

Environmental Studies

(Chapter – 11) (Sunita in Space) (Class – 5)

Straight from the heart:

Question 1:

What do you think the earth looks like? Make a drawing of the earth in your notebook. On your drawing show where you are. Take a look at your friends' drawings too.

Answer 1:

I think the earth is round.



What do you think?:

Question 2:

If the earth is round like a globe, how is it that we do not fall off?

Answer 2:

It is due to the earth's gravitational force. Earth attracts everything towards its Centre. That is why we do not fall off.

Question 3:

Do the people in Argentina stand upside down?

Answer 3:

No, they are not. They are also standing upright. There is actually no 'up' and 'down' on the earth. It is relative.

Look at the photographs and write:

Question 4:

Can you think why Sunita's hair was standing?

Answer 4:

We know that on earth, our hair remain in downwards position due to earth's gravitational force. But in space, there is no such gravitational force. That is why Sunita's hair were standing.

Question 5:

Look at Sunita's photographs and the dates written on each of them. Write what all is happening and when?



Answer 5:

09-12-2006: The spacecraft is taking off.

11-12-2006: Astronauts are floating inside the spacecraft.

11-12-2006: Astronauts are taking off.

13-12-2006: Sunita is working.

16-12-2006: Sunita is roaming outside the spacecraft.

Question 6:

- Close your eyes. Imagine that your class is a spaceship. Zooo...m – in 10 minutes you have entered in space. Your spaceship is now going around the earth. Now say:
 - Are you able to sit at one place?
 - What about your hair?
 - Oh, look ... where are your bags and books going?
 - And what is your teacher doing? Where is her chalk?
 - How did you eat your food during the break? How did you drink water? What happened to the ball that you threw up?
- Act out or draw the scene

Answer 6:

Students are suggested to close their eyes and think about points. To draw include all the points to draw.

Isn't it amazing?

Question 7:

Can you now say why Sunita's hair kept standing?

Answer 7:

Sunita's hair kept standing because there is no gravitational pull in the space.

Question 6:

Why water flows downwards on any slope. On mountains too water flows downwards, not upwards.

Answer 6:

water flows downwards on any slope or on mountains due to the gravitational force acting upon it.

Magic 1 – A tiny paper races a coin:

Question 7:

Take a 5 rupee coin and a small piece of paper. The paper should be about one-fourth the size of the coin.

1. Hold the coin in one hand and the paper in the other. Drop them at the same time. What happened?
2. Now place the tiny paper on the coin and drop them. What happened this time? Surprised!

Answer 7:

1. Both fall down but the coin has fallen quickly.
2. Now, both fall down together, at the same time.

Magic 2 – A mouse lifts an elephant!

Question 8:

To play this you will need a small stone, a bigger stone (lemon-sized), a thick roll of paper (which can be made with layers of papers), mouse and an elephant made of paper.

- Take a string about 2 feet long.
- At one end of the string tie the small stone. Stick or tie the mouse to the stone.
- Put the string into the roll of paper.
- At the other end of the string tie the bigger stone and stick the elephant.
- Hold the roll of paper and move your hand to rotate the small stone.

Who is pulling whom? You will be surprised! The mouse lifts the elephant! How did this magic happen?

Answer 8:

When the small stone (mouse) whirls, it creates a force due to which the bigger stone (elephant) is pulled up.)

Look at this photograph and tell

Question 9:

Can you see India?

Answer 9:

Yes, but not so clearly.

Question 10:

Can you recognise any other place?

Answer 10:

It is very difficult to recognise any other

Question 11:

Where is the sea?

Answer 11:

The blue part of the picture is sea.

Question 12:

Do you find anything similar between the globe and this picture of the earth?
In what ways are they different?

Answer 12:

The similarity is in both the cases the land and the sea areas can be easily distinguished. However, the entire land area is divided into various countries on the globe which is not so in case of this picture of the earth.

Question 13:

Do you think Sunita could make out Pakistan, Nepal and Burma separately, when she saw the earth from space?

Answer 13:

No, I do not think so.

Look at a globe in your school and tell

Question 14:

Can you find India?

Answer 14:

Yes

Question 15:

Where all do you find the sea?

Answer 15:

The blue parts of the globe are seas.

Question 16:

Which countries can you see?

Answer 16:

I can see all countries like India, Pakistan, China, Bangladesh, Sri Lanka, Indonesia, Singapore, USA, Russia, France, Britain, Germany, Mexico etc.

Question 17:

Can you see some of the countries with which India plays cricket matches? For example: England, Australia, Pakistan, Bangladesh and South Africa.

Answer 17:

Yes, I can see all these countries.

Question 18:

What else can you see on the globe?

Answer 18:

Besides sea, and different countries, I can see various mountains, island etc etc, on the globe.

