

Previous Step:

Exploring  
Numbers 1-5

Exploring  
Numbers 1-10

p2p  
count  
up<sup>™</sup>

Instructions &  
digital edition work  
cards.

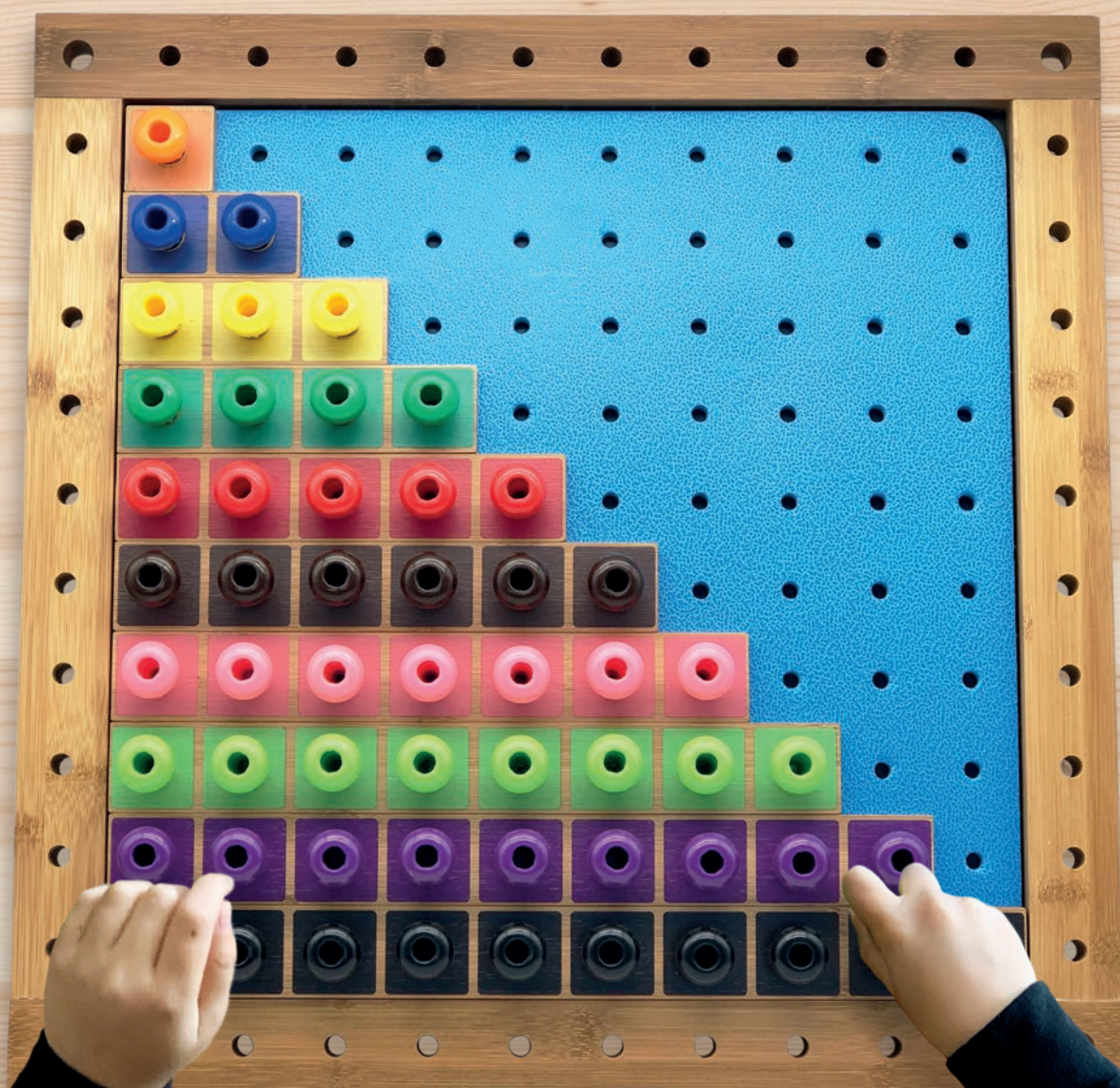


Scan using phone  
or tablet



Designed  
in the UK

p2p Numeracy Range



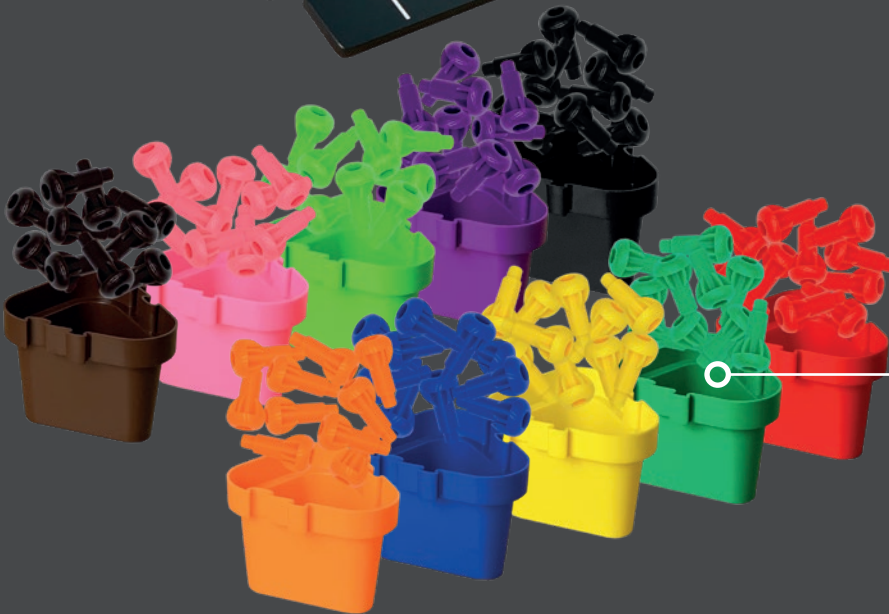




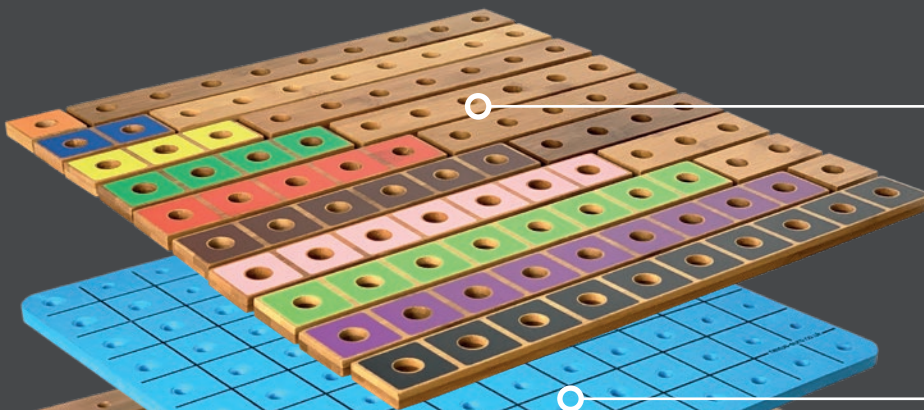
P2P Chalky Pastels



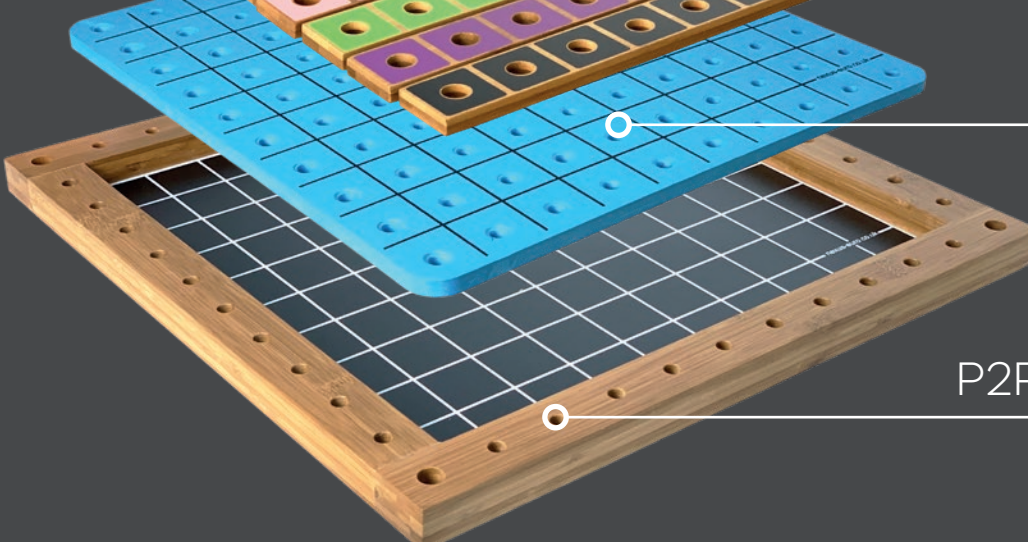
Blackboard Strips & Tiles



Pots & Pegs



P2P Count Up Rods



Giant Pegboard

P2P Count Up Frame

# ECO FRIENDLY BAMBOO



The P2P Count Up rods and frame are made of bamboo which is a member of the grass family.

It's versatility makes it one of the world's most amazing plants.

Bamboo grows up in 5-8 years,  
absorbs up to 4 times more carbon dioxide  
and returns up to 35% more oxygen to the atmosphere  
than other plants.

# INSTRUCTIONS

Welcome to the digital section of the P2P Count Up: Exploring Numbers 1-10 support material.

The following instruction pages **1-11** include an easy to follow step by step guide on how to use the work cards. The cards and instruction sections are colour coded by title for easy reference.

Following the instructions, a digital edition of the work cards have been included.

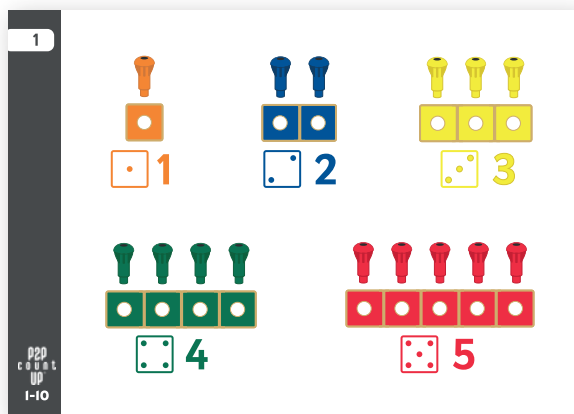
## Instruction Sections

- 1.** (Cards 1-3) ..... **Matching**
- 2-3.** (Cards 4-9) ..... **Continuing The Pattern**
- 4-5.** (Cards 10-13) ..... **Smaller / Bigger / Same As**
- 6-8.** (Cards 14-21) ..... **Step Counting**
- 9-10.** (Cards 22-24) ..... **Number Sentences**
