

# **UNCOVER COUNTING**

**8 Times Table**

# Picture Puzzles

Creator ... Doug. Williams  
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](http://mathematicscentre.com/picturepuzzles/teachingnotes.htm)

# Picture Puzzles

## To Do

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

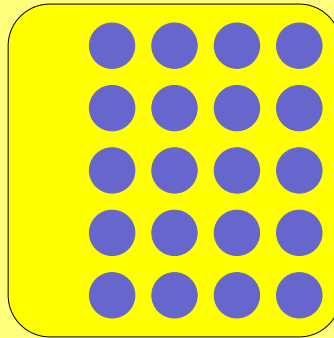
## You Need

- One Poly Plug each



Poly Plug

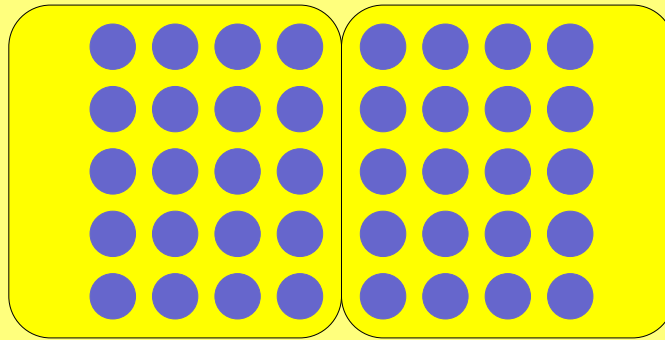
Both of you make rows of 4 blue plugs.



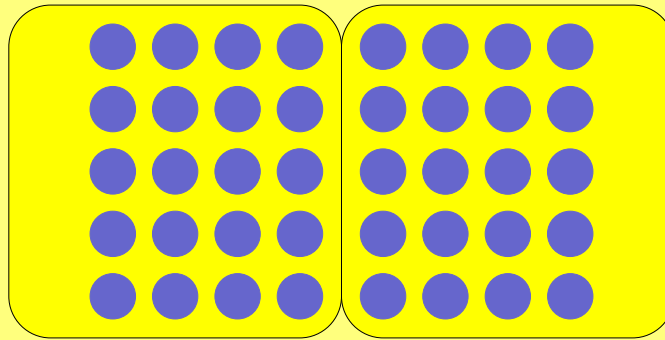
# Picture Puzzles

Put your boards together to make rows of 8.

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?

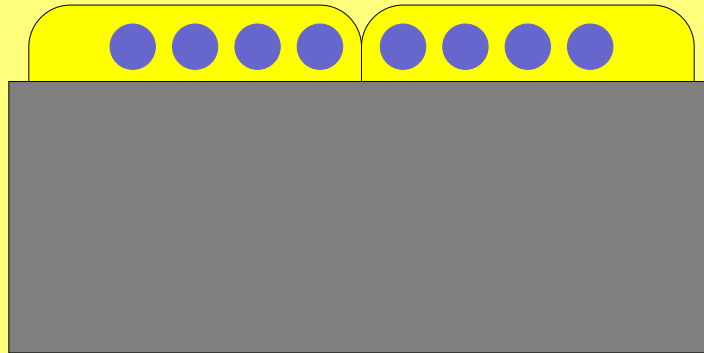


Write your prediction in your journal.

Slide the cover down one row.

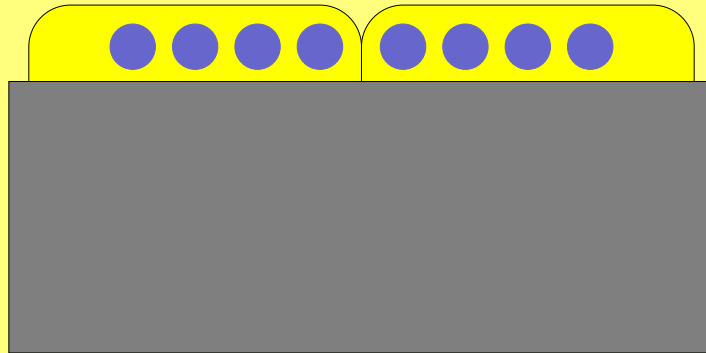


Was your guess correct?



How do you know there are 8 blue plugs?

Draw the picture in your journal.



Write 5 ways of knowing there are 8 blue plugs.

