

1.1) Populations and samples

Worked example

A shop wants to test a delivery of candles for how long they burn by lighting them.

- a) Suggest a reason why the shop should not test all the candles
- b) The shop tests a sample of 10 candles and finds that 7 of them burn for the required length of time. They estimate that 70% of the avocados in the deliver are ripe. Suggest one way that the shop could improve their estimate.

Your turn

A supermarket wants to test a delivery of avocados for ripeness by cutting them in half.

- a) Suggest a reason why the supermarket should not test all the avocados in the delivery.
- b) The supermarket tests a sample of 5 avocados and finds that 4 of them are ripe. They estimate that 80% of the avocados in the deliver are ripe. Suggest one way that the supermarket could improve their estimate.
 - a) Testing the avocados destroys them (and thus can't be sold).
 - b) Use a larger sample size (which would be a better estimate of the proportion of ripe avocados).