



Indian Inventions

Tejas

Light Combat Aircraft

Imagine a fighter jet designed and built in India, lightweight, fast, and powerful, protecting the nation's skies. That aircraft is the **Tejas LCA (Light Combat Aircraft)**.

But innovation never stops. Just like smartphones get updates, India is continuously improving Tejas with **advanced upgrades** to make it more capable and future - ready.



Developed by Indian scientists and engineers, Tejas represents the success of organizations like...

- Hindustan Aeronautics Limited
- Defence Research and Development Organisation
- Aeronautical Development Agency

What is Tejas LCA?

The HAL Tejas is:

- A lightweight fighter aircraft
- Designed for speed, agility, and combat
- Used by the Indian Air Force

Why Are Upgrades Needed?

Technology keeps changing. To stay competitive:

- Aircraft must be faster and smarter
- New threats require advanced systems
- Better safety and efficiency are needed

Tejas upgrades show:

- India's engineering strength
- Continuous improvement mindset
- Importance of research and development
- Ensures Tejas remains modern and effective.

Where is Tejas Used?

- Air defence missions
- Training and combat operations
- Strategic defence across India

Do you know?

Tejas is one of the smallest and lightest fighter jets in its class

Problem

Older aircraft systems may:



- Become outdated
- Lack advanced sensors
- Be less efficient
- Rapid advancements in global defence technology
- Need for better radar, weapons, and communication

DIY Activity : Speed vs Shape Experiment

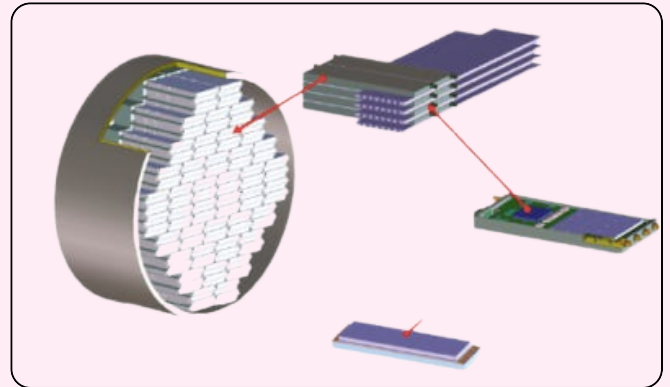
- Try different shapes
- Test flight distance

Learn aerodynamics

What are Tejas upgrades?

Tejas upgrades involve improving different systems of the aircraft.

1. Radar Upgrade (AESA Radar)



AESA (Active Electronically Scanned Array) radar:

- Tracks multiple targets
- Works faster and more accurately
- Improves detection capability

2. Improved Engine Performance

- Higher thrust
- Better fuel efficiency
- Increased speed

Helps in better performance during missions.

3. Advanced Avionics (Digital Systems)

- Glass cockpit displays
- Smart navigation systems
- AI - assisted decision-making

4. Electronic Warfare Systems

- Detect enemy signals
- Protect aircraft from attacks

5. Better Weapons Integration

- Air - to - air missiles
- Precision - guided bombs

Do you know?

The name Tejas means 'radiance' in Sanskrit

Conclusion:

Tejas is not just an aircraft; it is a journey of innovation. Upgrades show that science is always improving, technology evolves with time, and India is becoming self-reliant.

QUIZ TIME

1. Tejas is a:
 - a) Ship b) Fighter aircraft c) Rocket
2. AESA radar helps in:
 - a) Cooking b) Detection c) Painting
3. Tejas is used by:
 - a) Army b) Air Force c) Navy

ANSWERS - 1. b, 2. b, 3. b

Sudoku Challenge 2605

	9	6			8			
1								3
			9		2		8	
	5	7	8					9
3					9	1	6	
	2		3		5			
7								4
			2			5	9	

Riddles 2605

1. I help people move when walking is hard, giving them freedom on wheels - what am I?
2. I let fingers read where eyes cannot see, using raised dots - what am I?
3. I clean dirty water cheaply so everyone can drink safely - what am I?
4. I bring light to villages using only sunlight - what am I?
5. I provide internet to remote villages using signals from space - what am I?

(Answers on Back Cover Inside)

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