

The Mechanical Universe
NEWTON'S LAWS
17min



Read the following questions before the video begins. Answer the questions while the video is in progress. This is an **INDIVIDUAL** effort, so complete it by yourself.

DON'T ASK OTHERS FOR ANSWERS since doing so would be cheating.

Most of the important information (and answers to the questions on this sheet) is in the text spoken during the presentation. So don't become entranced by the visual imagery; concentrate and stay focused on the words!

1. $F=ma$ is a(n) _____ equation. Both force and acceleration are _____.
2. In $F=ma$, force and acceleration
 - A. are scalar quantities having the same units.
 - B. must be perpendicular to each other.
 - C. must be directed opposite to each other.
 - D. must have the same direction.
3. When something falls, gravity _____.
4. The downward force gravity exerts on a body is the body's _____.
5. Newton inherited the idea of inertia from _____.
6. When launched as a projectile, a body's motion has two components
 - A. independent of each other.
 - B. related to each other by velocity.
 - C. equal in magnitude and opposite in direction.
 - D. related to each other by gravity.
7. The parabolic path of a projectile was discovered by
 - A. Johannes Kepler.
 - B. Galileo Galilei.
 - C. Isaac Newton.
 - D. Christian Huygens.
 - E. René Descartes.
 - F. Jearl Walker.
8. At only ? years of age, Newton conceived the discoveries that would alter forever the world's understanding of the universe.
 - A. 7
 - B. 11
 - C. 13
 - D. 17
 - E. 19
 - F. 23
 - G. 29
9. Newton's first law is a statement of _____.
10. Newton's third law is the law of
 - A. inertia.
 - B. interaction.
 - C. definite proportions.
 - D. acceleration.