

## Lesson 8

# Women in Space



Who are these women? Can you guess what is common among them?  
Rearrange the letters in the box **a t s r n o t u s a** to get the answer.  
Write down the word in the oval below:



Valentina Tereshkova



Sunita Williams



Sally Ride



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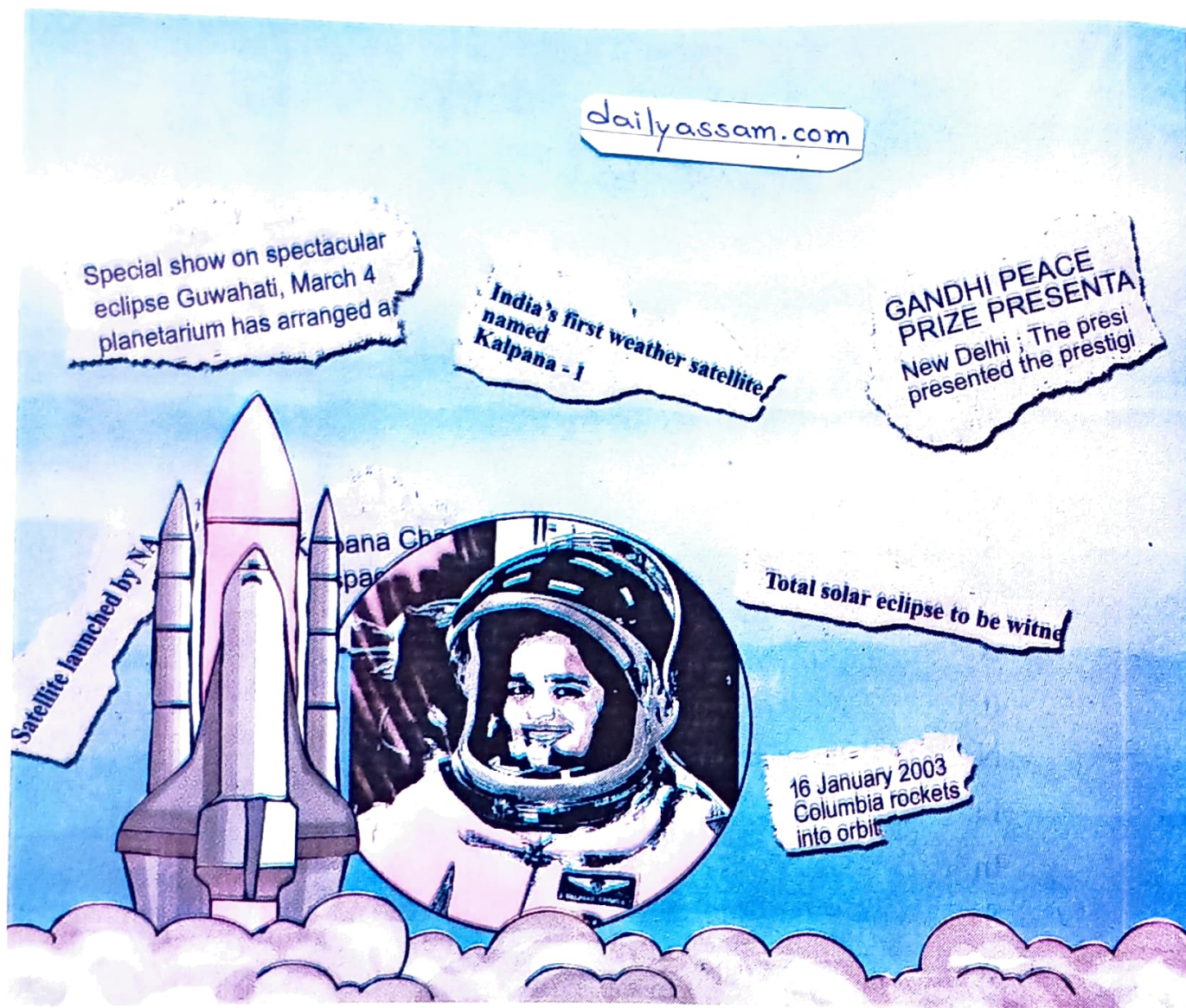
Kalpana Chawla

Did you guess the word? All these women are famous astronauts. Some of them have even studied Science outside the Earth!

