

## Chapter - 6

## An Indian-American Woman in Space: Kalpana Chawla

### LET'S BEGIN

“I fear I may not be hijacked by space”, said Kalpana Chawla and that was what exactly happened to the great astronaut. In 1997, an Indian-American, Kalpana Chawla, was a part of the international crew aboard the U.S. Space Shuttle, Columbia, becoming the first woman born in India to go into space. Sadly, the second mission of Columbia ended in a tragedy.

1. A space shuttle is a spacecraft that is made for repeated space travel (unlike a rocket), for example, between the earth and a space station.
2. Use a dictionary to do the tasks below:
  - (i) Find out the meanings of the following words and phrases:
    - (a) naturalised U.S. citizen \_\_\_\_\_
    - (b) space \_\_\_\_\_
    - (c) frontiers of space \_\_\_\_\_
    - (d) aboard \_\_\_\_\_
    - (e) lift off (How is it different from ‘take off’?)  
\_\_\_\_\_
    - (f) crew \_\_\_\_\_
  - (ii) Notice the spellings of these words in this lesson: *airplane*, *program*. This is how these words are spelt in American English. How are they spelt in British English?





## A News Report

### **Tragedy in Space** ***U.S. Space Shuttle Columbia*** ***Breaks into Flames***

**In an unprecedented space tragedy, U.S. Space Shuttle Columbia, carrying an Indian born American astronaut Kalpana Chawla and six others, broke apart in flames as it streaked over Texas towards its landing strip on Saturday, 1 February 2003, killing all the seven on board.**

**The shuttle lost contact with NASA at about 9 a.m. (19.30 hrs IST) as it came in for landing. It was flying at an altitude of over 200,000 feet and travelling at over 20,000 kms per hour when ground control lost contact with the shuttle.**

**Columbia had lifted off on 16 January 2003, from the Kennedy Space Center, Florida. It had stayed in orbit for 16 days and the seven-member crew conducted 80 experiments before it began its downward journey, which ended in the tragedy. This was Columbia's 28th space flight and the shuttle was said to be good for 100 flights.**

Kalpana Chawla said that she never dreamed, as a child in Karnal, that she would cross the frontiers of space. It was enough that her parents allowed her to attend an engineering college after she graduated from Tagore School.

After a Bachelor of Science degree in aeronautical engineering, against great opposition from her father, she went for a master's degree to the United States of America. She later earned her PhD in aerospace engineering. Kalpana Chawla was the first Indian-American woman astronaut to blast off from the launch pad at Cape



Canaveral, Florida, and participate in a successful mission in space. Her family from India cheered along with the staff at the Kennedy Space Center as they watched the Columbia lift off.



Kalpana was born in Karnal, Haryana, but was a naturalised U.S. citizen, married to a flight instructor, Jean-Pierre Harrison. Besides, being an astronaut, she was licensed to fly single and multi-engine land airplanes, single-engine seaplanes and gliders. She was also a certified flight instructor. After qualifying as a pilot, Kalpana began to consider another challenge: applying to NASA's space shuttle programme. She was first hired as a research scientist at NASA. In 1994, she was selected by NASA for training as an astronaut.

When asked what it was like being a woman in her field she replied, "I really never, ever thought, while pursuing my studies or doing anything else, that I was a woman, or a person from a small city, or a different country. I pretty much had my dreams like anyone else and I followed them. And people who were around me, fortunately, always encouraged me and said, 'If that's what you want to do, carry on'."



Kalpana's first space mission in the space shuttle, the Columbia, was 15 days, 16 hours and 34 minutes long. During that time she went around the earth 252 times, travelling 10.45 million kilometres. The crew included a Japanese and a Ukrainian astronaut. The crew performed experiments such as pollinating plants to observe food growth in space, and tests for making stronger metals and faster computer chips — all for a price tag of about 56 million dollars.



On the Saturday night when the news about the Columbia disaster broke, there was shock and disbelief. The town of Karnal spent a sleepless night as thousands of households stayed glued to their television sets in the hope that Kalpana and the crew had somehow survived. About Kalpana, a journalist writes:

*She was a heroine. It takes enormous ability to become an astronaut. You need to know a lot about everything, from biology to astrophysics to aeronautical engineering. In this age of super-specialisation, you must have encyclopedic knowledge to be an astronaut. Her achievement is awe-inspiring.*

For millions of young Indians, the story of Kalpana Chawla, a girl from a small town who touched the skies, had become an inspiration. In a message that she sent



from aboard the space shuttle, the Columbia, to students of her college in Chandigarh, Kalpana said, “The path from dreams to success does exist. May you have the vision to find it, the courage to get onto it.... Wishing you a great journey.” There will surely be many who start off on this journey to fulfil their dreams.

*[adapted from Span  
January/February 1998]*

### **Glossary**

<b>tragedy:</b>	a serious accident or disaster
<b>unprecedented:</b>	never having happened or existed in the past
<b>crew:</b>	people manning an aircraft
<b>aeronautical:</b>	relating to the science of aircraft design, building and operation
<b>astrophysics:</b>	the type of astronomy that explains the behaviour of stars and other heavenly bodies

### **WORKING WITH THE TEXT**

A. Answer the following questions:

1. Where was Kalpana Chawla born? Why is she called an Indian -American?
2. When and why did she go to the U.S.? Whom did she marry?
3. How did she become an astronaut? What gave her the idea that she could be an astronaut?
4. What abilities must an astronaut have, according to the journalist?
5. Describe Kalpana Chawla’s first mission in space.
6. What does Kalpana Chawla say about pursuing a dream? Do you agree with her that success is possible?



