Physics, Preparation for Tuesday, Dec. 5

Read N10 from *Six Ideas*

Oscillation.

Presentations

N10 Presentations

Carried forward:

In the last class, I did the hanging version of the mass on a spring, and I did the simple pendulum using torque. I will follow-up by handing out write-ups of those.

New presentations:

1. Will & Hexi, N10B.4, p. 167, magnesium atom oscillating within a crystal
2. Jack & Trey, N10M.7, p. 167, pogo stick
3. Rebecca & Emma, N10M.12, a string and a spring — I think there are typos in this problem — places where Moore wrote “spring” but he meant “string.”

N10 Advanced Topic

If time:

Various extremely important systems are what are called “coupled harmonic oscillators.” The easiest coupled harmonic oscillator is two masses connected by a single spring. The next easiest version is three masses connected by two springs. If there is time, I will introduce you to at least one of these systems.

Moore doesn’t cover coupled harmonic oscillators. Things get really interesting and even more advanced when you have an infinite number of masses connected by an infinite number of springs, and of course, after you do the infinite number of masses problem, you next want to take the spacing between the masses to zero and the size of each mass to zero, in such a way as to lead you to an understanding of continuous media.