- 11.** (Card 25) ..... **Guesstimation**



Matching is an important early childhood mathematical skill that keeps repeating throughout one's educational life in various forms. Matching is an important classification skill for pre-schoolers and will help children to develop skills throughout their education.

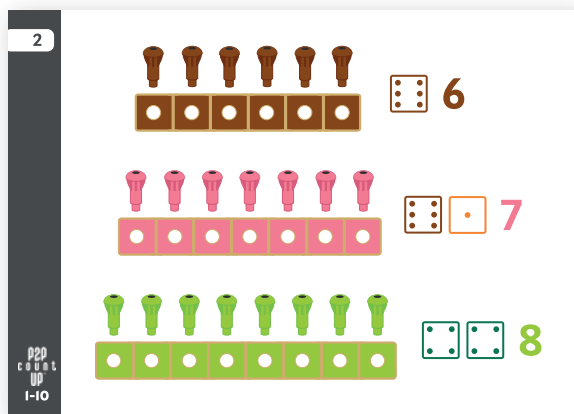
## Matching and learning about numbers 1-10 (dice not included)



### Card 1

Learning about numbers 'one - five'.

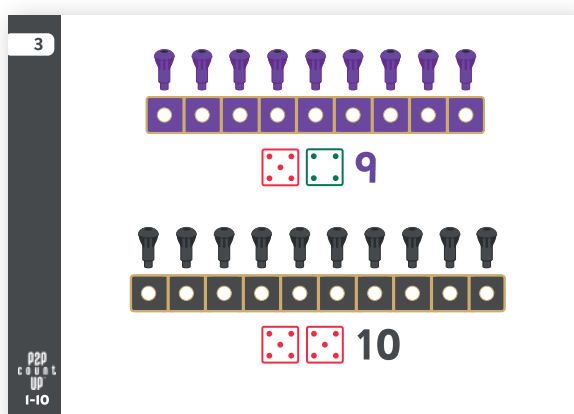
- Find the pegs and rods for the numbers 1-5 and make what is on the card.
- Now find and match each numeral on a dice. *(Skip this step if you do not have any dice).*
- Draw the dice and write the numbers in order.



### Card 2

Learning about numbers 'six - eight'.

- Find the pegs and rods for the numbers 6-8 and make what is on the card.
- Now find and match each numeral on a dice. *(Skip this step if you do not have any dice).*
- Draw the dice and write the numbers in order.



### Card 3

Learning about numbers 'nine and ten'.

- Find the pegs and rods for the numbers 9-10 and make what is on the card.
- Now find and match each numeral on a dice. *(Skip this step if you do not have any dice).*
- Draw the dice and write the numbers in order.

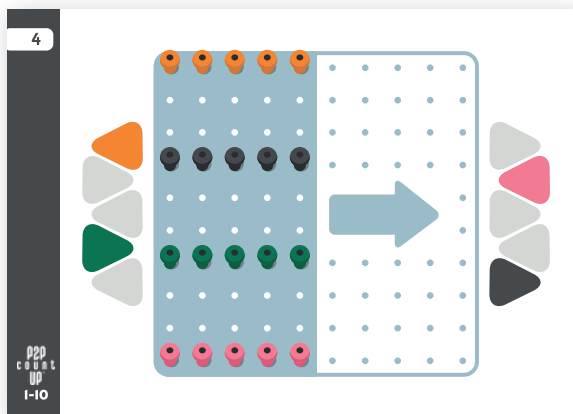
## 2. Instructions

## Continuing The Pattern

There are many indications that an understanding of pattern and structure is important in early mathematics learning. Spotting underlying patterns is important for identifying many different kinds of mathematical relationships.

