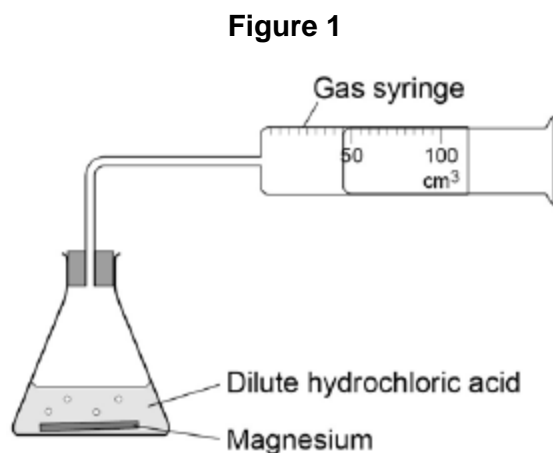


Method writing

A student investigated the rate of the reaction between magnesium and dilute hydrochloric acid.

The student used the apparatus shown in **Figure 1** to collect the gas produced.



- (a) Outline a plan to investigate how the rate of this reaction changed when the concentration of the hydrochloric acid was changed.
- Describe how you would do the investigation and the measurements you would make.
 - Describe how you would make it a fair test.

Indicative content

- remove bung and add magnesium
- start stopclock / timer

Dependent variable

- measure volume of gas at fixed time intervals

Independent variable

- repeat with different concentrations of acid

Control Variables to MAKE this a FAIR TEST

- control volume of acid
- control initial temperature of acid
- control amount / mass / length / particle size of magnesium