

# Module 1 – Scientific Notation – Optional Tutorial

## **CAUTION:**

Before you start this experiment, understand that you are expected to follow directions **EXPLICITLY!** Take your time and read the directions for each step and for each part of the experiment. You will be required to answer questions in WebAssign in a particular format.

## **SIMULATION**

Use the Scientific Notation<sup>1</sup> and Significant Figures<sup>2</sup> links to access the simulations that will be used to do this experiment (iPhysics, Scientific Notation; iPhysics, Significant Figures).

(NOTE: These sites require Java to operate. You may have to add the website URL as an exception to Java (Java control panel > Security > Exceptions) in order for it to function properly.)

## **PART I: PRACTICING WITH SCIENTIFIC NOTATION**

Scientific notation can be fun. The simulation linked below will allow you to practice identifying the mantissa and exponent for numbers in scientific notation.

- a** Select the link to the Scientific Notation<sup>3</sup> simulation.
- b** Convert the number given to scientific notation.
- c** Select the “Check my answer” button.
- d** If you are not correct, read the feedback.
- e** Now select the “New problem” button.
- f** When you have mastered converting to scientific notation, close that window/tab to return to this page.

## **PART II: SIGNIFICANT FIGURES**

The simulation linked below will allow you to practice the significant figure rules.

- a** Select the link to the Significant Figures<sup>4</sup> simulation.

<sup>1</sup><http://www.physicslessons.com/exp42b.htm>

<sup>2</sup><http://www.physicslessons.com/exp43b.htm>

<sup>3</sup><http://www.physicslessons.com/exp42b.htm>

<sup>4</sup><http://www.physicslessons.com/exp43b.htm>

- b** Click on the “New Number” button.
- c** Type in your answer.
- d** Click on the “Check Answer” button.
- e** Determine if you are correct or not. If not, use the significant figure rules to help you decide why you missed the question.
- f** Repeat until you are able to get the correct answer at least eight times in a row.