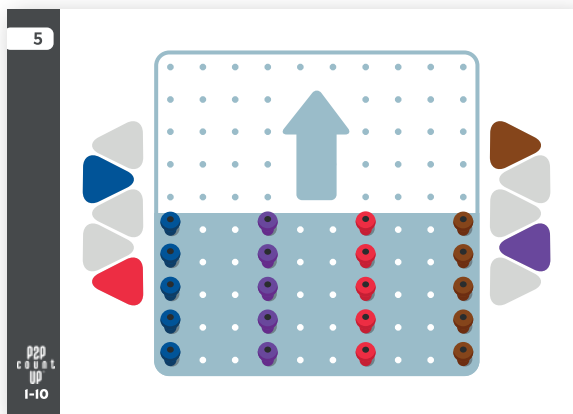
Pattern awareness has been described as early algebraic thinking.

### Continuing the pattern (onto the other half of the pegboard)



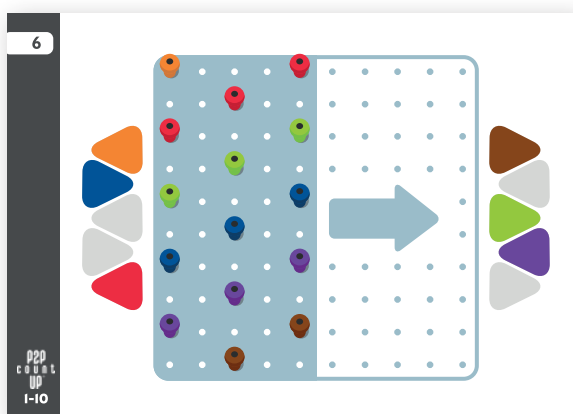
#### Card 4

- Question:** What do you see on the card?
- Answer:** (Orange pegs across the top; black and green pegs across the middle; pink pegs across the bottom).
- Continue the pattern across the second half of the pegboard.



#### Card 5

- Question:** What patterns do you see on this card?
- Answer:** (Blue pegs to the left; purple and red pegs in the middle; brown pegs to the right).
- Continue the pattern across the second half of the pegboard.



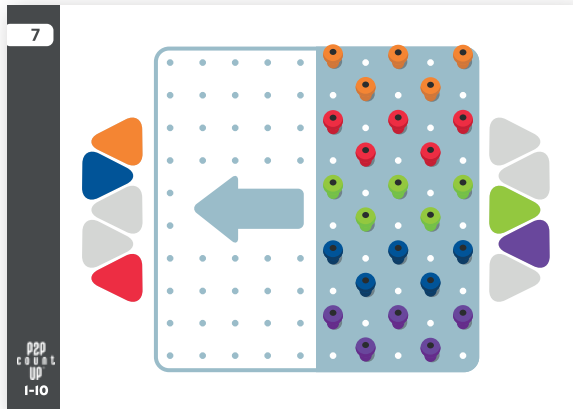
#### Card 6

- Question:** Tell me about this pattern. What do you see?
- Answer:** (Diagonal rows of pegs in the order of orange, red, light green, blue, purple, then brown).
- Continue the pattern as before, identifying and copying the unit of repeat across the pegboard.



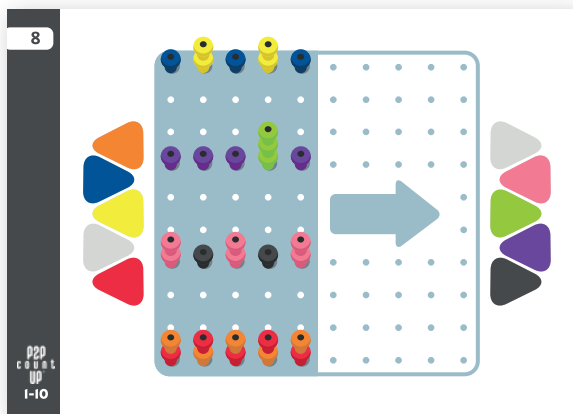
### 3. Instructions

## Continuing The Pattern



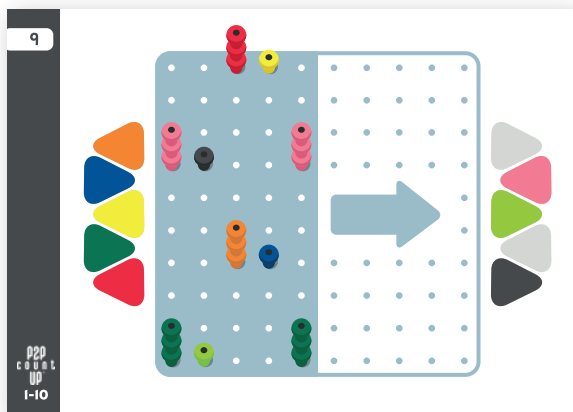
#### Card 7

- Question:** What do you see on the card?
- Answer:** (Zigzag patterns going from right to left in the order of orange, red, light green, blue and then purple).
- Continue the pattern across the second half of the pegboard, identifying and copying the unit of repeat.



#### Card 8

- Question:** What patterns do you see on this card?
- Answer:** (One blue - two stacked yellow pegs; three purple - three stacked light green pegs; two stacked pink - one black peg; two stacked red/orange - two stacked orange/red pegs).
- Continue the patterns as before.



#### Card 9

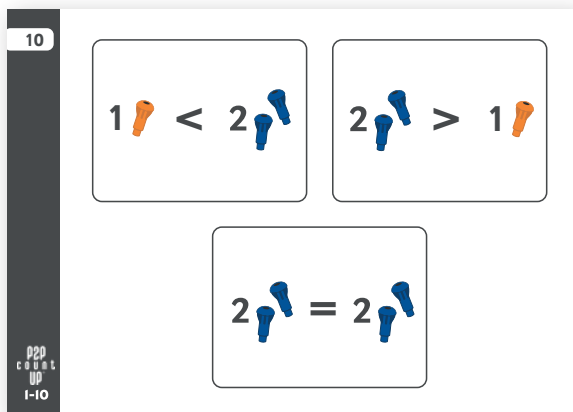
- Question:** Can you work out how to continue these patterns? What is the unit of repeat?
- Answer:** (Colour A is three stacked pegs, colour B is one peg. Three spaces are then counted and another stack of three colour A pegs are placed).
- Continue the patterns following this unit of repeat.

