

Real Life Applications of Newton's Laws

- An understanding of Newton's Laws is vital in a large number of real-life situations.

1) The rotation of the blades on a helicopter causes air to start flowing down through the blades, which gives an equal but opposite force in the opposite direction that lift it up. The rotating blade at the back stops the helicopter spinning in circles, using the same principle. This is all based on Newton's 3rd Law.



2) The equations of linear motion and Newton's Laws allow Ballistics experts to figure out what happened at different crime scenes. The mass, speed and acceleration of bullets can be used to estimate trajectories, impact velocity and location of fired bullets.



3) An excellent understanding of Newton's Laws is required in the design, testing and building of Formula 1 racing cars. There are hundreds of forces acting on the cars because of the high speeds they travel at and being able to model these is vital in order to keep the car on the track, to minimise damage and maximise safety to the driver.



4) Civil Engineers need to understand Newton's Laws when designing large bridges. Bridges have to be designed to withstand the weight of all the vehicles using them, the force of the moving tide, the force of strong winds blowing across them as well as many other forces. Watch this clip of the Tacoma bridge collapse in November, 1940!

<https://www.youtube.com/watch?v=j-zczJXSxnw>

