Coded multiplication tables – Jack

Objectives

The relevant framework objective is:

- to know by heart all multiplication facts up to 10 x 10 (key objective).

Additional objective:

- search for patterns in their results; develop logical thinking and explain their reasoning.

Activity description

The pupils identified each of the coded multiplication tables as 1, 3, 6 or 9. The letters are unique to each table.

Commentary

Jack's work shows that he has attempted to understand the underlying structure of the activity and to search for patterns. Jack's explanation demonstrates that he has used knowledge of multiplication facts to identify each of the coded tables. This work is typical of performance at level 4 in Ma2.

Jack has found and used a strategy that can be generally applied. He has quickly chosen a method, and developed and used it for solving more complicated problems. His work therefore demonstrates attainment at level 4 in Ma1.

Items of work

Example of task sheet given to the pupils

Table V	Table W	Table Y	Table Z
H x A= A	H x J = GJ	C x G = BG	D x F = BG
H x F = F	H x F = BI	C x J = AF	D x A =D
H x G = G	H x B= D	C x H = JD	D x D = JA
H x C = C	H x I = BG	C x I = DG	D x C = IH
H x H = H	H x H = F	C x B = C	D x I = AJ
H x J = J	H x G = H	C x C= AC	D x H = FC
H x D = D	H x D = GA	C x E = DE	D x J = HI
H x I = I	H x C = GB	C x A = BE	D x G = CF
H x B = B	H x A = BC	C x D = GD	D x B = GB

Jack's explanation of how he decoded each table

Table V is 1 times - I matched that quickly. For table Y CxC=AC 6x6=36. This must be 6 times because 3x3=9 and 9x9=81. Then I looked at how many 2 digit numbers there were and found that its matched with 9 times table so ther other one was 3 times table.

About this entry

Subject: mathematics

Year: 5

Key stage: 2

NC programme of study: Ma2p1a, Ma2p1k, Ma2p3f

Attainment target: Ma1, Ma2

Evidence for: level 4

Framework for teaching mathematics – objectives:

- Know by heart all multiplication facts up to 10 x 10.