

## Try this!

## Pendulums on a rope

One of the most unique inquiry investigations of pendulums is swinging pendulums on a taut rope. Here is how to turn a simple activity into a great investigative lab.

On day # 1, stretch a rope across the classroom from wall to wall and hang two equal length pendulums near the middle of the room high above the student desks or wherever works best (see Figure 1). Pull back one of the pendulums (in this case, a baseball) and release. The students will observe the pendulums' behavior and record the action. On day #2, hang two additional pendulums of equal length (see Figure 2). Pull back one of the two new pendulums and release (in this case a softball). Students will observe and record all behavior. Asking students to make suggestions of various changes, allow the students to freely investigate the phenomenon. The results can be fantastic when the students choose the variables (possibly mass changes, angle of release differences, various pendulum lengths, etc.) and additional pendulums (notice Figure 3)

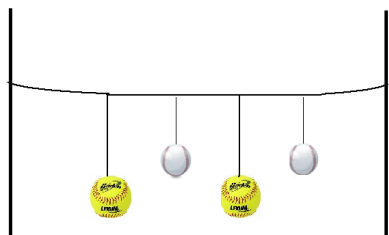


Figure 1

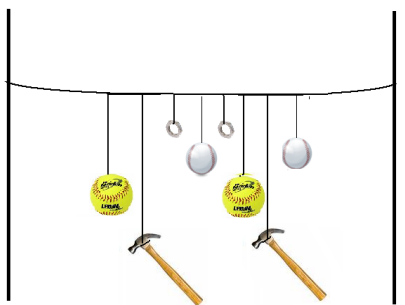


Figure 2

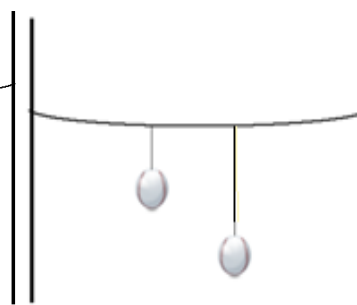


Figure 3

Explanation: This is an investigation of momentum transfer. It is also connected to resonance and can be investigated during a study of motion, momentum, waves and sound, etc.

Submitted by Glyn Burton

Lesson from Tennessee Science Teachers Association newsletter

summer 2009