Soaring Oklahoma

Presented by

OKLAHOMA AERONAUTICS COMMISSION

AEROSPACE & DEFENSE

Lesson 3: Newton's Third Law of Motion

Newton's third law of motion states that for every action there is an equal and opposite reaction. It is also important to understand that the equal and opposite reaction is influenced directly by the force of the initial action. Remember what we learned about Force. We can calculate force when we multiply an object's mass by its acceleration.

Force = Mass x Acceleration

This is important to understand because when we understand the influence that the force of an action has on the equal or opposite reaction, we can begin to manipulate the original force to create a desired reaction.

If you are playing tennis and the goal is to get the ball to bounce and go over the net and bounce again inside the court you can practice and make adjustments to your swing based on where the ball goes. If the first time you hit your tennis ball it does not bounce high enough to go over the net, you know that increasing the force at which you hit the ball will increase the reaction and get the ball over the net. If you increase your force and the ball goes over the net but bounces outside of the court you are playing on you can try again but reduce your force slightly to decrease the reaction.

BUILDING YOUR OWN ROCKET

Watch the following video for directions on how to build your own rocket that travels horizontally: https://www.youtube.com/watch?v=5eirTBW0rpI

MATERIALS:

- Construction paper
- Scissors
- Masking Tape
- Life Savers
- Two straight straws
- One bendy straw
- One balloon
- Rubber band

CLASSROOM COMPETITION

After students have designed their rocket cars, conduct an in-classroom competition to see which car travels the farthest!