

First Indian Woman in Space


Kalpana Chawla was the first Indian woman to go into space. In her two **voyages** into space she spent 17 days and 16 nights in the space **respectively**. There is no air or water in space. She was an **astronaut** on the Columbia Space Shuttle. Shuttle means a form of transport that travels regularly between two places. Columbia Space Shuttle was designed for going into space and come back and land on the runway like an aeroplane. It had its first flight in 1981. The early **spacecrafts** sent to the moon were destroyed and the astronauts came down in the Pacific Ocean.



Kalpana was born on 1 July, 1961 in Karnal, a town of Haryana in India. She was the youngest among three sisters and one brother. She was admitted in 1968 in Tagore Bal Niketan School, Karnal. In school days Kalpana was **confined** to her studies only. She paid more attention to her homework rather than playing out. When she became adolescent, she took interest in paintings, sports and cultural programmes. She loved being outdoors—liked to go on hiking or cycling. She loved the wind on her face. There was a big neem tree in the courtyard of the school. In the interval period she used to sit under it. Whenever she heard the noise of an aeroplane above, she looked at the sky for long even after the aeroplane flown past. On asking she told her friends that she too wanted to fly in the sky and see what is there on the moon and stars.

When an aeroplane flew past her house, she rode her bicycle in its direction to see it for more time. At summer nights the family slept in the courtyard under the stars. She would be **fascinated by** them. She used to dream of reaching them somehow.

Kalpana's brother Sanjay Chawla joined the **Flying Club** of Karnal. He was taking training to become a **commercial pilot**. At this time Kalpana has reached in class 12th



in Dayal Singh College, Karnal. She applied for the membership of the Flying Club but her father did not allow her. It was the year 1978. The same year she appeared for Pre-Engineering Test and was selected for admission to Punjab Engineering College, Chandigarh.

As Kalpana was so excited about flying, she chose the branch of aeronautical engineering for study. More **excitement** could do nothing. It was her **attitude**. Everyone in her family believed that hard work would get you what you wanted. If you were **determined** you could follow your dreams no matter how difficult they were.

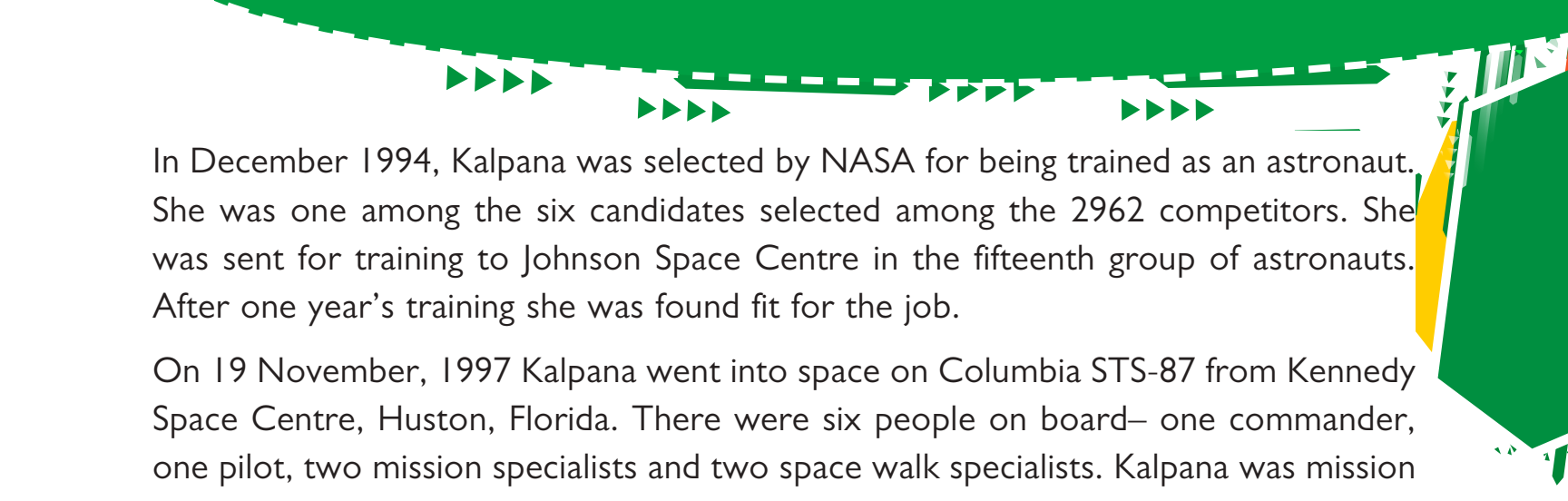
“To keep on trying and never give up” was her life **mantra**.

Kalpana was proceeding fast on her trek towards her dreams. In 1982, she topped in the University examination of aeronautical engineering. In her **pursuit** for flying and reaching space, she took admission in the master’s course in aerospace engineering in Texas in United States (of America). Her father **reluctantly** allowed her to go foreign. Kalpana was overjoyed to get the subject and place of her choice. At the same time she was somehow nervous about the entirely new circumstances.

