

Timeline

Introduction: Let's Explore Engines

Build a Catapult

Build a Trebuchet

Build a Battering Ram

Build a Simple Cotton Gin

Build a Paper Airplane Catapult

Chapter One: Hot Burning Fuel: Heat Engines

Build a Rubber Band Heat Engine

Demonstrate Magnetism

Build a Mini Steam Boat

Build a Car Powered by Magnets

Chapter Two: A Magnetic Attraction: Electric Motors

Demonstrate Conductors vs. Insulators

Build a Simple Circuit

Build a Homopolar Motor

Build a Simple Electric Motor

Chapter Three: Powered by Air: Pneumatic Motors

Demonstrate Pressurized Air with a Balloon

Demonstrate Pressurized Air by Lifting Books

Blow Your Lid

Perform the Water Glass Trick

Make a Balloon Blow a Whistle

Demonstrate Air Pressure with a Potato

Chapter Four: Fluids Under Pressure: Hydraulic Motors

Build a Milk-Carton Conveyor Belt

Build a Hand-Crank Winch

Demonstrate Water Power

Make a Tornado in a Bottle

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Demonstrate How Gears Work

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