

Y12 BTEC INDUCTION 2023 - Measuring the Enthalpy of Combustion of Ethanol

1. Watch this [video](https://www.youtube.com/watch?v=Alc5UGFG3rQ). (<https://www.youtube.com/watch?v=Alc5UGFG3rQ>).
2. Write a method for the experiment. (Include all equipment and measurements taken.)

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3. Below are some results from another experiment.
 - a) Plot a graph of these results. Include a line of best fit.

Time (s)	0	30	60	90	120	150	180	210	240
Temperature (°C)	20	32	42	50	57	63	70	75	80

- b) Use the graph to deduce the temperature rise in this experiment.
- c) Calculate the enthalpy change for the reaction.

Enthalpy change = $100 \times 4.18 \times \text{temperature rise}$ =J

- d) The value calculated in c) is less than expected.
Suggest two reasons why the enthalpy change is lower than expected. Describe an improvement to the method for each reason.

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