CAREER CONNECTIONS

BALL MACHINE

Interests and Skill Sets

- Tinkering
- Learning how things work
- Inventing
- Machines/Machinery
- Analytical problem solver
- Curious Nature
- Perseverance
- Creativity
- Teamwork
- Math

Jobs

- Auto Mechanic/Technician
- Exhibit Designer
- Inventor
- Tool Designer
- Mechanical Engineer
- Aerospace Engineer
- Robotics Technician
- Industrial Technician
- Roller Coaster Designer
- Product Designer

Courses and Degree Programs

- Mechanical Engineering
- Mechanical/Industrial Design
- Physics
- Mechanics/Technicians: aircraft, industrial machinery, heavy equipment, HVAC, Electrical, Radio, and Automotive
- Mechanical CAD Design
- Electro-Mechanical Engineering
- Tool Design
- Nanotechnology
- Bio-Mechanical Engineering
- Robotics
- Mechatronics
- Materials Science

Writing Prompts

1. Read about the mechanical inventions of Leonardo Da Vinci, draw it, describe how it works, or explain how it affected modern day inventions.

2.Write a poem or short story about an inventor's dream to design a machine.

3. Observe or watch a video about machines in action and describe how they work.

Physics, Simple Machines, Rube Goldberg, and Mechanical Engineering

- Newton's Laws: Crash Course Physics #5
- Real World: Work, Force, Energy and Motion
- How does work...work? - Peter Bohacek
- Energy, work, and power
- Simple Machines for Kids: Science and Engineering for Children - FreeSchool
- Mechanical Engineering: Crash Course Engineering #3
- What is a Mechanical Engineer? - An Introduction
- CBS Sunday Morning: Rube Goldberg the Father of Invention
- Jiwi's Machines: A Four Part Web Series Packed with Physical Comedy and Mechanical Mayhem

Activities, Games and More

- Museum of Science and Industry Simple Machines Game
- http://aspire.cosmic-ray.org/Labs/Machines/
- Learning Games for Kids - Simple Machine Games
- Neo K12 Simple Machines
- Activity: Make a mechanical flower
- Mechanical Engineering Facts for kids
- Teach Engineering: Simple Machines
- Teach Engineering : Splash, Pop, Fizz, Rube Goldberg Machines
- Leonardo Da Vinci's Inventions
- Physics for Kids

Machine Literature

Non- Fiction

- *The Science Book of Machines* by Neil Ardley
- *Making Mad Machines* by Jen Greening
- *Projects with Machines* by John Williams
- *Machines at Work* by Alan Ward
- *Forces and Machines* by Sinclair MacLeod
- *Machines* by Fred MacLeod
- *Simple Machines* by Rae Bains
- *Make it Work Machines* by David Glover
- *Levers* by Chris Ollerenshaw and Pat Triggs
- *The Big Book of Things That Go* by Chris Ollerenshaw and Pat Triggs
- *Tools* by Venice Shone
- *The Toolbox* by Anne and Harlow Rockwell
- *Toolbox* by Gail Gibbons
- *Bikes* by Gail Gibbons
- *Things That Go* by Gail Gibbons
- *Flight* by Robert Burleigh
- *Girls Think of Everything: Stories of Ingenious Inventions By Women* by Thimmesh & Sweet
- *The Kids' Invention Book* by Arlene Erlbach
- *Mistakes that Worked: 40 Familiar Inventions and How They Came to Be* by Charlotte Foltz Jones

Fiction

- *Bicycle Man* by Allen Say
- *The Carrot Seed* by Ruth Krauss
- *Doctor DeSoto* by William Steig
- *Katy and the Big Snow* by Virginia Lee Burton
- *The Littles and the Trash Tinies* by John Peterson
- *Mike Mulligan and His Steam Shovel* by Virginia Lee Burton
- *The Invention of Hugo Cabret* by Brian, Selznick
- *The Most Magnificent Thing* by Ashley Spires

Poetry

- *The Book of Foolish Machinery* by Donna Lugg Pape

Invention Topics

- *Samuel Tood's Book of Great Inventions* by E.L. Koingsburg
- *Be an Inventor* by Barbara Taylor