

# Station 2: Line of Gravity

## Student Data Pages



### Identifying Variables:

In this activity, you will be conducting an experiment. This experiment has an *independent variable* and a *dependent variable*. The independent variable in an experiment is the variable chosen by the experimenter and it is manipulated or changed by the experimenter. The *dependent variable* is measured for the effect the *independent variable* has on it. Identify the *independent* and *dependent variables* in this experiment.

**Independent variable:** \_\_\_\_\_

**Dependent variable:** \_\_\_\_\_

In order to have a *controlled experiment*, all variables except the independent and dependent variables must be controlled. This is done by making sure that they are the same for all test groups. These are called *constants* in an experiment. List 3 variables that are made constant in this experiment..

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### Hypothesis:

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**Data Table**

<i>Distance from Line of Gravity No Backpack (cm)</i>	<i>Distance from Line of Gravity No Backpack (cm)</i>	<i>Distance from Line of Gravity Backpack Carried in Front (cm)</i>	<i>Distance from Line of Gravity Backpack Carried in Back (cm)</i>	<i>Distance from Line of Gravity with Both Backpacks (cm)</i>
Point A				
Point B				
Point C				
Point D				

### Processing Out

1. What do the backpacks simulate in this activity?

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2. Which points showed the most amount of difference?

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3. What type of injuries might occur if someone was obese and had bad posture?

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4. What strategies might help people who must carry heavy backpacks avoid back injuries?

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# Station 2



LESSON 3  
ACTIVITY 3B

Mo-Bility