

Grade VI

Prose 4. An Indian-American Woman in Space: Kalpana Chawla

Summary of the Chapter

Kalpana Chawla's Background

Kalpana was born in Karnal, Haryana. She never thought she would cross the frontiers of space. She went to an engineering college after completing her education from the Tagore school. After getting a bachelor Science Degree in aeronautical engineering, she went to the United States to complete her master's degree. She got her Ph. D in aerospace engineering. She was married to a flight instructor Jean-Pierre Harrison.

Kalpana Chawla was the first Indian American Woman Astronaut to Participate in Space Mission

She was the first to blast off from the launch pad at Cape Canaveral, Florida. Her family cheered with staff at the Kennedy Space Centre as they watched the Columbia lift off. Kalpana Chawla had license to fly single-engine seaplanes and gliders. She was also a certified flight instructor. She applied for NASA's space shuttle programme. She was first hired as a research scientist at NASA. She was selected for training as an astronaut in 1994 by NASA.

According to her, she just followed her dreams without thinking that she was a woman or a person from a small city or from a different country. People around her encouraged her and suggested her to carry on.

Kalpana Chawla's first Space Mission was for 15 Days

Her first space mission in the space shuttle Columbia was for 15 days, 16 hours and 34 minutes long. She went around the Earth 252 times, travelling 10.45 million km. There were also a Japanese and a Ukrainian astronaut in her crew. They performed experiments such as pollinating plants to observe food growth in space, tests for making stronger metals and faster computer chips. The space mission cost them about 56 million dollars. When the news about the Columbia disaster broke, people were shocked. The Karnal town spent a sleepless night as thousands of households stayed tuned to their television sets in the hope that Kalpana Chawla and the crew would survive somehow.

She was an inspiration

A journalist wrote about her that she was a heroine. An astronaut must know a lot about everything, from biology to astrophysics to aeronautical engineering. One must have all kind of knowledge to be an astronaut. Her achievement is awe-inspiring. She was a girl from small town, who touched skies and became an inspiration for others. She sent a message from her space shuttle, saying there is a way which connects dreams to success and one should have the vision and courage to get onto it. She wished students have the vision and courage to get onto it. She wished students to have a great journey.

NCERT Corner

Work with the Text

A. Answer the following questions.

1. Where was Kalpana Chawala born? Why is she called an Indian-American?

Kalpana Chawla was born in Karnal town, Haryana. She also had the citizenship of the United States of America as was married to an United states citizen and become its naturalised citizen. So, she was called an Indian-American.

2. When and why did she go to the United States? Who did she marry?

After completing her Bachelor of Science degree in aeronautical engineering, Kalpana Chawla went to the United States of America for higher studies. She married an United States citizen Jean-Pierre Harrison.

3. How did she become an astronaut? What gave her the idea that she could be an astronaut?

After qualifying as a pilot, Kalpana Chawla applied for NASA's space programme. She was first taken as a research scientist at NASA and was trained as an astronaut. Her success as a pilot motivated her to become an astronaut.

4. What abilities must an astronaut have, according to the journalist?

An astronaut should know everything from biology to astrophysics to aeronautical engineering. An astronaut should have encyclopaedic knowledge.

5. Describe Kalpana Chawla's first mission in space.

Kalpana Chawla's first mission in the space shuttle Columbia was 15 days, 16 hours and 34 minutes long. During her journey, she went around the Earth 252 times. There was a Japanese and a Ukrainian astronaut in the crew and they conducted many experiments.

6. What does Kalpana Chawla say about pursuing a dream? Do you agree with her that success is possible?

It was always possible to realise one's dreams if one had the courage and vision to find it one should have vision to find it.

According to her, success is possible only through courage and hard work.

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 _____.

1. 16 th January, 2003	2. Seven	3. 15 days, 16 hours, 34 minutes	4. 80 experiments	5. February 2003	6. 200000 feet
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Work with Language

A. Match the following

1. Unprecedented space tragedy	a. something that causes felling of respect and wonder
2. Certified flight instructor	b. having knowledge of a wide variety of subjects
3. Space mission	c. Nowadays, in these times

4. Super-specialisation	d. a set of jobs to be done in space by a group
5. Encyclopaedic knowledge	e. a person with the correct qualification to teach people
6. Awe-inspiring	f. a sad accident of a kind that has never happened before in space
7. In this age	g. Great expertise in a limited field or a particular subject

1. f	2. e	3. d	4. g	5. b	6. a	7. c
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B. Use these phrases in sentences of your own, after finding out their meanings.

