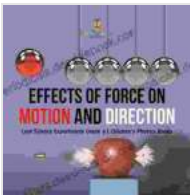


Awesome Physics Experiments for Kids of All Ages

Physics is the study of matter and energy, and it's all around us! From the way a ball bounces to the way a car moves, physics is at work. These experiments will help kids learn about the laws of motion, gravity, energy, and more in a fun and engaging way.



Effects of Force on Motion and Direction : Cool Science Experiments Grade 3 | Children's Physics Books

by Ruth Heald

★★★★☆ 4.7 out of 5

Language : English

File size : 27255 KB

Screen Reader: Supported

Print length : 72 pages

Paperback : 136 pages

Item Weight : 9 ounces

Dimensions : 7 x 0.31 x 10 inches



Experiments for Kids of All Ages

The Dancing Raisins

This experiment is a great way to learn about buoyancy and gas pressure.

- Clear glass or jar
- Water
- Baking soda

- Vinegar
- Raisins

1. Fill the glass or jar with water.
2. Add a few tablespoons of baking soda to the water and stir until dissolved.
3. Add a few tablespoons of vinegar to the water and stir.
4. Add a handful of raisins to the water.
5. Observe what happens.

The raisins will sink to the bottom of the glass or jar. When the baking soda and vinegar react, they create carbon dioxide gas. The gas bubbles will attach themselves to the raisins, causing them to float back up to the surface. The raisins will continue to sink and float until all of the gas is released.

The Rainbow in a Jar

This experiment is a great way to learn about density and the different colors of light.

- Clear glass or jar
- Water
- Vegetable oil
- Food coloring (red, yellow, blue, green)

1. Fill the glass or jar with water.
2. Add a few tablespoons of vegetable oil to the water.

3. Add a few drops of food coloring to the water.
4. Stir the water until the food coloring is evenly distributed.
5. Observe what happens.

The food coloring will separate into different layers, with the red layer on the bottom and the blue layer on the top. This is because the different colors of light have different wavelengths, and they are therefore refracted (bent) at different angles when they pass through the water and oil.

The Magic Floating Ball

This experiment is a great way to learn about air pressure and the Bernoulli principle.

- Hair dryer
- Ping pong ball

1. Turn on the hair dryer and point it at the ping pong ball.
2. Observe what happens.

The ping pong ball will float in the air! This is because the air from the hair dryer is pushing against the ball, creating an air cushion that keeps it suspended in the air.

Experiments for Older Kids

The Paper Airplane Challenge

This experiment is a great way to learn about aerodynamics and the forces of flight.

- Paper

- Scissors
- Tape
- Ruler
- Weight (e.g., a book or a bag of rice)

1. Design and build a paper airplane.
2. Measure the distance the airplane flies.
3. Add weight to the airplane and measure the distance it flies.
4. Compare the results and see how the weight affects the distance the airplane flies.

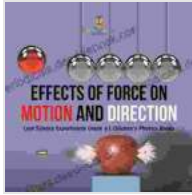
The heavier the airplane, the shorter the distance it will fly. This is because the weight of the airplane increases the drag, which is the force that opposes the forward motion of the airplane.

The Egg Drop Challenge

This experiment is a great way to learn about the laws of motion and the force of gravity.

- Eggs
- Cardboard
- Tape
- Ruler
- Measuring cup

1. Design and build a protective container for an egg.



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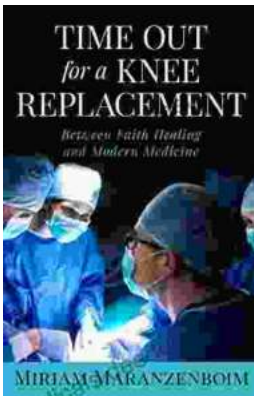
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