## 4. Instructions

## Smaller / Bigger / Same As

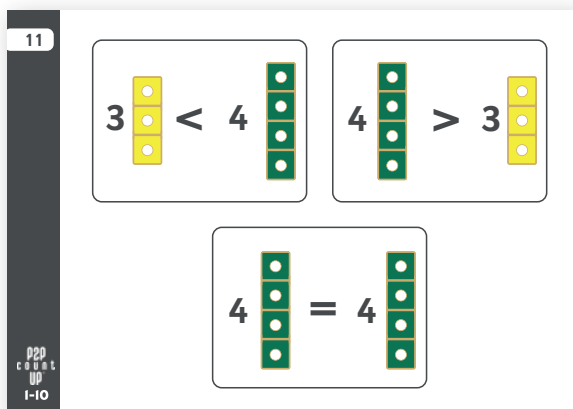
Number sense is the ability to understand the relationship between numbers. Comparing number is an important part of understanding the mathematical concepts of 'greater than', 'less than' and 'equal to'.

### Smaller than / bigger than / same as



#### Card 10

- When you see the sign  $<$  or  $>$  between two numbers it means that one is smaller than or bigger than the other.
- The smaller number is the one on the small end of the sign.
- Copy what you see on the card putting one orange peg on the small end of the  $<$  or  $>$  and two blue pegs on the big end.
- Draw them.
- Where you see  $=$  it means that the numbers are the same size.
- Copy the blue pegs and then draw them.



#### Card 11

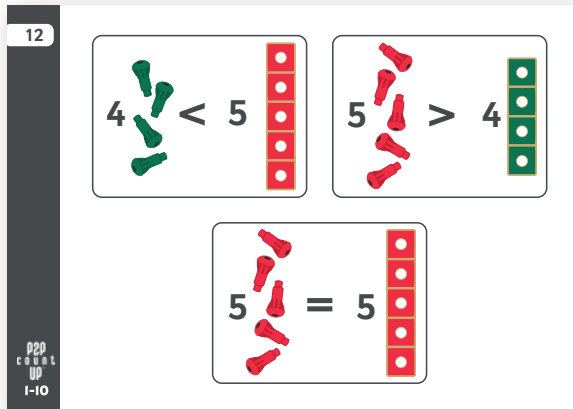
You can do the same with the number rods.

- Copy what you see on the card and then draw them.



## 5. Instructions

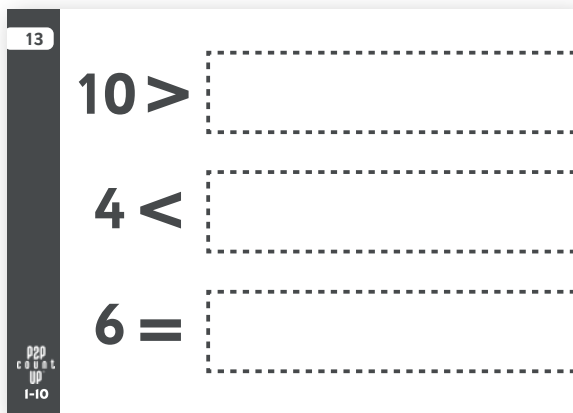
## Smaller / Bigger / Same As



### Card 12

Both pegs and rods have been used on this card.

- Question:** What is the same about 4 green pegs and the green rod?
- Answer:** (The colour is the same. Either 4 green pegs or a green rod can be used to represent the number 4).
- Question:** What is the same about 5 red pegs and the red rod?
- Answer:** (The colour is the same. Either 5 red pegs or a red rod can be used to represent the number 5).
- Copy what you see on the card and then draw it.



### Card 13

Fill the empty boxes using pegs and rods.

- Complete ' $10 > ?$ ' by placing a number of your choice into the box next to it. Either pegs or rods can be used to represent the chosen number.
- Now complete ' $4 < ?$ ' and ' $6 = ?$ ' in the same way.

*For example:*

$10 >$



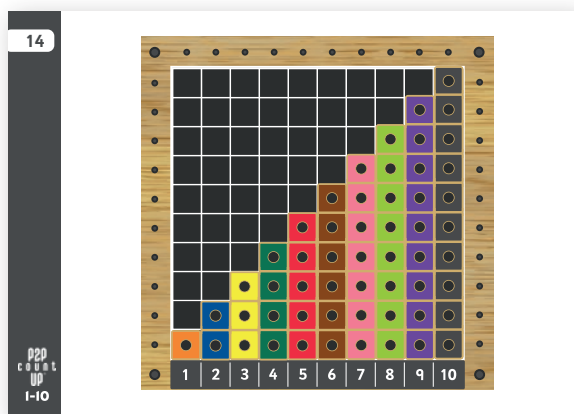
*Or alternatively:*

$10 >$



Counting seems like such a simple concept but when this can be broke down there are several distinct counting principals that progressively build towards a child being able to count a group of objects.

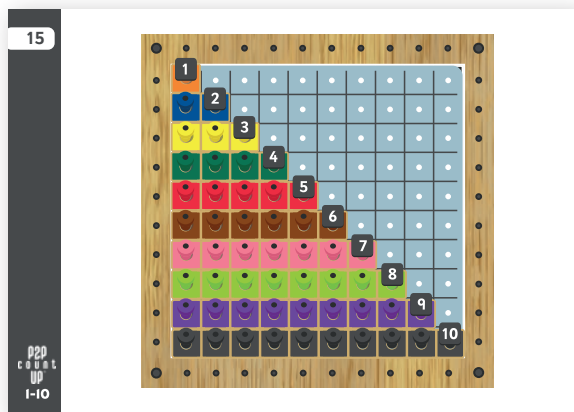
## Step counting (in a series of variations)



### Card 14

#### Step counting with rods.

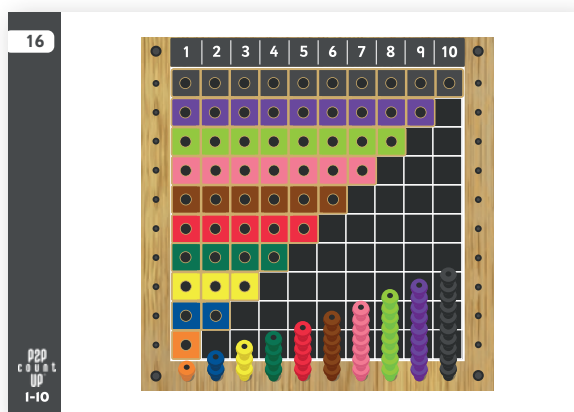
- Set up your work space so that you have the empty P2P Count Up frame in front, a black-board strip labelled 1-10 along the bottom and rods 1-10 beside the frame.
- Ask for the rods to be placed into the frame in sequential order starting from the bottom left hand corner.



### Card 15

#### Step counting with rods and pegs.

- Place the P2P Count Up frame and pegboard in front. Have rods 1-10, pegs and pots and labelled blackboard tiles ready to select.
- Ask for the rods and pegs to be placed into the board in sequential order starting from the top left hand corner. Now the rods and pegs can be labelled using the written on blackboard tiles.

