

UNCOVER COUNTING

6 Times Table

Picture Puzzles

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Publisher ... Mathematics Centre
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This Picture Puzzle is based on
... Uncover Counting from Calculating Changes
Teaching Notes
... mathematicscentre.com/picturepuzzles/teachingnotes.htm

Picture Puzzles

To Do

1. Look for many ways to count rows of six.
2. Record six times tables facts.
3. Calculate using the six times tables.

You Need

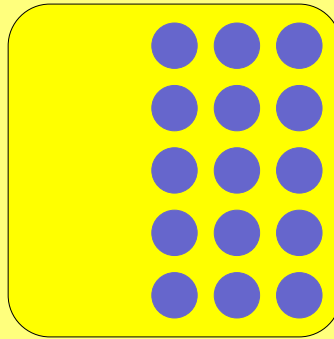
- One Poly Plug each



Poly Plug

Picture Puzzles

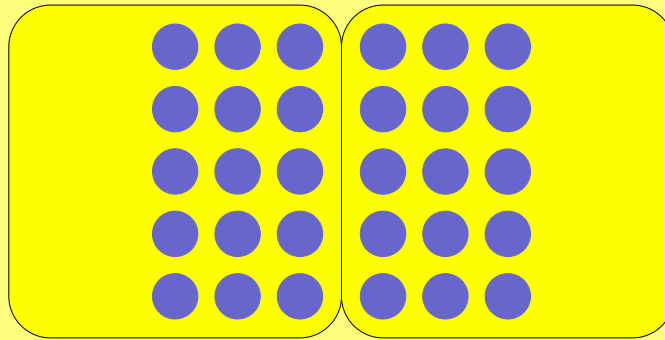
Both of you make rows of 3 blue plugs.



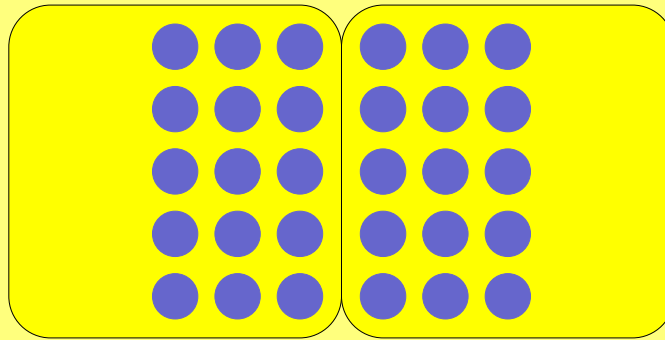
Picture Puzzles

Put your boards together to make rows of 6.

Like this.



Picture Puzzles



Now use something to cover all the boards.

Like this.



How many blue plugs can you see?



Picture Puzzles

In a minute you will slide the cover down one row. How many blue plugs will you see?

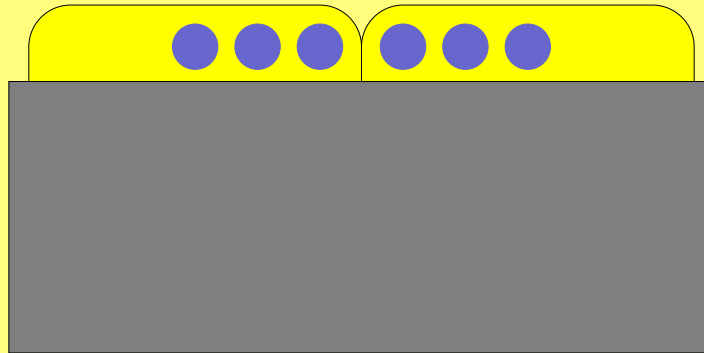


Write your prediction in your journal.

Slide the cover down one row.

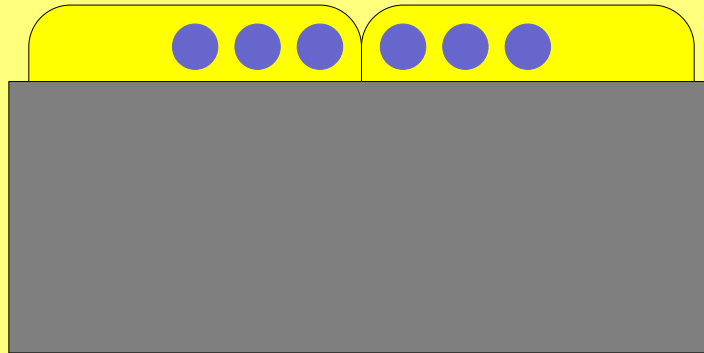


Was your guess correct?



