Mathematics Enhancement Programme

UNIT 8  ITF Symbols  Teacher Resource Material

Key Stage:  3

Target:  Mainstream Year 8/9 or high achievers in Year 7

Teaching Notes
This unit deals with another type of BAR CODE which is particularly used for coding long lists of numbers, for example on containers, etc. It might be worthwhile to point out to pupils that the bar codes on shop products usually have 8 or 13 digits. For the ITF symbol code there must be an even number of digits.

The main concepts here lie in the design of this code which pairs numbers together. You need to be very careful in both reading and actually drawing these codes; although the processes are completely logical you will find that pupils will often make errors.

Solutions and Notes

Activity 1  There are exactly 10 possibilities.

\[
\begin{align*}
1 & 1 0 0 0 \\
1 & 0 1 0 0 \\
1 & 0 0 1 0 \\
1 & 0 0 0 1 \\
0 & 1 1 0 0 \\
0 & 1 0 1 0 \\
0 & 1 0 0 1 \\
0 & 0 1 1 0 \\
0 & 0 1 0 1 \\
0 & 0 0 1 1 \\
\end{align*}
\]

Exercise 1  0501 2345

Exercise 2

\[
\begin{align*}
00101 & \quad 00110 \\
10001 & \quad 10100 \\
11000 & \quad 10100 \\
\end{align*}
\]