Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Guided Notes: The Physics of Sports

* Newton’s 1st Law
  + **Objects at rest remain at rest**
  + **Objects in motion remain in motion**
    - **UNTIL YOU APPLY \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Newton’s 2nd Law**
* **F = ma**
* **What forces are important in sports?**
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Newton’s 3rd Law
  + **For every action there is an equal and opposite reaction.**
* Conservation of Energy
* Potential🡪\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 🡪\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 🡪\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 🡪\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Reaction time

Presenter will drop ruler and volunteer will grab it with thumb and index finger. The distance it falls can then be converted to time. In a classroom and with enough rulers, the students can break into groups of two or three and everyone gets a chance. In a larger group, bring one or two volunteers to front and each presenter can drop the ruler for one volunteer. Or just do one.

What was your measurement? \_\_\_\_\_\_\_\_\_\_\_\_\_

What does that convert to in time? \_\_\_\_\_\_\_\_\_\_\_\_\_\_