How do you know there are 6 blue plugs?

Draw the picture in your journal.



Write 5 ways of knowing there are 6 blue plugs.

Picture Puzzles

$$2 \times 3$$

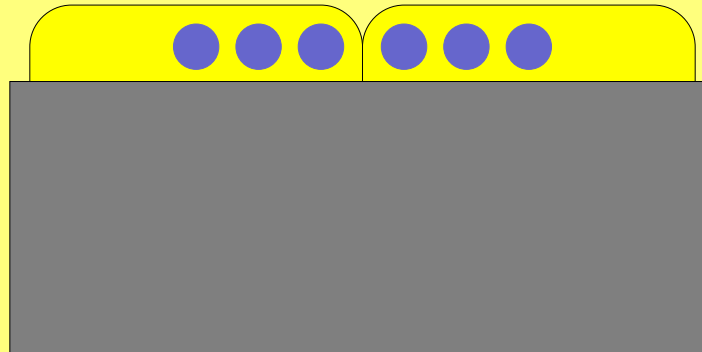
counting by ones

Did you find any of these?

$$2 + 2 + 2$$

$$1 \times 6$$

counting by threes



$$6 \times 1$$

counting by twos

$$1 + 1 + 1 + 1 + 1 + 1$$

counting by sixes

$$3 + 3$$

Which ones belong together?

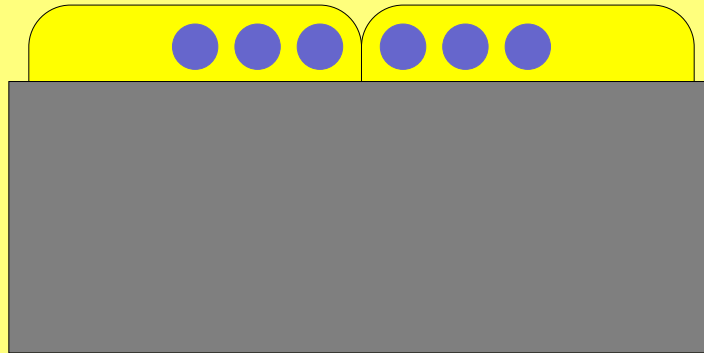
$$3 \times 2$$

Picture Puzzles

Some children thought of these.

$$10 - 4$$

$$10 - (4 \times 1)$$



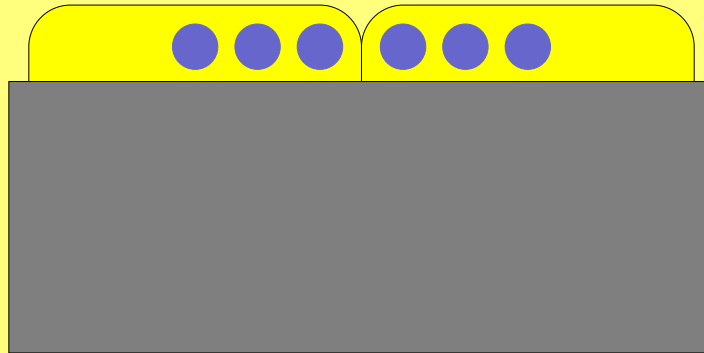
$$10 - (2 \times 2)$$

$$2 \times (5 - 2)$$

Are they correct?

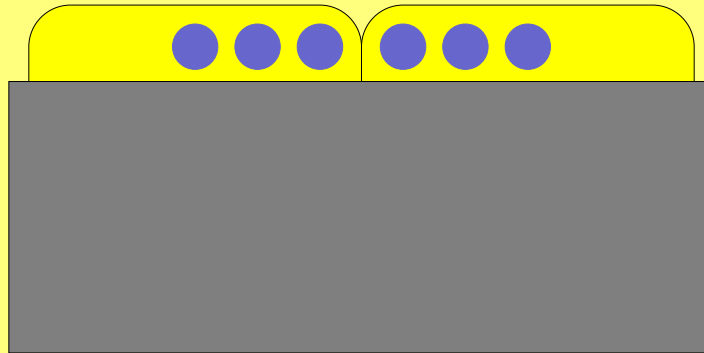
Picture Puzzles

In a minute you will slide the cover down one *more* row. How many blue plugs will you see?

