

## Sampling Populations

- 1) In a school there were 800 students who regularly had a school dinner.

The Headteacher of the school wanted to know whether the students liked the dinners.

- a) What is the main advantage of asking a sample of the students whether they like school dinners rather than asking all of them?
- b) The Headteacher asked 100 KS3 students whether they liked the dinners and 40 of them said they did.

Use this information to estimate how many of the 800 students liked school dinners.

- c) In finding your answer to part b), what assumption have you made?
  - d) What could be done to make your estimate more accurate?
- 2) A park-keeper wanted to know how many fish there were in the park pond.

He went to the pond early one morning and used his fishing rod to catch 20 fish. The bait he used was maggots.

Then, he marked each of the fish with a white dot on their tail and released them.

A week later, he used his fishing rod and maggots to catch another 20 fish.

He found that 4 of these 20 fish had the white dot on their tails.

- a) Use this information to estimate how many fish there are in the pond.
- b) In finding your estimate, what assumption have you made?