In her study mania Kalpana did not know the time passing away. She got the master’s degree in aerospace engineering in two years. In 1984, she started research work at Colorado University in Computational Fluid Dynamics. She completed her doctorate in 1988. Meanwhile she learned flying aeroplanes and got a licence for private pilot. It was a **mere** chance that when she was on her first independent flight her mother was the first passenger of her plane.

In those days Kalpana married with an American engineer J.P. Harrison. He worked as a freelancer Flight Trainer at NASA (National Aeronautics Space Administration). NASA is the organization that conducts most space trips of the world. She applied for American citizenship. Now she was an American but she always told people, “I belong to Karnal, Haryana in India.” She used to listen Indian music and learn Indian dances.

Immediately after completing her **doctorate** Kalpana got an offer for work at M.C.A.T. Institute of California as a research scientist. M.C.A.T. was affiliated to NASA, so Kalpana could have a chance to become an astronaut. She purchased a small plane of her own and got a licence as a glider pilot. She also followed her hobbies of skiing, mountaineering and space photography.



In December 1994, Kalpana was selected by NASA for being trained as an astronaut. She was one among the six candidates selected among the 2962 competitors. She was sent for training to Johnson Space Centre in the fifteenth group of astronauts. After one year's training she was found fit for the job.

On 19 November, 1997 Kalpana went into space on Columbia STS-87 from Kennedy Space Centre, Huston, Florida. There were six people on board— one commander, one pilot, two mission specialists and two space walk specialists. Kalpana was mission specialist number one. After doing many observations and experiments in space for 17 days, 16 hours and 32 minutes, she returned on 5th December, 1997. Kalpana had realised her dream.

Columbia Space Shuttle (STS-87) was repaired and *overhauled* in 1999. STS means 'Space Transport Station'. It took its first flight in space in 1981. But its first important mission took place in 1991 when it took a laboratory and a scientist on board. It could land on a runway like an aeroplane.

Kalpana was selected for one more space programme. Her *sharp* intelligence, working style, courage and patience and perseverance helped her to get her a place. It was the 28th flight of the Columbia Space Shuttle. Kalpana and six other astronauts started on their STS-107 mission on 16 January, 2003. This time the research scientists studied the insects, fish, crystals, waves, fire alongwith themselves in space for 16 days. They all were in weightless position. The shuttle went round the Earth at a distance of 277 kilometres. It was moving at about 28,325 kilometres per hour.

After completing their work the scientists started to return to the Earth. The shuttle was programmed for it. It was 1 February 2003. Just 15 minutes before its landing, the Columbia Shuttle burst into pieces. All the world was watching Columbia coming down. Now what they could see was only flames.

All the people paid their *tributes* to the astronauts who worked for the mankind. Kalpana's dream was fulfilled but she was no more to enjoy its fruits for long.

Even now Kalpana is alive in our hearts and her words too—It is so exciting to go around the Earth, to look at it roll by and the speed at which it goes. It looks beautiful and wonderful. And her wishes for the future astronauts !

Word Treasure

voyage : a travel into space

astronaut : a person who goes into space

spacecraft : a vehicle that goes into space

confined : restricted within certain limits

flying club : a group of people who work for salary flying of aeroplanes

commercial pilot : a pilot on flights conducted by a company for profit

attitude : way of thinking or feeling

determined : having firmness of purpose

mantra : a word or sound repeated to aid concentration;

pursuit : trying to achieve;

reluctantly : unwillingly;

doctorate : the highest degree awarded by a university (often after a research work)

overhauled : to maintain

tribute : act, to play respect



EXERCISE TIME

Comprehension Skills

A. Tick (✓) the correct option :

1. Kalpana Chawla was much fascinated to see :

a. flying aeroplanes b. running cars c. running trains

2. Kalpana Chawla dreamt of reaching the :

a. mountains b. stars c. seas

3. What branch did Kalpana Chawla choose to study in Engineering?

a. aeronautical b. mechanical c. electrical

4. Where did Kalpana Chawla go to study aerospace engineering?

a. England b. USA c. France

5. The position of Kalpana Chawla in the space shuttle was :

a. commander b. mission specialist c. pilot

6. Kalpana Chawla got the master's degree in aerospace engineering in years.

a. four b. two c. three

B. Fill in the blanks with the correct option :

nervous, space, keep, shuttle, small

1. _____ means a form of transport that travels regularly between two places.
2. “To _____ on trying and never give up” was her life mantra.
3. She was somehow _____ about the entirely new circumstances.
4. Columbia _____ shuttle was repaired and overhauled in 1999.
5. She purchased a _____ plane of her own and got a licence as a glider pilot.

C. Answer the following questions :

1. Where was Kalpana Chawla born ?
2. How did Kalpana Chawla get fascinated by the stars ?
3. What did she want to become ?
4. Why did Kalpana Chawla study aerospace engineering ?
5. Where did Kalpana Chawla go to become a research scientist and astronaut ?
6. What experiments did the scientists perform on Columbia STS-107 mission ?

