

The Missile Man of India



Lead in :

1. Think about some great persons of our country who have made our nation proud.
2. How do we remember these great persons like Mahatma Gandhi, Pt. Jawaharlal Nehru, Subhas Chandra Bose, Dr. Sarvepalli Radhakrishnan, etc.?
3. Can you say who we remember as “The Missile Man of India”? What do you know about him?

(The teacher collects ideas from the students through a brainstorming activity and writes them in a Sun-diagram on the blackboard and says, “Let’s read the text, ‘The Missile Man of India’ to know more about him”.)

The Text:

1. Avul Pakir Jainulabdeen Abdul Kalam, better known as Dr APJ Abdul Kalam, was one of the most distinguished scientists of India. As he was intimately involved in India’s civilian space programme and military missile development efforts, he came to be known as “The Missile Man of India.” In 2002, he was elected as the 11th President of India, and was widely referred to as the “People’s President.”

2. Dr Abdul Kalam was born on 15th October 1931 in a Tamil Muslim family at Rameswaram in the state of Tamil Nadu. His father, Jainulabdeen was a boat owner and the Imam of a local mosque. His mother Ashiamma was a housewife. His father owned a ferry that took Hindu pilgrims back and forth between Rameswaram and Dhanushkodi. Kalam was the youngest of four brothers and one sister in his family. His ancestors had been wealthy traders and land owners. But in course of time the family fell on hard times and lost their properties, even their ancestral home. By his early childhood, the family had already become poor; Kalam had to sell newspapers to supplement his family’s income.

3. Kalam started his elementary education at Ramanathapuram. He had a science teacher named Sivasubramania Iyer who was very loving and affectionate. He always inspired Kalam to develop his skills so that he could compete with highly educated people in big cities. Once he invited the boy home for a meal, which his wife disliked and refused to serve a Muslim child like him. His teacher himself served Kalam while she watched them eat from behind the kitchen door. But his behaviour,

way of taking the meal and cleaning the floor changed her attitude. When the teacher invited Kalam for the second time, his wife welcomed him and served him food herself.

4. Kalam then moved to the Schwartz Higher Secondary School for his secondary education. In his school years, he had average grades but was considered a bright and hardworking student, who had a strong desire to learn. He spent hours on his studies, especially mathematics. After completing his studies here, Kalam was admitted to Saint Joseph's College, Tiruchirappalli where he graduated in physics in 1954. His dream in life was to become a pilot. So he applied for studying engineering at the Madras Institute of Technology. He was selected, but education at such a prestigious institution was not so easy. It was an expensive affair. Around a thousand rupees was required to pay towards the course fee. Asim Zohra, his compassionate elder sister, came to his help. She mortgaged her gold ornaments for his admission fee. And he completed his aerospace engineering in 1960.

5. Kalam began his career as a trainee at the Hindustan Aeronautics Limited (HAL) in Bangalore (now called Bengaluru). Then he joined the Defence Research Development Organisation (DRDO) as a scientist. In 1969, he was transferred to the Indian Space Research Organisation (ISRO), where he worked as the Project Director of India's first Satellite Launch Vehicle (SLV-III). The purpose of the SLV was to develop the technology to launch satellites. It was under Dr Kalam's direct guidance and supervision that the first Rohini satellite was successfully launched into the orbit in 1980.

6. After spending nineteen fruitful years in the ISRO, Kalam returned to the DRDO to head the country's Integrated Missile Development Programme (IGMDP). Here he took a leading role in the development of India's missiles and nuclear weapons programme. The programme was very successful; it led to the development of four missiles namely Prithvi, Trishul, Akash and Nag. The success of the programme made him extremely popular in the country. Hereafter, he was popularly called "The Missile Man of India."

7. In 1998, as the chief of the DRDO, Dr Kalam supervised the Pokhran-II nuclear tests for which he had camped in Rajasthan's Thar Desert for over a fortnight. The test was hugely successful. According to Dr Kalam, it was a "defining moment" in the history of our country. Some years after the test "The Missile Man of India" recollected: "Today, I remember the hot day of 1998 at Pokhran: 53°C. When most of the world was sleeping, India's nuclear era emerged."

8. Dr Kalam was appointed as the Chief Scientific Adviser to the Prime Minister and the Secretary of Defence Research and Development Organisation from July 1992 to December 1999. For his greatest contribution to the field of space, defence and nuclear technology, this eminent scientist was honoured with the Padma Bhushan in 1981, the Padma Vibhushan in 1990 and the nation's highest civilian honour, the Bharat Ratna in 1997 by the Government of India.

