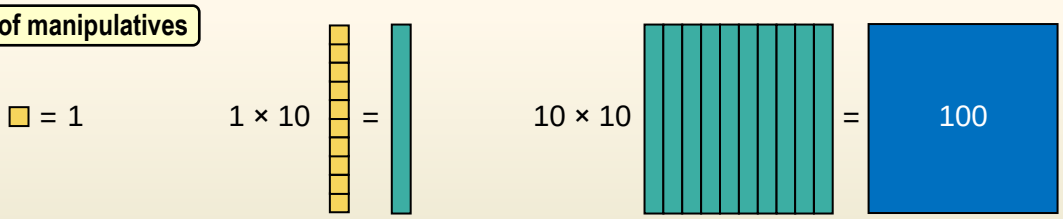
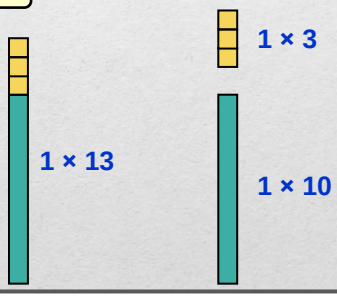
THE DEVELOPMENTAL NATURE OF MATHS

How to get the early stages of teaching multiplication right to avoid confusion in the future

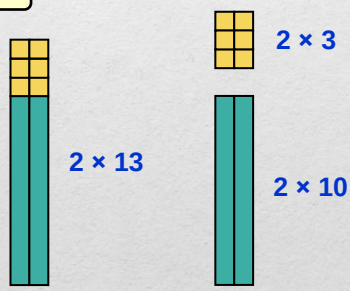
Make use of manipulatives



Stage 1 — 1 × 13

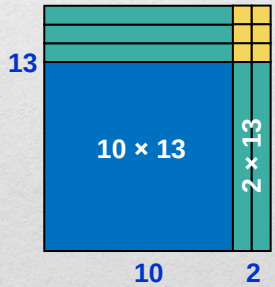


Stage 2 — 2 × 13



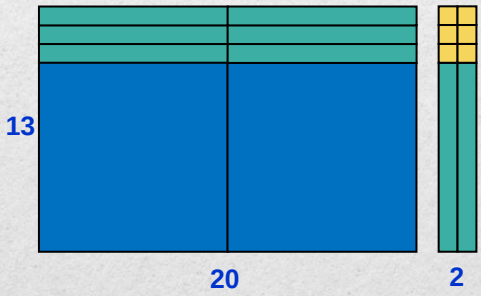
Stage 3 — 10 × 13

Stage 4 — 12 × 13

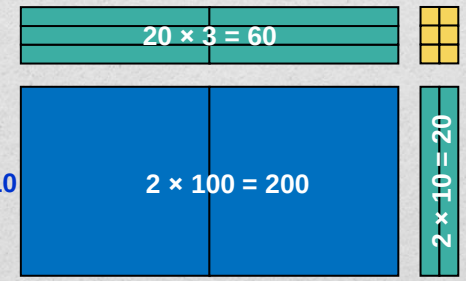


13
× 12
130 10 × 13
26 2 × 13
156

Stage 5 — 22 × 13



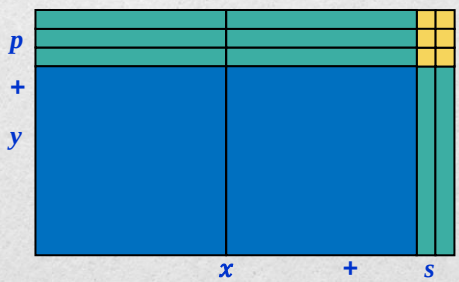
13
× 22
260 20 × 13
26 2 × 13
286



	20	2	
3	60	6	66
10	200	20	220
	260	26	286

Stage 6 — Algebra

$(x + s)(y + p)$



$(x + s)(y + p) = xy + xp + sy + sp$