Fun with Words

D. Write a group name for each set :

1. Mars, Jupiter, Earth
2. Fir, Oak Banyan
3. Japan, Ireland, India
4. Aps, Andes, Himalayas
5. Guitar, Flute, Violin
6. Atlantic, Pacific, Indian
7. Canoe, Ship, Raft

Essential Grammar

E. We can use ‘all’ and ‘every’ with similar meanings but ‘all’ is used with plural nouns and ‘every’ is used with singular nouns :

Ex. : *All children* are different.
All men make mistakes.

Every child is different.
Every man makes mistakes.

We can use other determiners (the, my, this etc) after 'all', but not after 'every'.

Ex. : All the shops were closed. Every shop was closed.
All my friends every friend
all these bills every bill

F. Rewrite the sentences with 'every'. One is done for you :

- I paid all the bills. I paid every bills.
- All animals breathe air. _____
- All the buses were late. _____
- All the computers are working today. _____
- All Mumbai trains stop at Thane. _____
- He has read all the books in the library. _____

G. Put in 'all' or 'every' in the following :

- I played in nearly _____ match.
- They lost nearly _____ the matches.
- _____ babies cry.
- _____ cup in the house is broken.
- _____ his children have left home.

H. 'Every' and 'each' mean the same. They are both used with singular nouns and verbs. 'Every' is more common :

Ex. : *Every day* brings a new problem.

Each day brings a new problem.

We often use 'each' when we want to say that things are separate or different :

We asked *every* student the same question.

Each student gave a different answer.

I. Underline the more suitable answer :

- Each/Every house in this street looks the same.
- But inside, each/every house is quite different.
- I work each/every day except Sunday.



4. There is a shop at *each/every* end of the street.
5. She wrote a personal answer to *each/every* letter.

Essential Speaking

J. How do you feel when you travel by a plane for the first time :

- Eliza* : Our plane had to leave at 5:30 and it's already 5:40
- Nancy* : Wait. That's our flight they're announcing over the loudspeaker now. Flight 430 – now boarding for Mumbai, Gate 5.
- Eliza* : I've never flown before. What if I get sick ?
- Nancy* : There's nothing at all to worry about. Once you're up in the air, you'll feel just like sitting at home. Come on now.
- Eliza* : Why are they saying to fasten the seat belts?
- Nancy* : So that you are not thrown against the seat in front and injured.
- Eliza* : What's that terrible noise ?
- Nancy* : Those are the engines. They're warming them up. We're about to take off.
- Eliza* : I think our plane is shaking.
- Nancy* : Now we're leaving the ground. Our plane is in the air.
- Eliza* : My ears popped just now. How high are we ? Will blood come out of them ?
- Nancy* : Nothing serious is going to happen to you. Thousands of people travel by plane every day and nothing happens to them.

K. Pronounce these words.

Castle

christmas

fasten

listen

Pestle

whistle

thistle

often

Notice that 't' is not pronounced in these words. Find out four more words in which 't' is not pronounced.

Now read these words aloud.

Wrap

Write

Wrong

Wring

What do you notice ? Is 'W' pronounced ? Which letter follows 'W' in all these words ?

Essential Writing

L. Complete the story with phrases given below :

on 11th April, 1984 safely

two other Russian astronauts

first Indian to go into the space

trained at the Gagarin Space Centre

to the space on 3rd April, 1984

in the Indian Airforce in 1971

The first person who went into the space was Yuri Gagarin of Russia. He travelled to the space on 12th April, 1961.

Rakesh Sharma was the _____. He was born in Patiala on 13th January 1949. He became a pilot _____. In 1983, he was selected to go into the space. He was _____ in Star City near Moscow.

Rakesh Sharma travelled _____. He was accompanied by _____. He returned to Earth _____.

Fun to Do

M. Draw a sketch of Kalpana Chawla.



Project-1

- A. Suppose you are a doctor. You want to examine a patient. The patient was in a bad shape. You gave him an injection. The patient collapsed. The family members turned hostile. What did you do ?

Write the complete incident in dialogue form.



- B. You are talking to your parents about what you would like to become when you grow up. Tell them your wish to become an actor.

Now write out a conversation about this between you and your parents.

(They may agree or they may not)

You : _____

Parents : _____

You : _____

Parents : _____

You : _____

Parents : _____

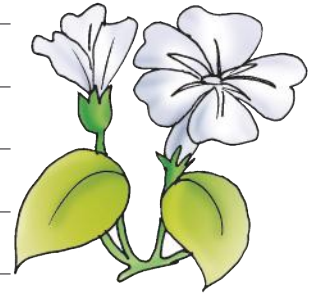
You : _____

Parents : _____

Project-2

1. Jasmine is a fragrant flower, so the rose. Both of these flowers are used for many purposes, e.g. perfumes, squashes etc. Write a short note on how the perfumes are prepared from them. An outline is given below :

Rose / Jasmine / plucked / petals / boiled / steam / collected / condensed / perfumes/ bottled.





2. Collect a flower. Put it in a magazine for some days. After that paste it here.