Picture Puzzles

BUILDING VIEWS

Picture Puzzles

Picture Puzzles

Creator ... Doug. Williams
Publisher ... Mathematics Centre

This Picture Puzzle is based on
... Task 104, Building Views
Teaching Notes
... mathematicscentre.com/picturepuzzles/teachingnotes.htm

Picture Puzzles

Picture Puzzles

To Do

1. Given looking down views make towers of cubes.
2. Given side views make towers of cubes.
3. Draw isometric views of towers of cubes.

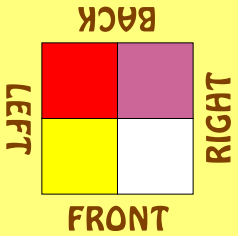
You Need

- Cuisenaire Rods or wooden cubes or linking cubes
- Square graph paper (1cm)
- Isometric dot paper (1cm)

Picture Puzzles

Picture Puzzles

You are looking down on four towers of cubes.



Picture Puzzles

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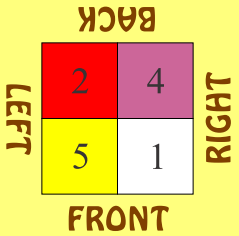
You are looking down on four towers of cubes.



The numbers count the cubes in each tower.

Picture Puzzles

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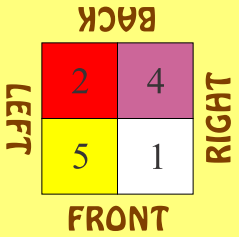
Build the towers.



Picture Puzzles

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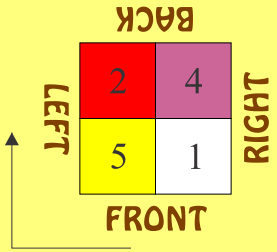
Build the towers.



Walk around the tower block at street level...

Picture Puzzles

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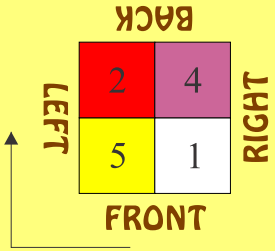
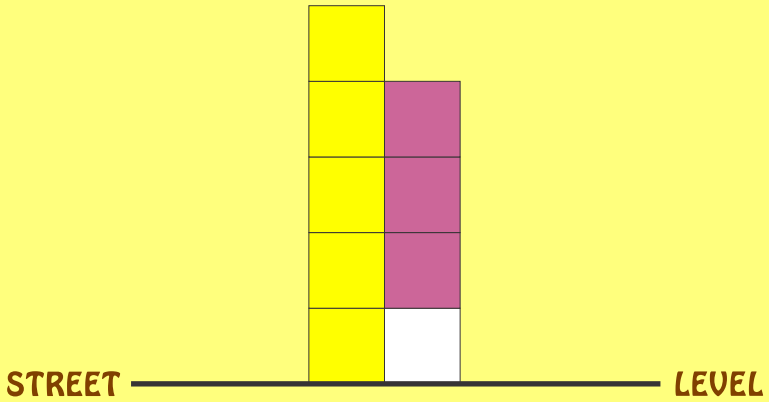
Front View





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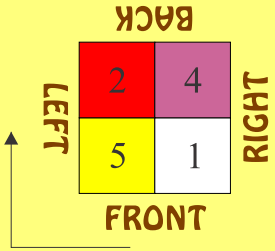
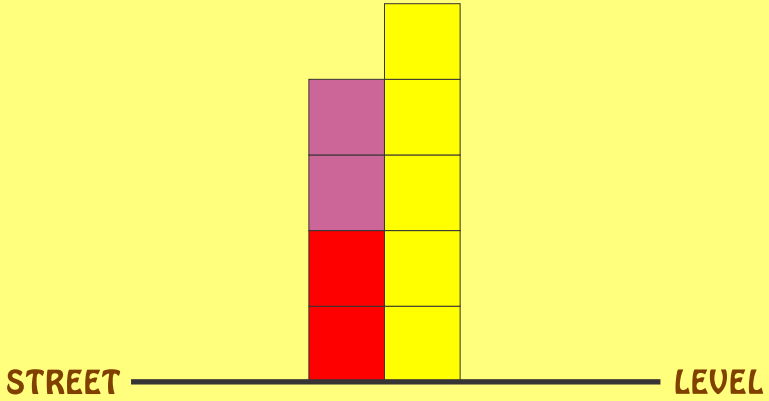
Left View

