



Science Virtual Learning

# 3rd Grade Forces and Motion

April 7, 2020



## 3rd Grade Science

Lesson: 4/7a/20

### **Learning Target:**

I can make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

## Background:

- Students learn to describe ways to change the motion and direction of an object and amount of force in 2nd grade.
- Students learn how to predict patterns of motions using Newton's Laws of Motions.

## Let's Get Started:

### Watch Videos:

1. [Watch this Anchor Lesson](#)
2. [Bill Nye the Science Guy: Motion](#)
3. [Gideons World of Science: Motion](#)

# Practice #1:

## How does this picture show Newton's First Law of Motion?

Think back to the



- **Newton's First Law** says that an object in motion tends to stay in motion, and an object at rest tends to stay at rest unless acted upon by an outside force.
- **Inertia** is when the movement of an object stays the same.



# Practice #1:

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**Answer:**  
The ball is at rest, but starts to move after being kicked:

## Practice 2:

How does this picture show Newton's First Law of Motion?  
How do you know?

Think back to the



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## Practice 2:

How does this picture show Newton's First Law of Motion?  
How do you know?

Think back to the



- **Newton's First Law** says that an object in motion tends to stay in motion, and an object at rest tends to stay at rest unless acted upon by an outside force.
- **Inertia** is when the movement of an object stays the same.



**Answer:** The boy is in motion, but stops after running into the rock.

## Practice 3:

How does this picture show Newton's First Law of Motion?  
What will happen next? How do you know?

Think back to the



- **Newton's First Law** says that an object in motion tends to stay in motion, and an object at rest tends to stay at rest unless acted upon by an outside force.
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## Practice 3:

How does this picture show Newton's First Law of Motion?  
What will happen next? How do you know?

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Answer: The egg is in motion but stops when it is caught.

# Practice on your own:

Go to this website:

## Inertia

1. Click the link to the website to investigate one of Newton's First Law of Motion.
2. Click on the green "play video" button and watch the video.
3. After watching the video, return to the previous page by exiting the video.
4. Click on the blue "test yourself" button to answer questions about the video.



# Practice:

## Complete this page in your packet.

### Newton's Laws of Motion

#### Forces and Motion - Newton's 1st Law



**Directions:** Using what you know about Newton's Laws of Motion, follow the investigation.

**Newton's First Law of Motion:** An object in motion tends to stay in motion, and an object at rest tends to stay at rest unless acted upon by an outside force.

**FIRST:** You will need something that can roll (for example, a ball, water bottle, cup, or can). **Draw** a sketch of your item.

**SECOND:** Find an open space in your house or outside. **Roll** the item in the open space, and notice what stopped your item (for example, a wall, a branch outside, or a person). **Draw** a picture of what happened.

**THIRD:** Explain how your rolling item was stopped and why.

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How does this show Newton's First Law of Motion?

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Show your work to a family member or stuffed animal and explain Newton's First Law.

Come back to check sample answers on the next slide.

Click here to open worksheet.



# Practice: Sample Answers

1. You will need something that can roll (for example, a ball, water bottle, cup, or can). Draw a sketch of your item.



2. Find an open space in your house or outside. Roll the item in the open space, and notice what stopped your item (for example, a wall, a branch outside, or a person). Draw a picture of what happened.



3. Explain how your rolling item was stopped and why.

I rolled the water bottle on the sidewalk outside. It stopped because it hit my brother's foot.

How does this show Newton's First Law of Motion?

Newton's First Law of Motion says that objects in motion will stay in motion unless acted upon by an outside force. My object was a water bottle and it was in motion and stayed in motion until it hit my brother's foot (the outside force).

## Self Check:

1. This lesson was...

- easy
- just right
- hard

2. Act out Newton's First Law of Motion and show it to someone in your home!

**Go tell someone in your home your answers.**

