

**Background**

Most of you drink soft drinks at least occasionally. They may taste pretty good - but have you ever really stopped to think about what they have in them?

In this open investigation your task is to try to separate different components of a soft drink and work out what ingredients it contains.

Your teacher will supply you with equipment you may use (although you don't need to use it all).

**Equipment available**

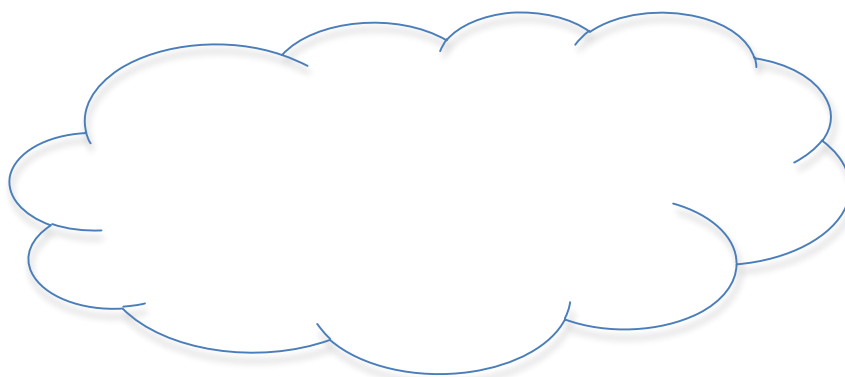
- |                      |                           |                               |
|----------------------|---------------------------|-------------------------------|
| soft drink           | small bottle              | filter funnel                 |
| filter stand         | filter paper              | test tubes                    |
| beakers              | Bunsen burner or hotplate | test tube stopper with tubing |
| tongs                | evaporating basin         | tripod                        |
| clay triangle        | salt                      | taper                         |
| chromatography paper | balloon                   | capillary tubes or pipettes   |
| measuring cylinder   |                           |                               |

**Planning**

It is important to think of a plan before you start. You might need to use a few different methods to identify all components in your drink.

First brainstorm what might be in a soft drink.

1. What's in a soft drink?



2. How do you think you might be able to separate from the drink each of these ingredients, you may need to use more than one method.

INGREDIENT	HOW WILL YOU SEPARATE IT?



## Results

5. Write down your observations as you do the experiment.

What I did. (eg evaporated soft drink)	What the drink looked like during the experiment.	Describe the substance that was separated.	Describe the substance that was left behind.

## Processing results

6. After looking at your results, what ingredients do you think your soft drink contained? Explain why you think this.

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## Evaluating the experiment

7. Do you think you managed to separate out all of the ingredients in your soft drink?

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8. Are there other ingredients in your drink that you didn't separate? If so, what makes you think they are there and how could you separate them?

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## Further thinking

9. There are three states of matter: solid, liquid and gas. Which ingredients in your soft drink belong to each of these states?

SOLID	LIQUID	GAS

