

# Tidying Up

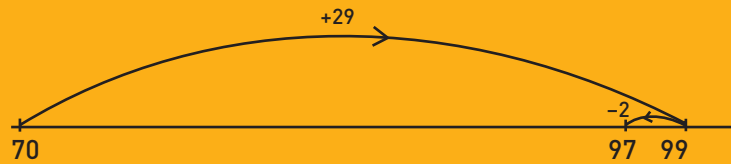
You need  place value equipment  a classmate

## Activity One

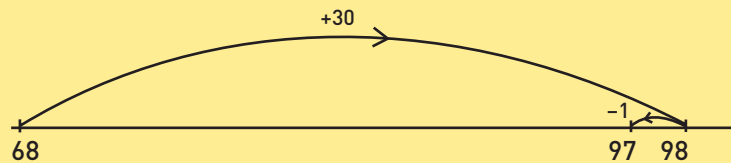
Alex is looking at ways to solve  $68 + 29 = \square$ .



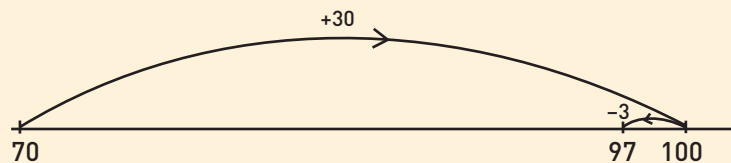
Hmm ... I think tidy numbers would be the easiest way to solve this equation. I could go:  $70 + 29 = 99$ .  $99 - 2 = 97$ . I can record this on an empty number line as:



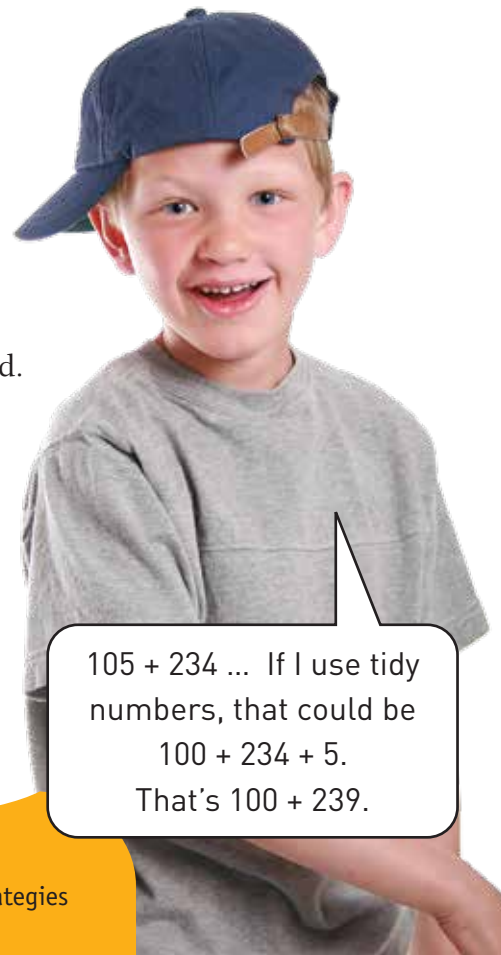
Or:  $68 + 30 = 98$ .  $98 - 1 = 97$



Or:  $70 + 30 = 100$ .  $100 - 3 = 97$



1. Use Alex's tidy number strategies to solve these equations and show them on empty number lines:
  - a.  $49 + 25 = \square$
  - b.  $36 + 58 = \square$
  - c.  $198 + 56 = \square$
  - d.  $29 + 27 = \square$
  - e.  $399 + 135 = \square$
  - f.  $1\ 097 + 34 = \square$
2. A tidy number strategy is one way to solve equations. Some equations are best solved using different strategies. Solve each equation below and record the strategy you used. Compare your strategies with a classmate's.
  - a.  $23 + 126 = \square$
  - b.  $99 + 46 = \square$
  - c.  $3\ 099 + 234 = \square$
  - d.  $105 + 234 = \square$
  - e.  $45 + 64 = \square$
  - f.  $128 + 36 = \square$
  - g.  $297 + 345 = \square$
  - h.  $1\ 455 + 122 = \square$
3. How do you know whether it's best to solve an addition problem using tidy numbers? Discuss this with your classmate.



