Rube Goldberg™, The World of Hilarious Invention Exhibit! is created by the Children's Museum of Pittsburgh in partnership with the Heirs of Rube Goldberg.
DRAW YOUR OWN RUBE GOLDBERG MACHINE!

CAN YOU ADD ANY OF THESE ITEMS TO YOUR MACHINE?

STRING
BOOT
HAMMER
BOTTLE
BOWLING BALL
FOUNTAIN
PULLEY
HAT
LEVER
SCISSORS
BALLOON
DOG
LETTER KEY OVERVIEW

Review these drawings and descriptions to further understand two of Rube’s intricate machines that are found in the exhibit.

"AN EPIC WAY TO MAKE A PAINTING" BY JENNIFER GEORGE, ILLUSTRATED BY ED STECKLEY

Rube pulls string (A), lowering bucket of sand (B) onto trash pedal (C). Lid springs open, hurling rubber duck (D) into mallet (E), which slams down on paint tube (F). Large dollop of paint hits ceramic mug (G), causing it to fall and hit “on” switch (H) of fan (I). Spinning tube (J) connected to belt (K) turns mechanical lawn mower blades (L), allowing three brooms (M) to drag through paint trays (N) and onto the canvas (O), creating an epic painting.
LETTER KEY OVERVIEW

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"AN EASY WAY TO SHARPEN A PENCIL" BY RUBE GOLDBERG

Open window (A) and fly kite (B). String (C) lifts small door (D) allowing moths (E) to escape and eat red flannel shirt (F). As weight of shirt becomes less, shoe (G) steps on switch (H) which heats electric iron (I) and burns hole in pants (J). Smoke (K) enters hole in tree (L), smoking out opossum (M) which jumps into basket (N), pulling rope (O) and lifting cage (P), allowing woodpecker (Q) to chew wood from pencil (R), exposing lead.
SCIENTIFIC SCAVENGER HUNT

Try a scavenger hunt at home or in the classroom with open-ended prompts inspired by elements found in the Rube Goldberg machines.

• Find something magnetic
• Find something that rolls
• Find something that uses a pulley
• Find an object that uses a spring
• Find something that makes a unique sound
• Find an everyday object that could be used for something else

Draw a picture of what you found.
BECOME AN INVENTOR!

His invention cartoons were what made Rube Goldberg a household name. They were rendered in the exact style of US Patent applications labeled with a letter so that the reader could follow the chain reaction sequence. Rube's inventions were designed to work, but drawn for laughs.

Dream up your own invention and create a patent application below.

INVENTION:
INVENTOR:
DATE:

DESCRIPTION OF INVENTION:

DRAW AND LABEL INVENTION HERE:

Labeled parts of invention:
A- F-
B- G-
C- H-
D- I-
E- J-
RUBE GOLDBERG USED VARIOUS LINE MARKINGS TO SHADE HIS CARTOONS. PRACTICE THESE DIFFERENT TECHNIQUES IN THE SQUARES BELOW.

Hatch (Lines in 1 direction)
Cross Hatch (Lines in 2 directions)
Triple Cross Hatch (Lines in 3 directions)
Curved Lines
Wavering Lines
Short Strokes

CAN YOU DRAW YOUR OWN PICTURE NOW AND SHADE IT USING THE TECHNIQUES YOU PRACTICED ABOVE?
ADDITIONAL RESOURCES

These ready-to-go resources are a great catalyst for learning. These suggestions can be used before or after visiting the exhibit.

Book List

- **Rube Goldberg’s Simple Normal Humdrum School Day** by Jennifer George
  Rube Goldberg descendant Jennifer George celebrates all aspects of her grandfather’s career, from his very first published drawings in his high school newspaper and college yearbook to his iconic inventions, his comic strips and advertising work, and his later sculpture and Pulitzer Prize-winning political cartoons. This book can be a great resource to make direct connections between Rube Goldberg’s original comics and the exhibit.

- **Coppernickel, The Invention** by Wouter van Reek
  Coppernickel has been reading his big book all morning, about all the inventions that have ever been made. But when he gets to the end, he finds that the last page is blank. “Let’s make our own invention,” Coppernickel says to his dog Tungsten. What ensues is nothing less than crazy mechanical madness as Coppernickel learns that when it comes to making inventions, sometimes simplicity is best.

- **Rosie Revere, Engineer** by Andrea Beaty
  Where some people see rubbish, Rosie Revere sees inspiration. Alone in her room at night, shy Rosie constructs great inventions from odds and ends. However, she hides her inventions away under her bed because she’s afraid of failure. Then, a fateful visit from her great-great-aunt Rose shows her that a first flop isn’t something to fear—it’s something to celebrate.
**ADDITIONAL RESOURCES**

**TOON Book Series**
Just as Rube Goldberg used comics to illustrate his inventions, young readers can develop familiarity with comics in an age-appropriate format. TOON Books are comics designed for children ages three and up.

**Level 1: First Comics for Brand-New Readers**
INTEREST LEVEL: Age 3+
READING LEVEL: Grades K-1

Adele in Sand Land by Claude Ponti
Follow Adele on her sandbox discoveries of a barefoot king, a cloud of fluffy chicks, and a dessert island.

A Trip to the Bottom of the World with Mouse by Frank Viva
There’s so much to see at the bottom of the world! Join a young explorer and his best friend, Mouse, on a sea journey to Antarctica, where they make new friends with penguins and a whale – and have all kinds of fun.

Wordplay by Ivan Brunetti
Go “outside,” “elsewhere,” and down the “rabbit hole” with this humorous introduction to compound words.

**Level 2: Easy-to-Read Comics for Emerging Readers**
INTEREST LEVEL: Age 4+
READING LEVEL: Grades 1-2

Benny and Penny in The Toy Breaker by Geoffrey Hayes
Benny and Penny hide every toy and tell Cousin Bo he can’t play with them. Will the three mice find a way to play without something getting torn, ripped, or snatched away?

**Level 3: Chapter Books for Advanced Beginners**
INTEREST LEVEL: Age 6+
READING LEVEL: Grades 3+

Zig And Wikki in Something Ate My Homework by Nadja Spiegelman & Trade Loeffler
Zig and Wikki are in search of a pet when they land on a planet full of strange creatures like flies, frogs, and raccoons.

**TOON Graphics: Graphics for Middle-Grade Visual Readers**
INTEREST LEVEL: Age 8+
READING LEVEL: Grades 3-6

Lost in NYC: A Subway Adventure by Nadja Spiegelman
Pablo’s first day in a New York City school quickly goes off the rails during a field trip to the Empire State Building. Pablo accidentally gets on the wrong train, but with help from a new friend and from the city itself, he soon is on the fast track to becoming a local. This story—which features maps, archival photos, and fascinating facts—will help readers explore the subway without leaving their seats.