In pairs, make a list of the things scientists study outside the Earth.

Then read the lesson to find out more about one such famous astronaut who was from India.





Mayuri and Manas are classmates. On their way to school, they discuss the project to be submitted on Science Day.

Manas : Hello, Mayuri! Have you completed the project on Women in Space?

Mayuri : Yes, it's almost complete. I wrote about Kalpana Chawla, the first Indian woman in space. Have you read anything about her?

Manas : Oh, yes. India's first satellite built to study weather conditions was named Kalpana-1 after her.

Mayuri : Yes, I read about it on the internet.



- Manas : It was an important piece of news at that time. I read about Kalpana Chawla's death in a space shuttle accident. I also read that she was the first Indian woman astronaut, but I don't know anything else about her. Can you tell me something about her? I'm so curious to know.
- Mayuri : Well, as far as I know, Kalpana Chawla was born in 1961 at Karnal in Haryana. She studied at Tagore Bal Niketan at Karnal and later at Punjab Engineering College in Chandigarh.
- Manas : I'm sure she loved flying in space.
- Mayuri : Oh, yes. Flying in space was her dream. She went to the United States of America to train to become an astronaut. Do you know what NASA is?
- Manas : No. What is it?
- Mayuri : It's the National Aeronautical and Space Administration of the U.S.A. NASA sends satellites to space.
- Manas : I see.
- Mayuri : In 1997 Kalpana Chawla joined the Columbia Space Shuttle Flight STS-87. She was the only woman in the team of seven astronauts.
- Manas : What was the purpose of the flight?
- Mayuri : It was to study the outer atmosphere of the sun.
- Manas : Very interesting!
- Mayuri : Yes, it was. They managed to collect a lot of important data. But the space vehicle broke up in flames on its way back to Earth.
- Manas : Where exactly did it happen?
- Mayuri : At a height of 61,000 metres above Texas. All the seven astronauts including Kalpana Chawla were killed.
- Manas : What a great loss! But we are very proud of her. Our country will always remember her.



## ACTIVITIES



**1. Let's see how much we have understood:**

- (a) Who was the first Indian woman astronaut?
- (b) Why was the satellite Kalpana-1 built?
- (c) Where was Kalpana Chawla from?
- (d) What was Kalpana Chawla's dream?
- (e) What does NASA do?
- (f) What was the aim of the Columbia Space Shuttle Flight STS-87?
- (g) How did Kalpana Chawla die?

**2. In the lesson you read about some important dates and numbers. See whether you remember what each number stands for:**

1961 : \_\_\_\_\_

1997 : \_\_\_\_\_

STS-87 : \_\_\_\_\_

61,000 m. : \_\_\_\_\_

**3. Make a poster of Kalpana Chawla for your science exhibition in the box below. Include her childhood information and her work details in your poster.**

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4. (a) Let's learn some grammar.

Read the following sentences about Manas and Mayuri:

- (i) Manas said to Mayuri, "Hello, Mayuri! Have you completed the project on women in space?"
- (ii) Manas greeted Mayuri and asked her whether she had completed the project on women in space.

The words spoken by a person/persons can be reported in two ways: **Direct** and **Indirect**.

When we quote the exact words spoken by a person, we call it **Direct Speech**. Note that the exact words spoken by the speaker Manas are put within inverted commas.

There are some rules for changing **Direct Speech** to **Indirect Speech**.

- In indirect speech no inverted commas are used.
- The part used before the inverted commas (for example: *Manas said to Mayuri*) is called reporting clause. The verb (for example: *said*) in a reporting clause is called a **reporting verb**.
- We can also make the speaker's words a part of our own sentence. When we do so, the words are in *Indirect Speech* or *Reported Speech*. While reporting a speech, we make changes to some of the words in *Direct Speech*. We also often use the conjunction *that* in *Reported Speech*.

Here is a sentence in *Indirect Speech*. Write the sentence in *Direct Speech* in the space below. Remember to use inverted commas:

Mayuri said that she had read about it on the Internet.

.....