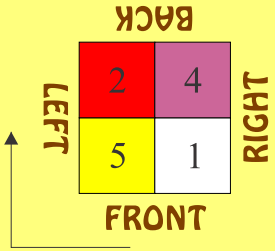


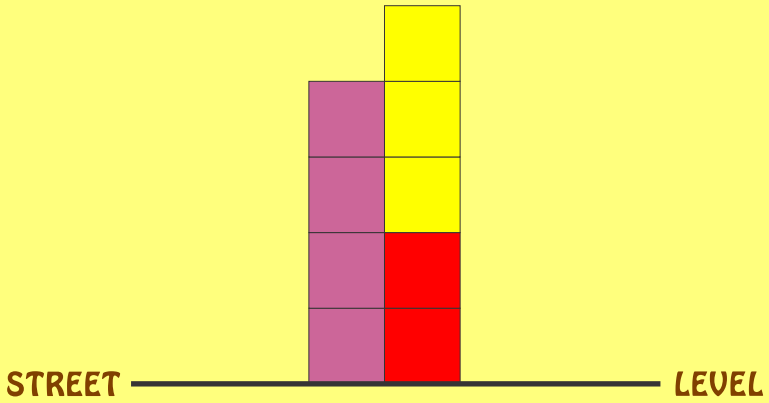


Picture Puzzles

Picture Puzzles

Back View





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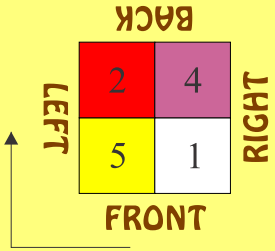
Right View



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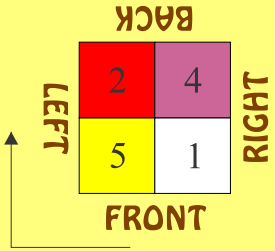
STREET LEVEL

Picture Puzzles

Picture Puzzles

Right View



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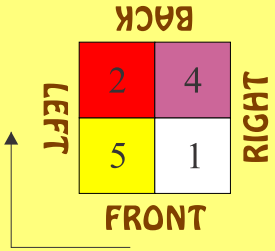
Draw it on graph paper.

