

Build It
Everyone Gives Information

Supplies: envelopes with Build It clue cards
a set of 2 cm cubes (2 each of red, yellow, orange, blue, purple, green)
2 blank puzzle sheets
isometric dot paper

Your group's goal is to build structures described in the clue cards.

Open one envelope and pass **all** the clues out to members of the group. Each of you, may look at your *own* clue(s) and tell your group what it says, but *do not* show the cards to anyone else. Build it! When the group is done, review your clues to make sure that you really are finished. Record your solution on isometric dot paper.

Try a different puzzle envelope using the same rules.

Discuss the following questions:

How did your group know that you had solved the puzzles?

What mathematics concepts did your group have to be familiar with to solve Build-It-type puzzles?

Build It # 1

Build It # 1

There are six blocks in all.
One of the blocks is yellow.

Build It # 1

The green block shares one
face with each of the other
five blocks.

Build It # 1

The two red blocks do
not touch each other.

Build It # 1

The two blue blocks do
not touch each other.

Build It # 1

Each red block shares an
edge with the yellow

Build It # 1

Each blue block shares one
edge with each of the red
blocks.

Build It # 2

Build It # 2

There are six blocks in all, in a tower six blocks high.
There is a yellow block on top.

Build It # 2

The red block is above the green block.

Build It # 2

One of the yellows is above the green block; the other is below it.

Build It # 2

Each of the blue blocks shares a face with the green block.

Build It # 2

No two blocks of the same color touch each other.

Build It # 2

There are two yellows, two blues, one green, and one red in the set of blocks.

Build It # 3

There is a red block directly below a yellow block.

There is a green block on the bottom level.

Build It # 3

There is a red block directly on top of a yellow block.

The highest block is on the third level.

Build It # 3

There are six blocks in all.

An orange block shares a face with a green block and two others.

Build It # 3

A blue block shares a face with a yellow block.

There is a red block on the bottom level.

Build It # 3

A blue block touches red and green blocks only along edges.

There are three blocks on the bottom level.

Build It # 3

A yellow block touches an orange block only along an edge.

Build It #4

Build It # 4

Special Rule: You may only touch the orange block.

Each yellow block is above a red block; every red block shares an edge with the blue block.

Build It # 4

Special Rule: You may only touch yellow blocks.

The one red block shares a face with the orange block.

Build It # 4

The blue block is the only one you are allowed to touch.

Your clue: the green block shares a face with one of the two yellow blocks.

Build It # 4

The green block is the only one that you are allowed to touch.

The blue block shares a face with the orange block and two others.

Build It # 4

You may only touch the red block.

The highest blocks (neither of which are blue) are on the third level.

For the teacher:

Note that each player can touch only one color of block; if you don't use the optional clue, no one can touch red. That's intentional!

Minimum blocks: One blue, green, orange, red; two yellows.

Build It Between

The green cube is between the orange cube and the yellow cube.

Build this row of six cubes!

Build It Between

The red cube is between the purple cube and the green cube.

Build this row of six cubes!

Build It Between

The orange cube is between the green cube and the yellow cube.

Build this row of six cubes!

Build It Between

The blue cube is between the green cube and the red cube.

Build this row of six cubes!

Build It Between

The yellow and the purple cubes are not between any cubes.

Build this row of six cubes!

Build It Between

Every cube is a different color from the others.

Build this row of six cubes!