

Making Physics Fun!

Presentation by Matt Giunta

Activity/Lab/Story/Demo	Physics Concept(s)
Water Balloon Story	Free Fall
Ball in the Cup Lab	Horizontal Projectiles
45° Rocket Launch (for Pizza)	Upwardly Launched Projectiles
Marni's Bat Mitzvah Story	Projectiles
Mr. G's Blind Date Story	Newton's 1 st Law of Inertia
Mr. G's Navy Flight Physical Story	Mass vs. Weight
Bed of Nails	Pressure
$\Sigma F=ma$ Sound & Light Show	Newton's 2 nd Law of Motion
Pathfinder Story	Acceleration on an Incline
Egg Toss	Momentum/Impulse
BB Gun Lab	Momentum
The Tardy Ball	Conservation of Energy
Horsepower Lab	Energy/Power
Razor Lab	Energy & Projectiles
Kinetic Karnival	Energy
Homework => HomePhun	Work & Energy
Penny on a Hanger Demo	Centripetal Force
Newton Carols & The Physikka Song	All Kinematics
Slinky™ Lab	Standing Waves
Mach 1 Lab	Standing Waves in Closed Pipes
Find the Frequency Lab	Interference
Van de Graaff Demo w/Lefty	Electrostatics
Physics Dogs	Series & Parallel Circuits
Build your own Speaker	Electromagnetism
Physics Of... Final Project	Everything!

Resources

<http://phet.colorado.edu/web-pages/simulations-base.html>

Many use Java Applets for most physics concepts

<http://www.falstad.com/mathphysics.html>

Lots of cool Java Applets for waves, E&M, and beyond

www.teachersdomain.org

WGBH has tons of good activities for science, math, and humanities

Lab Equipment & Software

Logger Pro Motion & Data Analysis Software www.vernier.com (Free 30 day trial!)

<https://www1.fishersci.com/wps/portal/CMSTATIC?href=index.jsp&store=ScienceEducation&segment=scienceEduStandard>

Major school supplier for science lab equipment

9th Graders (or teenagers) in a nutshell...

- Inquisitive
- Immature
- Hardworking
- Impressionable
- Irresponsible
- Social
- Dramatic
- Loud
- Energetic
- Oblivious
- Kind
- Eager to please
- Emotional
- Honest
- Lackadaisical
- Lost
- Adventurous
- Obsessive
- Developing
- Fun!

Topics for Discussion

- Developing your classroom persona
- Student motivation
- Classroom management techniques
- Breaking the code of “kid speak”
- Parent Issues
- Cheating
- Maintaining your passion for teaching: Getting through the next 3 years

Activity

- Develop a lesson plan or activity for next week

Warm up Questions

- How many of you taught a lesson today? If so, how did it go?
- What are your current feelings about teaching?
- Anyone willing to share a success story or “lesson learned” from the past week?