



PLAYING WITH PENDULUMS

Embrace discovery and gain scientific knowledge while experimenting with pendulums. Try these fun activities at home.

This week's activities: Long vs. Short – Wrecking Ball

Long vs. Short Pendulums

Suggested Materials:

- String, thin rope, or yarn
- A weight to be the bob on the end of the string. A washer or ball will do.
- Hockey stick or broom supported on two chairs (dowels and a plywood base are optional choices for the keen woodworking folk.)

Directions:

The weight on the end of a pendulum is called a bob. Experiment with different length strings attached to the bobs and see what happens.



1. Support a piece of dowel or a hockey stick or a broom handle on two chairs.
2. Make two pendulums, one with a long string and one with a short string. Tie them to the pole.
3. Lift the two pendulum bobs so the string is parallel to the floor.
4. Let the bobs go and observe. Does one swing faster than the other? If so, which is faster?

Pendulum Wrecking Ball

Suggested Materials:

- String, thin rope, or yarn
- A weight to be the bob on the end of the string, like a golf ball, tennis ball or other heavy ball (an apple would do in a pinch)
- A lightweight ball or pompom
- Hockey stick or broom supported on two chairs
- Paper or Styrofoam cups, lightweight food storage containers, blocks, or anything else you can stack and knock over

Directions:

The goal here is to use the pendulum bobs to knock over the blocks. Stack several blocks into a structure in the path of the bob. Make a guess as to what will happen when the bob swings into the stacked blocks. Try different bobs and materials.

- Hollow bob – what will happen if you try a hollow / lightweight bob (here a cat toy was used). Let the bob go so that it swings. Was your guess correct?
- Solid bob – what will happen if you try a solid bob (a pear was used here). Let the bob go so that it swings. Was your guess correct?

Were the results the same or different for each bob? Why?

- Solid blocks vs. plastic containers – Which are easier to knock over, plastic containers or wooden blocks? Why?



Giant wrecking ball

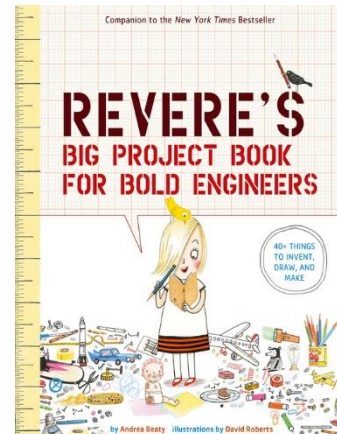
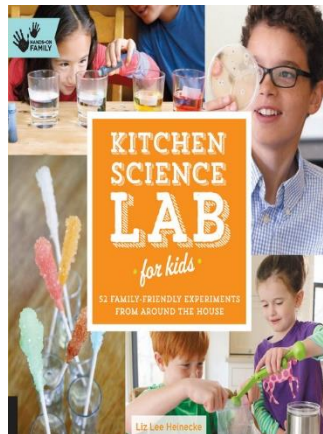
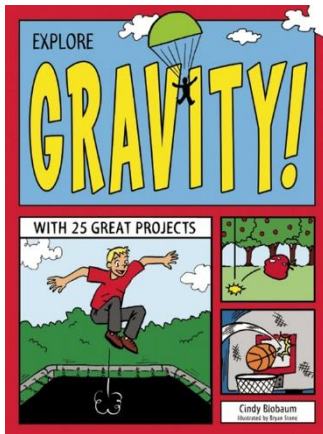
Stack cardboard boxes into towers and then try to knock them all down by throwing a beach ball at them.

How tall can you make your box building?



Links to eResources:

Check out our [eBooks](#) on these topics:



[Gravity](#) | [Science](#) | [Machines](#)

Watch *Science Max*, Season 3, Episode 1 to see Phil build a big Rube Goldberg machine on Kanopy Kids.

Watch the short film *The Marzipan Pig*, narrated by Tim Curry and see a grandfather clock swing its pendulum on KanopyKids.

You can get a library card at hpl.ca/online-registration.

If you would like to share one or all your creations, please take a picture and post it to social media using the hashtag, #HPLmakesomething.



#HPLmakesomething

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