9. It was 27th July 2015. Dr Kalam was delivering a lecture in Shillong. During the course of his lecture, he collapsed. He was immediately taken to a hospital. He had suffered a massive cardiac arrest. His death was a great loss for our country. Dr APJ Abdul Kalam will be ever remembered for his dedication, devotion and selfless service to the nation, particularly as "The Missile Man of India."

Notes and Glossary :

distinguished	: very successful and admired by people
intimately	: closely
involved	: concerned , taking part
civilian	: not related to armed force
space	: empty area in the sky
missile	: a weapon that is sent through the air and that explodes when it hits the thing it is aimed at
widely referred to	: popularly known /described
Rameswaram	: a town on the Pamban Island in Tamil Nadu. It is well-known for Ramanathaswamy Temple
Imam	: a religious man who leads the prayer in a mosque
mosque	: a building in which Muslims worship
ferry	: a boat that carries people
pilgrim	: a person who travels to a holy place for religious reasons
Dhanushkodi	: an abandoned town in Tamil Nadu. The town was destroyed in the 1964 cyclone. No one lives over there now.
ancestor	: a person in a family who lived a long time ago
ancestral	: belonging to people older than grandparents
trader	: a person who buys and sells things as a job
in course of time	: over a period of time

supplement	: to add something to something to improve
elementary education	: primary education
affectionate	: loving
inspire	: to give somebody the desire to do something well
refuse	: to say 'no' / deny
serve	: to give food
attitude	: the way you think and feel about something / somebody
desire	: strong wish
graduated	: got the first degree from a university
prestigious	: respected and admired
expensive affair	: anything that causes a lot of money to be spent
compassionate	: kindhearted / sympathetic
mortgage	: to put/give some goods or property to someone for lending money
aerospace engineering	: study(engineering) of the development of aircraft and spacecraft
launch	: to start an activity
satellite	: an object in space used for communication
Rohini	: the name given to a series of satellites launched by the ISRO. The Rohini series consisted of four satellites launched by the SLV. Of all the four, three were successful.
extremely	: to a very high degree
Pokhran	: a city and a municipality located in the Jaisalmer district of Rajasthan. It is situated in the Thar Desert region and served as the test site for India's underground nuclear explosion.
camped	: stayed in a tent/ a temporary building for a certain purpose
desert	: a large area of land that has very little water and very few plants growing on it.
hugely	: very much
defining moment	: an important point in time at which something happens
recollected	: remembered something
era	: an important period of time in history
emerged	: came out

contribution	: service
eminent	: very famous/noted
honoured	: respected (officially)
collapsed	: became senseless because of illness
massive	: very serious
cardiac arrest	: when someone's heart stops temporarily or permanently
dedication	: the hard work that somebody puts into a purpose with importance
devotion	: great love and care
selfless	: thinking more about the needs and happiness of others than one's own

Let's understand the text:

Read the text silently and understand. While reading, some new words may stand in your way. Don't worry. Refer to the 'Notes and Glossary' provided at the end of the text. You may also consult a dictionary or your teacher. After you have read, your teacher asks you some questions. Answer them orally:

1. Who was Dr APJ Abdul Kalam?
2. Why is Dr Kalam known as "The Missile Man of India"?
3. Where was he born? When?
4. Who were his family members?
5. Who were his father and mother?
6. What was his mother?
7. How did his father earn his living?
8. Were Kalam's ancestors rich or poor? How do you know it?
9. How did he add to his family?
10. What is the third paragraph about?
11. Where did he get his primary education?
12. Who was his science teacher?
13. What was he like?
14. What did he invite Kalam for?

15. How did his wife react to it?
16. What changed her attitude?
17. How did she behave him later?
18. Who does 'He' in the third sentence of para-3 refer to?
19. The fourth paragraph is about his _____.
 - A. elementary education
 - B. higher education
 - C. secondary education
 - D. family(Say the correct answer.)
20. Was he good at studies at the high school? Read out the sentence in support of your answer.
21. What was Kalam's dream in life ?
22. What did he do to fulfil his dream in life ?
23. Do you have any dream? How can you fulfil your dream in your life ?
24. What problem did he face for his admission into engineering ?
25. Who came to his help ? How ?
26. When did he complete his aerospace engineering ?
27. Name the institution where he got -
 - (a) Secondary Education :
 - (b) Graduation in Physics :
 - (c) Aerospace Engineering :
28. The paragraphs-5 and 6 describe Dr. Kalam's career as _____.
 - a marine engineer
 - a plant scientist
 - an aerospace scientist
 - a software engineer
29. How did he begin his career?
30. Where was he appointed as a scientist first ?

