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## Problem Solving - Set A

### Bronze

- a) Joanna could generate five random numbers and select the dates from a numbered, ordered list
- b) Random sample

Advantage: It is quick and easy to carry out

Disadvantage: It may not be representative of the whole data set

- c) To improve the reliability of the data, Joanna could take a larger sample

### Silver

- a) Systematic sampling was used
- b) There are only 92 days in these three months so her sample will be of size 18 or 19, depending on the starting number

### Gold

- a) Ali can select five days at random from each month using a random number generator or calculator
- b) Advantage of stratified sample for Ali: The data is bound to be taken across all three months, ensuring proportional representation of each month
- c) Ali's data is recorded as a speed in knots and a conversion to a category using the Beaufort scale