Just what is a Sample?

TASK A
In pairs discuss what you think a **SAMPLE** is.

Now look at the following list and discuss the following descriptions of a sample thought up by various people. Try to decide which of them may be the nearest to what a mathematician or statistician may mean if they use the word SAMPLE.

Description

A   **"a test"**

B   **"Something you put on a letter"**

C   **"Like a sample of shampoo or perfume"**

D   **"a little bit"**

E   **"a part of the whole thing"**

F   **"a small portion of something larger to try"**

G   **"something that is too hot"**

H   **"a random selection of data from a wider group"**

J   **"something the same as something else"**

Definition of a sample;

> A sample is a small part of a larger population which is representative of that population.

TASK B

a) A presenter on TV says *"In a research study on the weight of second year children, some researchers interviewed a sample of second year children."* What does the word sample mean in this sentence?

b) Why do you think they used a sample instead of studying all the second year children?

TASK C

Discuss the following – what are your conclusions?

Sandra wants to buy a new car.
She has narrowed her choice to either a **Cantrash** or a **Arringa**.
'Which Car' magazine says that for a sample of 400 cars of each type **Arringa**'s broke down more often than **Cantrash**'s.
However she talks to three friends. Two of them have **Arringa**s and have had no problems with their cars but the other friend who has a **Cartrash** has had loads of trouble, so much so that they have sold the car. He says he will never buy another one.

Which car should Sandra Buy?

Arringa   Because her friend had so much trouble with his **Cantrash**, while her other friends had no trouble with their **Arringers**

Cantrash   Because the information in Which Car magazine is based on many cases, not just one or two cars

or   It doesn't matter which car she buys. Whichever type she gets she could still be unlucky and get stuck with a particular car that would need loads of repairs.

Discuss with your group and try to give reasons for your conclusions