Look at the map of your country and tell**Question 19:**

Can you find the state in which you live? Write its name on the map.

Answer 19:

Yes, I live in Delhi and I can find my state in the map.

Question 20:

Which are the states next to the state you live in?

Answer 20:

Delhi is in between Haryana and Uttar Pradesh.

Question 21:

Have you been to any other state?

Answer 21:

Yes, I have been to many states like Uttar Pradesh, Haryana, Punjab, Himchal Pradesh, etc.

Question 22:

Shahmir thinks that there are lines drawn on the ground between the states. What do you think?

Answer 22:

There is no such line made on the ground, between the states. It's all on the map only.

Look at the Sky

Question 23:

Why don't you try to do the same with a coin? How many centimetres away from the eye did you keep the coin to hide the moon?

Answer 23:

To hide the moon completely, the coin has to be kept at 25 centimeters away from the eye.

Think

Question 24:

Do you think the moon is flat like the coin or round like a ball?

Answer 24:

The moon is round like a ball.

Question 25:

Look at the moon tonight and draw what it looks like. Look and draw again after one week, and then after 15 days.

Today's Date

Date after a week

Date after 15 days

Answer 25:

Today's Date

Date after a week

Date after 15 days



Find out

Question 26:

When is the next full moon? At what time will the moon rise on this day? What does the moon look like on this day? Draw it.

Answer 26:

The next full moon is on 15th of this month. That day the moon will rise a little at around 9.00 pm. The moon will look spherical on this day.

Question 27:

What are the festivals related to the moon?

Answer 27:

There are many festivals related to the moon like Eid, Karwachauth etc.

Question 28:

- At night look at the sky carefully for 5 minutes.
- What could you see?

Answer 28:

I can see the moon, stars etc.

Question 29:

Did you see anything moving in the sky? What do you think it could be? A star or a shooting star or a satellite (satellites are used for the TV, telephones and for weather reports). Find out more about this.

Answer 29:

Yes, I saw something moving in the sky. It may be a meteorite, which is also called a shooting star. These are the bodies moving around in the space which then enter the earth's atmosphere, catch fire. Thus, they look bright which enter the earth's atmosphere. Thus they look bright.

Look at the table and tell:

Question 30:

Given below are the times at which the moon rises and sets in Delhi (on the given days).

Date	Time of moon rise (hours : minutes)	Time of moon set (hours : minutes)
28-10-2007	19:16	08:50
29-10-2007	20:17	10:03
30-10-2007	21:22	11:08
31-10-2007	22:29	12:03

- On 28 October the moon came out at ___ minutes past ___ o'clock.
- On 29 October the moon came out at ___ minutes past ___ o'clock.
- On 29 October there was a difference of ___ hours and ___ minutes in the time of the moon rise (as compared to 28 October).
- If you saw the moon rising at 7 pm today, would you see it at the same time tomorrow?
- On 31 October the time of setting of the moon is given as 12:03. Have you ever seen the moon at 12 in the afternoon? Why don't we easily see the moon or stars during the day?

Answer 30:

- On 28 October the moon came out at 16 minutes past 7 o'clock.
- On 29 October the moon came out at 17 minutes past 8 o'clock.
- On 29 October there was a difference of one hours and one minutes in the time of the moon rise (as compared to 28 October).
- No
- No, I have never seen moon at 12 in afternoon. We don't early see the during the day because of the sunlight.

An interesting photograph:

Question 31:

See how the earth is looking. Can you see the surface of the moon? Do you have some questions after looking at this picture? Write down those questions and discuss them in the class.

Answer 31:

The earth is looking spherical in shape. Yes, I can see the surface of the moon. The following questions arise in my mind after looking at this picture:

- (i) Who look this picture?
- (ii) Is there any life on the moon?
- (iii) Whether we can see different countries on earth from the moon?

What we have learnt:

Question 32:

Why do children always slide down the slide and not slide up? If this slide were there in Sunita's spacecraft, would children slide like this? Why?

Answer 32:

Children always slide down the slide because of the earth's gravitational force. However, if this slide were there in Sunita's spacecraft, children would not slide like this because there is no gravitational force in the space.

Question 33:

Why do we see stars mostly at night?

Answer 33:

Stars are mostly seen at night because there is no sunlight in the night. Thus, the light coming from the stars could reach us and we are able to see them.

Question 34:

Looking at earth from the space, Sunita said, "Different countries cannot be seen as separate from here. These lines are on paper. They are made by us." What do you understand by this?

Answer 34:

Sunita wanted to say that the land on earth is divided in the different countries just on paper. It is actually in our mind. There is no such differentiation in reality. Earth is all intact. So, looking at earth from the space, the earth looks quite different.