Algebra-Level 3-4

Seeing Dots

You need *I* either a geoboard and rubber bands or square dot paper *I* 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 the outline of each windmill?
 - c. Use this method to find the number of dots on the outline of windmill 10.
- 2. The area of windmill 1 is 2 s, and the area of windmill 2 is 8 s.
 - 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.



house 3





Activity Two

house 1



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.

submarine 2

Investigation

Investigate this submarine pattern with a classmate:



Finding rules to describe relationships

submarine 3