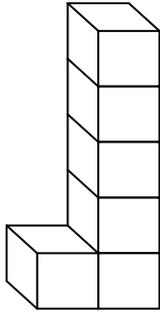
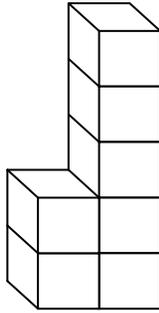


3-D PATTERNS

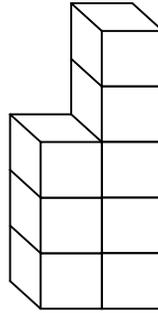
Buildings 1



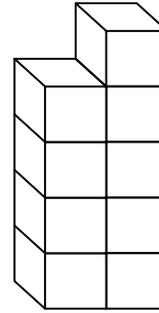
Building 1



Building 2



Building 3



Building 4

Imagine that the pattern of blocks continues.

How many  are in

1 Building 5? _____

2 Building 6? _____

3 Building 7? _____

4 Building 10? _____

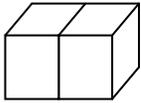
5 Which building has 30  ? _____

6 Give a rule for telling the number of  when you know the number of the building. _____

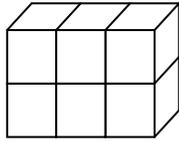
[Source: Groundworks Algebraic Thinking-Grade 3, Creative Publications, Inc.]

3-D PATTERNS

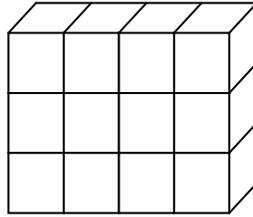
Buildings 5



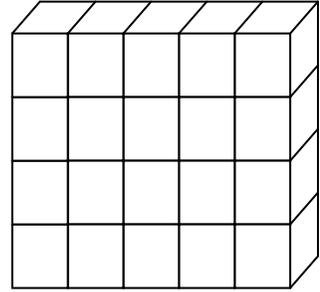
Building 1



Building 2



Building 3



Building 4

Imagine that the pattern of blocks continues.

How many  are in

1 Building 5? _____

2 Building 6? _____

3 Building 7? _____

4 Building 10? _____

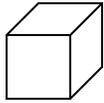
5 Which building has 72  ? _____

6 Give a rule for telling the number of  when you know the number of the building. _____

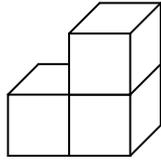
[Source: Groundworks Algebraic Thinking-Grade 3, Creative Publications, Inc.]

3-D PATTERNS

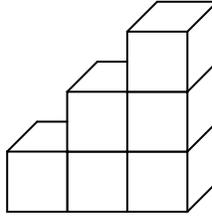
Buildings 6



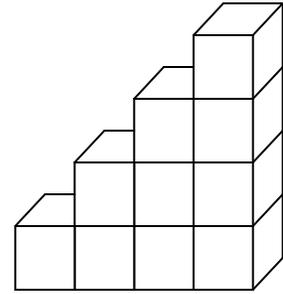
Building 1



Building 2



Building 3



Building 4

Imagine that the pattern of blocks continues.

How many  are in

1 Building 5? _____

2 Building 6? _____

3 Building 7? _____

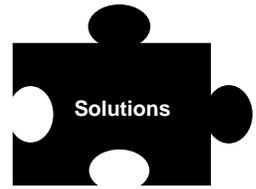
4 Building 10? _____

5 Which building has 45  ? _____

6 Give a rule for telling the number of  when you know the number of the building. _____

[Source: Groundworks Algebraic Thinking-Grade 3, Creative Publications, Inc.]

Buildings 1



Goals

Identify patterns.

Write a rule to relate the number of blocks to the building number.

Questions to Ask

How many blocks in Building 1? (6) in Building 2? (7) in Building 3? (8) in Building 4? (9)

How many blocks were added to Building 1 to get Building 2? (1)

How many blocks were added to Building 2 to get Building 3? (1)

How would you make Building 5? (Answers will vary. There are 2 columns of blocks. The column to the right has 5 blocks. The column on the left has B blocks where “B” is equal to the pattern number. So in Building 5, the column to the left will have 5 blocks.)

Solutions

1 10

2 11

3 12

4 15

5 25

6 Answers will vary. The number of blocks is 5 more than the building number.

Notes

In this set of problems, there are a variety of functions repeated by the block patterns. Using blocks to make the buildings may help students visualize and describe the rule that relates the number of blocks to the building number.

[Source: [Groundworks Algebraic Thinking-Grade 3](#), Creative Publications, Inc.]