Name_____

Dry Ice Lab
Using the scientific method

H3S1 Hypothesis   Score: ____
H3S2 Design

Background information:
Use the information gained from your research to write a paragraph about dry ice. Focus your information around the physical and chemical properties of dry ice.

Lab 1: Dry ice on a paper towel

Problem statement:
What happens to dry ice when it is placed on different surfaces (paper towel or counter top) at your lab station?

1. What pieces of information from your background information are relevant to this question?

Hypothesis:
Use the relevant information from your background paragraph to write a hypothesis using the correct format…If…then…because…

   2. <u>If</u> I place dry ice on _____ <u>then…</u>

Independent/Manipulated Variable (The thing that you will be changing):

Dependent/Responding Variable/ (The response to the change you made):

Controlled Variables (Things that you keep the same for each test. *List at least 3!*):

1.

2.

3.

Procedures: Write a step by step procedure

1.   3.

2.   4.

┌─────────────────────────────┐
│ Diagram   │
│   │
│   │
│   │
│   │
└─────────────────────────────┘

Data: (get as much as possible)
Qualitative (non-numeric descriptions - Only make observations - NO INFERENCES)

1.   3.

2.   4.

Conclusion: (the six parts of a conclusion – now you can make inferences)

   1. Was your hypothesis correct?

   2. Summarize your hypothesis.

   3. Use data to support your answer to question 1.

   4. How confidant are you and why? (Was your data reliable?)

   5. What were some possible errors or uncertainties?

   6. What could you do to improve this lab?

Lab 2: Change in mass of dry ice

Problem statement:
How does the mass of a piece of dry ice change when left out in warm air?

1. What pieces of information from your background information are relevant to this question?

Hypothesis:
Use the relevant information from your background paragraph to write a hypothesis using the correct format…If…then…because…

2. If I take the mass over time of dry ice in warm air then…

Independent/Manipulated Variable (The thing that you will be changing):

Dependent/Responding Variable (The response to the change you made):

Controlled Variable (Things that you keep the same for each test. *List at least 3!*):

1.

2.

3.

Procedures: Write a step by step procedure

1.	3.
2.	4.

Diagram

Data:
Qualitative (non-numeric descriptions - Only make observations - NO INFERENCES)

1.	3.
2.	4.

Mass Data:
Quantitative data (numbers and things you can measure)

1 min.   4 min.
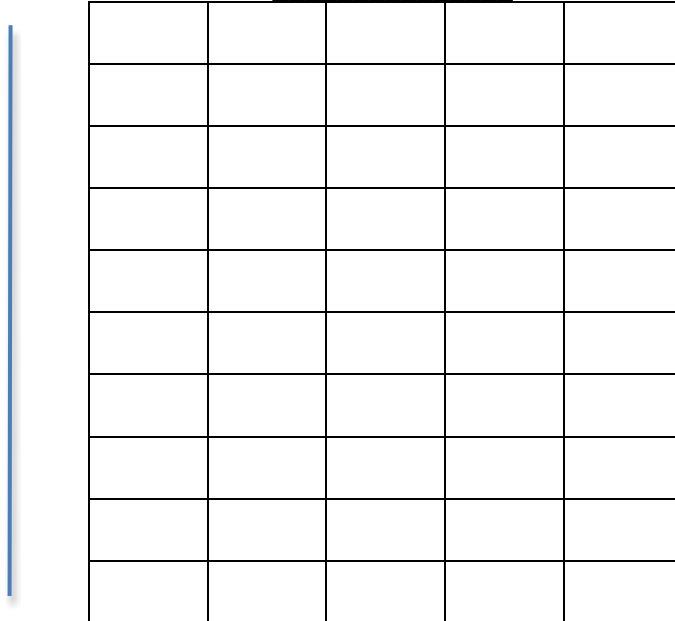
2 min.   5 min.

3 min.

How accurate do you think your measurements are? *(How many decimal places should you use on your numbers?)*

How precise are they? *(How close to the real value are they)?*

Graph: (Make a line graph. It should be a smooth line.)

Title:_____

Topic and Units:_____

Conclusion: (Use the six parts of a conclusion)

1. **Was your hypothesis correct?**

2. **Summarize your hypothesis.**

3. **Use data to support your answer to question 1.**

4. **How confidant are you and why? (Was your data reliable?)**

5. **What were some possible errors or uncertainties?**

6. **What could you do to improve this lab?**

Lab 3: Dry ice in a beaker of hot water

Problem statement:
What happens to dry ice when it is placed in a beaker of hot water at your lab station?

