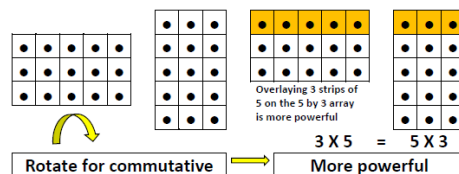


Additive → Multiplicative

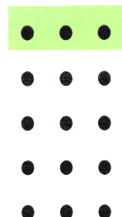


Factor of 15	Factor of 15	Multiple of 3 & 5
Number of groups	Number in each group	Total of all groups
5	X 3	= 15
5 is scaled up by a factor of 3		

Multiple of 3 & 5	Factor of 15	Factor of 15
Total of all groups	Number of groups	Number in each group
15	÷ 5	= 3
15 is scaled down by a factor of 5		

$1/5$ ● ● ● $3/15$
 $1/5$ ● ● ● $3/15$
 $1/5$ ● ● ● $3/15$
 $1/5$ ● ● ● $3/15$
 $1/5$ ● ● ● $3/15$

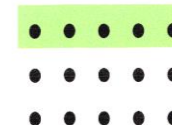
$1/5$ of 15 = 3
 $1/5$ of 15 = 3
 $1/5$ of 15 = 3
 $1/5$ of 15 = 3
 $1/5$ of 15 = 3



The notion of "fifthing"

$1/3$ ● ● ● ● ● $5/15$
 $1/3$ ● ● ● ● ● $5/15$
 $1/3$ ● ● ● ● ● $5/15$

$1/3$ of 15 = 5
 $1/3$ of 15 = 5
 $1/3$ of 15 = 5



The notion of "thirding"



... is three times as many as



The Multiplicative Array Making Explicit Connections

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... is five times as many as



... is a third ($1/3$) as many as (as big as) ...



$$\frac{15}{3} = \frac{5}{1}$$

$$\frac{15}{5} = \frac{3}{1}$$

$$\frac{3}{15} = \frac{1}{5}$$

$$\frac{5}{15} = \frac{1}{3}$$

Area of this 3×5 array is 15 square units

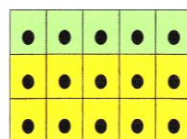


... is a fifth ($1/5$) as many as (as big as) ...

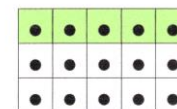


Distributive Property																	
$(10 \times 6) + (3 \times 6) = 78$																	
10 X 6												3 X 6					

Ratio of part:part
 is 1:2
 That is $1/3$ and $2/3$ or
 $5/15$ and $10/15$



Ratio of part:whole
 is 1:3 or
 $5:15$



How many different combinations can you have if there are five choices of fruit (P, S, B, C and O) and three choices of drink (C, T and F)?

	Food				
Drink	P/C	S/C	B/C	C/C	O/C
	P/T	S/T	B/T	C/T	O/T
	P/F	S/F	B/F	C/F	O/F

$$3 \times 5 = 15$$

