

University of Virginia

Department of Physics

Physics 606: How Things Work II

Lecture #1 Slides:

Introduction to course

and

Skating

Skating

Question:

A rotary lawn mower spins its sharp blade rapidly over the lawn and cuts the tops of the grasses off. Would the blade still cut the grasses if they weren't attached to the ground?

Observations About Skating

- At rest on a level surface:
 - If you just wait, you stay stationary
 - If you're pushed, you start moving that direction
- Moving on a level surface:
 - If you just wait, you coast steadily in straight line
 - If you're pushed, you change direction or speed

Physics Concept

- Inertia
 - A body at rest tends to remain at rest
 - A body in motion tends to remain in motion

Newton's First Law, First Version

An object that is free of external influences moves in a straight line and covers equal distances in equal times.