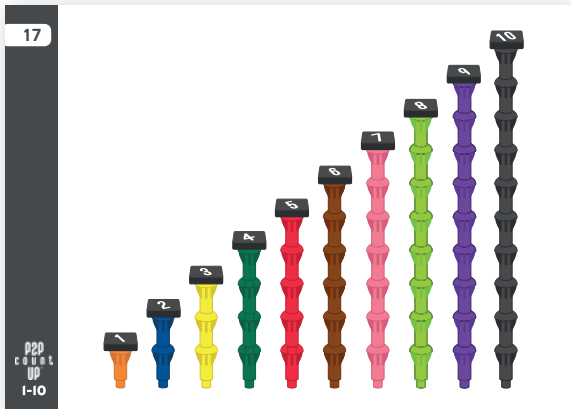


### Card 16

#### Step counting with rods and pegs 2.

- Set up your work space in the same way as Card 14, only this time with the blackboard strip across the top.
- The rods are placed into the board from the bottom left hand corner and added vertically.
- Place the pegs in the correct order at the edge.

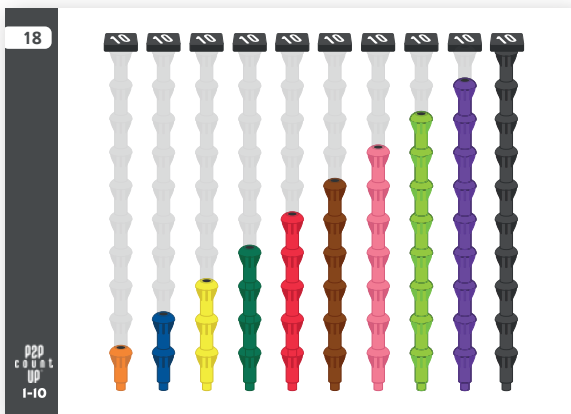




## Card 17

### Stacking step counting with pegs (1).

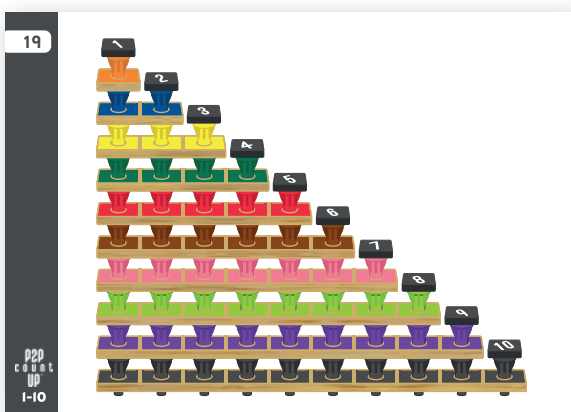
- Make stacking steps with the pegs starting with one orange and ending with ten black pegs.
- Select and label ten blackboard tiles from 1-10.
- Label each stack with the correctly numbered tile.
- Do not tidy this away as you will need it for the next activity on Card 18.



## Card 18

### Stacking step counting with pegs (2).

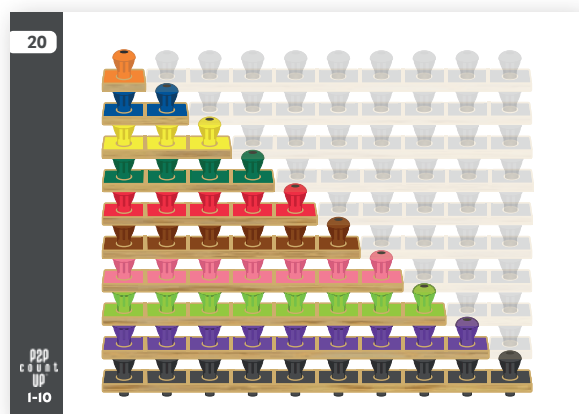
- Remake the stacking arrangement on Card 17 discarding the numbered tiles.
- As shown on the card, two mating stacks of pegs can be put together in order to make ten.
- Ask which colour stack belongs with one to make ten (purple), then with two (light green), then three (pink) and so on.



## Card 19

### Stacking step counting with rods and pegs (1).

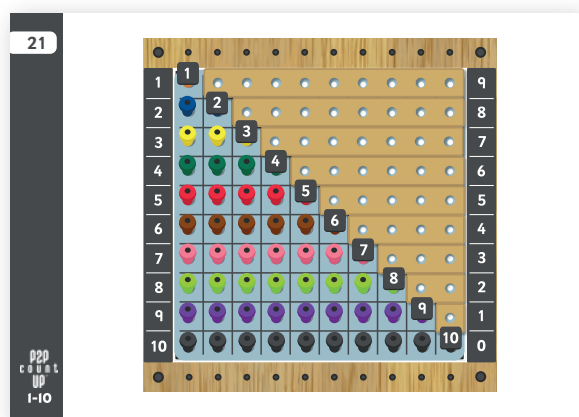
- Now make stacking steps using the coloured rods and pegs. You need to start with the black 'ten' rod, then the purple 'nine' rod, etc.
- Label them by writing the numbers onto the blank tiles.
- Do not tidy this away as you will need it for the next activity on Card 20.



## Card 20

### Stacking step counting with rods and pegs (2).

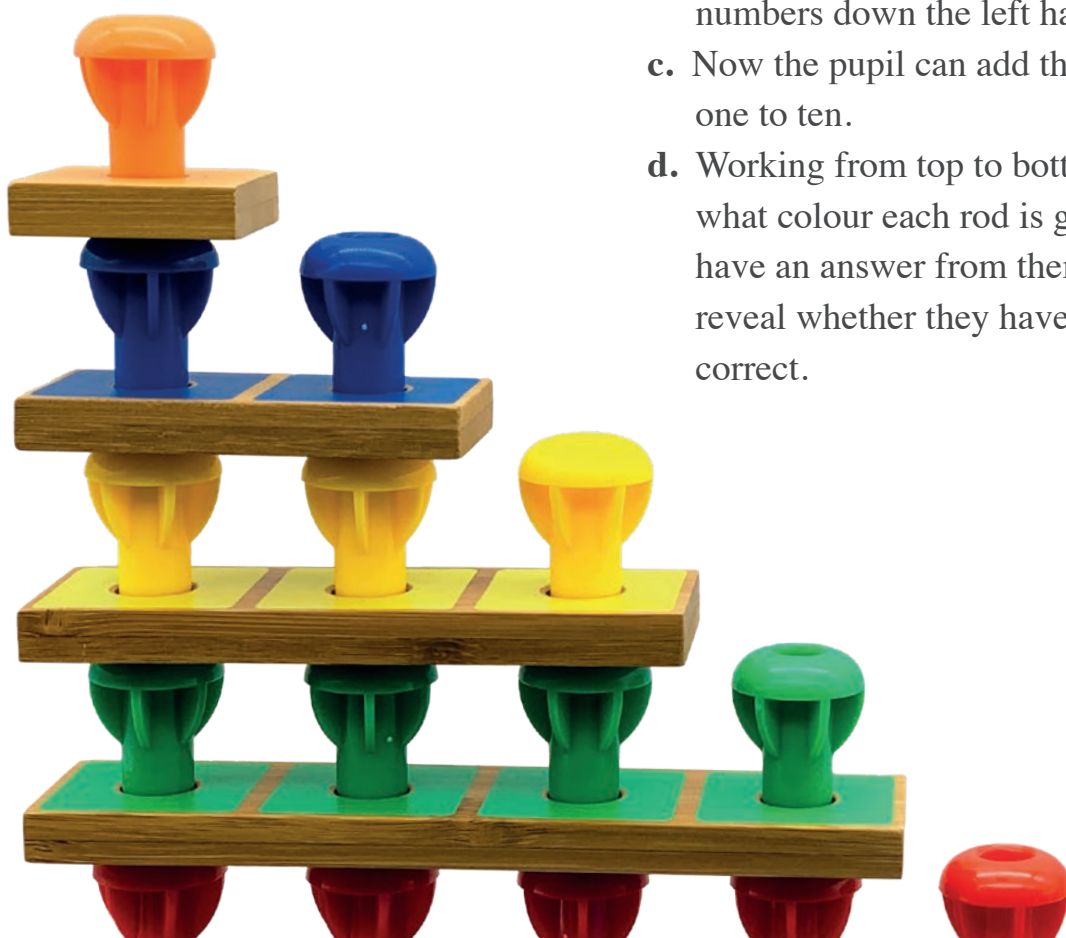
- Remake the stacking arrangement on Card 19 discarding the numbered tiles.
- As shown on the card, two mating stacks of pegs and rods can be put together in order to make ten.
- Ask which colour stack belongs with one to make ten (purple), then with two (light green), then three (pink) and so on.