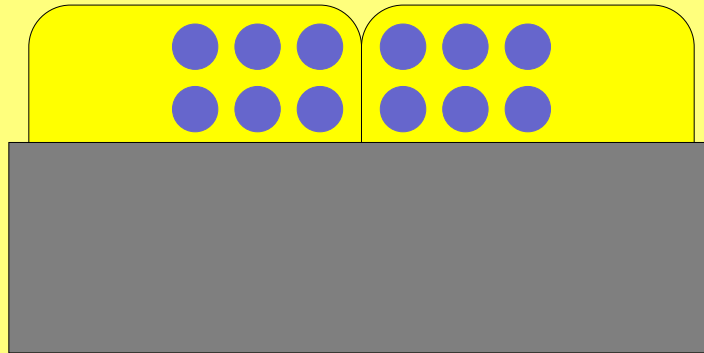


Write your prediction in your journal.

Slide the cover down one row.



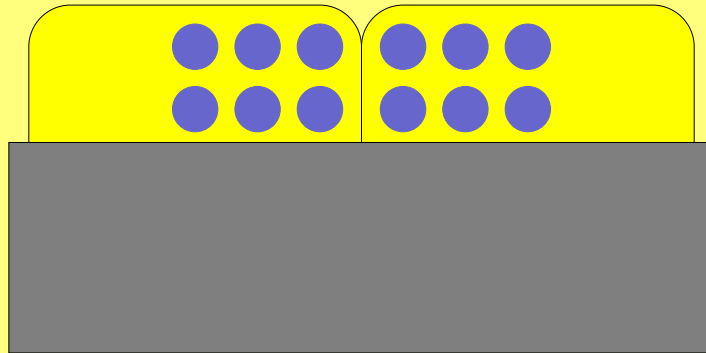
Was your guess correct?



How do you know there are 12 blue plugs?

Picture Puzzles

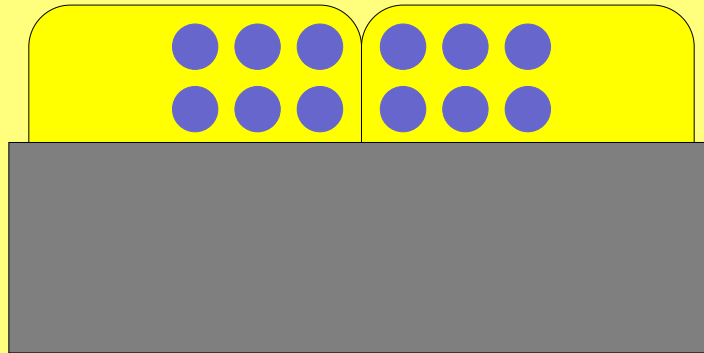
Draw the picture in your journal.



Write 5 ways of knowing there are 12 blue plugs.

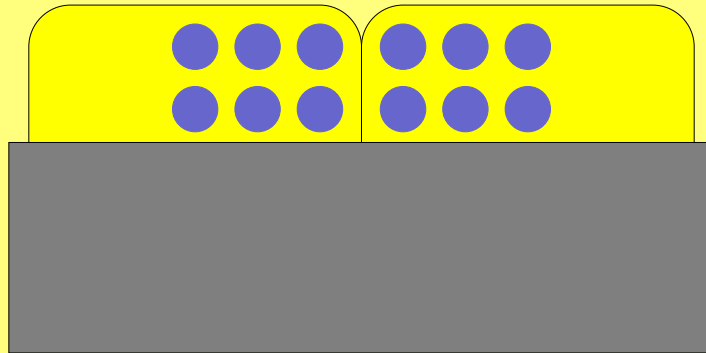
Picture Puzzles

I'll bet you can't find 5 more ways.



