

Student Guide to use of Science Notebooks

Label each section of information similar to what is shown below. Remember, not every investigation will go in this order or have every step.

TITLE

1. Record the activity number and title of the lesson at the top of the page. Record the date.
 - Update the table of contents.

STANDARDS/SKILLS

2. List the standards and/or skills practiced in this investigation.

MATERIALS/KIT INVENTORY

3. List materials needed for the investigation. List in details and amounts.
 - You may also just want to record the page number where the materials are already listed.

VOCABULARY

4. Record and define any new vocabulary needed for this investigation.
 - However, you may still need to include and use vocabulary from previous investigations.
 - In addition, you may not figure out the definition until the end of the investigation.

FOCUS QUESTION(S)

5. Record the focus question(s) here.
 - What do you have to investigate or figure out in this lesson that is related to the units "big idea?"
 - What will the main questions be that will guide your learning? (You may want to start with "how," "what," or "does.")
 - Make sure you can actually investigate the question!

PREDICTION

6. What do you think will happen? Use any knowledge you may already have about the topic.
 - **I think _____ because _____.**
 - If (this is done) _____ then _____ will happen because _____.
 - If _____ then _____ because _____.

PROCEDURE /PLANNING

7. What can you do to answer the focus question(s)? Plan out and record the steps you will take help you find the answers.
- Be detailed and specific. Some investigations will require you to create your own procedure. Include variables to be tested. Number each step. Illustrations are helpful, too!
 - Other investigations will give you the steps, so all you have to do is record the page number where you find the procedure.

DATA COLLECTION

8. Record the data in a way that will make sense to you AND other classmates later.
Data should be organized!

Depending on the investigation, some examples you could create to organize data are:

- bulleted or numbered lists (when researching)
- data tables or charts
- diagrams and/or pictures – describe what is happening AND always label important parts!
- a graph
- a bulleted list of observations about a specific part/topic – observations are exactly what you see, not what you think you see

CLAIMS AND EVIDENCE

9. What happened? How do you know? State your claim based on your evidence (data collected from observations). A claim is can be a pattern you notice or an inference based on data.
- What do you claim to be true? Base this on data from investigation!
 - How can you prove what you are stating? Back it up!
 - Use sentences such as I this to be true because I observed _____ OR I claim that when _____ happens, then _____ also happens.

Organize claims and evidence in a chart like the one below. Use complete sentences!

| | Claims | Evidence |
|----------------------------------|---------------|-------------------------|
| Small group or individual | I claim.... | I claim this because... |
| Switch groups or partners | I claim.... | I claim this because... |

*You may need more room and/or boxes than what is shown in the above example.

MAKING MEANING CONFERENCE

10. How do we make sense of our results? What have we learned? This is a class discussion about the investigation.

- Make your thinking public in a class discussion.
- Review the claims and evidence and make sense of the data.
- Listen to what each other has to say and take turns talking.

CONCLUSION

11. a. Restate the focus question as a topic sentence.

- In this investigation
- I/ we learned that ...

b. Use data from your claims and evidence chart to answer the focus question. EVERY claim must be supported by evidence.

c. Refer back to your prediction.

- My/our prediction was correct/incorrect because _____.
- My/our prediction that _____ was _____ because _____.
- I/we discovered that _____.

d. What does this mean in the real world?

REFLECTION

12. What were your thoughts after the investigation? Was there anything you understood better? Can you relate what you learned to "real life?" What connections did you make?

- I/we liked/did not like _____ because _____.
- This reminds me/us of _____ because _____.
- Now I/we think that _____ because _____.
- A problem I had during this investigation was _____. I think/know this happened because _____.

QUESTIONS

13. What questions do you have to extend your learning? Can you predict what the next lesson will be about?

- What would happen if _____.
- I think what we will do next is _____.
- I wonder....