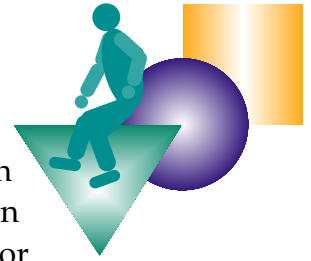


# Station 1: How Balanced Am I?

## 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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Using an “*if, then*” statement, write a hypothesis that predicts how the extra weight and its location will affect the balance of the wooden dowel. Be sure to explain why you think this to be true.

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### Data Table

<i>Height of weight (washer)</i>	<i>Number of Seconds Balanced</i>				
	<i>Trial 1</i>	<i>Trial 2</i>	<i>Trial 3</i>	<i>Trial 4</i>	<i>Average</i>
0 cm					
3 cm					
6 cm					
9 cm					

### Processing Out

1. Draw a diagram of the wooden dowel with weight at 3cm. Label the center of gravity and the base of support.

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LESSON 3  
ACTIVITY 3B

Mo-Bility

2. How is placing the washers on the dowel related to a person gaining weight?

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3. What is the relationship between the center of gravity and the base of support?.

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4. What does a ballerina have to do to stay balanced on one toe? .

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5. Why might an obese person have problems staying balanced? .

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6. How could you modify the wooden dowel to help it stay balanced? How does this relate to the way in which an obese person must compensate for the added weight he or she carries?.

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# Station 1



LESSON 3  
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