## Card 21

### Confirming the number bonds to ten.

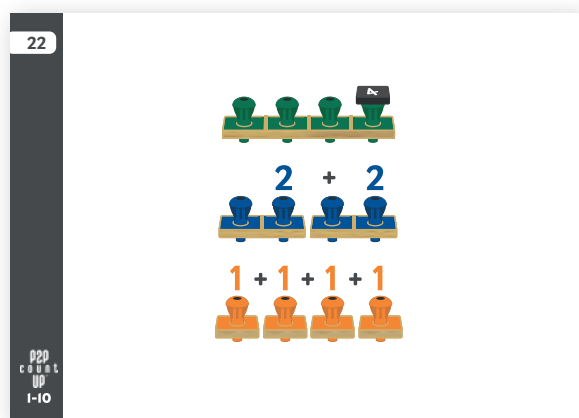
- Make a copy of what is described on the work card, missing out the pegs and labelled tiles. When placing the turned down rods, ensure that the pupil does not see the colours.
- Ask the pupil to fill the pegboard spaces with the correctly coloured pegs corresponding to the numbers down the left hand side of the frame.
- Now the pupil can add the labelled tiles from one to ten.
- Working from top to bottom, test the pupil on what colour each rod is going to be. When you have an answer from them, overturn the rod to reveal whether they have gotten the question correct.





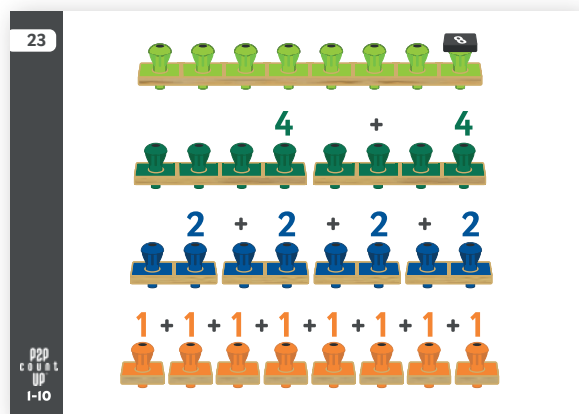
Numbers can represent how many objects there are in a set; for small sets we can recognise the number of objects (subitise) instead of counting them. Composition is knowing numbers are made up of two or more other smaller numbers and this involves ‘part-whole’ understanding. Learning to ‘see’ a whole number and its parts at the same time is a key development in children’s number understanding. Children need to be able to partition numbers and put them back together again.

## Addition / Making number sentences



### Card 22

- Copy the bottom row of orange rods and pegs, placing them side by side into the pegboard.
- Write the number sentence  $1+1+1+1 = 4$ .
- Now place two blue rods and pegs on top of the 4 orange ones.
- Write the number sentence  $2+2 = 4$ .
- Now place a green four rod and pegs on top. Place a blank tile at the end of the row of green pegs and label it ‘4’.
- Question:** Are the  $1+1+1+1$  and the  $2+2$  sequences of rods and pegs the same size?  
**Answer:** Yes, because 1 plus 1 plus 1 plus 1 makes 4, and 2 plus 2 also makes 4.



### Card 23

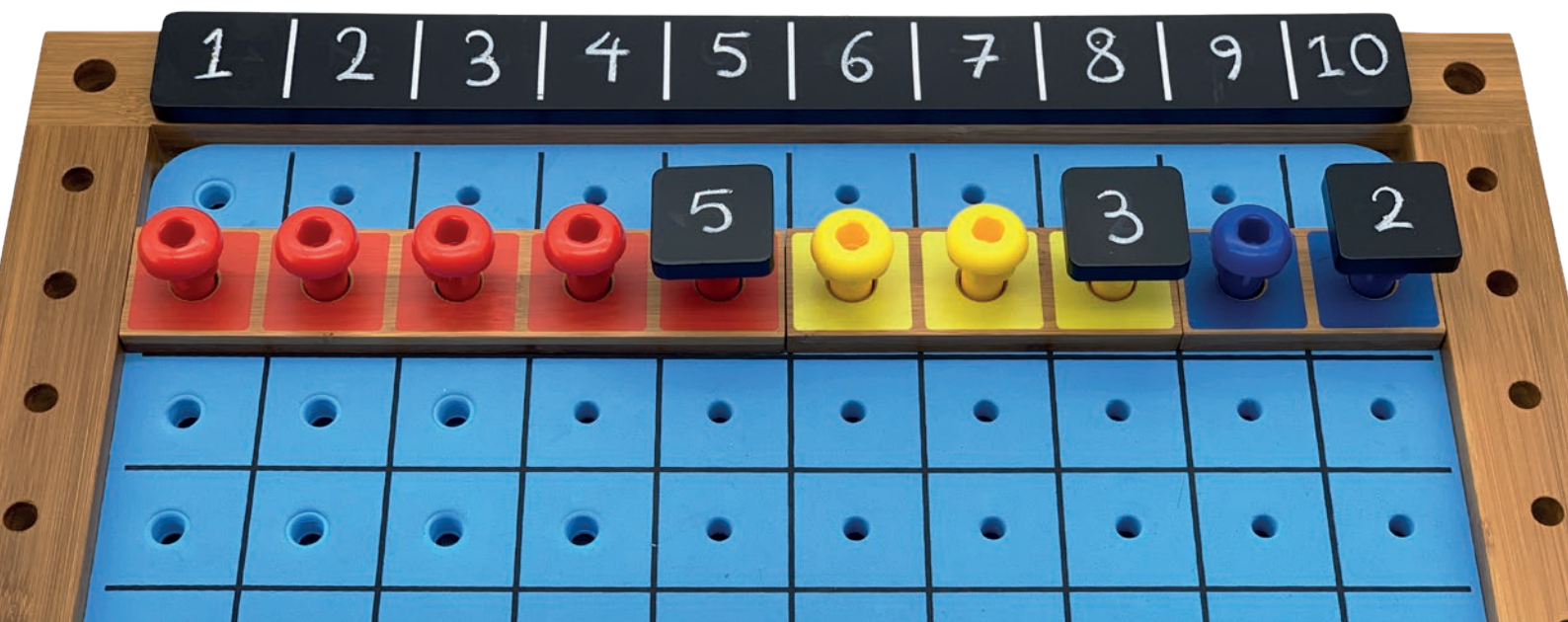
- Follow the same steps as Card 22, starting with eight ones, followed by four twos etc.

