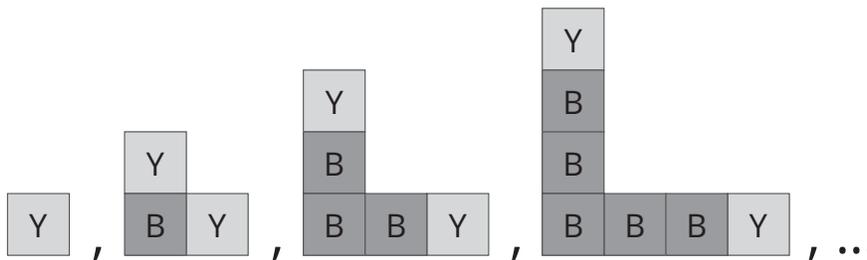


1 Shape Patterns

Describing How a Pattern Grows Using Shapes

All patterns are predictable, including patterns made of shapes. That means you should be able to predict what shapes later in a pattern will probably look like and explain why.

For example, it looks like you can create every term in the growing pattern below by adding a square on the top and a square on the right side of the previous term. The growth between each term and the next is shown in yellow.



The 10th term of this pattern will probably have 10 squares vertically and 10 squares horizontally.

Using Numbers to Describe a Shape Pattern

In many shape patterns, you can count shapes, numbers of parts, or other features and see a numerical pattern in the items you count.

For example, for the pattern above, the number of squares in successive terms is 1, 3, 5, 7,

1, 3, 5, 7, ... is a number pattern in which each term increases by 2.

That makes sense since each new term has two extra squares: one at the top and one at the right.

Using Numbers to Describe a Shape Pattern (continued)

In the pattern below, you can count how many sticks are used to make each term.



You will see a number pattern starting with 5 and increasing by 7 each time:
5, 12, 19, 26, ...

That makes sense since each term has three new horizontal sticks and four new diagonal sticks.

Definitions

growing pattern: a pattern in which the value of each term is greater than the value of the term before it; for example, 2, 4, 6, 8, ...

term: each element in a pattern