# Picture Puzzles

$$2 \times 4$$

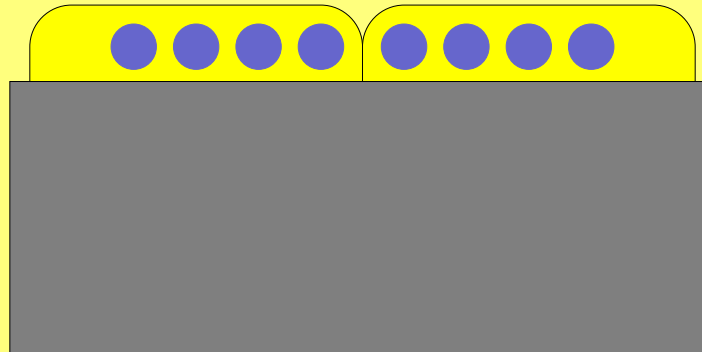
counting by ones

Did you find any of these?

$$2 + 2 + 2 + 2$$

$$1 \times 8$$

counting by fours



$$8 \times 1$$

counting by twos

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

counting by eights

$$4 + 4$$

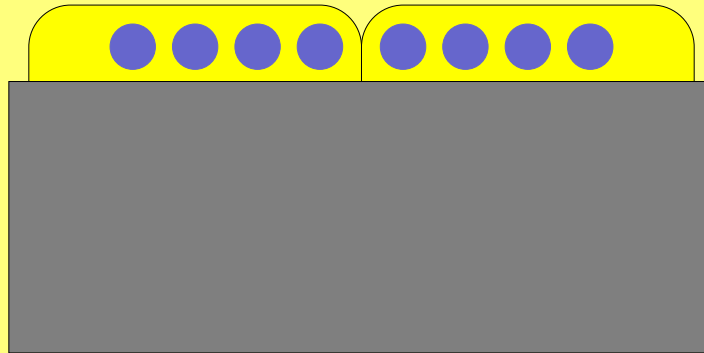
Which ones belong together?

$$4 \times 2$$

# Picture Puzzles

Some children thought of these.

$$10 - 2$$



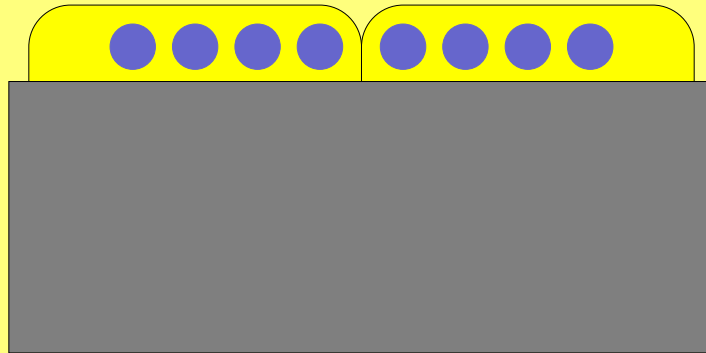
$$10 - (2 \times 1)$$

$$2 \times (5 - 1)$$

Are they correct?

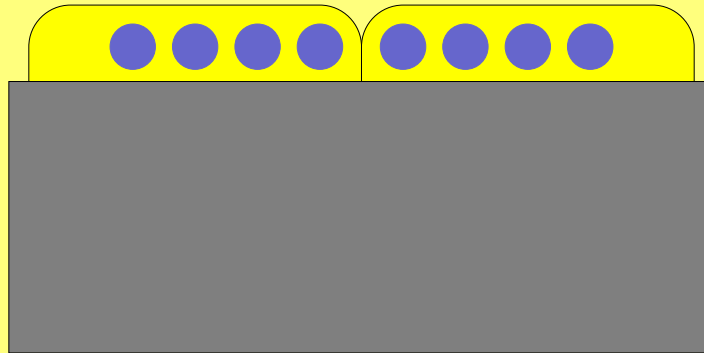
# Picture Puzzles

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

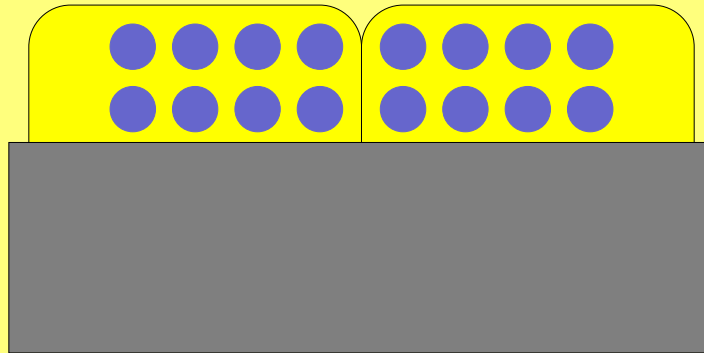


Write your prediction in your journal.

