Part 2

Doing Background Research & Developing a Hypothesis

Taking Notes:

The following terms are force and motion topics.
Definitions for terms are important, however, examples help explain the topics so that they are understood.

Using the following terms as keywords, locate definitions and examples of each.

Write in bullet format.

Your textbook is a good resource, as well as other print materials available from our library.

A collection of on-line resources may be found on the class website at:
http://science-class.net/roller_coaster.htm

Don't forget to refer to ***Listing Sources for Works Cited***.

Motion

- History of Motion (the contributions of Isaac Newton)
- Reference points
- Distance
- Displacement
- Speed
- Calculating speed
- Velocity
- Changing velocity
- Acceleration

Forces

- ✶ Force
- ✶ Inertia
- ✶ Mass
- ✶ Balanced forces
- ✶ Unbalanced forces
- ✶ Friction
- ✶ Gravity
- ✶ Mass and weight difference

The Laws of Motions

- ✶ History of Newton's Laws of Motion
- ✶ First law of motion (definition and example)
- ✶ Second law of motion (definition and example)
- ✶ Calculation of acceleration (definition and example)
- ✶ Third law of motion (definition and example)

History of Roller Coasters

- ✶ History of roller coasters
- ✶ How roller coasters work
- ✶ Roller coaster safety
- ✶ Famous roller coasters

Writing the <u>Background Information</u> portion of your experiment:

The background information is ***at least*** four (4) paragraphs. Write ***at least*** one paragraph on each of the topics you researched: Motion, Forces, Newton's Laws, and Roller Coasters.

You must also include a *works cited* page.

Writing your Hypothesis:

Your experiment is an attempt to answer this question: As you increase the mass of a moving object, does the change in mass affect the speed of the object?

Now that you have done some background research, what do you think the answer to this question will be? Why do you think this?

There are two parts to the hypothesis:

- ✶ What you think the answer will be
- ✶ Why you think this

What you think and why together are your hypothesis.

Begin your hypothesis with "It is hypothesized that …."