



Worksheet No.1 – Build a “Rube Goldberg Machine”!

A Rube Goldberg device is a machine that completes a simple task in an extraordinarily complicated way. Building one is a great way for you to explore many different ideas in physics, and to put those ideas all together to make something fun!

This short worksheet is meant to help you design your machine! Check off all the ideas you’ve included in your machine, and explain how they work. You can also add physics ideas to your machine that aren’t in this list!

This worksheet should be used with reference to “**Challenge No. 1: Build a “Rube Goldberg Machine”**”, part of the “Physics & Astronomy at Home” series on the UBC Physics & Astronomy Outreach website at <https://bit.ly/2Vtg8y5>.

Levers

In the “How to Pass the Salt...” video, how are levers used around 0:36? Can you find other examples of levers in the same video?

How have you used levers in your Rube-Goldberg machine?



☐ Pulleys

How was a pulley used in the “Simple Machine and Rube-Goldberg” video around 0:07?

How is a pulley used in your Rube-Goldberg machine?

☐ Potential energy

Besides the lemon at the start of the video, what’s another example where Potential Energy was used in the “Lemonade Machine” video? (Look for objects falling downwards!)



How is Potential Energy used in your Rube-Goldberg machine?

Momentum

How was Momentum used in the “OK Go - This Too Shall Pass - Rube Goldberg Machine” video? (Look for collisions between two objects, and observe their speeds before and after)

How is Momentum used in your Rube-Goldberg machine?



☐ Buoyancy

How was Buoyancy used in the “Rube Goldberg meets The Invention Age” video around 0:29?

How is Buoyancy used in your Rube-Goldberg machine?