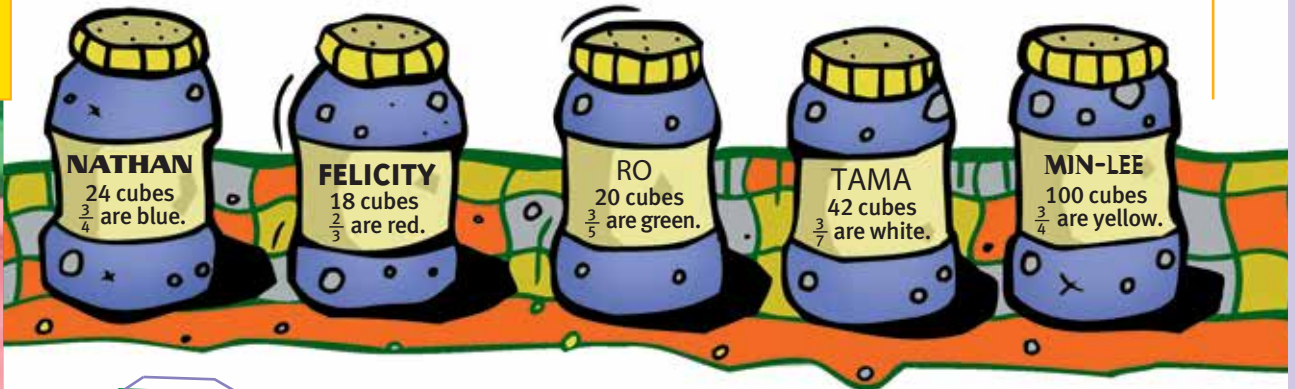


Mystery Fractions

You need: multilink cubes or beads, plastic jars (all optional)

ACTIVITY

The students in Room 12 made up mystery-fraction jars. Here are some of their puzzles:



Here is how two students solved Nathan's puzzle:

I knew that half of 24 is 12. So one-quarter must be 6. $\frac{3}{4}$ is $\frac{1}{2} + \frac{1}{4}$, so the answer is $12 + 6 = 18$ blue cubes.

Simon showed his thinking using a ratio table:

Fraction	$\frac{1}{1}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{4}$
Number	24	12	6	18

I knew that one-quarter of 24 is 6. $\frac{3}{4}$ is $\frac{1}{4}$ less than the whole jar, so the answer is $24 - 6 = 18$ blue cubes.

Emeli used a double number line to show her thinking:



- Solve the other four mystery-fraction-jar puzzles in your head. Use ratio tables or double number lines to show your thinking.
- Make up some mystery-fraction jars for other students to solve.
- Solve these problems using both a table and a double number line:
 - $\frac{4}{5}$ of 35
 - $\frac{3}{4}$ of 32
 - $\frac{5}{7}$ of 35
 - $\frac{2}{3}$ of 36