



AUSTRALIAN RESEARCH COUNCIL CENTRE OF EXCELLENCE FOR
MATHEMATICAL AND STATISTICAL FRONTIERS

MULTIPLICATION PATTERNS

FIND PATTERNS IN THE TIMES TABLES

MATHS:

- This activity lets children discover patterns in multiplication tables of natural numbers and provides a first introduction into prime numbers.

NEEDED:

- Paper signs with the numbers 1-8 written on them (2 of each)
- 25, 36, 49 or 64 people (the more the better)

RULES:

- Turn the grid into a times table by assigning a number to each row and column in order. Each person stands on a square, and is now a 'number' in the times table: for example, the person standing in the third row and second column is a 'six' - 3 times 2.
- Now pick a small number (2, 3, 4 or 5). Anyone who is not divisible by that number sits down. Look at the pattern that emerges. What is different about 4? Now try it with 6.

VARIATIONS:

- You can divide by any number up to 64 (use a calculator for help). Some people will always be sitting down unless their own number is called (7, 11, 13, 17, 19, 23, 29, ...). What is different about these numbers?
- As part of the activity, begin by counting through the numbers, and everyone who is not equal to that number sits down. Look at the pattern that forms.
- Some numbers leave more people standing than others. Why?