31. When did he start his work in the Indian Space Research Organisation ?
32. What was the purpose of the satellite?
33. When was the first Rohini satellite launched into the orbit ?
34. How many years did Kalam spend in the ISRO ?
35. Where did he take the leading role in the development of India's missiles and nuclear weapons programme?
36. What made him extremely popular in the country?
37. What was he called after the success of the four missiles – Prithvi, Trishul, Akash and Nag ?
38. Why did he camp in Rajasthan's Thar Desert ?
39. What, according to Dr Kalam, was the "defining moment" in the history of our country" ?
40. Why was it very hard to camp in Rajstan's Thar Desert ?
41. What are Kalam's contributions for India's defence programme ?
42. Dr. Kalam was the Chief Scientific Advisor to _____ of India.
 - i. the President ii. the Prime Minister
 - ii. the Field Marshal iv. the Secretary of Defence(Choose the correct answer.)
43. What awards and honours was Kalam honoured with?
44. What is the highest civilian award of our country?
45. How did Kalam pass away?
46. Why will people of our country remember Kalam forever?
47. What qualities of Dr Kalam do you like very much?
48. Can you say the names of some eminent scientists who have contributed a lot to our country ?

Let's understand the text :

- (a) Match the paragraph numbers under column- 'A' with their main ideas given under column- 'B'. Write the paragraph number in the box given against each idea.

A (Paragraph Numbers)	B Main Ideas
1	<input type="checkbox"/> Elementary education
2	<input type="checkbox"/> Death of Kalam
3	<input type="checkbox"/> Awards and honours
4	<input type="checkbox"/> Introducing Dr APJ Abdul Kalam
5, 6 and 7	<input type="checkbox"/> Secondary and higher education
8	<input type="checkbox"/> Kalam's childhood
9	<input type="checkbox"/> Career and contribution

(b) Fill in the blanks choosing the right answers from brackets.

[elementary education, his science teacher, the People's President, his family income, Chief Scientific Advisor, The Bharat Ratna, development of four missiles, Integrated Missile Development Programme]

- (i) Dr APJ Abdul Kalam is popularly known as _____.
- (ii) Kalam had to sell newspapers to supplement _____.
- (iii) Kalam started his _____ at Ramanathpuram.
- (iv) Kalam's most favourite teacher was _____.
- (v) Dr Kalam was popularly called 'The Missile Man of India' after the success of the _____.
- (vi) The successful launch of the missiles was possible when Kalam was heading the _____.
- (vii) Dr APJ Abdul Kalam was honoured the nation's highest honour, _____ in 1997.
- (viii) Dr Kalam was the _____ to the Prime Minister and the Secretary of Defence Research and Development Organisation.

(c) Read the text and find out the **situations**:

- i. when Kalam faced challenges on his way to achievements-
- ii. when Kalam felt happy-

Let's talk :

(a) Listen to each of the following expressions and say the line(s) and paragraph number in which it occurs.

- Kalam as the 11th President of India
- Date and place of birth of Kalam
- Kalam's elementary education
- The Schwartz Higher Secondary School
- He graduated in Physics
- Zohra, his sister helped Kalam for his education.
- He completed aerospace engineering in 1960.
- Joined DRDO.
- Kalam succeeded in launching the first satellite, Rohini.
- Successfull launch of the missiles.
- Chief Scientific Advisor to the Prime Minister of India
- Pokharan-II test of nuclear test project
- Honoured with the Padma Bhusan, the Padma Vibhusan and the Bharat Ratna
- Died on July 27, 2015

(b) Say the full forms of the following acronyms/ abbreviations in a chain-drill (one after another).

- (i) HAL : Hindustan Aeronautics Limited
- (ii) DRDO : Defence Research Development Organisation
- (iii) ISRO : Indian Space Research Organisation
- (iv) SLV : Satellite Launch Vehicle
- (v) IGMDP : Integrated Missile Development Programme

Let's learn words:

- (a) Match the words under 'A' with their opposite meanings under 'B'. One is done to help you.

A Words	B Opposite Meanings
complete	unpopular
educated	inexpensive
expensive	unsuccessful
successful	insufficient
popular	incomplete
sufficient	uneducated

- (b) Match the words/phrases under 'A' with their meanings under 'B'. Write the number of the word in the box for each.

A Words	B Meanings
1 distinguished	<input type="text"/> important time
2 referred to	<input type="text"/> kindhearted
3 supplement	<input type="text"/> became senseless because of illness
4 compassionate	<input type="text"/> to start an activity
5 launch	<input type="text"/> an weapon sent through the air that explodes when it hits a target
6 defining moment	<input type="text"/> most popular (known as)
7 collapsed	<input type="text"/> very successful and admired by people
8 missile	<input type="text"/> to add to something to improve it

- (c) Read the following sentence and mark the word in bold letters.