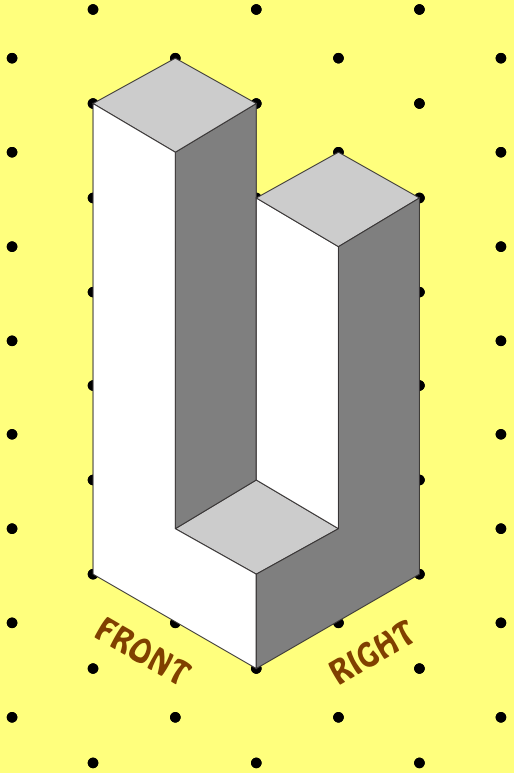
STREET LEVEL

Picture Puzzles

Picture Puzzles

Isometric View: Corner of Front & Right Streets





Picture Puzzles

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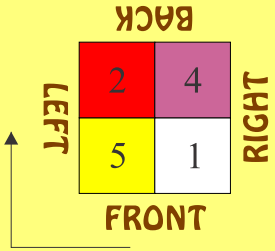
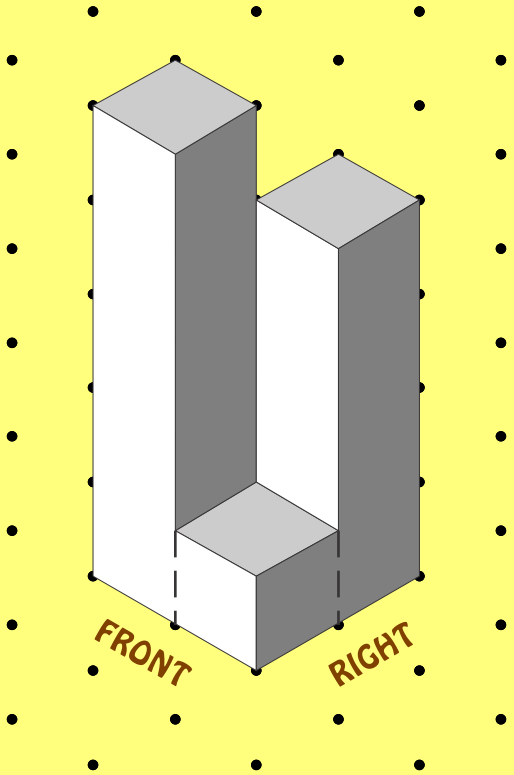
What do you learn from the dotted lines?





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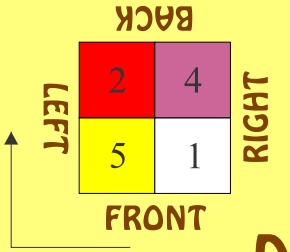
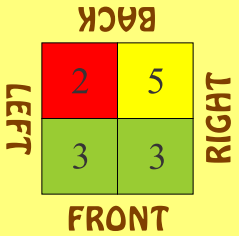


Draw the isometric view from the corner of Back & Left Streets.

Picture Puzzles

Picture Puzzles

Make this block of towers.



Draw 4 side views and 1 isometric view.

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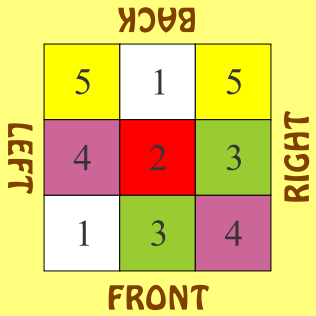
Picture Puzzles

Make this block of towers.

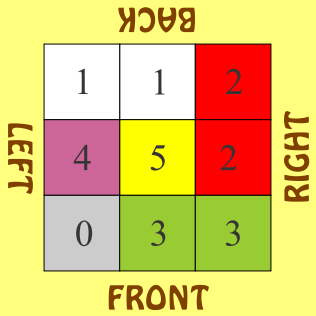


Draw 4 side views.

Picture Puzzles

Picture Puzzles

Make this block of towers.



Draw 4 side views.

Picture Puzzles

Picture
Puzzles

more

Picture
Puzzles

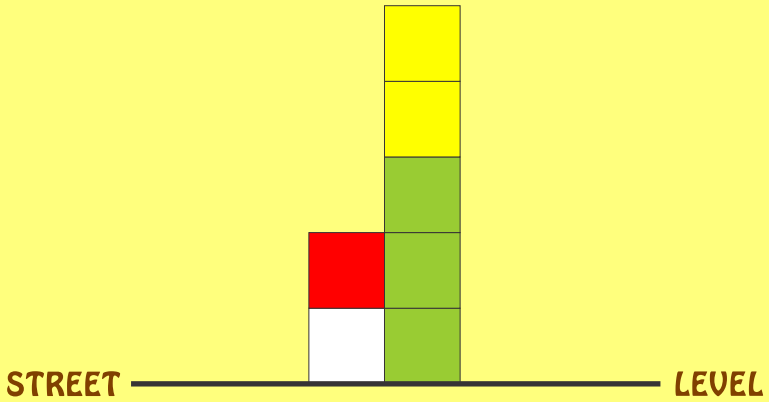
Picture Puzzles

The next four slides show front, left, back and right views. Make the towers. Draw the looking down view.

