

## Alpha Mathematics (2<sup>nd</sup> Edition) Student Data Survey

### Teacher Notes:

Most of the questions have features that make good discussion points. Some features are open to interpretation - that is deliberate, because we expect students to be able to identify variables, and manage variation etc. This is the real world of statistics - dirty data, which is often incomplete, muddled and with measurement and calculation errors.

- 1 Only whole months are counted. Years only would not have enough variation, days too complicated to calculate at this level. Assumes the survey is taken at about the same time by all participants - unlikely to be the case at different schools.
- 2 cm chosen because mm too difficult to measure accurately. One method is to draw a scale on a wall and then read off height using a level ruler. Specify feet flat on floor.
- 3 either use a tape-measure or use scissors to cut out a paper band, mark it off where relevant and then measure with a ruler.
- 4 Use a stop-watch and speak out the time while students do the task. Some students may not have shoes, or they may not be lace-ups. That is deliberate - there will be questions on why not all data values are present.
- 5 Some students may not be able to obtain this information. In that case, just put them down as 'no response'. The reason for the older parent question (part b) is that it gives a switch so that the age difference can be made negative when mother is older than father.
- 6 Define the foot length as distance from end of big toe to end of heel. Students could first trace the outline of their foot on a piece of A4 paper in most cases (introduces measurement error), but it would be more accurate to place the tip of the shoe against a wall or other boundary, and then mark the end of the heel and read it off a scale. Suggest students take the barefoot measurement at home!
- 7 Define the 'start' of the meal as the time when the student first places food in their mouth. Suggest this be taken on a weekday when the family eats at home.
- 9 Define 'dominant' as the hand used for hand-writing. Other definitions are possible.
- 10 The question avoids asking who owns the mobile phone.