



## HELLO PARENTS,

When we think of physics, we might think of a professor or scientist working out complex formulas or scribbling notes on paper, but physics, at its most basic, is a subject that children find endlessly fascinating, accessible, and relevant. Children are natural scientists. As they jump from play equipment, dangle from a tree, or tumble a block structure, they are learning about physics through play. In this newsletter, you will be provided with activities that will help your child to learn more about motion and forces.

## ACTIVITIES

### INFANTS (3 – 18 MONTHS)

#### PULLING BOTTLES

##### MATERIALS:

- Plastic bottle with lid
- Different objects (rocks, bells etc.)
- String

##### DIRECTIONS:

- Fill the bottle with the small objects and close the lid tightly.
- Tie a piece of string to the bottle.
- Let your child hold the string and pull the bottle around the house.
- They will enjoy listening to the different sounds while they are pulling the bottle.

[Click here](#) for more activities.

### TODDLERS (19 MONTHS – 2.5 YEARS)

#### SOME THINGS FALL FASTER THAN OTHERS

##### MATERIALS:

- Different objects: paper, pompoms, markers, feathers, etc.

##### DIRECTIONS:

- Hold your child while you are standing and have them drop the objects one by one.
- Then, talk about how some things fall faster than others.
- Be ready for your child to want to do this over and over again.

[Click here](#) to listen to "The Gravity Song".

### PRESCHOOLERS (2.5 – 5 YEARS)

#### MAGNETIC FORCE

##### MATERIALS:

- Small metal objects (paper clip, bells etc.)
- Magnet
- White paper
- Tape
- Cookie tray

##### DIRECTIONS:

- Help your child tape the white paper inside the cookie tray.
- Ask your child to put the small metal objects on the white paper.
- Let your child place the magnet underneath the cookie tray.
- Encourage your child to move the metal objects around the paper with the magnet.
- Ask your child questions. For example: "What happens to the objects when you move the magnet?"

[Click here](#) for more activities.

### JK/SK (4 – 6 YEARS)

#### PUSH AND PULL PAINTING

##### MATERIALS:

- White cardstock paper
- Tray
- Paint
- Tape
- Small size cardboard rectangles

##### DIRECTIONS:

- Assist your child in taping the paper to the tray.
- Have your child dip the cardboard rectangle into the paint.
- Encourage your child to push and pull the cardboard on the paper to create a unique design. Experiment with different sizes of cardboard.
- Repeat with other colours until your child is satisfied with their design.
- Your child will explore the force of push and pull as they move paint to create a unique abstract work of art.

[Click here](#) to read "Move It, Motion, Forces and You" by Adrienne Mason.

### SCHOOL-AGERS (6 – 12 YEARS)

#### FORCE AND MOTION EXPERIMENT

##### MATERIALS:

- Cardboard
- Tape
- Different textured materials (hand towel, rubber mats, foil or parchment paper, a rug etc.)
- Scissors
- Variety of toy cars
- Books

##### DIRECTIONS:

- Make three equal tracks from different textured materials. For example: cardboard, rubber mat, towel etc.
- Attach the tracks at an angle to the three stacks of books using a small piece of tape.
- Line the cars up at the starting line and observe which car finishes first, second and third.
- Make your own prediction: "How does the texture of the tracks impact the speed of the cars?"
- Repeat this experiment several times by increasing the tracks' angle of incline, the tracks' surface texture and then determine the average speeds for each track.
- Reflect on the effect of the tracks' textures on the outcomes of the races. Are your hypotheses correct? How did friction change the cars' racing times? etc.

[Click here](#) for more activities.



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#### A TIP FOR TODAY

- Use a playground slide to explore physical science fundamentals like motion and friction.
- Model the concept of applying force to an object to make it move. For example, pushing children on the swings.
- Demonstrate for your child what happens when you sit on a teeter-totter. Children will learn about balance and scales.
- Engage your child in moving furniture around the room.