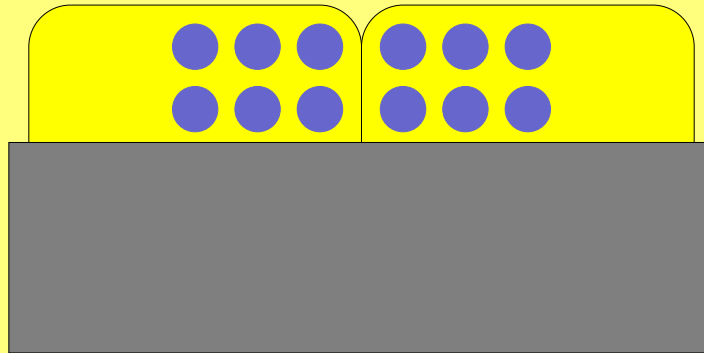
Picture Puzzles

In a minute you will slide the cover down one *more* row. How many blue plugs will you see?

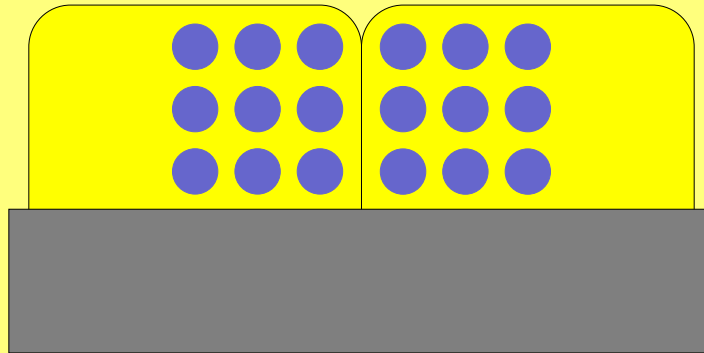


Write your prediction in your journal.

Slide the cover down one row.



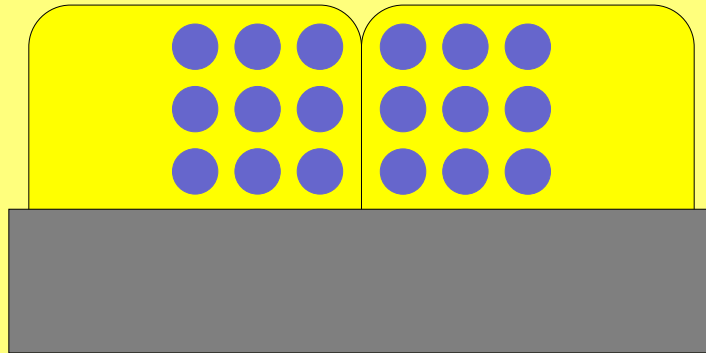
Was your guess correct?



How do you know there are 18 blue plugs?

Picture Puzzles

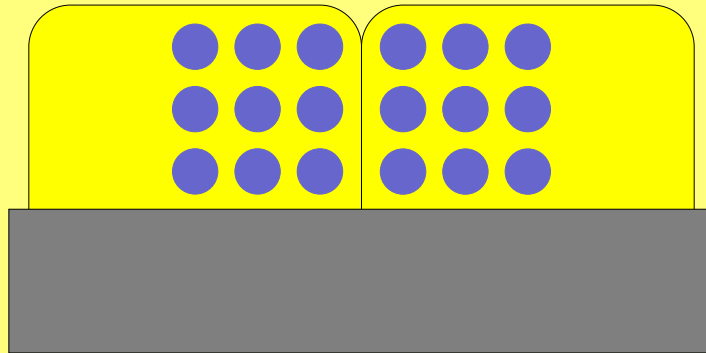
Draw the picture in your journal.



Write 5 ways of knowing there are 18 blue plugs.