His mother, Ashiamma was a **housewife**.

Here the word- **housewife** in the above sentence is built with two words : **house** + **wife**. This is a compound word.

- (i) Given below are some compound words. Break them as done above.

landowner = _____ + _____

weekend = _____ + _____

milestone = _____ + _____

headline = _____ + _____

newspaper = _____ + _____

overtime = _____ + _____

childhood = _____ + _____

- (ii) Will you write ten more compound words on your own?

Let's learn language:

- (a) Study the following sentence and mark the words in bold letters.

Dr APJ Abdul Kalam **was born** on 15 October 1931.

We use the past form of the 'be' verb – was/were + born (the third form of the verb 'bear') to talk about the event of birth of a person.

Wok in pairs, discuss and fill in the blanks in the table. Then write the sentence below the table. One is done for you.

Name of the Person	Place of Birth	Date of Birth
• Mahatma Gandhi	_____	_____
• Dr. Sarvepalli Radhakrishnan	_____	_____
• Gopabandhu Dash	_____	_____
• Madhusudan Das	_____	_____
• BijuPattnaik	_____	_____
• Jagadish Chandra Bose	<u>Memynessingh in Bengal</u>	<u>30 November , 1858</u>

1. Jagadish Chandra Bose was born at Memynessingh in Bengal on 30 November 1858.

2.

3.

4.

5.

6.

(b) Read the following sentences carefully and mark the verbs in bold letters.

1. Kalam **was** the youngest of four brothers and one sister in his family.

2. Mathematics **was** his favourite subject.

3. Around a thousand rupees **was** required to pay towards the course fee.

4. Bundles of newspapers **were** distributed by Kalam.

Here the verb ‘was’ agrees with the subjects of the sentences from 1 to 3; Kalam, Mathematics , a thousand rupees , and the verb ‘were’ in the sentence-4 agrees with the subject ‘ Bundles of newspapers’.

Let us now know more about ‘Subject and Verb Agreement’.

- Nouns like news, physics, mathematics, measles, and ethics look like plural in form but they are singular and take singular verbs.
- Uncountable nouns like furniture, equipment, stationary, luggage, weather, advice and information are singular and used with singular verbs.
- Nouns like compasses, glasses, goods, trousers, police, people, etc take plural verbs.

Fill in the blanks with the correct verb choosing from brackets given against each.

- (i) Gymnastics _____ sport .(is/are)
- (ii) Social Studies _____ my favourite subject.(is/are)
- (iii) Politics _____ here and now. (is/are)
- (iv) The news _____ been published in the local daily. (has/have)
- (v) The police _____ the traffic.(control / controls)
- (vi) A hundred kilometres _____ a long distance.(is /are)
- (vii) Measles _____ fever. (cause / causes)

Let's write:

(b) Given below are some important events from the text. They are not in order. Arrange them in order and put the serial number in the box for each. Write the sentences.

(i) He graduated in Physics from Saint Joseph's College, Tiruchirappalli.

(ii) He played a pivotal role in the Pokharan-II nuclear test project.

(iii) Abdul Kalam was born to a Tamil Muslim family in the pilgrimage centre of Rameswaram.

(iv) He got his elementary education at Ramanathapuram.

(v) He went to Schwartz Higher Secondary School for his secondary education.

(vi) He became the Head of the Integrated Missile Development Programme and succeeded in launching Prithvi missile.

(vii) He breathed his last on July 27, 2015.

(viii) He became the Chief Scientific Advisor to the Prime Minister of India in 1992.

(b) Read the text and fill in the bio-data of Dr Kalam given below.

BIO-DATA

- Name in full :
- Father's name :
- Mother's name :
- Place of birth :
- Date of birth :
- Brothers and sisters :
- Nationality :
- Religion :
- Education :
- Profession :
- Important post held :
- Achievements :
- Awards/honours :
- Life style :
- Date of passing away :

(c) Use the facts/ information you gathered in the Bio-data Form above and write a composition on Dr Kalam.

- (d) Refer to the text and fill in the blanks in the following table with correct information wherever possible. Then write a paragraph about the events / achievements of Dr APJ Abdul Kalam

Events / activities	Place	Year of happening
Birth		
Completed aerospace engineering		1960
Began career as a trainee		
	Defence Research Development Organisation	
Project Director, ISRO		
Launching of Rohini satellite		
Headed the IGMDP		
Supervised Pokhran-II nuclear tests		
Scientist of DRDO		
President		
Death		

- e) Write answers to the comprehension questions from qn. no.1 – 48.