Picture Puzzles

Picture Puzzles

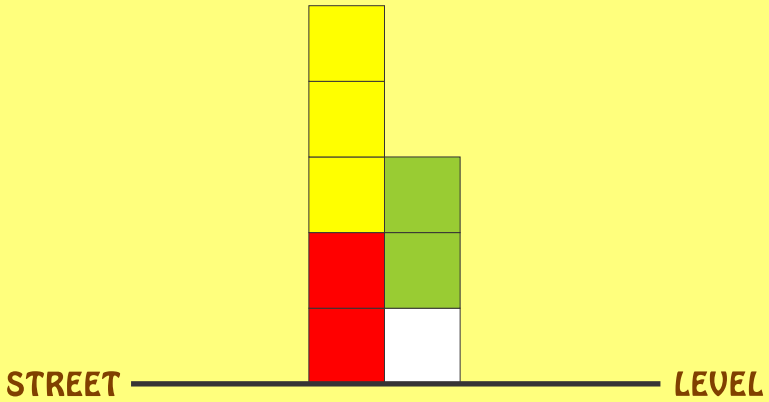
Front View



Picture Puzzles

Picture Puzzles

Left View



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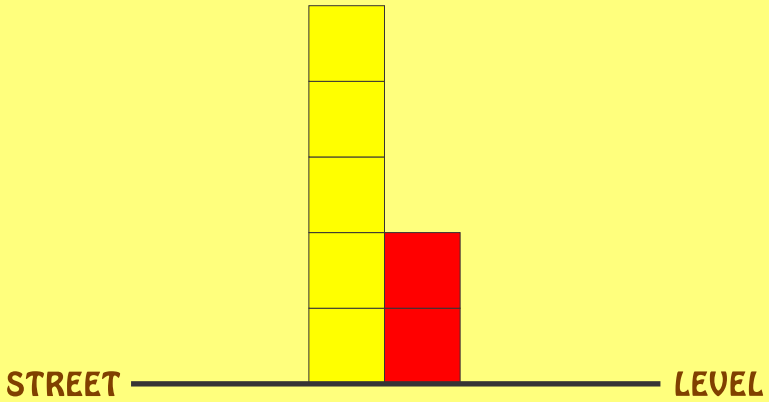
Picture Puzzles