Slide the cover down one row.



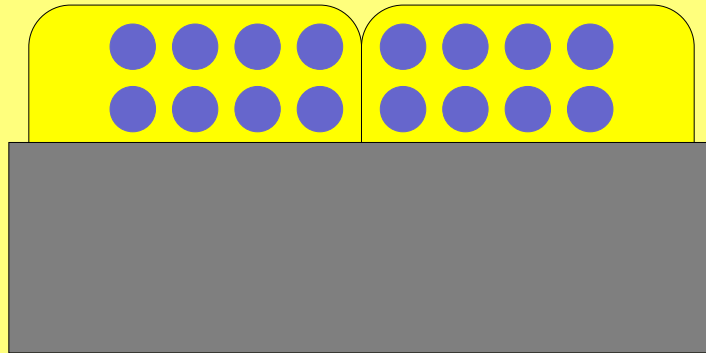
Was your guess correct?



How do you know there are 16 blue plugs?

# Picture Puzzles

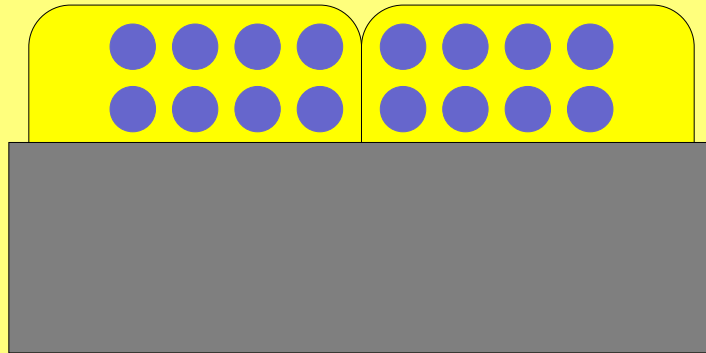
Draw the picture in your journal.



Write 5 ways of knowing there are 16 blue plugs.

