Let's Kick It

Grade Level: 8, 9, 10
Where taught: Classroom or Gym
 # Students: maximum of 30 students
Time required for presentation: 60-90 minutes (2 Days), plus 10 minutes between session to clean up and prepare for the next session
Topics Covered:
Newton's 3 Laws of Motion – Physical Science
Fundamentals Concepts of Energy including sources, types and uses – Life Science
Aerobic and Anaerobic Energy Production – Life Science

Georgia Standards of Excellence: 8th grade: S8P3 b, c
9th -10th: SP1 a, c, d; SP2 a, b; SPS8 a, b, c

Let's Kick It combines the most popular sport in the world with Physics. This module focuses on teaching students foundational concepts of motion through interactive soccer activities, and explains how the body generates energy for motion via live demos. To conclude, students will be rewarded with an opportunity to apply the concepts they learned in the classroom to real drills on the soccer field.

Purpose

- To introduce and refresh students' knowledge of the Newton's Laws of Motion
- To clarify differences between scalar and vector units
- To give the students the opportunity to distinguish between aerobic and anaerobic energy production

Activities

- ATP Muscle Demo
- Soccer and Asphalt Ramps
- Marble Runs
- Soccer Game

Day 1.

- Students utilize introductory physics concepts using different soccer examples
- Students conduct mathematical calculations using data derived from a felt soccer ramp, an asphalt soccer ramp, and a marble run.

Day 2.

- Students observe how muscles contract via experimentation on rabbit muscle
- Students apply the Laws of Motion to soccer during a game inside a gym or outside on the field