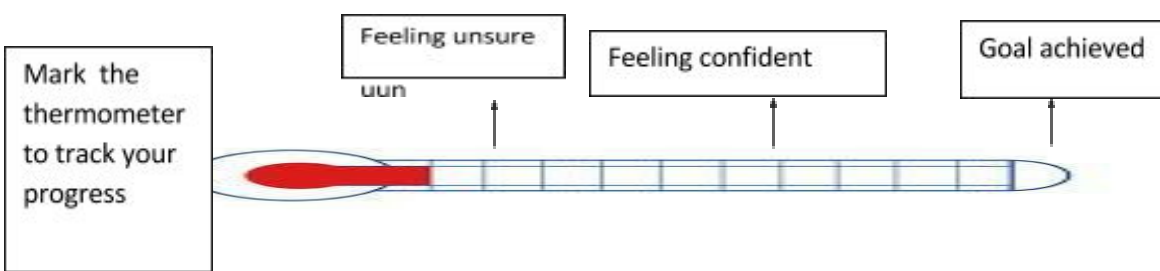


Student Name _____

WEEK 1 PLANNING SHEET

DESIGNING THE EXPERIMENT

Problem you have chosen to investigate? (This will form your Aim)
Identify the factor that you are testing. (This is called the <i>independent variable</i>)
Write a hypothesis for the investigation.
After thinking about your experiment, write two questions that you can research to increase your knowledge of the problem. 1- 2- Where will you find the information to answer your questions?
List the equipment needed to perform your investigation.
Identify the factor that you will measure in the investigation. (This is called the <i>dependent variable</i>)
Identify the factors that you must keep the same in each test you do in your experiment to make this a fair experiment. (These factors are called the <i>controlled variables</i> .)
Describe how you will make sure the experiment is safe.


Glue this sheet into you Log book

What are Variables?

Independent variable: This is the factor that is being tested. It is the factor that is deliberately changed in each test that we conduct. It used to be called the test variable.

Dependent variable: This is the factor that is measured in your experiment. It's value will change because the independent variable is changing in each test.

Controlled variables: These are the factors that **must** be kept the same in each test. If they are not kept the same they will influence our results and we may not be able to make a valid conclusion.

Examples

Problem A: Are boys faster runners than girls?

Hypothesis: Boys will be faster because they are taller.

Experiment: Two groups of 15 boys and 15 girls, all aged 13 years were selected. They were made to run 1km and timed. The times for each group were averaged and compared.

Independent variable: _____

Dependent variable: _____

Controlled variables:

Problem B: Which paper towel is the most absorbent?

Hypothesis: Brand B is most absorbant because it is the thickest.

Experiment: Three pieces of each brand of paper towel (A, B and C), measuring 3cm x3cm, were weighed when dry. The thickness of each brand of paper towel was measured. They were placed into a beaker of water for 1min. They were reweighed and the dry weight was subtracted from the wet weight. The difference in weight is the amount of water that was absorbed.

Independent variable: _____

Dependent variable: _____

Controlled variables:

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