**Card 24**

**Making the number bonds to ten.**

- Copy the work card by adding a blackboard strip to the top of the frame and writing the numbers 1-10 across. Add all of the rods, pegs and labelled tiles as shown.
- Write down the number sentences as shown on the card.
- Now clear the board of rods, pegs and tiles and create your own number sentences.
- Have a go at writing the number sentences you have just created.

$$5 + 3 + 2 = 10$$

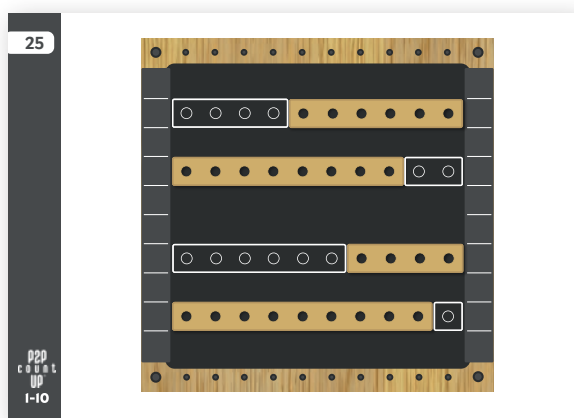


‘Guesstimate’ is an informal English portmanteau of ‘guess’ and ‘estimate’.

It is defined as an estimate made without using adequate or complete information, and this technique is used across many academic careers such as physics, cosmology and economics as an important skill to make educated guesses.

For the activity relating to P2P Count Up, this technique will help to strengthen colour to number association and to help them better understand the number bonds to ten.

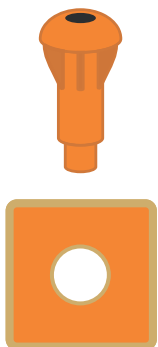
## Guesstimation activity (using upturned P2P Count Up frame)



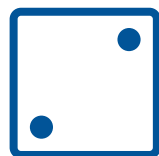
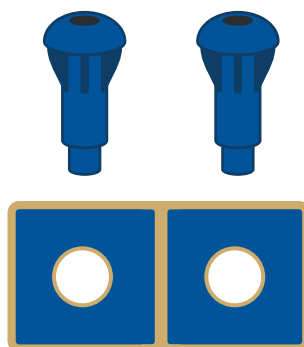
### Card 25

- Turn the P2P Count Up frame upside down.
- Place a blank blackboard strip on both sides of the outer frame.
- You are now setup for the guesstimation activity. By adding a series of upturned (colourless) rods to the board within the parameters of the blackboard strips, the pupil can guess which rods would need to be added in order for each row to equal ten.
- There are two main ways to play ‘guesstimation’, either the pupil experiments with selecting the correct rods to fit in the spaces (easier method), or the pupil tries to call out the number values of the rods without handling them (more difficult method).

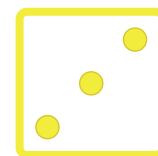
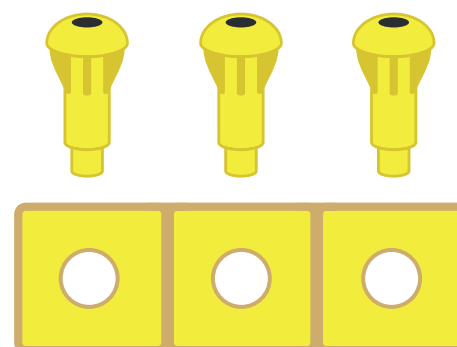




