



**Middle School Science Virtual Learning**

# **6th Grade Science**

## **Friction and Speed with Newton's Laws of Motion**

**April 21, 2020**



## Middle School Physical Science Lesson: April 21, 2020

### **Objective/Learning Target:**

Students will use Newton's laws to test how surface friction affects the speed of objects.

## Warm Up:

1. In which of these three situations will the motion of the object be affected the least by friction?

**Factors affecting Friction?**

Highest friction?

**1** Smooth object  
Smooth surface

**2** Rough object  
Smooth surface

**3** Rough object  
Rough surface

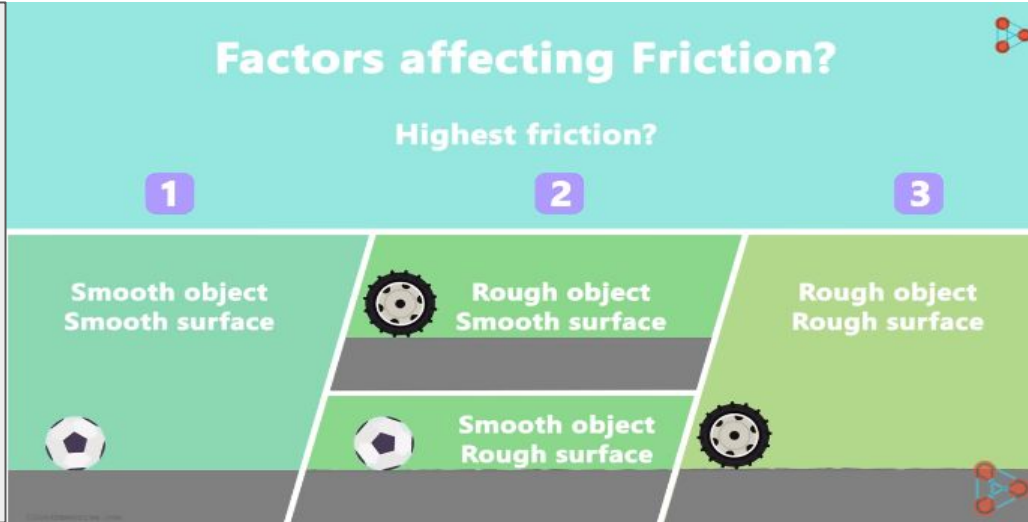
Smooth object  
Rough surface

2. What effect does friction have on the speed of a rolling object?

Let's Get Started: Watch this [video](#).

## Warm Up: Answer Key

1. If you said the **1st**, with a smooth object and smooth surface, you are correct.

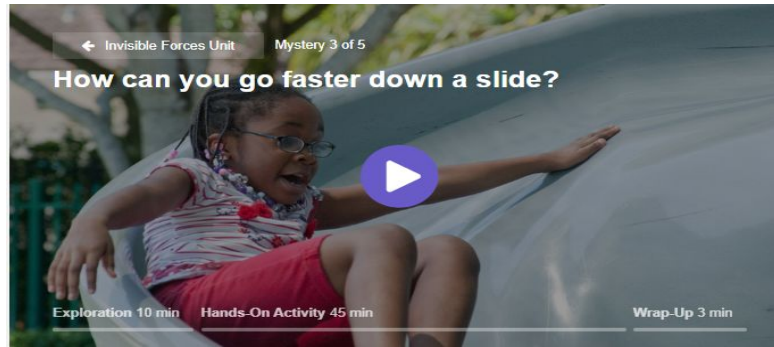


2. The rougher the surface is, the more it will slow a moving object down.

## Practice 1:

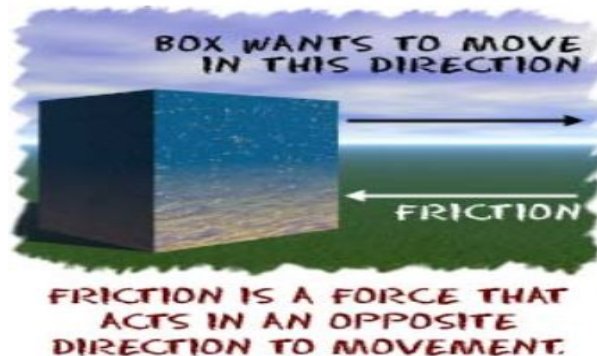
Explore the effects of friction on the motion of objects with this [Mystery Science](#).

1. To get started watch the videos and answer the discussion questions on a piece of paper.
2. If you would like to do the hands on activity but you do not have the exact materials at home that are shown, you can substitute with other similar objects.



## Practice 2:

1. Read the article [Friction Basics](#).
2. Then, test your knowledge by taking the [quiz](#).





## Additional Practice:

1. Complete the **friction** explorations on the [Phet Lab](#).
2. Check out this hands on activity: [Slippery Science: Explore Friction by Launching Stuff](#).
3. Complete the practice problem [worksheet](#) then check your answers using the [answer key](#).