1. What pieces of information from your background information are relevant to this question?

Hypothesis:
Use the relevant information from your background paragraph to write a hypothesis using the correct format…If…then…because…

2. If I place dry ice in a beaker of hot water then…

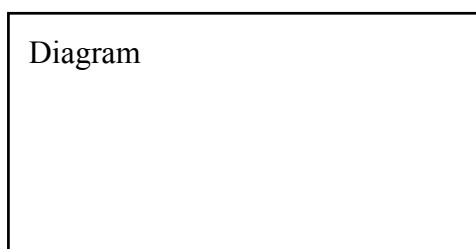**Independent/Manipulated Variable** (The thing that you will be changing):

Dependent/Responding Variable (The response to the change you made):

Controlled Variable (Things that you keep the same for each test. *List at least 3!*):

1.

2.

3.

Procedures: Write a step by step procedure

1.	3.
2.	4.

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┌─────────────────────────────┐
│ Diagram                     │
│                             │
│                             │
│                             │
│                             │
└─────────────────────────────┘
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Data:
Qualitative (non-numeric descriptions)

1.	3.
2.	4.

Conclusion: (Use the six parts of a conclusion)

1. **Was your hypothesis correct?**

2. **Summarize your hypothesis.**

3. **Use data to support your answer to question 1.**

4. **How confidant are you and why? (Was your data reliable?)**

5. **What were some possible errors or uncertainties?**

6. **What could you do to improve this lab?**

Lab 4: Do your own thing!

Problem statement:

1. Write your own:

    2. What pieces of information from your background information are relevant to this question?

Hypothesis:
Use the relevant information from your background paragraph to write a hypothesis using the correct format…If…then…because…

3.

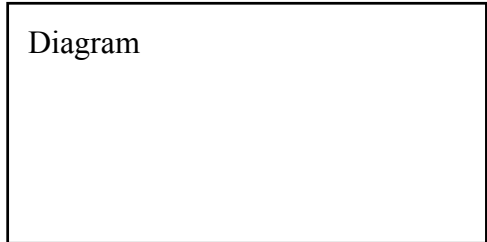**Independent/Manipulated Variable** (The thing that you will be changing):

Dependent/Responding Variable (The response to the change you made):

Controlled Variable (Things that you keep the same for each test. *List at least 3!*):

1.

2.

3.

Procedures: Write a step by step procedure

Diagram

1.   3.

2.   4.

Data:
Qualitative (non-numeric descriptions - Only make observations - NO INFERENCES)

1.   3.

2.   4.

Data:

Quantitative data (numbers and things you can measure)
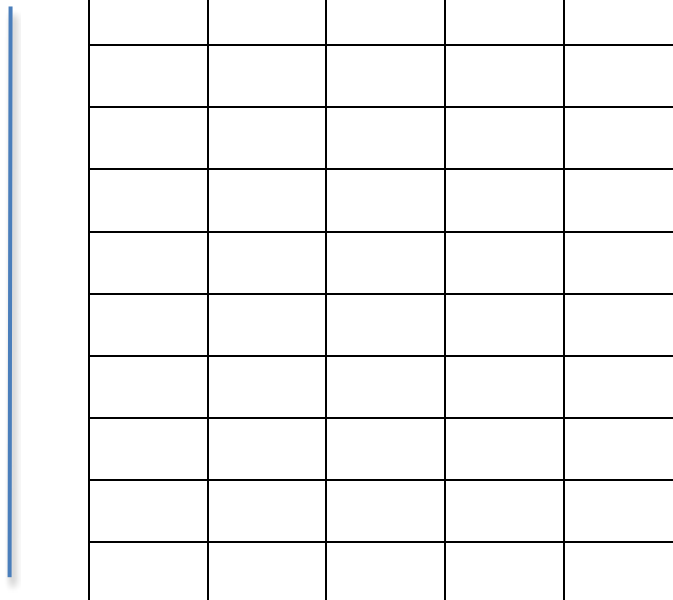
1.   3.

2.   4.

How accurate do you think your measurements are? *(How many decimal places should you use on your numbers?)*

How precise are they? *(How close to the real value are they)?*

Graph: (Make a line graph. It should be a smooth line.)

Title:_____

Topic and Units:_____

Conclusion: (Use the six parts of a conclusion)

1. **Was your hypothesis correct?**

2. **Summarize your hypothesis.**

3. **Use data to support your answer to question 1.**

4. **How confidant are you and why? (Was your data reliable?)**

5. **What were some possible errors or uncertainties?**

6. **What could you do to improve this lab?**