

BALLISTIC MISSILE VS. CRUISE MISSILE

BALLISTIC MISSILE

- Follows a ballistic trajectory without active propulsion.
- These weapons are guided only during relatively **brief periods of flight**.
- Path depends on velocity, gravity, air resistance, and Earth's motion.

CRUISE MISSILE

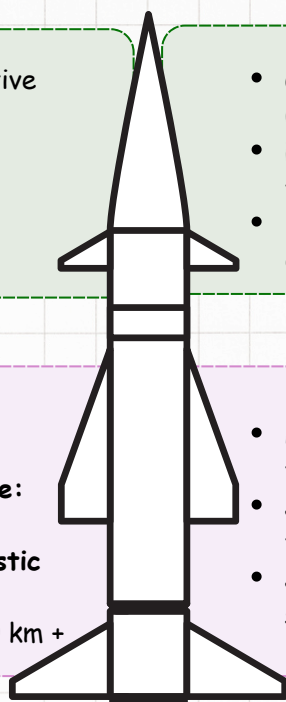
- Guided missile (target has to be pre-set) used against terrestrial targets.
- Remains in the atmosphere throughout its flight.
- Designed to deliver a large warhead over long distances with high precision.

TYPES

- Short-range (tactical) ballistic missile:** Range 300 km to 1000 km.
- Medium-range (theatre) ballistic missile:** 1,000 km to 3,500 km.
- Intermediate-range (Long-Range) ballistic missile:** 3,500 km and 5,500 km.
- Intercontinental ballistic missile:** 5,500 km +

TYPES (BASED ON SPEED)

- Hypersonic (Mach 5):** Travel at least five times the speed of sound. E.g. BrahMos-II.
- Supersonic (Mach 2-3):** Travel faster than the speed of sound. E.g. BrahMos.
- Subsonic (Mach 0.8):** Travel slower than the speed of sound. E.g. Nirbhay.



BALLISTIC MISSILE AND CRUISE MISSILE: DIFFERENCES

Parabolic trajectory, mostly outside the atmosphere	FLIGHT PATH	Straight, guided path within the atmosphere
Initial launch, then gravity/momentum .	PROPULSION	Jet engines throughout the flight
Typically hypersonic.	SPEED	Slower ; subsonic or supersonic.
Inertial guidance; less maneuverable .	GUIDANCE SYSTEM	Systems like GPS; highly maneuverable .
Long-range ; includes intercontinental capabilities (ICBMs).	RANGE	Typically medium to short-range ; some long-range variants.
Less precise; for large-scale destruction.	ACCURACY	High precision, for targeted strikes.
Nuclear/conventional ; strategic mission.	PAYLOAD	Nuclear/conventional ; tactical missions.
Easier to detect during the boost phase.	DETECTION	Harder to detect due to low-altitude.