

## Connection: Distance/Area/Volume

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**Distance (length): number of segments\* needed to connect two points.**

**Perimeter: distance around a region**

**Area: number of squares\* needed to cover a region or surface.**

**Surface Area: sum of face areas for a solid**

**Volume: number of cubes\* needed to fill a space.**

**\*of uniform size**

Connection activity: Show students a rectangular solid of cubes (Unifix or unit cubes, etc.), such as in the illustration:

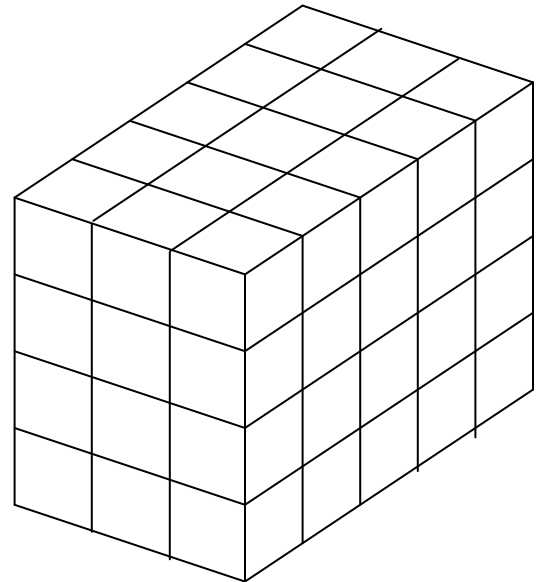
Students are asked a set of questions that require "gearshifting" between perimeter, area, and volume, to compensate for the usual fragmented treatment of these ideas given in most textbooks.

A similar set of questions should be given daily. Such a set might be as follows:

"What is the perimeter of the top face?"

"What is the area of the top face?"

"What is the volume of the entire solid?"



The same solid and questions may be used the next day, but pertaining to a different face.

Students may ask, "Why squares, not triangles? Why cubes and not pyramids?" The answer appears to be a matter of historical and multicultural practice.

**CIRCLE  
ATTRIBUTE  
SCHEMA:**

*A*

*R*

*D*

*P = C*

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