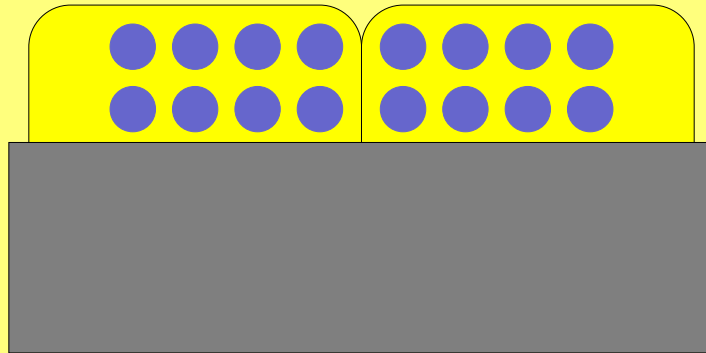
# Picture Puzzles

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



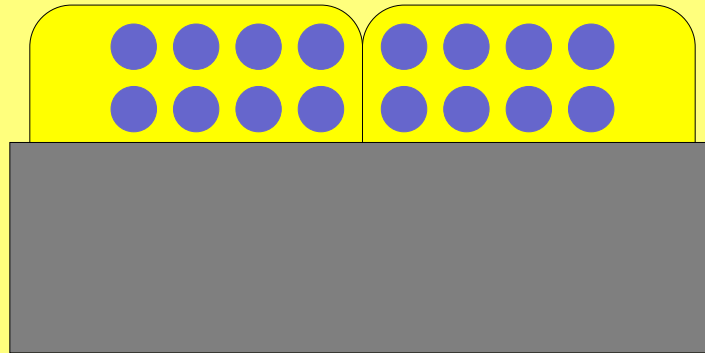
# Picture Puzzles

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

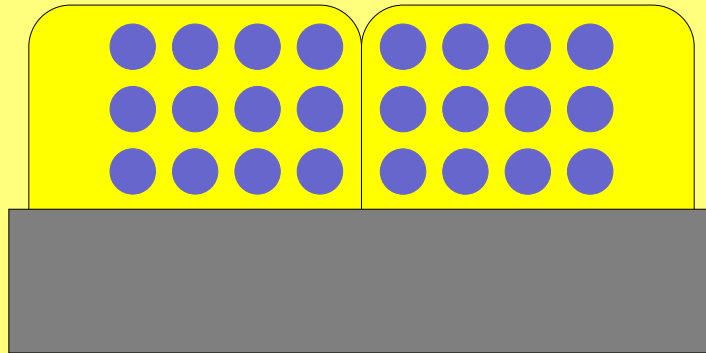


Write your prediction in your journal.

Slide the cover down one row.



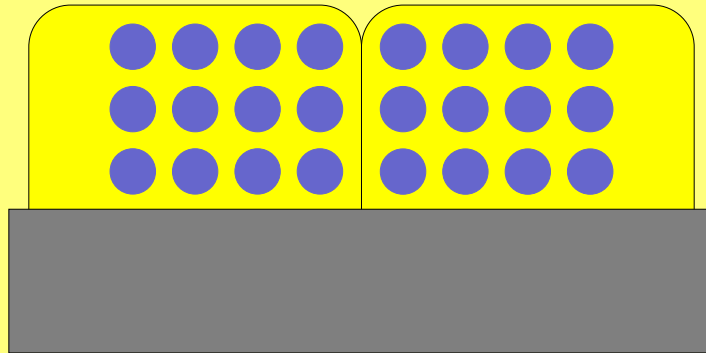
Was your guess correct?



How do you know there are 24 blue plugs?

# Picture Puzzles

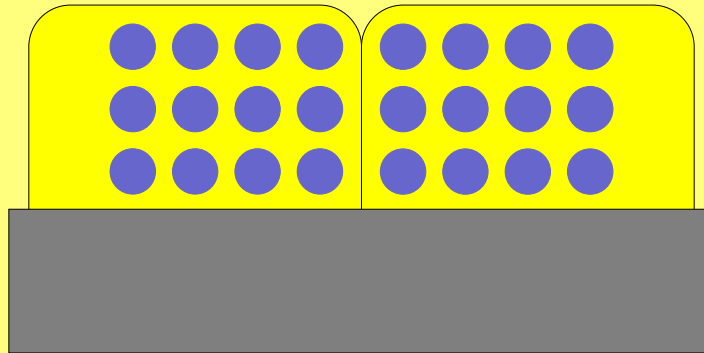
Draw the picture in your journal.



Write 5 ways of knowing there are 24 blue plugs.

# Picture Puzzles

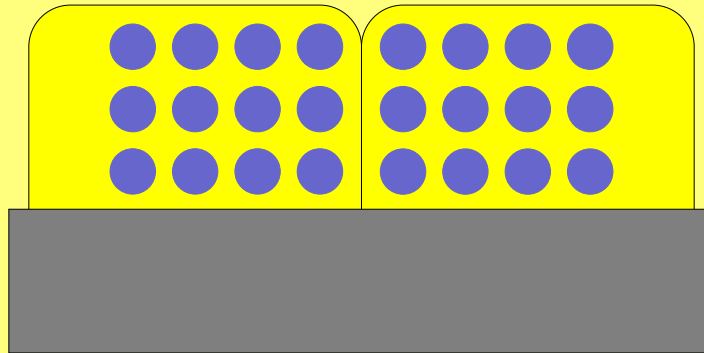
I'll bet you can't find 5 more ways.



