Some chemistry students were investigating the relationship between concentration and rate of reaction. In the investigation, different concentrations of hydrochloric acid were added to a sodium thiosulfate solution to produce solid sulfur. This reaction was represented by the following equation.

$$2 \; H^{\scriptscriptstyle +}(aq) \quad + \quad S_{_2}O_{_3}{^{_2 \scriptscriptstyle -}}(aq) \quad \to \quad SO_{_2}(g) \quad + \quad S(s) \quad + \quad H_{_2}O(\ell)$$

A piece of paper with a cross drawn on it was placed under the reaction vessel. The time taken for the cross to disappear due to the formation of the precipitate was measured.

- 23. The type of data collected and the source of data are best characterised as
 - (a)
 - qualitative and primary. qualitative and secondary. (b)
 - quantitative and primary. (c)
 - quantitative and secondary. (d)