B. Read the newspaper report to find the following facts about the Columbia's ill-fated voyage.

1. Date and place of lift off: \_\_\_\_\_
2. Number of astronauts on board: \_\_\_\_\_
3. Number of days it stayed in space: \_\_\_\_\_
4. Number of experiments done by scientists: \_\_\_\_\_
5. Date of return journey: \_\_\_\_\_
6. Height at which it lost contact: \_\_\_\_\_

## LANGUAGE WORK

A. Match the following:

- |                                |  |
|--------------------------------|--|
| 1. unprecedented space tragedy | • something that causes feelings of respect and wonder.                  |
| 2. certified flight instructor | • having knowledge of a wide variety of subjects.                        |
| 3. space mission               | • nowadays; in these times.  |
| 4. super specialisation        | • a set of jobs to be done in space by a group.                          |
| 5. encyclopedic knowledge      | • a person with the correct qualification to teach people to fly planes. |
| 6. awe-inspiring               | • a sad accident of a kind that has never happened before in space.      |
| 7. in this age                 | • great expertise in a limited field or a particular subject.            |

B. Use these phrases in sentences of your own, after finding out their meanings.

- |                  |               |                  |
|------------------|---------------|------------------|
| 1. broke apart   | 4. lifted off | 7. cheered along |
| 2. streaked over | 5. blast off  | 8. on board      |
| 3. spread across | 6. went on    | 9. carry on      |



C. We add 'un-' to make opposites.

*For example, true — untrue.*

Add 'un'— to the words below to make their opposites. Then look up the meanings of the words you have formed in the dictionary.

- |                     |                      |
|---------------------|----------------------|
| 1. identified _____ | 6. educated _____    |
| 2. controlled _____ | 7. interesting _____ |
| 3. attended _____   | 8. qualified _____   |
| 4. successful _____ | 9. trained _____     |
| 5. important _____  | 10. answerable _____ |

### GRAMMAR WORK:

I. You have already learnt something about simple past tense. You know we use simple past tense to talk about actions as in 'She made plants, birds and animals which looked very real'. In this sentence, 'made' and 'looked' are the past forms of 'make' and 'look'. The verbs usually end in **-ed**. Some verbs do not take **-ed**. Such verbs are called **irregular** verbs. Study the following verbs given as examples:

PRESENT	PAST	PAST PARTICIPLE
teach	taught	taught
come	came	come
hear	heard	heard
know	knew	known
see	saw	seen
bring	brought	brought
fly	flew	flown

Find some more irregular verbs and write their conjugation.

II. If you have to talk about the time now, you can use *present continuous tense*. Present continuous is also used:



- (a) *when we talk about a time connected with present as in, 'These days more and more people are learning English'.*
- (b) *when we refer to a situation that is more or less temporary as in, 'Sonam is looking for his sister'.*
- (c) *when we talk about some future definite plan or action as in, 'The President is leaving for England on Monday'.*

For *present continuous tense*, we use is/am/are + V +ing. (V = verb)

Now use the present continuous form of the verbs given in brackets in each of the following sentences:

(The first one is done for you.)

- a) Do you want anything from the market? Mother \_\_\_\_\_ (go) there. [is going]
- b) I don't think we should disturb him. He's \_\_\_\_\_ (work) on his project.
- c) 'Do you know where Mohan is?' 'Yes. He's \_\_\_\_\_ (write) a letter to his uncle in his room.
- d) I \_\_\_\_\_ (sell) my bike next week. It's very old.
- e) She \_\_\_\_\_ (plan) to visit Delhi next month. Do you want anything from there?
- f) I don't think they \_\_\_\_\_ (join) us for dinner.
- g) 'What's Akbar doing?' 'He \_\_\_\_\_ (have) a bath.'
- h) You can turn off the television. I am not \_\_\_\_\_ (watch) it.
- i) Please be quiet. I am \_\_\_\_\_ (work).
- j) Is she \_\_\_\_\_ (play) the game?' 'No, she isn't.'



### LET'S TALK

In her message to the students of her college, Kalpana Chawla said, "May you have the vision to find the path from dreams to success.... Wishing you a great journey."

Form pairs. Use "May you..." and "I wish you/Wishing you" to wish your partner good luck and success in;



- (i) a sports event,
- (ii) a quiz or a competition, and
- (iii) a test or examination.

Be sure to thank your partner when s/he wishes you in turn. You may also look up a telephone directory, or go to a post office, and get a list in English and Hindi of standard phrases that can be sent in greeting telegrams anywhere in India. Discuss which of these you might use, and when. Compare English and Hindi phrases for expressing good wishes. Do you know such phrases in any other language?



### LET'S WRITE

- A. Do you have a 'dream', or something you very much wish to do? Write a paragraph saying what you want or wish to do. Then say (in another paragraph) how you think you can make your dream come true.
- B. Given below are some words that are spelt differently in British and American English. Fill in the blanks accordingly.

<i>British</i>	<i>American</i>
1. colour	_____
2. _____	labor
3. _____	traveler
4. counsellor	_____
5. centre	_____
6. _____	theatre
7. _____	organize
8. realise	_____
9. _____	defense
10. offence	_____