



+ Text Only Site  
+ Non-Flash Version  
+ Contact Glenn

FIND IT @ NASA  
+ GO

- + ABOUT NASA
- + NEWS & EVENTS
- + MULTIMEDIA
- + MISSIONS
- + MY NASA
- + WORK FOR NASA



About Rockets

**Start Your Journey**

- Rocket Research 101
  - Thrust
  - Acceleration
- Rocket Research 102
- Rocket Research 103

- Educator Section
- Rocket Safety
- The Simulators
- Install 3D Simulator
- Home

## START YOUR JOURNEY

### Welcome to Rocket Research 101

#### Propulsion - Acceleration (Change in Speed)

If you want to be "launched," the thrust must be greater than your weight. Your weight is just the force of gravity on your body. The extra "thrust" will make you accelerate upwards.

**Statement: The greater the "thrust," the faster your rocket will accelerate.**

*Ok, Rocket Scientists. Take the Newton's Laws of Motion Challenge. Can you guess which of Newton's Three Laws of Motion applies?*

Select the law that you think best fits the statement in the yellow box above.

**Law 1. The Law of Inertia:**

"An object at rest tends to stay at rest and an object in motion tends to stay in motion."

**Law 2. The Law of Proportionality:**

"The acceleration of an object is directly proportional to the net force and inversely proportional to its mass." This can be expressed in equation form:

$$\text{Force} = (\text{Mass}) \times (\text{Acceleration})$$

**Law 3. The Law of Action-Reaction:**

"For every action there is an equal and opposite reaction."



<< Back

Continue >>

Any comments, concerns, or questions should be addressed to:  
Developer: **David Mazza**  
Responsible NASA Official: **Jo Ann Charleston**