

To play 'Guess My Number'

In this game, one person chooses a number from 1 to 100 and writes it down where others cannot see. The players then have to guess what the number is. They can ask questions like "is it 32?", "is it in the fifties?", "is it an even number" or "is it a multiple of 3". The person running the game then must answer "yes" or "no" to these questions, and keeps a tally of the number of questions that have been asked. Students can have access to a miniature hundreds board to keep track of the numbers that have been excluded through the questions, but this is not compulsory. The purpose of the game is to guess the answer in the least number of questions possible.

Variations

Use numbers between 1000 and 10000

Allow fractions and decimals to be chosen (this is suitable for children working at Stage 6 or Advanced Additive)

Note that this game can be played on various number lines, including whole-number lines starting at other than zero, and decimal or fraction number lines.

When the students are confident, remove the number line and do the activity by visualising. List the numbers on a piece of paper:

"I'm thinking of a number between 0 and 5." Write 0 5

"Is it greater than 2.5?" "Yes" Write 2.5 5

"Is it less than 3.6?" "Yes" Write 2.5 3.6

"Is it greater than 3.0?" "No" Write 2.5 3.0

The game continues until the number is found. Note that the question, "Is it greater than 3.0?" did not eliminate 3.0 itself as the answer was "No." The underlining of 3.0 shows the mystery number *could* be 3.0.

'Skip Counting'

Skip count in 2's, 5's and 10's forwards and **backwards**. (remember we can also skip count in twos starting from an odd number) Repeat the activity above with skip-counting by threes and fours.

Ask the students to predict whether a given number will be in the pattern of multiples as shown on the hundreds board. For example, "Will 335 be in our fives pattern? Why do you think so?" or "What is the twentieth number in our tens pattern?"

Variation

The constant function on the calculator can be used to develop counting patterns. Ask your child to key in the sequence $5 + = = = \dots$ It will produce a display of increasing multiples of five. Challenge your child to work out the sequence. Note that with some calculators, like Casio, the + key must be pressed twice to activate the constant function.

Use the hundreds board to record the skip-counting sequence. For example, cover every fifth number.

Activity

In pairs: get one of the pair to put in the first few terms of a sequence, using $+ (\text{a number}) = = =$. The child hands the calculator to their partner to push $= = = \dots$. The partner tries to work out what number is being repeatedly added.

Tell the students to key in $+ \text{number}$ but not to press $=$.

For example, $+ 4$. Instruct them to hold their finger over the equals button, and, without looking, press equals until they think a target number has been reached in the window. For example, aim for 24. This is good practice for skip-counting sequences and multiplication facts.

This can be extended to sequences of two-digit numbers and decimals.

For example, $+ 23 = = = \dots$, $+ 99 = = = \dots$, $+ 0.3 = = = \dots$, $+ 1.6 = = = \dots$

Repeat for subtraction. For example: $46 - 5 = = = \dots$ produces the sequence 41, 36, 31, ... on most calculators.

'Show Me...'

This activity helps with basic facts for addition, subtraction, multiplication and division. Get the children to point to the answer on the 100's board.

"Show me two numbers that add to 10, 15, 18, 19, 20, 32, 47, 50, ..."

"Show me two numbers with a difference of 4, 16, 29, 56 ..."

"Show me two or three numbers that multiply to give an answer of 12, 24, 72, 216 ..."

"Show me two numbers that when one number is divided by the other give the answer: 1, 7, 25, 499, 0.5, 3.25..."