

## SECTION 3:

# LAB TIME!

**LAB BLUEPRINT:**

**CONFUSED ABOUT ALL THOSE SCIENCE TERMS LIKE “SCIENTIFIC METHOD,” “INDEPENDENT VARIABLES,” “CONTROLS,” “HYPOTHESIS,” ETC.?**

**1. SOLVE A PROBLEM BY CARRYING OUT THE SCIENTIFIC METHOD:**

- State the problem.  
What is the question you are asking or problem you want to solve?
- Learn more about your project.  
Use the library or the Internet to gather information about the topic that will help you make an educated guess.
- Make an “educated guess” to answer your question.  
Based on the information you have gathered, come up with a hypothesis, i.e. an “educated guess:”  
  
e.g. Finish the sentence:  
“If (these conditions) happen, then (this) will result.” Or in more scientific terms,  
“If (cause), then (effect).”
- Experiment! Test to see if your hypothesis is correct.  
Use the ideas given in this kit as suggestions.  
Feel free to modify (but check with a parent first!)  
Always remember: SAFETY FIRST!
- Conclusion: What have you learned?  
Does your hypothesis seem right or wrong?  
Remember, if your hypothesis seems to be wrong, that’s O.K.! You may just need to change your hypothesis and carry out your experiment again to test it.

**2. WRITE A REPORT TO DESCRIBE WHAT YOU DID IN STEP 1 AND WHAT YOU DISCOVERED:**

- Reports are meant to present information accurately and objectively.
- Reports are easier to read if they are organized into sections.
- Generally, reports should be typed on plain white paper in easy-to-read fonts such as 12-point Times New Roman, and should not include unnecessary colorful designs.
- Be sure to follow any guidelines your teacher may have given you.

**REPORTS OFTEN HAVE NINE STANDARD SECTIONS:**

- Title: The question you asked or the problem you solved (see sample pages). Include your name, the date, and any other information requested by your teacher.
- Table of Contents: A list of the sections included in your report.
- Introduction: A brief summary stating what you were trying to find, how you proceeded, and what you found.
- Background Information: Describe the research you conducted and what you learned prior to doing the experiment. Only include information that is relevant to your question.

- e. Hypothesis: State your hypothesis and explain why you thought this was the answer to your question. What have you learned that caused you to suggest this hypothesis?
- f. Materials: Describe the specific materials you used for your experiment.
- g. Procedures: Explain, step by step, how you carried out your experiment. Be sure to explain why you did each step.
- h. Results: Describe what you found. Use metric units to measure. Tables, charts, and graphs are often best used to describe your findings.
- i) Conclusion: Do you think your hypothesis is still the answer to the question? Or, do you think your hypothesis is incorrect? What did you learn? What might you do differently next time?

**3. MAKE A DISPLAY TO SHOW WHAT YOU DID AND WHAT YOU LEARNED:**

- a. Your display should be well-organized.
- b. Your display should show clearly what question/s you were trying to find an answer to, how you did it, and what answers you found.