d. part |
| 5. special | e. end |
| 6. begin | f. shallow |



Essential Grammar

We use **will** to say what we know or think about the future. We use **shall** only after **I** or **We**. But **shall** is a little formal and not so common.

You'll (you will), she'll, he'll, they'll, we'll.

Will not is spoken and written as **won't**.

Will is spoken and written as 'll :

Ex. : I'll be at home by six.

You'll **be** late if you don't hurry.

Will you **be** at home this evening ?

Tom **won't** (will not) **do** any work.

F. Put in 'will' or 'won't' :

1. Next week she _____ be in London.
2. Tom is ill. He _____ come to office tomorrow.
3. Take an umbrella. It _____ rain.
4. I'm going out for two days, so I _____ be at home tomorrow.
5. The film is boring. I think you _____ enjoy it.
6. Our team is good. I think we _____ win.

Essential Writing

G. Use the information given below and write how Rita and her friends went for a picnic :



Rita collected the money _____ Annie bought biscuits and sweets and chips _____ John arranged for cooking pots _____ Tom and Sam bought flour, sugar, ghee, vegetables and salt and spices _____ Julia and Mona packed the crockery _____ Peter informed all to get ready in time _____ they assembled in the hall _____ went by bus _____ they swam in the sea _____ enjoyed boating _____ made sand castles _____ ate ice-creams _____ cooked and ate pakodis _____ drank coconut water _____ returned at sun set.

Essential Speaking

H. Talk about a planetarium :

Monica : Have you seen a planetarium ?

Tina : Yes, I have seen one.

Monica : Which planetarium did you see ?

Tina : I saw the Nehru Planetarium, New Delhi.

Monica : What does it look like ?

Tina : It looks like a big dome from outside.

Monica : What is there inside ?

Tina : It is a show. They make it complete dark. People are asked to look above.

Monica : Then..... Then....

Tina : They show the planets moving in the solar system and tell about them.

Monica : Do they show journey to the Moon ?

Tina : They don't. But they show how the Moon revolves around the Earth and Earth around the Sun.

Monica : And lunar eclipse and solar eclipse ?

Tina : Yes.

Monica : Did you also see the stars ?

Tina : Yes, of course. They tell many mysterious things about them.