



Science Virtual Learning

# 2nd Grade Force and Motion

What is Motion?

April 8, 2020



## 2nd Grade Science Lesson: April 8th

### **Learning Target:**

Students will be able to recognize different types of motion.  
Students will understand Newton's 1st Law of Motion.

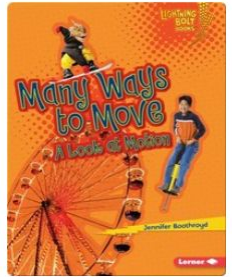
## Background: This is a review lesson from 2nd Grade

- Students begin focusing on what motion is.
- Review Lesson 2 in detail

### Let's Get Started:

#### Watch Videos:

1. [Inertia Sid the Science Kid](#)
2. [Why Roller Coasters are Awesome](#)
3. Find the ebook “[Many Ways To Move. A Look at Motion](#)” on Mid-Continent public library.  
(put isd+lunch number for library card number)



Think back.

- How do you, or other objects, move?

# Practice #1: Types of Motion

What type of motion does each picture show?



Think back.

- How do you, or other objects move?

# Practice #1: Types of Motion.

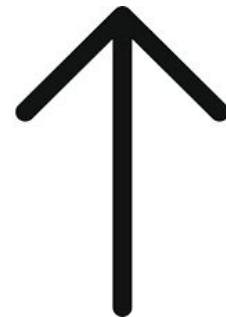
What type of motion does each picture show?



Spinning



Forward



Up



Down



Backward



Zigzag

**Think back:**

- A force is a push or a pull
- Motion is the movement of an object from one location to another

## Practice #2: What forces cause motion?

How could you get  
the sled to move?  
How many ways  
can you think of?



**Think back:**

- A force is a push or a pull
- Motion is the movement of an object from one location to another

## Practice #2: What forces cause motion?

How could you get  
the sled to move?  
How many ways  
can you think of?



Possible answers:

- You could **push** the girl down the hill
- You could **pull** the girl and the sled
- The girl could use her hands to **push** off

## Practice #3: The Law Of Motion

Think back to the video.

- When the roller coaster went down the hill it was able to make it up the next hill
- The roller coaster was able to keep moving even without a motor.

If a doll is sitting on the hood of Jamie's car, and the car hits a brick at the bottom of the ramp, how will the doll's motion be affected?  
What causes that to happen?





Think back to the video.

- When the roller coaster went down the hill it was able to make it up the next hill
- The roller coaster was able to keep moving even without a motor.

## Practice #3: The Law Of Motion

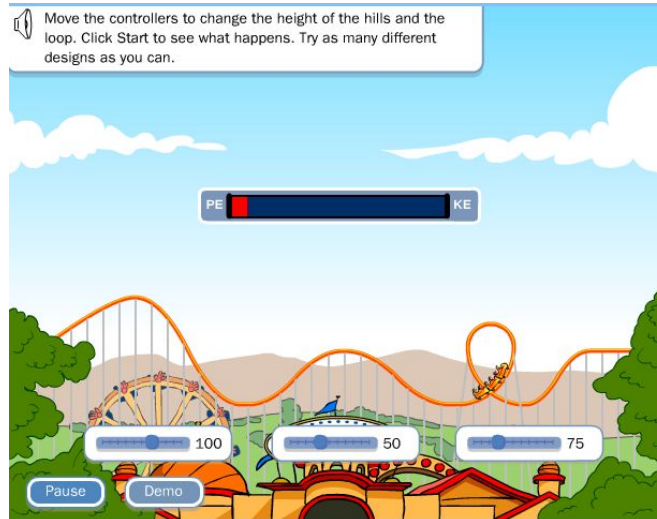
If a doll is sitting on the hood of Jamie's car, and the car hits a brick at the bottom of the ramp, how will the doll's motion be affected?  
What causes that to happen?

Jamie's doll will continue to move forward even though the car stops. This is because **INERTIA** will keep the doll in motion until something makes it stop.



# MORE Practice on your own:

1. [Simulation](#)
2. Follow along with the simulation to see how the speed of the roller coaster changes throughout the ride.



# MORE Practice on your own:

1. [Law of Motion](#)
2. Watch the video and then TEST YOURSELF to see how well you understand the Law of Motion.



The screenshot shows an educational webpage with a dark blue background. At the top left, there is a logo for 'Force and Motion' featuring a soccer ball and a rocket. The main title is 'Newton's First Law: Inertia' in orange and white text. Below the title, a paragraph explains: 'Inertia means that an object in motion will stay in motion in the same direction, or will stay at rest, unless another force acts upon it. For an object to change direction or stop moving, something has to overcome inertia.' To the left of the text are two buttons: a green 'PLAY VIDEO' button and a blue 'Test Yourself' button. On the right, there is an illustration of an astronaut in a white suit standing on a surface, holding a tool, with a rocket and the Earth in the background. At the bottom left, there is a 'Key Vocabulary' section with a list of terms: force, friction, velocity, inertia, and speed. A 'Print' button is visible in the top right corner.

**Force and Motion**

## Newton's First Law: Inertia

Inertia means that an object in motion will stay in motion in the same direction, or will stay at rest, unless another force acts upon it. For an object to change direction or stop moving, something has to overcome inertia.

**PLAY VIDEO** **Test Yourself**


**Key Vocabulary**

- force
- friction
- velocity
- inertia
- speed

Print

# Practice:


## Complete this page in your packet.

**Fast and slow motion** 


**Observations**  
Pushes and pulls are forces that can make things move faster or slower.  
Pushes and pulls can also make things stop moving.

**Science activity**  
Answer the questions about making things move faster or slower.


How can Jason make the ball roll slower?  
.....



How can Amy make the ball move faster?  
.....




How can Luke make the bike go slower?  
.....



How can Anna make the ball move faster?  
.....

**Science exploration**

Design and conduct an experiment to see how you can make a marble move quickly and slowly through a cardboard tube. 

Click here to open worksheet.



## Self Check:

Go tell someone in your home your answers.



1. Was this lesson?

- easy,
- just right
- hard

2. Test out putting things in motion. How can you make it move? How does it stop?