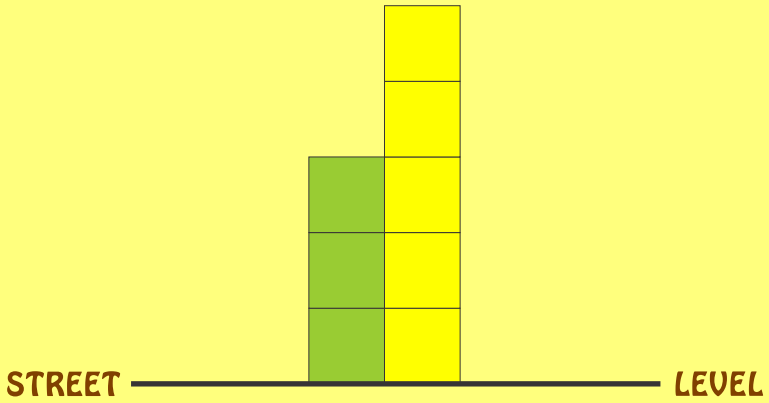
Back View



Picture Puzzles

Picture Puzzles

Right View



Picture Puzzles

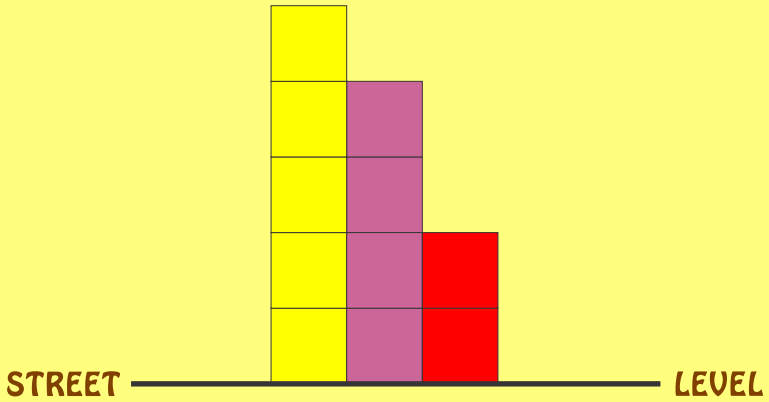
Picture Puzzles

The next four slides show front, left, back and right views. Make the towers. Draw the looking down view.

Picture Puzzles

Picture Puzzles

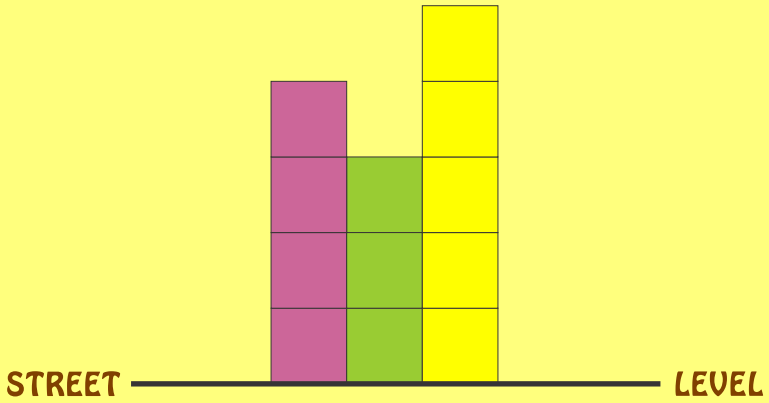
Front View



Picture Puzzles

Picture Puzzles

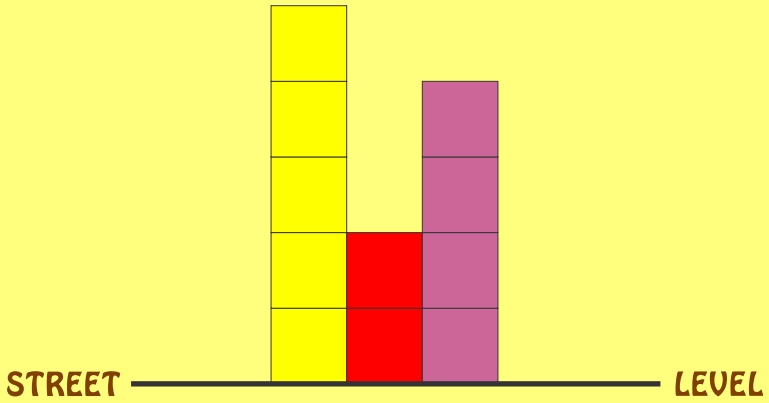
Left View



Picture Puzzles

Picture Puzzles

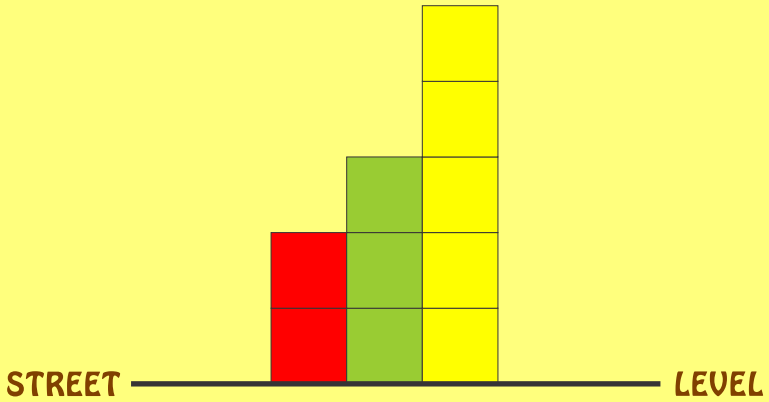
Back View



Picture Puzzles

Picture Puzzles

Right View



Picture Puzzles

Picture Puzzles

How many solutions are there?

