

Name _____ Period _____ Date _____

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Introduction

1. ([SODLQ HDFK RI 1HZWRQ·V WKUHH ODZV LQ \RXU RZQ ZRUGV

a. Law of Inertia

<http://www.physicsclassroom.com/class/newtlaws/u211a.cfm>

b. Law of Force and Acceleration

<http://www.physicsclassroom.com/class/newtlaws/u213a.cfm>

c. Law of Action/Reaction

<http://www.physicsclassroom.com/class/newtlaws/u214a.cfm>

2. ,QYHVWLJDWH DQG DSSO\ 1HZWRQ·V /DZV WR IRRWEDOO

a. Watch the following videos

[https://www.youtube.com/watch?v=08\(47T F7m1 257 \)4\(om\)6\(/\)3atch?v=0https:/9w 369.29 Tm 0 Tc\[\(](https://www.youtube.com/watch?v=08(47T F7m1 257)4(om)6(/)3atch?v=0https:/9w 369.29 Tm 0 Tc[()

3. Go to the following web site and answer the following questions:

<http://www.physicsclassroom.com/mmedia/index.cfm>

Watch the following animations, write down what happened and explain it using Law of Motion.

Newton's 1st

- a. The Car and The Wall
What happened?

Explanation:

- b. The Motorcyclist
What happened?

Explanation:

4. Watch the presentation and learn about Newton's 2nd Law of Motion.

<http://www.wisc-online.com/objects/ViewObject.aspx?ID=TP1302>

- a. In what direction does an object move when affected by an unbalanced force?
- b. Large force = _____ Small force = _____
- c. Large Mass = _____ Small Mass = _____

5. Watch the elephant and feather

<http://www.physicsclassroom.com/mmedia/newtlaws/eff.cfm>

- a. Tell how Newton's 2nd Law explains why objects of different masses fall at the same rate.
(hint: look for information about the ratios discussed in the second law)

6. Go to the following web site about Newton's 3rd Law of Motion «

<http://www.physicsclassroom.com/Class/newtlaws/U2l4b.cfm>

a.

7. Design a Roller Coaster ² <http://www.learner.org/exhibits/parkphysics/index.html>

'HVLJQ \RXU UROOHU FRDVWHU WR DFKLHYH DQ RYSDO below WK XPE V
what the individual designs would have to be for

f. Height of the First Hill =

g. Shape of the First Hill =

h. The Exit Path =

i. Height of the Second Hill =

j. The Loop =

8. **The Physics of Baseball**

<http://www.exploratorium.edu/baseball/index.html>

1) Play the Fastball Reaction Time Exhibit Game

2) How do you throw a curveball?