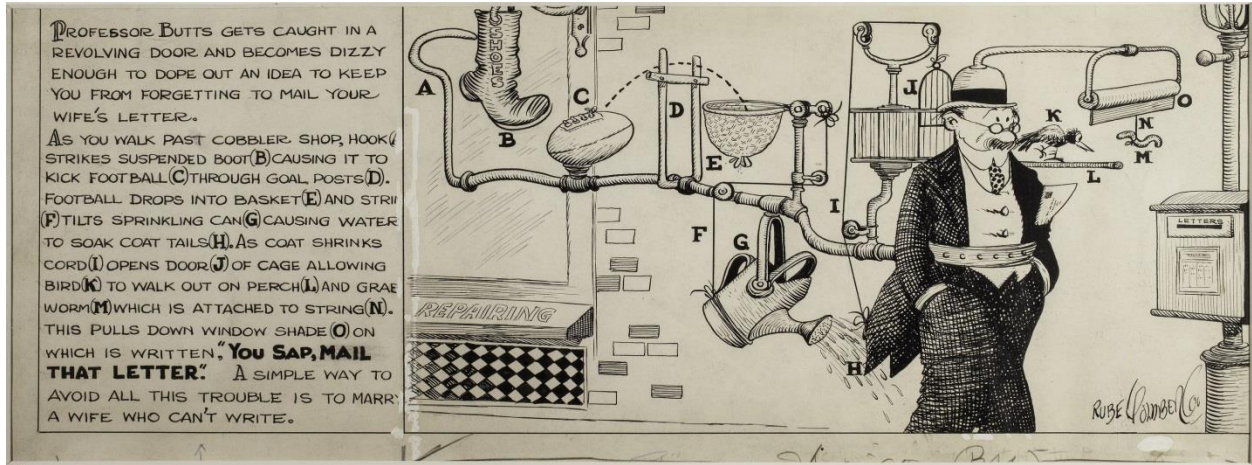


## AP Physics 2 Summer Assignment



Your task will be to create a Rube Goldberg machine. It must contain at least ten steps and include five different types of energy.

More information about types of energy:

There are two main types of energy, potential and kinetic. Potential is energy that is stored and ready to use and kinetic energy involves movement. For each, there are different forms.

For potential: (from <http://steamism.com/physics-types-of-energy/>)

1. **Chemical energy** – the energy stored in the bonds between atoms that holds molecules together
2. **Nuclear energy** – the energy stored in the nucleus of the atom that holds the nucleus together
3. **Gravitational energy** – the energy an object has because of its position or height
4. **Elastic energy** – or stored mechanical energy, is energy stored in an object by the application of force

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For kinetic: (from: <http://steamism.com/physics-types-of-energy/>)

1. **Mechanical energy** – or motion, is the movement of objects or substances from one place to another
2. **Electrical energy** – the energy from flow of electric charge (movement of electrons in one direction)
3. **Thermal energy** – or heat energy, the internal energy of a substance due to the vibration of atoms and molecules making up the substance
4. **Radiant energy** – or light energy, or electromagnetic energy that travels in transverse waves
5. **Sound energy** – the movement of energy through substances in the form of compression waves

[https://www.youtube.com/watch?v=86PzkRbw4\\_U](https://www.youtube.com/watch?v=86PzkRbw4_U)

You must turn in the following:

- Video showing the machine in action (email to [gmeerschaert@hcd.org](mailto:gmeerschaert@hcd.org)) OR a picture of each step OR a drawing of the machine
- Explain each step in your machine. What types of energy exists in the beginning and end of each step? Each step should be a paragraph.
- Explain each type of energy used in your machine. Each type of energy should be a paragraph.

Use the following links for more information on Rube Goldberg machines:

[https://en.wikipedia.org/wiki/Rube\\_Goldberg\\_machine](https://en.wikipedia.org/wiki/Rube_Goldberg_machine)

<https://www.youtube.com/watch?v=RBOqfLVCDv8>

<https://www.youtube.com/watch?v=GOMIBdM6N7Q>