How do you know when you have found them all?

Picture Puzzles

Picture
Puzzles

even more

Picture
Puzzles

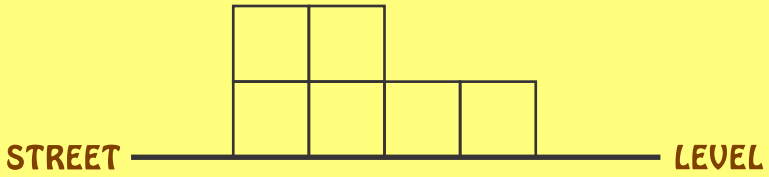
Picture Puzzles

On graph paper, rule up a 4x4 grid the correct size for your cubes.

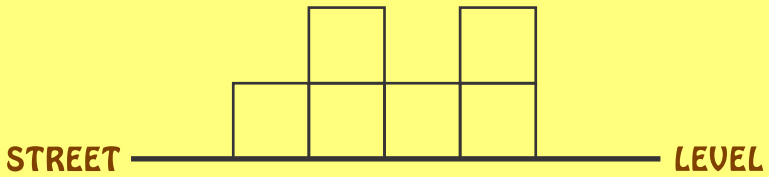
Picture Puzzles

Picture Puzzles

Front View



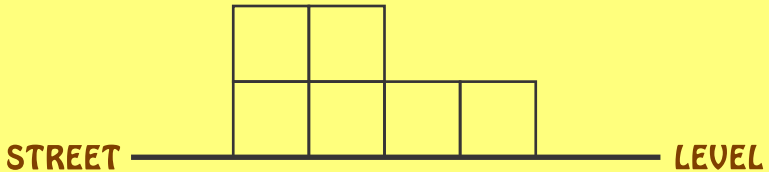
Left View



Picture Puzzles

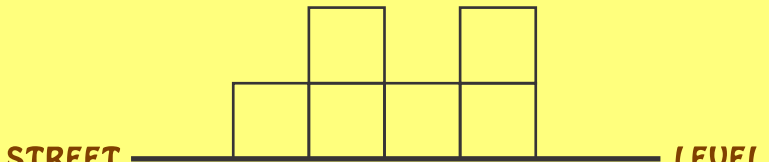
Picture Puzzles

Front View



What is the minimum number of cubes for these views?

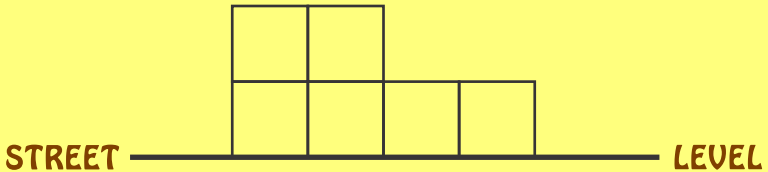
Left View



Picture Puzzles

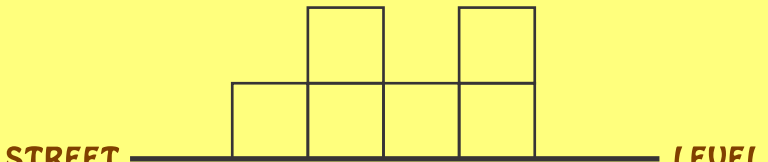
Picture Puzzles

Front View



Are you sure?

Left View



Picture Puzzles

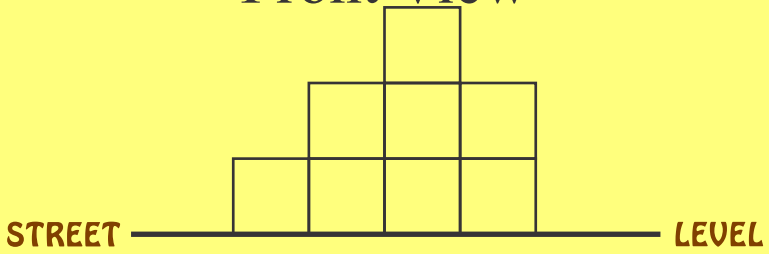
Picture Puzzles

When you are sure, draw the top view and show the number of cubes in each place.

