

Definition: **ballistics** from *The Hutchinson Unabridged Encyclopedia with Atlas and Weather Guide*

Study of the motion and impact of projectiles such as bullets, bombs, and missiles. For projectiles from a gun, relevant exterior factors include temperature, barometric pressure, and wind strength; and for nuclear missiles these extend to such factors as the speed at which the Earth turns.



Image from: [A forensic scientist or criminalist in a crime... in Encyclopedia of Murder and Violent Crime](#)

Summary Article: **ballistics**  
From *The Columbia Encyclopedia*

(bəˈlɪsˌtɪks), science of projectiles. Interior ballistics deals with the propulsion and the motion of a projectile within a gun or firing device. Its problems include the ignition and burning of the propellant powder, the pressure produced by the expanding gases, the movement of the projectile through the bore, and the designing of the barrel to resist resulting stresses and strains. Exterior ballistics is concerned with the motion of a projectile while in flight and includes the study not only of the flight path of bullets but also of bombs, rockets, and missiles. All projectiles traveling through the air are affected by wind, air resistance, and the force of gravity. These forces induce a curved path known as a trajectory. The trajectory varies with the weight and shape of the projectile, with its initial velocity, and with the angle at which it is fired. The general shape of a trajectory is that of a parabola. The total distance traveled by a projectile is known as its range. A ballistic missile in the first stage of its flight is powered and guided by rocket engines. After the engines burn out, the warhead travels in a fixed arc as does an artillery shell. In criminology the term ballistics is applied to the identification of the weapon from which a bullet was fired. Microscopic imperfections in a gun barrel make characteristic scratches and grooves on bullets fired through it, but use causes the marks a particular gun makes to change over time.

See Lowry, E. D. , Interior Ballistics (1968);.

Labile, R. C. , Ballistic Materials and Penetration Mechanics (1980);.

Pejsa, A. J. , Modern Practical Ballistics (1989);.

Denny, M. , Their Arrows Will Darken the Sun: The Evolution and Science of Ballistics (2011).

### **APA**

Chicago

Harvard

MLA

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## APA

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## Chicago

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## Harvard

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## MLA

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