- | | |
|------------------|------------------|
| 1. Broke apart | 2. Streaked over |
| 3. spread across | 4. Lifted off |
| 5. blast off | 6. Went on |
| 7. cheered along | 8. On board |
| 9. carry on. | |

1. Broke apart: (separated, break up)- The coaches of the train broke apart on its own.
2. Streaked over: (a line, mark)- A plane was seen streaking over our town.
3. Spread across: (spread everywhere) - The news about their fight spread across the entire nation.
4. Lifted off: (to direct or carry from a lower to a higher position) - The rocket lifted off from a space station in Chennai.
5. Blast off: (of a rocket or spacecraft) take off from a launching site - The rocket blasted off in the morning.
6. Went on : (to proceed) - He went on teaching us after the lunch break.
7. Cheered along: (motivated, encouraged) - The performers were cheered along by their fans.
8. On board: (inside a ship, train and aircraft) - There were 250 passengers on board in the aircraft.
9. Carry on: (to continue) - She decided to carry on with her studies.

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 | 2. Controlled |
| 3. Attended | 4. Successful |
| 5. important | 6. Educated |
| 7. interesting | 8. Qualified |
| 9. trained | 10. Answerable |

Opposites

Meaning

- | | |
|------------------|---|
| 1. Unidentified | not recognised or identified |
| 2. Uncontrolled | unchecked, totally free |
| 3. Unattended | not noticed or dealt with |
| 4. Unsuccessful | failed |
| 5. Unimportant | lacking in importance and significance |
| 6. Uneducated | having a poor level of education |
| 7. Uninteresting | not arousing curiosity and interest |
| 8. Unqualified | not having the required qualification |
| 9. Untrained | not having been trained in particular skill |
| 10. Unanswerable | unable to be answered |

Speaking

In her message to 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.

(i) I wish you great success in the sports event

- (ii) May you succeed in the forthcoming quiz competition!
- (iii) Wishing you to perform better in the examination.

Be sure to thank your partner when she/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 in greeting telegrams anywhere in India. Discuss which of these you might use and when. Compare the English and Hindi phrases for expressing good wishes. Do you know such phrases in any other language?

There is a conversation between Rita and Sunita.

(a) Rita: May this diwali bring happiness and prosperity to you and your family.

Sunita: Thanks, for the wishes. Wish you the same.

(b) Rita: I wish you success for your final examination.

Sunita: Thanks a lot!

(c) Rita: Best wishes for a safe and happy journey.

Sunita: Thanks.

Writing

Do you have a 'dream' or something you very much wish to do? Write a paragraph saying what you want to do. Then say(in another paragraph) how you think you can make your dream come true.

Ans. Everbody has some kind of dreams in his or her life. They want to lead a better life and be successful. It means people are ambitious and have a keen desire to have something in life. I want to become a pilot and one could achieve it only through hard work. One has to study a lot and be physically fit to control an aircraft.

Besides, one needs to be patient while driving a plane.

I have to work hard for its entrance test.

A. Given below are some words that are spelt differently in British and American English. Fill in the blanks accordingly:

British

American

1. Colour

2. Labour

Labor

- | | |
|---------------|----------|
| 3. Traveller | Traveler |
| 4. Counsellor | _____ |
| 5. Centre | _____ |
| 6. Theatre | theater |
| 7. Organise | Organis |
| 8. Realise | _____ |
| 9. Defence | Defense |
| 10. Offence | _____ |

British

1. Colour
2. Labour
3. Traveller
4. Counsellor
5. Centre
6. Theatre
7. Organise
8. Realise
9. Defence
10. Offence

American

1. Color
2. Labor
3. Traveler
4. Counselor
5. Center
6. Theater
7. Organise
8. Realise
9. Defense
10. Offense

Chapter Practice

Very Short Answer Type Questions

1. Who was against Kalpana Chawla's wish to study in United States?

Kalpana Chawla's father was against her wish to study in the United States of America. But she went to the United States for a masters degree.

2. What do you mean by the Columbia?

The Columbia was a space shuttle which broke apart in flames while returning to the Earth.

3. Who was Jean-Pierre Harrison?

Jean-Pierre Harrison was an American flight instructor and was married to India born astronaut Kalpana Chawla.

4. Who was Kalpana Chawla?

Kalpana Chawla was India born American astronaut. She died in an unprecedented space tragedy.

5. When did NASA select Kalpana Chawla?

NASA selected Kalpana Chawla for training as an astronaut in 1994.

6. Write the name of the space centre from where the Columbia was lifted off.

The name of the space centre was Kennedy Space Centre in Florida from where her space shuttle blasted off.

7. How many people were there on the space shuttle?

There were seven people in the space shuttle Columbia.

Short Answer Type Questions

1. Who all cheered Kalpana Chawla when the Columbia lifted off?

The Columbia lifted off from the launch pad at Cape Canaveral, Florida. Kalpana Chawla's family from India cheered alongwith staff at the Kennedy Space Centre.

