# GCSE PRACTICAL 4

## DEMO & PRACTICAL – Group 7

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| **Apparatus & chemicals** | *The elements (DEMO)*<br>• Gas jar of chlorine<br>• Vial or bottle of bromine<br>• Teat pipette<br>• Crystals of iodine<br>• Iodine solution<br>• Bromine water<br>• Watch glass<br>• Spatula<br>• Gloves<br>• 2 x Boiling tube<br>• Boiling tube holder<br>• Sodium thiosulfate solution (to treat spills) | *Displacement reactions (PRACTICAL)*<br>• 4 x beakers of chlorine water<br>• 4 x beakers of bromine water<br>• 4 x beakers of iodine water<br>• 4 x beakers of potassium chloride solution<br>• 4 x beakers of potassium bromide solution<br>• 4 x beakers of potassium iodide solution<br>• (all beakers should have teat pipettes in)<br>• test tube racks<br>• lots of test tubes |
| **Notes** | ***The elements (in a fume cupboard)***<br>In a fume cupboard, show students samples of chlorine (in a gas jar), bromine (a small amount in a test tube) and iodine (crystals on a watch glass). You could heat one crystal of iodine in a test tube to show how it easily turns into a purple vapour. You should also show them solutions of these three halogens in water which they are using in the next part.<br>***Halogen displacement reactions***<br>In each reaction pupils should place about 2 cm depth either KCl(aq), KBr(aq) or KI(aq) in a test tube and then add a few drops of either $Cl_2$(aq), $Br_2$(aq) or $I_2$(aq) from a teat pipette. They are looking for evidence of a reaction seen as a colour change. If bromine is formed a yellow solution is seen; if iodine is formed a brown solution is seen. This may only be visible as a darkening of the original solution and has to be looked for carefully. | |