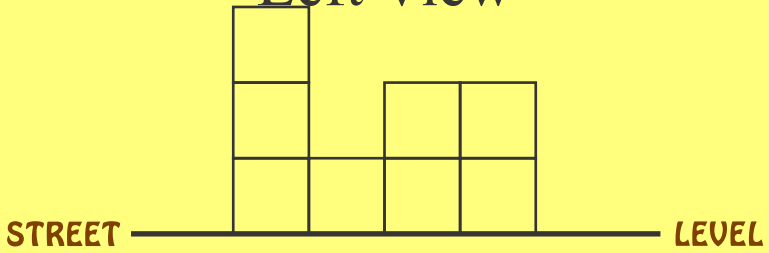
Picture Puzzles

Picture Puzzles

Front View



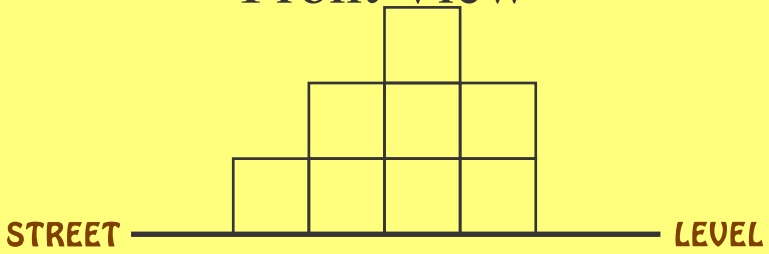
Left View



Picture Puzzles

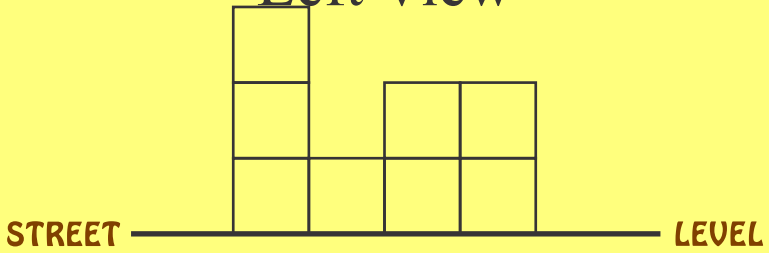
Picture Puzzles

Front View



What is the minimum number of cubes for these views?

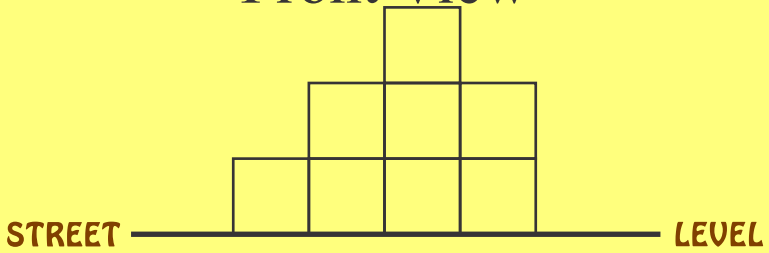
Left View



Picture Puzzles

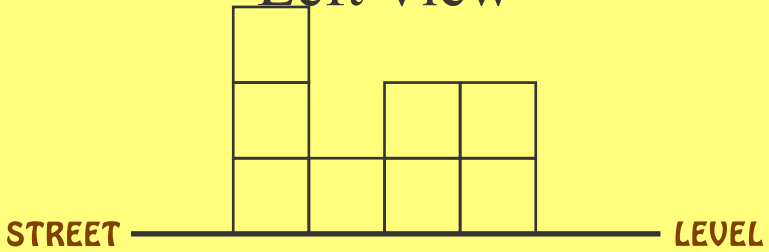
Picture Puzzles

Front View



Are you sure?

Left View



Picture Puzzles

Picture Puzzles

When you are sure, draw the top view and show the number of cubes in each place.

Picture Puzzles

Picture
Puzzles

THE END...

...OR IS IT?

Picture
Puzzles