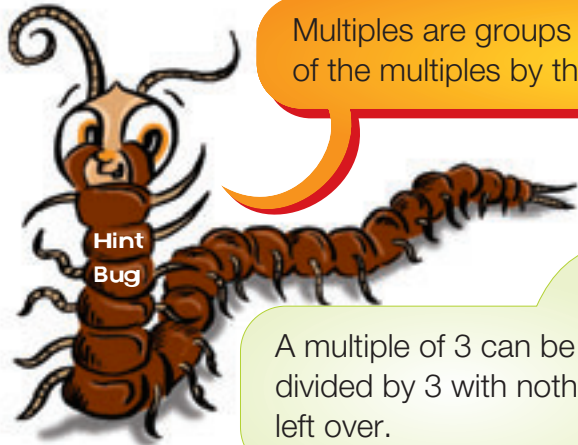


# The Hundreds Board Hunt

**You need**  a photocopy of a hundreds square and of a 101–200 square  
 a calculator  a classmate

## Activity

Sara and Toline are pattern detectives. They are hunting down multiples of 3.



Multiples are groups of a number. When you divide any of the multiples by the number, there is no remainder.

A multiple of 3 can be divided by 3 with nothing left over.



The first 10 multiples of 3 are found in the 3 times table.

Sara and Toline colour in the first 10 multiples of 3 on a hundreds square.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

I can see a pattern!



You colour in the pattern, and I'll check on the calculator.



1.
  - a. Describe the pattern that Toline can see.
  - b. On your hundreds square, colour in all the numbers that are multiples of 3.
  - c. Enter  $3 + = = = \dots$  on your calculator to check your answers.

On some calculators, you need to enter  
 $3 + + = = = = \dots$



2. Toline and Sara are sure they have found all the multiples of 3. Then their teacher, Ms Lai, shows them a 101–200 square.
  - a. What would be the first multiple of 3 on the 101–200 square?
  - b. What would be the last one? Explain how you can tell.
  - c. Colour the multiples of 3 on your copy of the 101–200 square.

3.

It would take ages to find all the multiples up to a thousand!



There has to be a pattern.

With a classmate, use the hint below to find a simple rule for checking which numbers up to 1000 are multiples of 3. Check your rule to make sure that it works.



Add the digits of some of the multiples of 3 that you coloured in. What do the totals have in common?

4. Now try your rule on some numbers over 1000. Check your answers on a calculator.



$2\ 835 \div 3 = 945$ . So, yes, 2 835 is a multiple of 3.