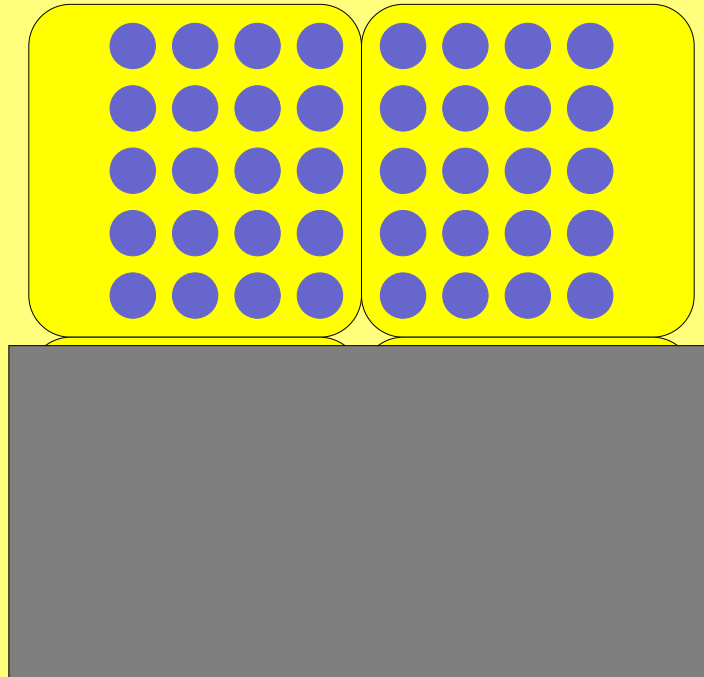
# Picture Puzzles

Two rows left.

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



Calculate  
 $6 \times 8$ ,  $7 \times 8$ ,  $8 \times 8$ ,  $9 \times 8$ ,  $10 \times 8$   
Three ways for each one.



**Picture  
Puzzles**

**more**

**Picture  
Puzzles**

# Picture Puzzles

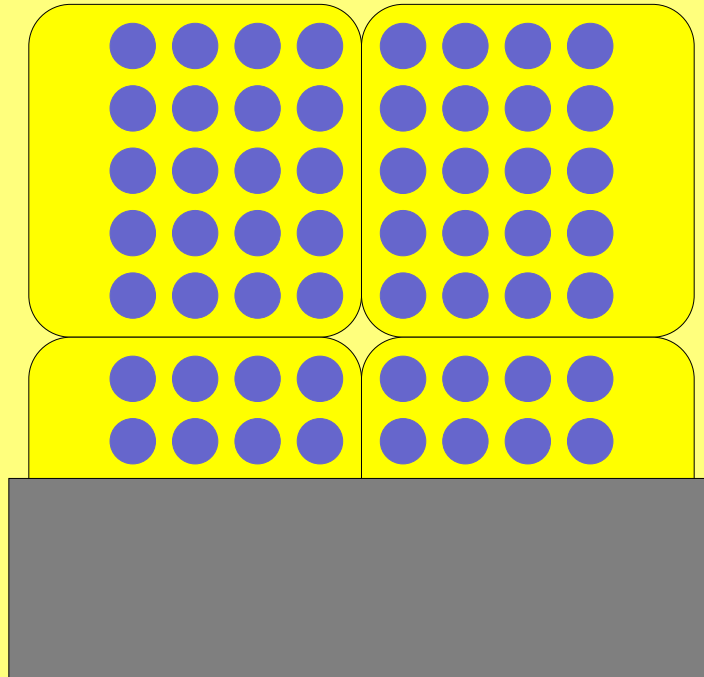
If I tell you there are 56 plugs in rows of 8,  
can you tell me the number of rows?

# Picture Puzzles

If I tell you there are 56 plugs in rows of 8,  
can you tell me the number of rows?  
Can you check it another way?

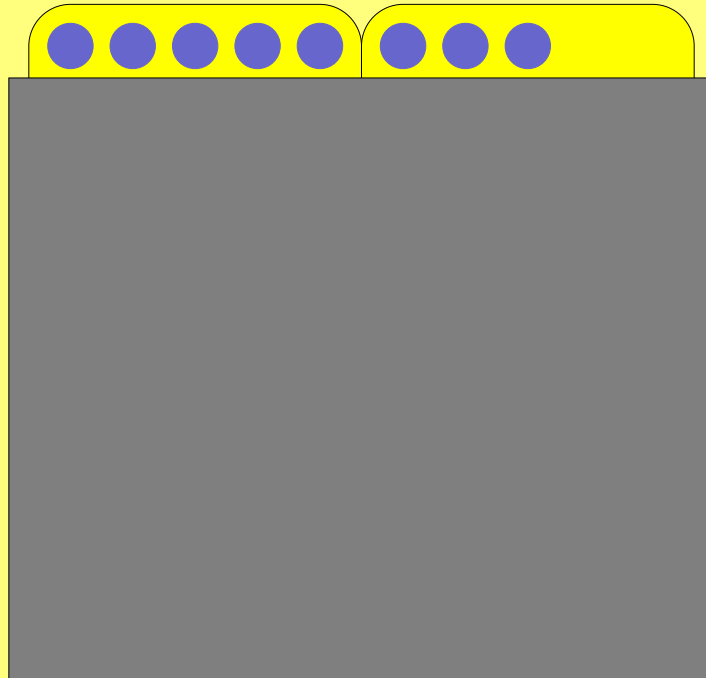
# Picture Puzzles

If I tell you there are 56 plugs in rows of 8,  
can you tell me the number of rows?  
Can you check it another way?



