Planning an Experiment into Solubility

1. Background Information:

Words to use: solution, saturated, solute, solvent.

When a substance is dissolved into a liquid, we call the substance dissolving a s_____, the liquid a s_____, and the mixture formed is called a s_____.

We are going to plan an experiment to see how much solute dissolves at different temperatures, this is known as **solubility**. If we keep adding the solute and no more dissolves, then the solution is fully s_____.

2. Method:

a. Clear a suitable working area, _____ long hair up and put on safety goggles.

b. Fill a glass beaker with 25ml of _____ (solvent) at room temperature.

c. Add 10g of _____ (solute) at a time, noting down how much you have added.

d. Stir gently with a _____, applying the same amount of force each time.

e. Keep adding the solute until no more dissolves and the solution is fully s_____ and record the total amount of grams of solute added.

f. Repeat steps b to d with hotter water. The temperatures we will use are 50°C and 100°C.

3. How the Particles Look Inside:

Draw two beakers showing the particles inside of them.

Beaker A (water only) **Beaker B (water and sugar)**

4. Risk Assessment:

Complete the table to consider any safety issues in this practical. The first one has been given as an example.

Hazard	Harm	How You Will Prevent Injuries
glass beaker	Could break and cut skin.	Keep floor clear and hold beaker securely; place in middle of table; wear goggles.

5. Variables:

a. What are you changing (the independent variable)?

_____

What are the units? _____

b. What are you measuring (the dependent variable)?

_____

What are the units? _____

c. What will you keep the same (the control variables)?

_____

_____

_____

_____

6. Prediction:

My prediction is... (**Hint:** Which temperature do you think the most amount of sugar will dissolve in?)

_____

_____

I think this because... (What is the science behind this idea?)

_____

_____