Cooling Practical

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Due date \_\_\_\_\_\_\_\_\_\_\_\_

Introduction. You will need to carry out an experiment to find if liquid in a cup with a lid cools at the same rate as liquid in a cup without a lid.

In this experiment your will be given the Method.

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| Method |
| Collect 200ml of boiled water from the teacher.  Pour the 100ml of the boiled water into one of the paper cups provided. Pour 100ml into a second paper cup.  Place a lid on ONE cup.  LEAVE ONE CUP WITH NO LID.  Put a thermometer in the cup with no lid.  Push a thermometer in through a hole in the lid of the other cup.  Record the starting temperature in both cups.  Record the temperature every 2 minutes over the next 14 minutes. |

Things to think about.

How will you measure 200mL and then 100mL of water?

What will your raw data table look like? What data will you need to collect?

What will you need to have already prepared before you start to measure the temperature change?

Planning table

|  |  |  |
| --- | --- | --- |
| Step in investigation | What you need to write | Statement |
| 1. Aim | What needs to be found out? |  |
| 1. Hypothesis | A prediction of what the results will be. |  |
| 1. Independent variable | The thing that is deliberately changed.  **CAUSE** |  |
| 1. Dependent variable | What happens as a **RESULT** of the independent variable?  It is the change that is measured. |  |
| 1. Controlled variables | All the things that need to be kept the same during the experiment. |  |
| 1. Materials | The list of equipment used. |  |
| 1. Method | Given | Given |
| 1. Results | Data collected during the experiment. | Do a raw data table and a final graph. |
| 1. Discussion | Any trends seen.  Any problems and how your might fix them if the experiment was repeated. | You will complete this after the results have been collected |
| 1. Conclusion | Did the results support the hypothesis? | You will complete this after the results have been collected |

Before you start you will need to complete steps 1 to 7 of the planning table above and have a raw data table. You need to show this to the teacher before you begin.

Marking Key

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| --- | --- | --- |
| Step in investigation | Possible mark | Your mark |
| Aim | 1 |  |
| Hypothesis | 2 |  |
| Independent variable | 1 |  |
| Dependent variable | 1 |  |
| Controlled variables | 2 |  |
| Materials | 2 |  |
| Method | Given | Given |
| Results  Raw data table | 2 |  |
| Results graph | 5 |  |
| Discussion  State the trend, one problem and how it could be fixed in the future. | 3 |  |
| Conclusion | 2 |  |
| Total | 21 |  |