Subject: Science
Year 6: Harry Potter Potions
NC/PoS:

- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments.
- know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution
- demonstrate that dissolving, mixing and changes of state are reversible changes

Prior Learning (what pupils already know and can do)
Revise what the children have learnt about properties and changes of materials.

End Goals (what pupils MUST know and remember)

- know that some materials will dissolve in liquid to form a solution
- know that dissolving, mixing and changes of state are reversible changes
- know that some changes result in the formation of new materials

Vocabulary: control variable, dissolve, mixture, solution, stopwatch, variable, reversible, irreversible change

This unit is planned for after SATs and can be done as a one-off project or split into separate sessions.

Revise chemicals, solids, liquids and gases. Revise chemical reactions. Revise reversible and irreversible change.
Learn about potions. https://www.tes.com/teaching-resource/harry-potter-potions-activities-and-experiments-11427732

Follow some experiments with potions. Identify the variables, test the results.
Learn some fun experiments where the children have to identify the variables, control most variables and identify the variable they are going to test .

Write up the results.

Hypothesis.

Equipment.

Variables – which are to be tested, which are controlled.

Observations/recordings - recording findings using scientific language, drawings, labelled diagrams.

Results – consider the best ways to graph/chart the results.

Conclusion.

Try this experiment with hydrogen peroxide:
https://www.bing.com/videos/search?q=alchemy+experiments+for+kids&view=detail&mid=6D16B16DB9516BA134396D16B16DB9516BA13439&FORM=VIRE

And this one;
https://www.bing.com/videos/search?q=alchemy+experiments+for+kids&&view=detail&mid=B187FE36C7C9028F8B55B187FE36C7C9028F8B55&&FORM=VDRVRV
Make a lava lamp.

Learn about potions and how solutions can create some unusual effects. Try a colour changing experiment e.g. Sprinkle sodium carbonate to coat the bottom of a drinking glass. Fill a second glass halfway full of water. Add ~10 drops phenolphthalein indicator solution to the water. To change water, pour the water with indicator into the glass that contains the sodium carbonate. Stir the contents to mix the sodium carbonate, and the water will change from clear to red. If you like, you can use a straw to blow air into the red liquid to change it back to clear. Identify the variables and create a fair test.
https://www.thoughtco.com/color-change-chemistry-experiments-606187 Try some more colour changing experiments.

Learn what a vacuum chamber is and does.
Make a vacuum chamber.
Learn why and how an egg can be sucked into a bottle:
https://www.homesciencetools.com/article/egg-in-bottle-project/
Drop a feather in the chamber and discuss what happens and why.
Put an alarm clock or something that makes a sound in the chamber – what happens and why?
Hypothesis.

Equipment.

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Conclusion.

Famous chemists:
Marie Curie: The first woman to win a Nobel Prize
Louis Pasteur: French chemist and microbiologist who discovered the principles of vaccination, microbial fermentation and pasteurisation
Michael Faraday: English Scientist who contributed to the study of electromagnetism and electrochemistry
For more information List of Famous Chemists - Biographies, Timelines, Trivia & Life History