Picture Puzzles

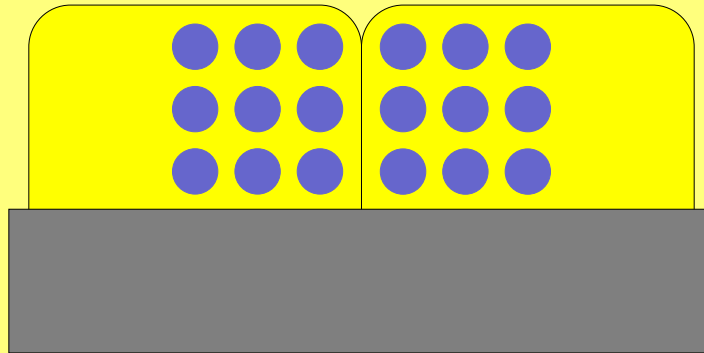
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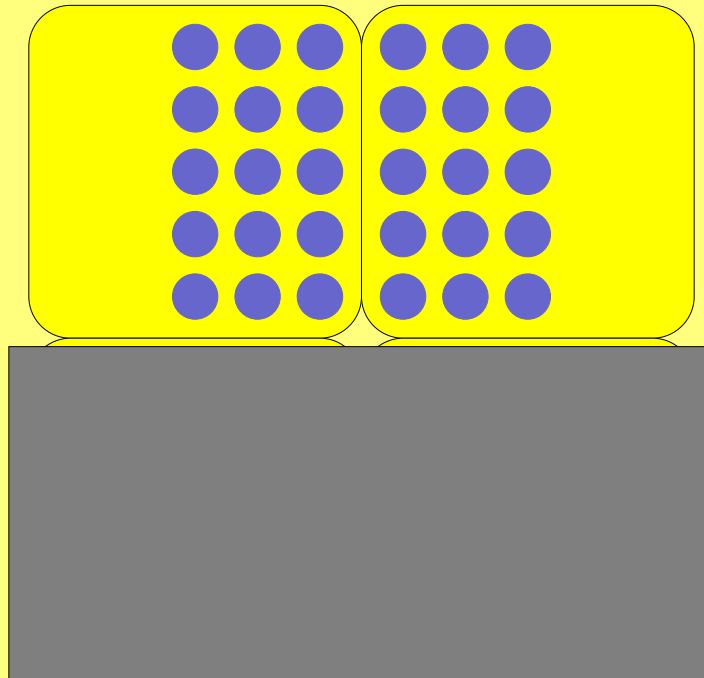
Picture Puzzles

Two rows left.

For each one, predict, slide and record lots of ways.



Calculate
 6×6 , 7×6 , 8×6 , 9×6 , 10×6
Three ways for each one.



**Picture
Puzzles**

more

**Picture
Puzzles**

Picture Puzzles

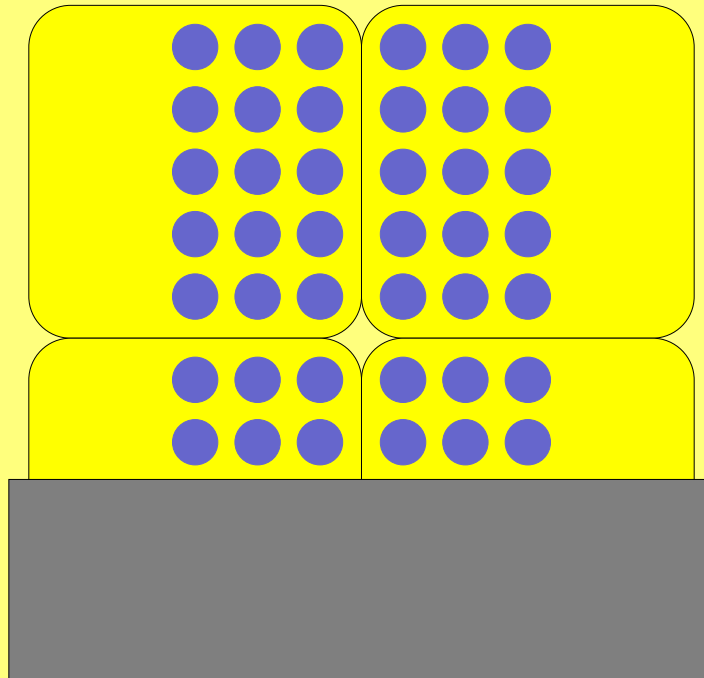
If I tell you there are 42 plugs in rows of 6,
can you tell me the number of rows?

Picture Puzzles

If I tell you there are 42 plugs in rows of 6,
can you tell me the number of rows?
Can you check it another way?