(b) In Column A below are two sentences in **Direct Speech**. In Column B there are the matching sentences in **Indirect Speech**. Are the sentences in Column B correct? If not, rewrite them correctly in Column C:

Column A	Column B	Column C
Mayuri said to Manas, "Do you know what NASA is?"	Mayuri said to Manas that does he know what NASA is?	
Manas said, "Our country will always remember her."	Manas said that "our country would always remember her."	



5. Let's revise:

Forms	Examples with use
1. base form	look- Look at the moon.
2. s form	looks- He looks at the moon.
3. past form	looked- He looked at the moon.
4. ing form	looking- He is looking at the moon.

Now fill in the blanks with suitable forms of verbs:

- (i) Mayuri \_\_\_\_\_ Manas on her way to school. (s form of meet)
- (ii) I'm sure she \_\_\_\_\_ flying in space. (past form of love)
- (iii) It has \_\_\_\_\_ to the sky. (past participle of fly)

6. Here are some interesting facts about famous astronauts who were women.



Sally Ride was the first American woman to go into space.



Valentina Tereshkova was the first woman in space and also one of the youngest female astronauts in history.



Sunita Williams is an astronaut and a United States Navy officer of Indo-Slovenian descent.

Now collect a picture of an astronaut and paste it in your notebook. Write a few sentences about him or her just below the picture.

7. Let's practise speaking in English. Using the phrase 'Have you heard', ask your partner a few questions about space. One is done for you. (You can take help from your text.)

Have you heard that 'Aryabhata' was India's first satellite?

No, I haven't.

Have you heard that Kalpana-I .....

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Yes, I have.

Have .....

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8. The box below has certain words used to ask questions. Find and write them in the space given.

A	W	H	E	R	E
W	H	O	W	E	R
H	E	W	H	A	O
A	N	H	Y	R	T
T	O	A	E	H	W

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9. Fun with words:

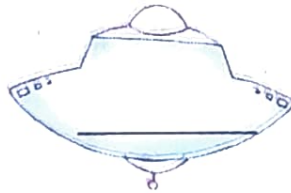
Do you know what is interesting about these words?

If you remove the first letter from each of the given words, you will find a new word. Write the new words in the space crafts under each word:

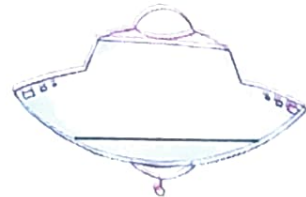
**flight**



**send**



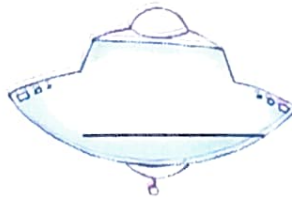
**space**



**craft**



**know**



**there**



Now think of three more words like the above, and write them here:

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10. See how many new words you can form with the letters used in the word 'because' below. One is done for you.

because

be

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11. Manas wants to be an astronaut when he grows up. Mayuri wants to be a scientist.

Manas, what do you want to be when you grow up?



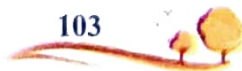
I want to be an astronaut when I grow up and I'll go to space.



Oh, it'll be quite interesting. But I want to be a scientist and serve my country.



Sit in pairs and tell each other what you want to be when you grow up and why.



## 12. Project Work:

The teacher will divide the students into groups. The groups will prepare a questionnaire (a list of questions) to be answered by the students of other classes in the school.

The objective/ purpose of the questionnaire is to find out how many students in the school know about Kalpana Chawla, what they think about women taking up Space Science as a profession and how many girls would like to become astronauts.

Students will prepare the questionnaire with the help of information from the lesson and from other sources [like books on general knowledge, the internet (if available) and so on].

Each group will prepare at least ten questions, using *wh-words* (*What, Where, Why, When, Who, Whom and How*).

The group members will discuss among themselves what questions to ask and finalise the list of questions.

Every group member will prepare ten copies of the questionnaire. Then, he/ she will go around the school at break time to get the questionnaires answered by students of other classes. (If there are five members per group, they will have  $5 \times 10 = 50$  questionnaires answered by 50 students.)

After the questionnaires have been answered, the group members will count and note down the following points:

- how many students know about Kalpana Chawla and how many do not
- how many have responded with a 'yes' to the question on suitability of girls taking up Space Science as a profession
- how many girls would like to become astronauts

Each group will then share their findings with the rest of the class.