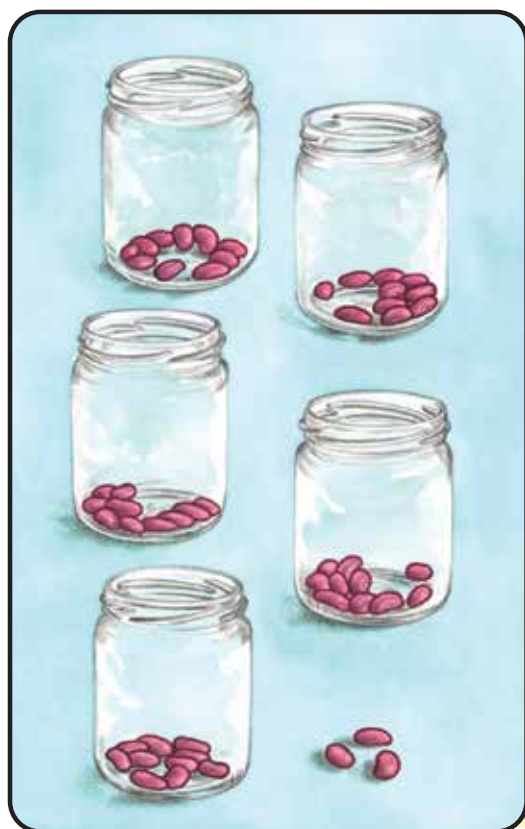
105 + 234 ... If I use tidy numbers, that could be  $100 + 234 + 5$ . That's  $100 + 239$ .

## Activity Two

Alex's teacher gives him a subtraction problem to solve.

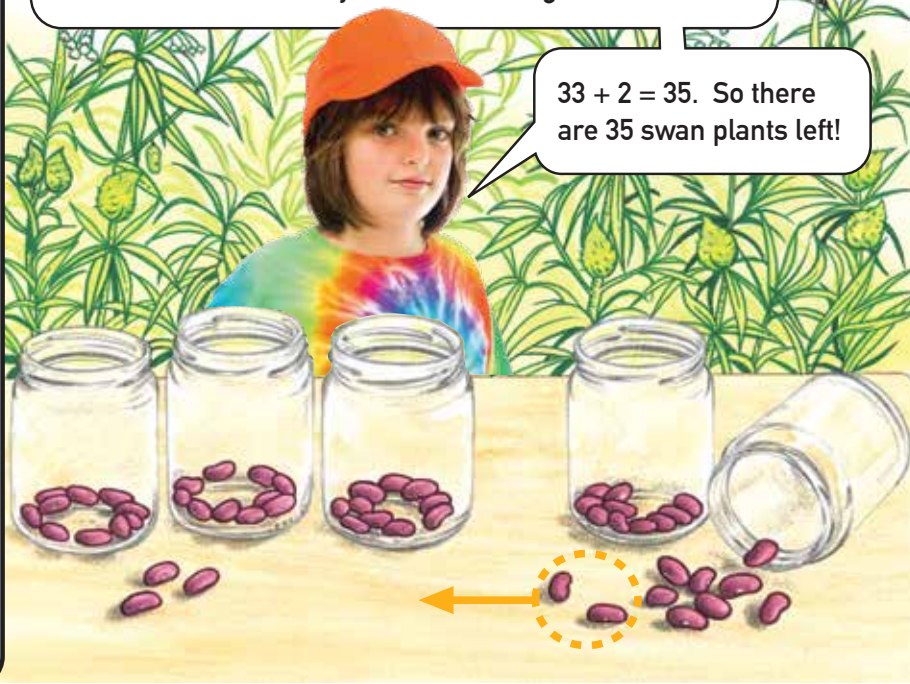


Alex uses jars of beans to help him understand the problem and what he needs to do. Each jar contains 10 beans, so he uses 5 jars and 3 extra beans.



First, he takes away 2 jars of 10 beans:

$53 - 20 = 33$ . But Bella only bought 18 plants, and I've taken away 20, so I have to give 2 back.



1. Record what Alex did on an empty number line.
2. How else could Alex have solved this problem?
3. Which strategy is best? Why? Discuss this with your classmate.



### Activity Three

Raukura is in the same class as Alex. She is working on  $58 - 23 = \square$ .

Raukura also uses jars of beans to help her understand the problem and what she needs to do.

I think I can solve this subtraction easily using place value. I've got 5 jars and 8 extra beans.

1.



I take away 2 jars: that's 20 beans.

2.



3.

And then I take away 3 beans.

That leaves 35!



1. Record what Raukura did on an empty number line.
2. Use place value equipment to try out both Alex's tidy number and Raukura's place value strategy on each of the equations below. Record your thinking each time. (You could use empty number lines to do this.)

a.  $71 - 29 = \square$     b.  $85 - 73 = \square$     c.  $97 - 52 = \square$     d.  $62 - 28 = \square$

3.
  - a. When was Alex's tidy number strategy most useful?
  - b. When was Raukura's place value strategy most useful?

4. Solve each equation below and record the strategy you used. Compare your strategies with your classmate's.

a.  $74 - 23 = \square$     b.  $53 - 29 = \square$     c.  $130 - 70 = \square$     d.  $98 - 74 = \square$   
 e.  $5\,000 - 299 = \square$     f.  $161 - 98 = \square$     g.  $245 - 123 = \square$     h.  $896 - 254 = \square$