# Picture Puzzles

What happens if the 56 plugs are in rows like this?  
Can you find the number of rows in a new way?



## Picture Puzzles

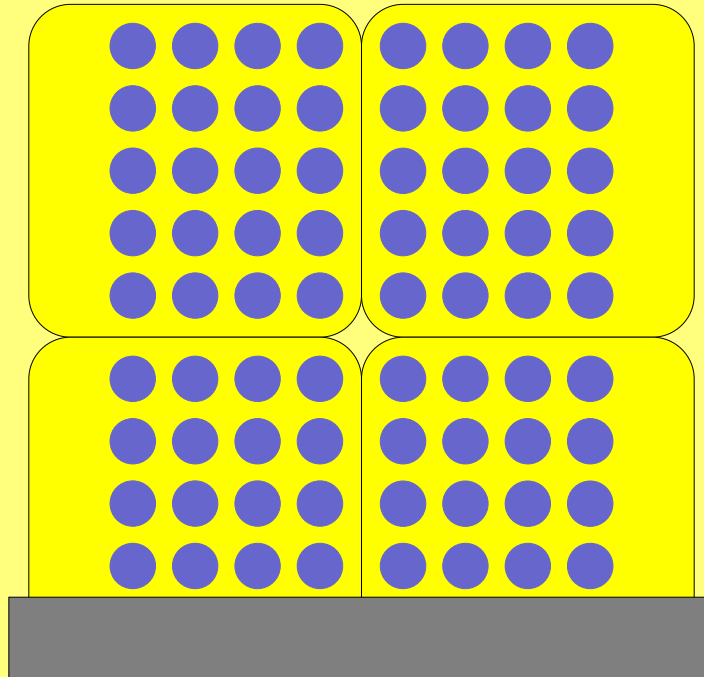
If I tell you there are 72 plugs in rows of 8,  
can you tell me the number of rows?

# Picture Puzzles

If I tell you there are 72 plugs in rows of 8,  
can you tell me the number of rows?  
Can you check it another way?

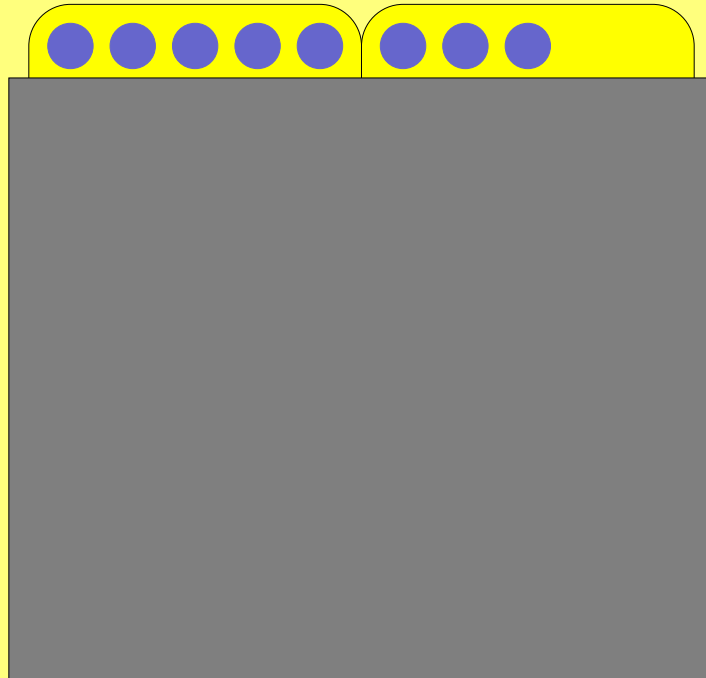
# Picture Puzzles

If I tell you there are 72 plugs in rows of 8,  
can you tell me the number of rows?  
Can you check it another way?



# Picture Puzzles

What happens if the 72 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 200 plugs in rows of 8  
*and* that I can see exactly 7 rows, how many  
plugs are *covered*?

THE END...

...OR IS IT?