## Seeing Dots

You need $\square$ either a geoboard and rubber bands or square dot paper
$\boxed{\square}$ a classmate

## Activity One

1. There are nine dots on the outline of windmill 1 and 21 dots on the outline of windmill 2 .
a. How many dots will be on the outline of windmills 4 and 5 ?

b. Can you find an easy way to work out the number of dots on
c. Use this method to find the number of dots on the outline of windmill 10.
2. The area of windmill 1 is $2^{\circ} s$, and the area of windmill 2 is 8 .
a. What will be the areas of windmills 4 and 5 ?
b. Can you find an easy way to work out the area of each windmill?
c. Use this method to find the area of windmill 10.

windmill 3

## Activity Two



1. The table below describes the house pattern.

What patterns can you see in the numbers in the table?

| House number | 1 | 2 | 3 | 4 | 5 |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Dots on outline | 6 | 12 | 18 |  |  |
| Dots inside | 1 | 7 | 19 |  |  |
| Total number of dots | 7 | 19 | 37 |  |  |

2. Why do you think these patterns happen? Discuss this with a classmate.
3. Use these patterns to complete the table for houses 4 and 5 .

## Investigation

Investigate this submarine pattern with a classmate:

submarine 1
 submarine 2

submarine 3

