UNIT 7 *Postcodes*   Teacher Resource Material

Key Stage: *3*

Target: *Average ability Year 8/9 or high achievers in Year 7*

Teaching Notes

Most pupils should be familiar with postcodes and their use. You might want to extend the theme by looking at other 'post' problems; for example,

- value for money (weight/cost graph)

- efficiency (by experimenting with first class post)

- size and weight allowed for parcels.

Even better would be a visit to the local Post Office sorting centre; this will illustrate the dependency of letter sorting on automation.

At first, these questions look easy but pupils often have difficulty with combinatorial problems so be ready to ask simple questions in order to help them to understand the process.

A list of postcodes areas can be found at the website

                    http://www.davros.org/misc/postcodes.txt

Solutions and Notes

Exercise 1   (a) $650 \times 99 \times 10 \times 650 \approx 418$ million

(b)   Yes – it is certainly possible to uniquely identify each household.

Exercise 2   (a) $\dfrac{2900}{120} \approx 24$ districts per area (up to 99 are available)

(b) $\dfrac{9000}{2900} \approx 3.1$ sectors per district (up to 9 are available)

(c) $\dfrac{2 \times 10^6}{9000} \approx 222$ units per sector (up to 650 are available)

(d) $\dfrac{24 \times 10^6}{2 \times 10^6} \approx 12$ households per unit

Activity 1   At the time (1966) when postcodes were introduced, it was probably not thought efficient to give every household a separate postcode; computing technology was not very advanced at the time.

With today's technology, it would be both efficient and helpful for all premises to have a unique postcode – letters, etc. could be put into delivery order for the postman. It would be very expensive to redefine all postcodes: the public would probably not want to change their familiar postcodes or to see large sums of money spent on this operation.