

A student set up an experiment to investigate the relationship between the temperature of an acid and the rate of carbon dioxide production when reacted with a base. In each trial the student timed how long in seconds it took to produce 100 mL of carbon dioxide in a gas syringe. The results are shown below.

Temperature of acid (°C)	Time taken to produce 100 mL of carbon dioxide (s)
30	91
40	65
50	64
60	21

12. Which of the following would be classified as a systematic error?

- (a) judging when 100 mL of carbon dioxide is produced
- (b) heating the acid in a water bath
- (c) using the same balance to weigh out the base
- (d) an error in the stopwatch calibration