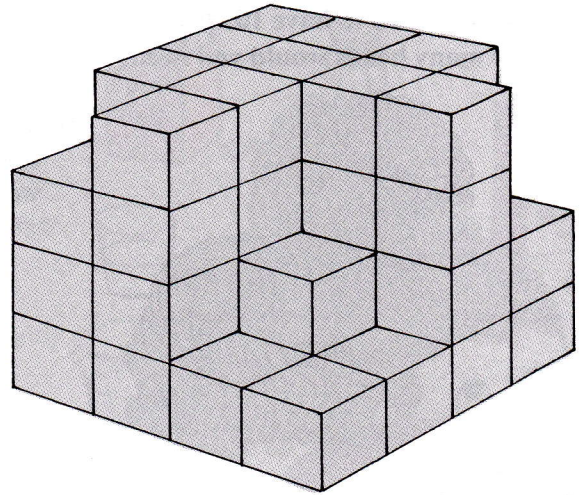# ⟨?⟩ Challenge

How many small cubes do you need to finish this large crystal cube? _____

How many small cubes will there be when this large cube is totally complete? _____

DID YOU KNOW??
Crystal comes from the Greek word *krustallos* which means "icy cold." Ancient Greeks believed crystals were ice that was frozen so hard it would never melt.

▨ Puzzle

Play the game of CRYSTALS.

You need a piece of graph paper with approximately 400 squares (20 squares on a side), two different colored pencils, and a partner.

Each player will try to fill in as many squares as possible with CRYSTAL patterns.

RULES:

A **CRYSTAL** *pattern* must:

- cover at least 4 squares,
- have no holes *inside* it,
- be symmetrical (that means if the pattern was folded in half, both sides would match).

Take turns with your partner filling in **one square** at a time with your colored pencils. When there are no squares left, count the number of squares **your CRYSTAL** *patterns* cover. The player who has covered the most squares with **CRYSTAL patterns** is the winner.

4 points

8 points

10 points

no points
(not symmetrical)

12 points

16 points

8 points

no points
(hole inside)