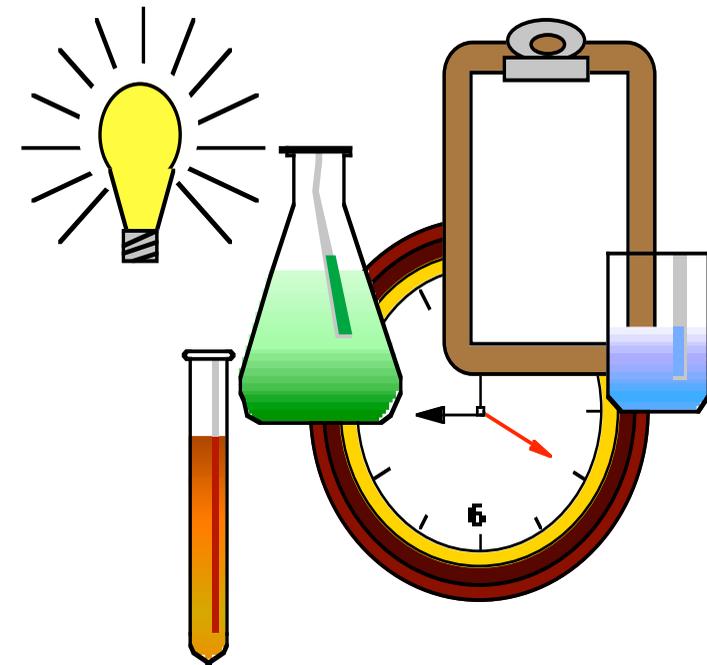


SCIENCE EXPERIMENT LOGBOOK

for



Rules: Elementary Science Fair

1. No live animals. You may display plants.
2. Food, molds, and waste must be displayed in sealed, non-breakable containers.
3. Chemicals stronger than vinegar should not be displayed. Caustic and strong acids are definitely not allowed.
4. Glass containers should not be displayed as they are hazards. Use plastic or other non-breakable containers for water.
5. Poisons, sharp objects, drugs, and open flames may not be displayed.
6. Do not have signs on your project inviting visitors to handle your project. Many projects have been ruined this way. Demonstrations are allowed during public viewing of the projects.

Science Fair Categories

Behavioral and Social Science	Environmental Sciences
Botany	Mathematics
Chemistry	Health Sciences
Computer Science	Microbiology
Earth Science	Physics
Engineering	Zoology

“Somewhere, something incredible is waiting to be known.”

**Carl Sagan,
Astronomer**

These are some questions I still have.

Reflection: This is what went well and what didn't go well during my experiment.

SCIENCE INVESTIGATION DEADLINES

FINAL REPORT DUE: _____

ASSIGNMENT:

You will be conducting an independent science investigation and writing a report or poster with 5 sections.

TIMELINE (Due Dates):

_____ Introduction of Investigation Logbook, rubric, and method. Signatures due.

_____ Logbook due with draft of question (Step 1).

_____ Logbook due with draft of hypothesis (Step 2). After this step I done you can start collecting your data.

_____ Logbook due with draft of procedure (Step 3).

_____ Logbook due with draft of results (Step 4) and conclusions (Step 5).

_____ Final complete copy of science report/poster and logbook due.

_____ Oral presentations begin.

SIGNATURES:

I understand the expectations outlined in the Experiment Logbook and rubric. I also understand that my student will need my assistance in conducting the experiment.

Student signature/date: _____

Parent signature/date: _____

THE INVESTIGATIVE PROCESS: Five Easy Steps

STEP #1 Ask a question. Choose a question that interests you. Start planning how to answer it. What is the purpose of your experiment?

STEP #2 Form a hypothesis. Now predict the answer to your question. Use the language of probability: percents (i.e. 50% likely that. . .) or ratios (i.e. 1 in 3 chance that . . .). What are other possible results?

STEP #3 Procedure. These are the directions that explain how you collected your data. Use transition words (i.e. First, Second, Next, Lastly) or numbered lists to order the steps. Include every detail so someone else can repeat what you did. How many times will you repeat the experiment? Remember the more samples, the more reliable your results will be.

STEP #4 Results. Data Analysis and Graph. Make a chart and collect your data. Analyze your data in several ways using math: average, mean, mode, range, maximum, minimum, percents. Next, create a useful graph of your data: bar, line, circle, stem and leaf.

STEP #5 Conclusion. First, compare your prediction to your actual results. Second, find other patterns in your data that lead you to new understandings, conclusions or discoveries. Third, evaluate your procedure. What would you do to improve the accuracy or reliability?

***Always support your conclusions with data or calculations.

STEP #5: CONCLUSIONS (ROUGH DRAFT)

This is what I found out about my question and hypothesis.

This is what I learned from my measurements, calculations, and graphs. If the experiment didn't produce results, explain what you think went wrong.

STEP #3: PROCEDURE (DRAFT) (Materials List and Step-by-step directions)

What technique/tool will you use to measure your results? _____

What variable are you testing? _____

How many times will you repeat the experiment? _____

List your materials: _____

STEP #4: RESULTS: DATA ANALYSIS (DRAFT)

(Take your measurements and calculate percents, averages, range, mode, and/or median. Draw a chart for this.)
