

How to write a method...just think of CIDER!

**C**ontrol variables

**I**ndependent variable

**D**ependent variable

**E**quipment

**R**epeats



# Chemistry Practical 5 | Rate of reaction.

How does the concentration of sodium thiosulphate affect the rate of reaction?

Activity 2 – investigating measurement of rate of reaction using colour change or turbidity

## Method

1. Measure 10 cm<sup>3</sup> sodium thiosulfate solution and put it into the conical flask.
2. Measure 40 cm<sup>3</sup> of water. Add the water to the conical flask.
3. This dilutes the sodium thiosulfate solution to a concentration of 8 g/dm<sup>3</sup>.
4. Put the conical flask on the black cross.
5. Measure 10 cm<sup>3</sup> of dilute hydrochloric acid.
6. Put this acid into the flask. At the same time swirl the flask gently and start the stopclock
7. Look down through the top of the flask. Stop the clock when you can no longer see the cross.

**Take care to avoid breathing in any sulfur dioxide fumes.**

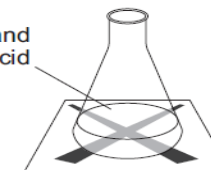
8. Record the time it takes for the cross to disappear in the table below. Record the time in **seconds**.
9. Repeat steps 1–7 changing the concentration of sodium thiosulphate each time as below
  - 20 cm<sup>3</sup> sodium thiosulfate + 30 cm<sup>3</sup> water (concentration 16 g/dm<sup>3</sup>)
  - 30 cm<sup>3</sup> sodium thiosulfate + 20 cm<sup>3</sup> water (concentration 24 g/dm<sup>3</sup>)
  - 40 cm<sup>3</sup> sodium thiosulfate + 10 cm<sup>3</sup> water (concentration 32 g/dm<sup>3</sup>)
  - 50 cm<sup>3</sup> sodium thiosulfate + no water (concentration 40 g/dm<sup>3</sup>).

Can you find the **cider**?

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3. Dependent
4. Equipment
5. Repeats



Sodium thiosulfate and dilute hydrochloric acid



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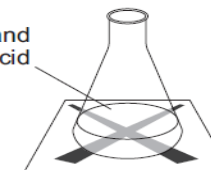
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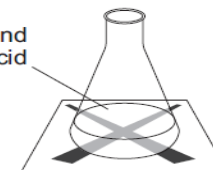
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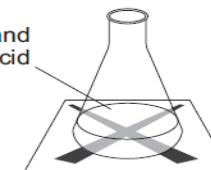
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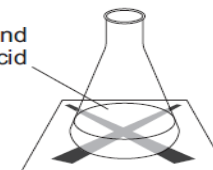
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