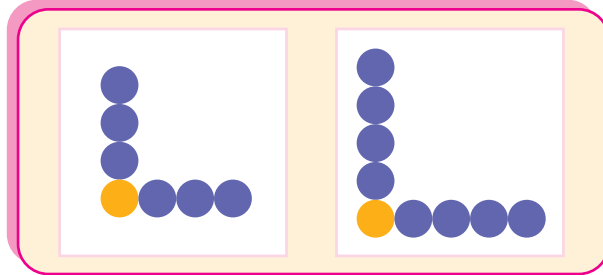


# Letter Designs

You need: different-coloured counters

## ACTIVITY

1. Leakhana makes counter designs for L, the first letter of her name.

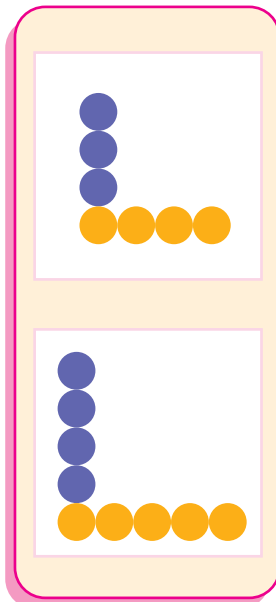


- Leakhana predicts that an L design with 7 counters on each side has  $2 \times 6 + 1$  counters altogether. Make an L design with 7 counters on each side and check this prediction.
- Explain how the short cut  $2 \times 6 + 1$  works.
- Complete this table using Leakhana's short cut:

Number of counters on each side	Total number of counters
4	
5	
7	$2 \times 6 + 1 = 13$
23	
87	



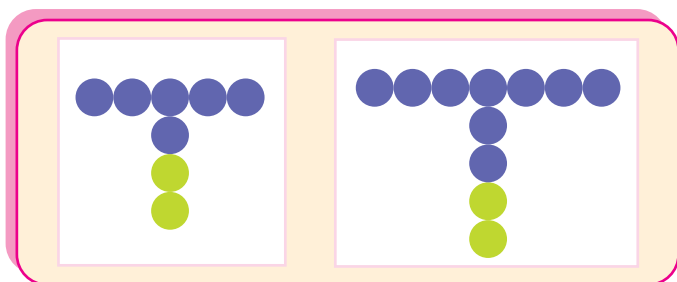
2. a. Find a short cut for these L designs.  
Explain how the rule works.



- b. Complete this table using your rule:

Number of counters on each side	Total number of counters
9	
10	
15	
76	
127	

3. A short cut for an L design with 6 counters on each side of the L is  $2 \times 6 - 1$ .
  - a. Explain how the short cut works.
  - b. Use the short cut to predict the total number of counters for an L design with 256 counters on each side of the L.
4. Telea makes counter designs for T, the first letter of his name.



- a. Find a short cut for these T designs. Explain how the rule works.
- b. Complete this table using your rule:

Number of counters in stem	Total number of counters
4	
7	
11	
32	
71	
478	

5.
  - a. Make a different T design and find a rule for it.
  - b. Show how the rule works.
  - c. Use the rule to predict the total number of counters needed for a T design with 250 counters in the stem.

6. Find as many rules as you can for predicting the number of counters in Cathy's C designs. You can use different-coloured counters.

Explain how each rule works. Then use each of your rules for C designs to predict the number of counters needed for a C design with 100 counters in the left side of the C.

