

Related Reading - Precision & Accuracy

Accuracy and precision are incredibly important in **ballistics**, the science that deals with the motion and effects of projectiles. A **projectile** is any object propelled by a force through three-dimensional space. Ballistics deals with everything from bullets to the flight paths of intercontinental missiles.

Ballistics is broken up into several different sub-fields. **Internal ballistics** covers what happens to a bullet, rocket, or cannonball before it exits the barrel of a gun or cannon. It deals with the different methods for firing the projectile. It also measures the physical forces the projectile is subjected to as it accelerates through the barrel.



External ballistics is the study of how a projectile behaves while it's in flight. During this period, the main physical forces that act on the projectile are gravity and air resistance. To shoot accurately and precisely, shooters must be aware of external ballistics, so that they can compensate for the effects of these forces.

Finally, **terminal ballistics** deals with what happens when a projectile hits its target. Since there are many different types of projectiles, it's a very large sub-category. Is the projectile designed for accuracy, or to deliver the maximum possible impact? Does it disintegrate on contact, or remain relatively intact? Does it penetrate deeply into the target, or break apart on impact?

Ballistics is used in a variety of situations. Forensic ballistics determines exactly how guns are used to commit crimes, while ballistic missiles use the principles of this science to guide missiles toward precise targets thousands of kilometers away.