**Steel Wool Investigation**

Research Question: Does burning steel wool result in a physical and chemical change?

Aim:

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Hypothesis:

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Independent variable:

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Dependant variable:

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Control variables: (list at least 3)

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Equipment:

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| Safety glasses |  | Metal Tongs |  | 1 x steel wool ball |
| Bunsen burner |  | Scales |  | Timer |
| Heat proof mat |  | Watch glass |  |  |

Method:

In this investigation you will test whether burning steel wool results in a chemical or physical change.

1. Put on your safety glasses!
2. Set up your bench with a heat proof mat and Bunsen burner
3. Use the set of scales to weigh your piece of steel wool before you burn it. Record the weight in the results section below.
4. Record your observations about the steel wools appearance, smell and texture before you burn each piece (record in the results section of your investigation below).
5. Carefully light your Bunsen burner.
6. Using a set of metal tongs, hold the first piece of steel wool over the blue flame for 1 minute.
7. Set aside steel wool to cool on heat proof mat.
8. Record your observations and reweigh the piece of steel wool.

Results: Record what the steel wool looked like before and after you burnt it.

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| Observations before burning | Observations after burning |
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The combustion of steel wool is represented by this chemical reaction:

4 Fe (s) + 3 O2 (g) ==> 2 Fe2O3 (s)

Iron from the steel wool combines with oxygen in the air to form the **compound** Iron oxide. (Use this information to explain your results from the table above)

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Conclusion: Was your hypothesis supported? Use your observations to support your answer. (Hint: think about the chemical and physical change of the steel wool)

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Reflection: (Name one thing you could do to make your experiment more accurate. Explain your answer)

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