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| Chemical Demonstrations  This reaction can be applied to curriculum for excellence.  *Through experimentation, I can identify indicators of chemical reactions having occurred ...*  SCN 3-19a  N4 Chemistry in Society  *- Chemical Analysis.*  N5 Chemistry in Society  *- Chemical Analysis.* |
| Flame Colours |

Flame Colours



# Apparatus you will need

* Large sheet of card (optional)
* 60 cm3 atomiser spray bottles
* Bunsen burner
* Heat proof mat

# Chemicals you will use

10 cm3 of water or **ethanol (highly flammable)** containing the solution of the metal salt.

sodium chloride, lithium iodide, potassium chloride, barium chloride, strontium nitrate, calcium chloride, copper sulphate

## Safety



Wear eye protection



Care with solutions – toxic and irritants



Care if using ethanol solutions - highly flammable

**It is the responsibility of teachers doing this demonstration to carry out an appropriate risk assessment.**

# What you will do

## Before the demonstration:

1. Ensure that the atomiser bottles are trigger operated, with a piston rather than a scent spray pump where a rubber bulb is squeezed. This will prevent any possibility of the flame flashing back into the container if using alcoholic solutions.
2. Alternatively, use aqueous solutions of the salts in the bottles.
3. Make a saturated solution of each salt in about 10 cm3 of water. Only a few mg of each is required.
4. Place each solution in an atomiser bottle and label it accordingly.

## The demonstration:

1. Place a large sheet of card on the bench and the wall behind the experiment – it can get messy!
2. Put the Bunsen burner on a half blue flame.
3. Take the atomiser bottle with the solution of the metal salt and spray it through the flame.

NOTE take care to direct the spray away from yourself and the audience.

## Salts to try:

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| Compound | Flame colour |
| sodium chloride |  |
| lithium iodide |  |
| potassium chloride |  |
| barium chloride |  |
| strontium nitrate |  |
| calcium chloride |  |
| copper sulphate |  |