2. Why lifting off Columbia a proud moment for India?

The lifting off Columbia was a proud moment because Kalpana Chawla was born in India. Her achievements were unbelievable as an astronaut. She was a small town girl and achieved a lot.

3. What kinds of experiments were performed by the crew in space?

The crew performed experiments such as pollinating plants to observe growth in space and tests for making strong metals and faster computer chips.

4. What was the atmosphere in Karnal when people heard about the Columbia disaster?

People in Karnal town were shocked to hear about the Columbia disaster. Nobody could sleep that night and remained glued to their television sets in hope that Kalpana Chawla and crew may survive.

5. What was the moment of joy for all Indians. How did it changed into grief?

The moment of joy for all Indians was astronaut Kalpana Chawla was about to reach the Earth after her space mission.

But it changed into shock and disbelief when people were to know about the Columbia disaster.

6. What happened to Columbia 28th space flight?

The Columbia's 28th space flight was lifted off on 16th January, 2003 from the Kennedy Space Centre, Florida. It stayed in orbit for 16 days before it began its downward journey which resulted in a tragedy.

Long Answer Type Questions

1. What do you know about Kalpana Chawla's achievement?

Kalpana Chawla was the first Indian-American woman astronaut to participate in a successful mission in space. She had bachelor degree in aeronautical engineering from a college in Chandigarh and went to the United States of America to get a master's degree and later had Ph. D degree.

She had a license to fly single and multi-engine land airplanes, single-engine seaplanes and gliders. She was also a certified flight instructor. She was hired as a research scientist at NASA. She was later selected by NASA for training as an astronaut.

2. What kind of person Kalpana Chawla was?

Or

Write the character sketch of Kalpana Chawla.

Kalpana Chawla was a courageous person. It was not easy for a lady born in Karnal to study abroad and become an astronaut. She struggled a lot to be successful in life.

Her father was against her wish to study in the US. She always thought she could achieve what she wants to and being a woman or a person from a small town or a different country could not affect her dreams.

She was encouraged by people around her. She also motivated students to follow their dreams and make their own path.

3. For Kalpana being a woman never came in way of realising her dreams why?

According to Kalpana Chawla she never thought. To being a woman was a hindrance in (furnishing) her studies or doing anything from a small town will have any effect on her career.

She know how to fulfil her dreams. People around her encouraged her every time. They motivated her to follow her dreams and that make her successful.

Value Based Questions

What do you know about Kalpana Chawla's life?

We learn from Kalpana Chawla's life that we should follow our dreams and aspirations. If we are focused towards achieving our goal nothing could stop us. One should be brave enough to overcome all the problems.

She sent a message to the students of her college to motivate them. She said that there is no hindrance between success and dreams and one has to develop it.

There is no short cut in life and one has to make their own way to fulfil their dreams.

Extract Based Questions

Extract 1

Directions (Q. Nos. 1-6) Read the extract given below and answer the following questions.

Kalpana's first space mission in the space shuttle, Columbia, was 15 days, 16 hours and 34 minutes long. During this 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.

1. What kind of experiments the crew performed?

The crew performed experiments on plants and tests for making stronger metals and faster computer chips.

2. How many times Kalpana went around the Earth and how much distance she covered?

She went around the Earth 252 times and covered a distance of 10.45 million kilometres.

3. How much money was spent to perform the experiment?

A total of 56 million dollars was spent for performing the experiments in the space.

4. Give one word substitute for 'a group of people who work and operate an aircraft.'

(a) Shuttle (b) Columbia (c) Crew (d) Experiments

(c) Crew

5. Write synonym for the word 'observe'.

(a) Monitor (b) Food (c) Metal (d) Price

(a) Monitor

6. What was the Columbia?

(a) A crew (b) A space shuttle (c) An astronaut (d) All of these

(b) A Space shuttle

Extract 2

Directions (Q. Nos. 1-6) Read the extract given below and answer the following questions.

Kalpana was born in Karnal, Haryana, but was a naturalised US citizen, married to 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 research scientist at NASA. In 1994 she was selected by NASA for training as an astronaut.

1. What is the meaning of naturalised US citizen?

It means a person (a foreigner) who has been admitted to the citizenship of a country, here it the United States of America.

2. What was the challenge for Kalpana Chawla?

The challenge for Kalpana Chawla was to enter into NASA's space shuttle programme.

3. What kind of license she had?

She had license to fly single and multi-engine land airplanes, single-engines seaplanes and gliders.

4. Give one word substitute for 'a person who is trained to travel in a spacecraft.'

- (a) Researcher (b) Astronaut (c) Citizen (d) Pilot
(b) Astronaut

5. Write antonym for the word 'married'.

- (a) Wedded (b) Marital (c) Devoted (d) Unmarried
(d) Unmarried

6. Find synonym for the word 'select'.

- (a) Choose (b) Neglect (c) Ignore (d) Proceed
(a) Choose



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