Big Ideas in Number Resource Information

Big Ideas in Number Focus Area: **Partitioning**

Name of Game or Activity: **Exploring fraction equivalence using arrays**

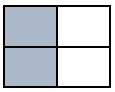
Instructions:

Choose a simple unit fraction for example, a half or I/2. Draw it on the graph paper as a 2x1 rectangular array. Shade one square. Therefore, one square is one half.

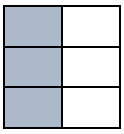
1/2

Explore **fraction equivalence** by extending the array, by multiplying both the fraction's **denominator** and the **numerator** by the same factor.

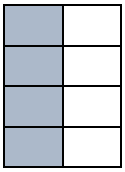
For example: 2/2; 3/3; 4/4; 5/5 etc.



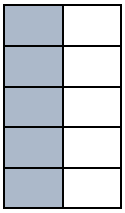
1/2 x 2/2 = **2/4**



1/2 x 3/3 = **3/6**



1/2 x 4/4 = **4/8**



1/2 x 5/5 = **5/10**

Therefore, all **bolded** fractions are fraction equivalents of one half.

Resources: 10mm graph paper or exercise book, pencil, eraser, coloured pencils.

NB: Flip tiles could also be used to physically build the mathematical model.

Big Ideas in Number Resource Information

BliN Micro Content

Objects, quantities and collections can be shared to create equal parts	
There is a relationship between the number of parts and the size and name of the parts and the number of parts increases as the size or share decreases	
Objects, quantities and collections can be repeatedly halved and doubled e.g. use successive splits to show that one half is equivalent to 2 parts in 4, 4 parts in 8 etc.	
An object, quantity or collection can be partitioned into a number of equal portions to show unit fractions so that say one third is more than one fourth etc.	
The relative magnitude of a fraction is dependent on the relationship between the numerator (how many parts) and the denominator (total parts)	
Fractions are renamed as equivalents where the total number of parts (denominator) and required number of parts (numerator) are increased by the same factor	
Fractions with unlike denominators can be compared and ordered	
Common fractions and decimal fractions can be compared, ordered and renamed in conceptual ways	
Construct of fraction as division can be used to produce equal parts (equipartitioning)	
Fractions are used to describe quotients and operators	
Fractions are used to describe part-whole relations	
Fractions are used to describe simple ratios	
Percentages, fractions and decimals express the relationship between to quantities	
Percentages are special part : whole ratios based on 100	
Any given percentage can be used as a ratio to generate an infinite number of equivalent fractions (e.g. 50% = ½ 2/4 3/6 etc.)	
Multiplicative arrays can be used to represent fractions, decimals and percentages	
Benchmark fractions, decimals and percentages which are the equivalents of one another, can be used to estimate and to solve problems	