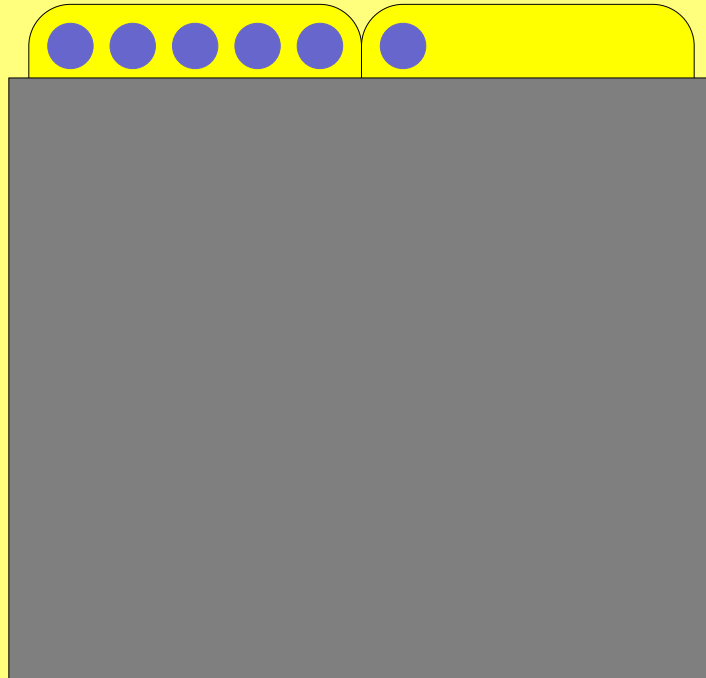
Picture Puzzles

If I tell you there are 42 plugs in rows of 6,
can you tell me the number of rows?
Can you check it another way?



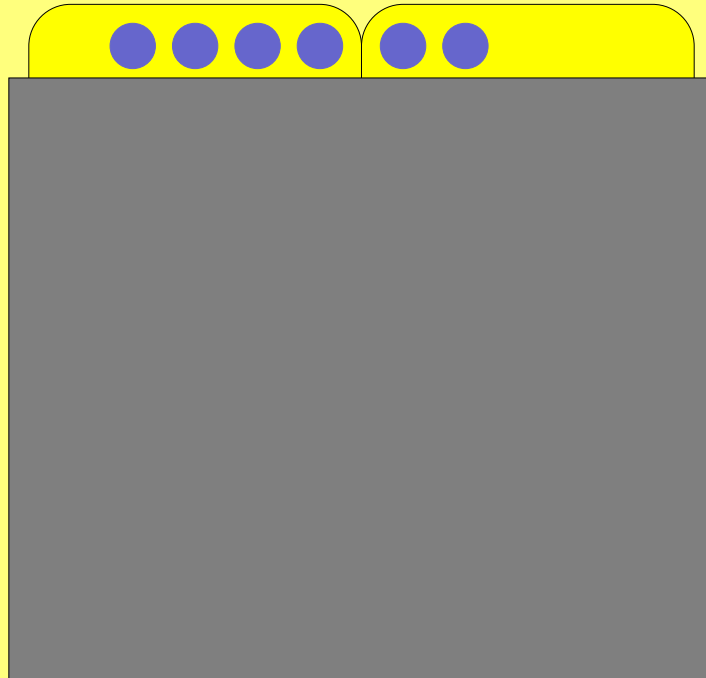
Picture Puzzles

What happens if the 42 plugs are in rows like this?
Can you find the number of rows in a new way?



Picture Puzzles

What happens if the 42 plugs are in rows like this?
Can you find the number of rows in a new way?



Picture Puzzles

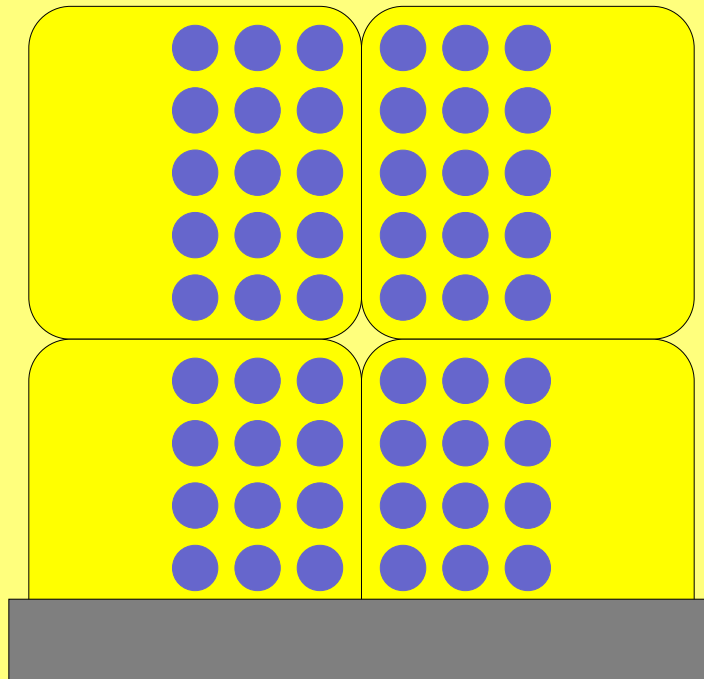
If I tell you there are 54 plugs in rows of 6,
can you tell me the number of rows?

