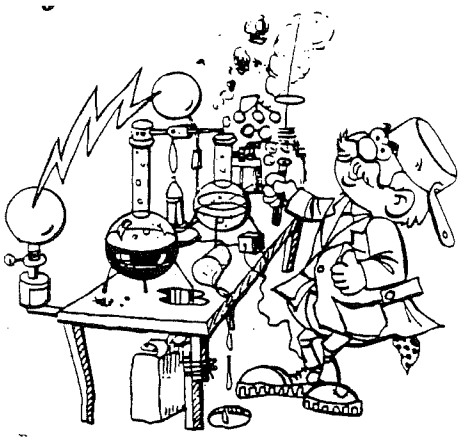
Name_____ Date_____ Teacher_____ Hour_____



LABS

We will do several labs this year which will count for a large portion of your grade. With some exceptions, all labs will require you to write a formal lab report. Late reports can severely affect your grade and will be down graded as outlined in your "Chemistry Class Policies". Reports must be in a very precise format. If they do not follow the format I want, they will be marked down considerably. The following spells out how I want these reports. If you have any questions see me before you first lab is due.

LAB REPORT GUIDELINES

□ C_o P P_2 Dt C_a Q A/C S

1. Your lab report must have a **cover page**, which includes
   Name of Lab
   Your name & class hour *Teacher's name*
   Your partner(s) name(s) & class hour, *Their teacher's name*
   Date turned in.
   Cover pages must have some type of *appropriate decoration or picture* on them & *color* is required. I do not expect everyone to be talented artists; but I can tell the difference between lack of talent and lack of effort. NOTE: cover pages with hand-drawn pictures may be chosen for extra credit.
2. The main body of your lab report must include the following sections. Each section should begin with the *name of the section followed by a colon* (:)
   a. **PURPOSE:** *State the purpose* of the lab—what were you trying to accomplish or <u>why</u> you are doing the lab. Be specific.
   b. **PROCEDURE USED:** A *detailed description in your own words* of how the lab was set up and what was done. Use "I" and "We" statements in the past tense—do not simply copy the lab handout (this will result in a zero for this section). A *labeled drawing of the lab set up* must be included in this section. This is in addition to the picture on your cover.
   c. **DATA:** This includes *data, information or observations* collected during the lab. It must be presented in an easy to read manner such as a graph or data table (indicate *measured or calculated data, type of data, SI units!!*). Make sure to include one person's neatly written *raw data*. There will ALWAYS be data.

Sample Data & Calculation Table:

	Measured	Stopwatch	Given	Given	Calc #1	Calc #2
	Trip Distance	Δt	v_i	a	Δs	v_f
Trial	m	sec	m/s	m/s^2	m	m/s
1			0	-9.8		
2			0	-9.8		
3			0	-9.8		
4			0	-9.8		

   i. **CALCULATIONS:** Include one example any calculations even minor ones, such as averaging data values, as a subset under "DATA:". You must include *Calculation #, unit conversions, the general formula (in symbols), any rearrangement of the formula, Initial substitution-how the calculation was made with data values and the answer with units!!*

Ex. CALCULATIONS:

Calc #1

$?mL = \frac{0.025\cancel{L}}{1} \quad \frac{1000\ mL}{\cancel{L}} = 25\ mL$

$d = \frac{m}{V}$

$(V)d = \frac{m\ \cancel{(V)}}{\cancel{V}}$

$m = (V)d$

$m = (25\ \cancel{mL})(9.82\ g/\cancel{mL}) = 245.5\ g$

Conversion
General Formula
Rearrangement of Formula
Calculation & Answer

% Error calculation must be made if the experiment has an accepted value.

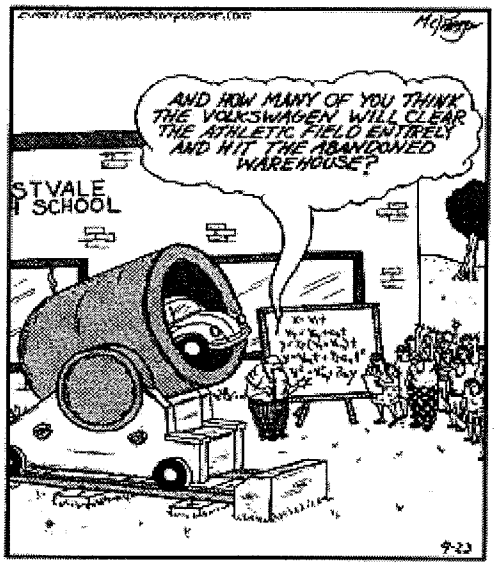
$$\%\ Error = \left| \frac{Accepted\ value\ -\ Experimental\ Value}{Accepted\ Value} \right| \times 100$$

d. **QUESTIONS:** In this section answer any questions asked at the end of the lab. When you do this, write out the question and then provide the answer. Number these to correspond with the way they are numbered on the lab handout I gave you at the beginning of the lab.

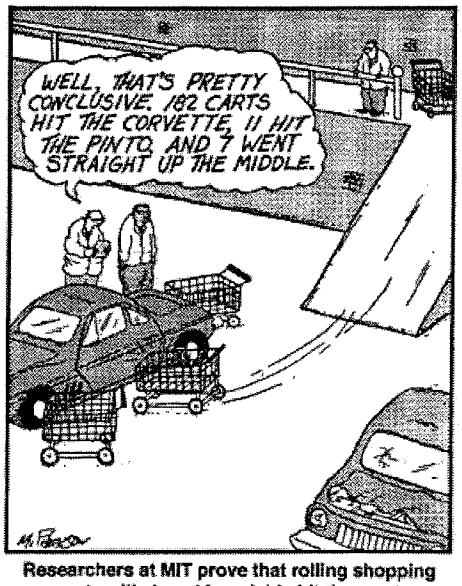
e. **ANALYSIS/CONCLUSIONS:** In this section *state what you learned* from the lab this should *answer the statement of the purpose with facts*. (Do not give me your personnel opinion).
The _____ is xxx.xx (units) with a percent % of _____.
Support the conclusion with factual arguments. Indicate what specifically you would do differently next time. (DO NOT SUMMARIZE THE PROCEDURE)

f. **SUMMARY:** Briefly *describe the importance of this lab* to your learning and *any comments* you have.

IMPORTANT NOTE: Each student must include their own analysis/conclusion and summary and any graphs in each lab report. All reports must be word processed, free of grammatical and spelling errors, and read in a smooth manner. Make sure each group does their own report! I do not want other groups giving me the same report or sections of a report. It is your responsibility to make sure everyone contributes to the lab and lab report. When you turn in a lab report, I do not need the lab sheet I gave you at the beginning of the lab back, but make sure to include one person's raw data.



Thanks to the innovative labs of teacher Herb Krenley, physics quickly became Westvale High's most popular course.



Researchers at MIT prove that rolling shopping carts will almost invariably hit the most expensive car in their vicinity.