

UNIT 4 ISBN Numbers

Teacher Resource Material

Key Stage: 3

Target: Mainstream Year 7; high achieving Year 5/6

Teaching Notes

This code is in some ways similar to that of Bar Codes (Unit 4) in that it involves the operation of a check digit. However, the method used is different and part of the emphasis here is on exploring the possible errors when one digit is incorrect

Only simple addition and multiplication are required so the unit will be accessible to those with little prior mathematical knowledge.

There are many websites giving information on ISBNs, including

<http://www.whitaker.co.uk/isbn.htm>

and

<http://www.isbn.org.standards/home/isbn/international/html/usm1.htm>

Solutions and Notes

Activity 2 (a) Check digit should be 4, or 7th digit should be 1 (not 2).

(b) Check digit should be X.

Activity 3

$m \backslash n$	0	1	2	3	4	5	6	7	8	9
0	8	6	4	2	0	9	7	5	3	1
1	5	3	1	X	8	6	4	2	0	9
2	2	0	9	7	5	3	1	X	8	6
3	X	8	6	4	2	0	9	7	5	3
4	7	5	3	1	X	8	6	4	2	0
5	4	2	0	9	7	5	3	1	X	8
6	1	X	8	6	4	2	0	9	7	5
7	9	7	5	3	1	X	8	6	4	2
8	6	4	2	0	9	7	5	3	1	X
9	3	1	X	8	6	4	2	0	9	7