Picture Puzzles

If I tell you there are 54 plugs in rows of 6,
can you tell me the number of rows?
Can you check it another way?

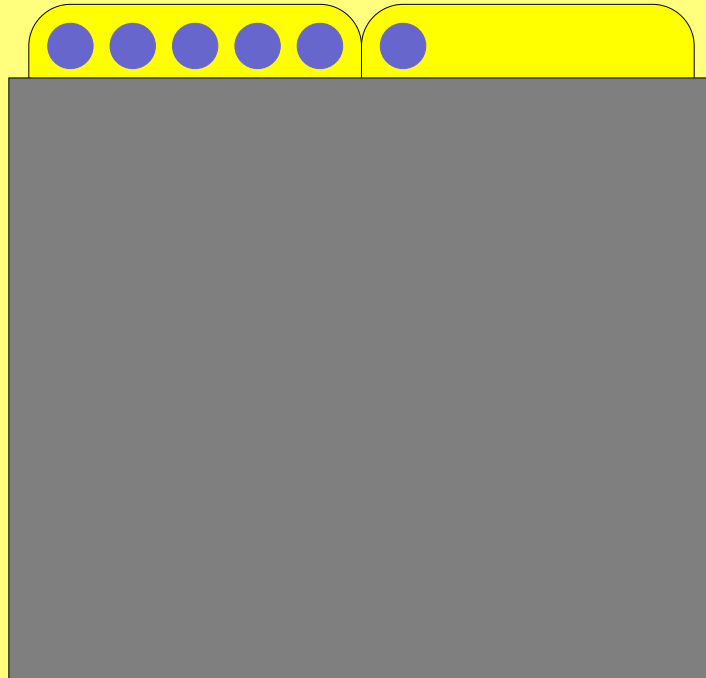
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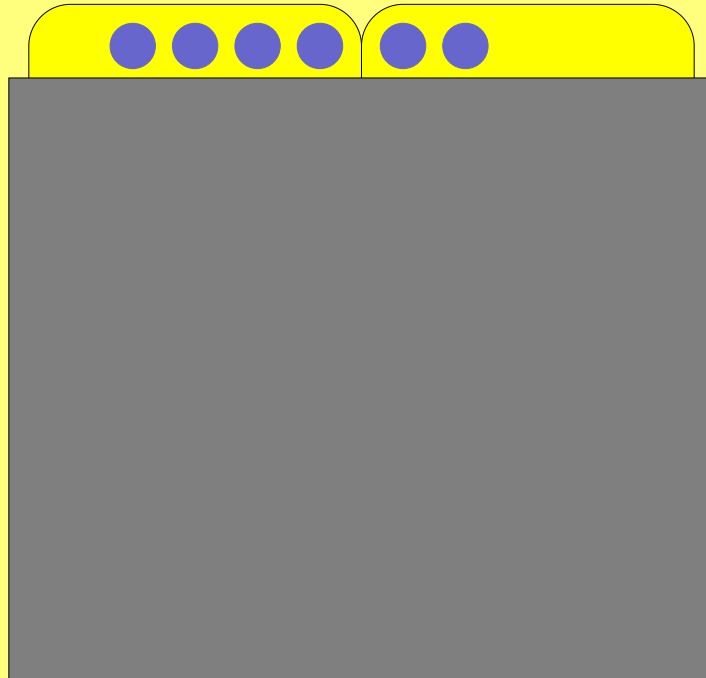
Picture Puzzles

What happens if the 54 plugs are in rows like this?
Can you find the number of rows in a new way?



Picture Puzzles

What happens if the 54 plugs are in rows like this?
Can you find the number of rows in a new way?



even more

Picture Puzzles

If I tell you there are 150 plugs in rows of 6
and that I can see exactly 7 rows, how many
plugs are *covered*?

THE END...

...OR IS IT?