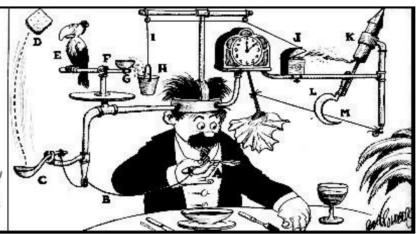
Rube Goldberg, the Engineer

Self-Operating Napkin

As you raise spoon of soup (A) to your mouth it pulls string (B), thereby jerking ladle (C) which throws cracker (D) past parrot (E). Parrot jumps after cracker and perch (F) tilts, upsetting seeds (G) into pail (H). Extra weight in pail pulls cord (I) which opens and lights automatic cigar lighter (J), setting off sky rocket (K) which causes sickle (L) to cut string (M) and allow pendulum with attached napkin to swing back and forth thereby wiping off your chin.



This cartoon invention wipes the man's chin every time he lifts his spoon. Can you figure out what makes it work?

A man named Rube Goldberg drew this. He was famous for drawing cartoons of silly inventions. Today, some people call complex machines that do simple things "Rube Goldberg machines."

There can be a lot of science in a Rube Goldberg machine. The machine in the cartoon uses levers. Levers transfer energy from one place to another. Can you find the levers in this machine?

This machine also stores energy by putting a weight up high. Can you find that weight in the machine?



What about the machines you use every day? Are any of those machines like a Rube Goldberg machine?

Think about a bicycle. What happens when you pedal?



Pushing on the pedals makes a big gear turn. The big gear makes a chain move. The chain makes a small gear turn. That small gear makes the bike's back wheel turn, and the wheel pushes on the road to make you move.

Sounds a little like a Rube Goldberg machine, doesn't it?