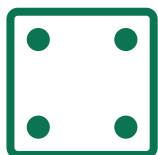
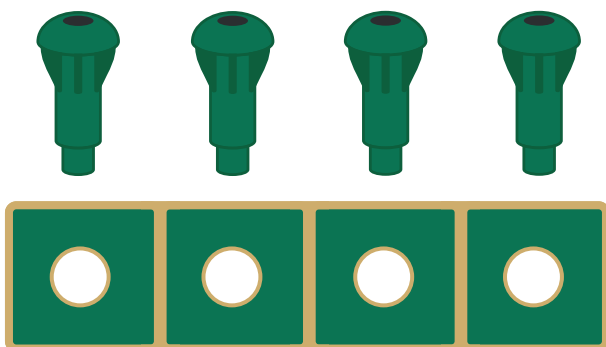
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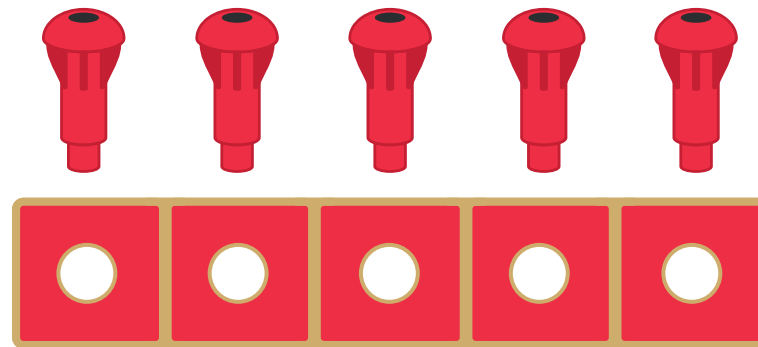
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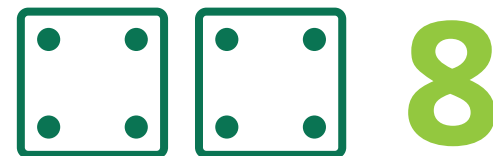
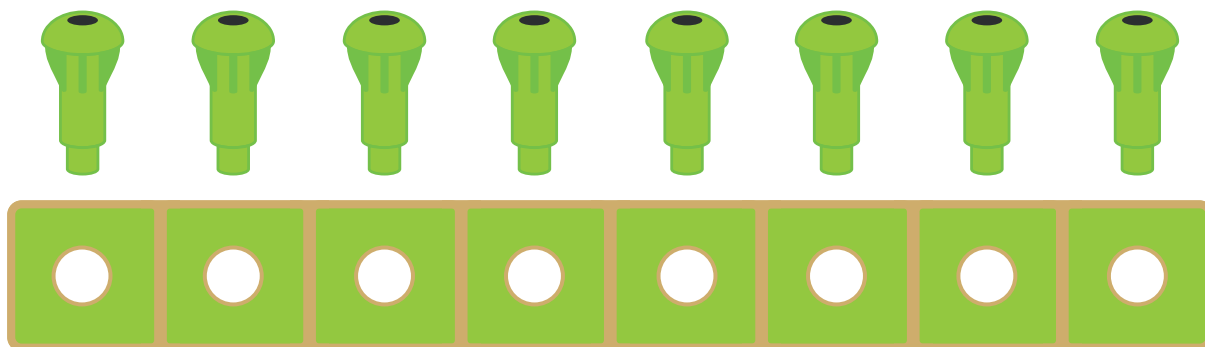
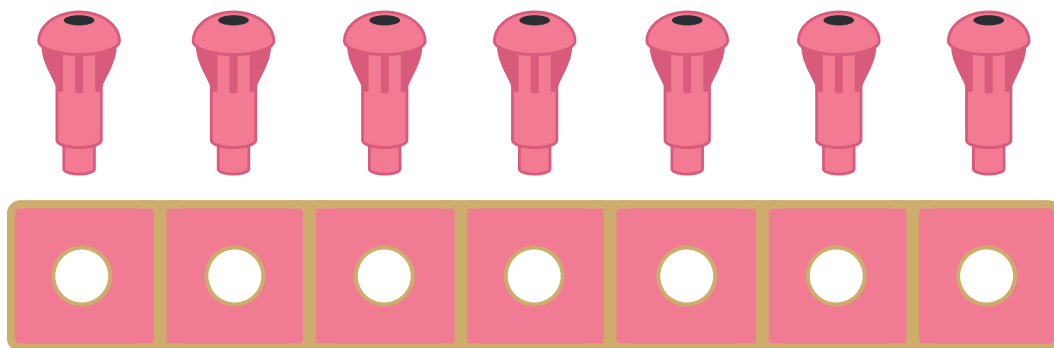
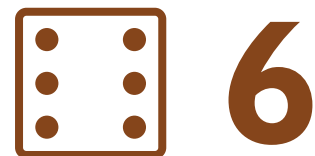
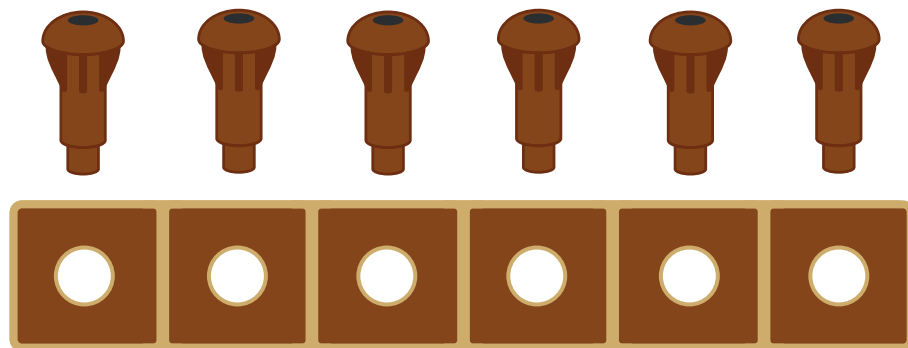


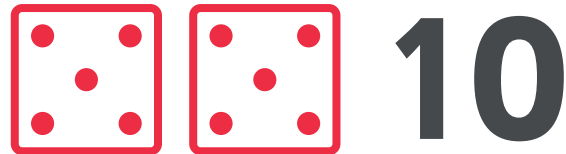
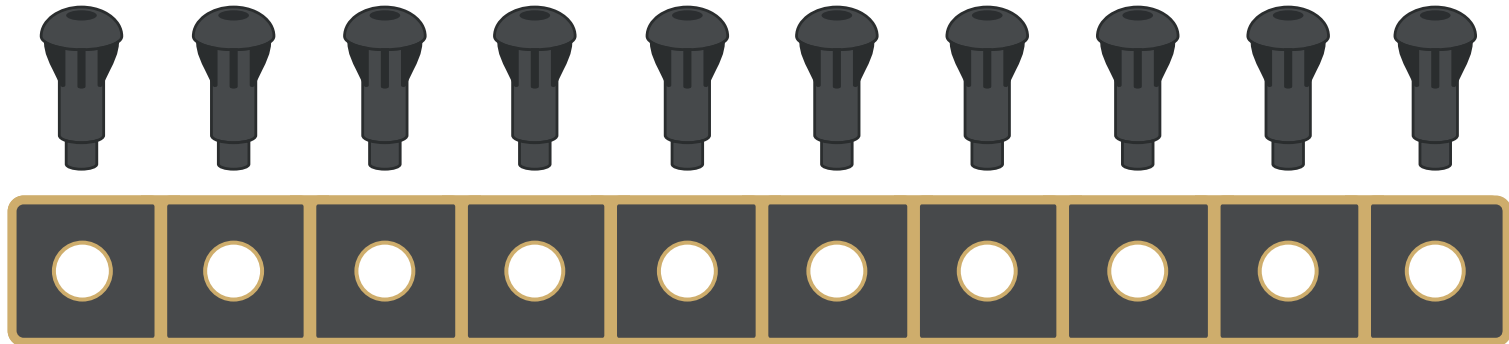
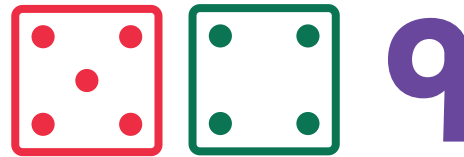
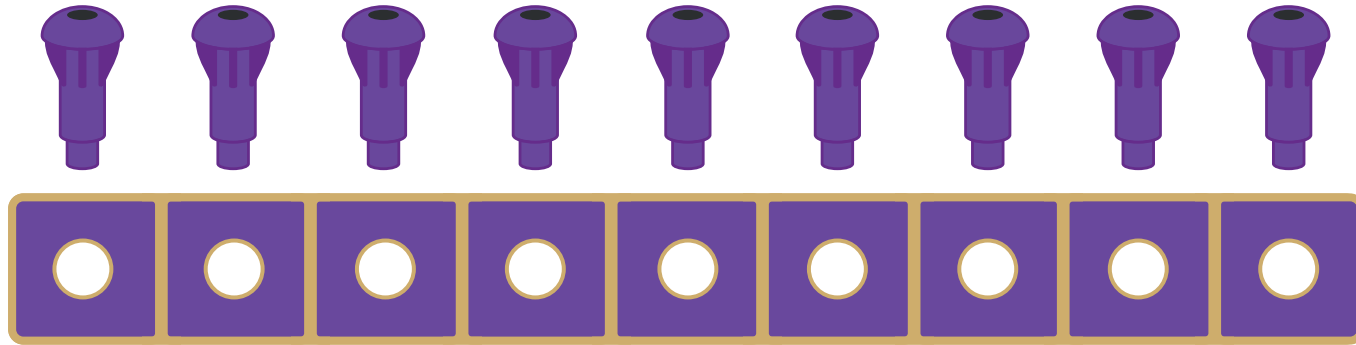
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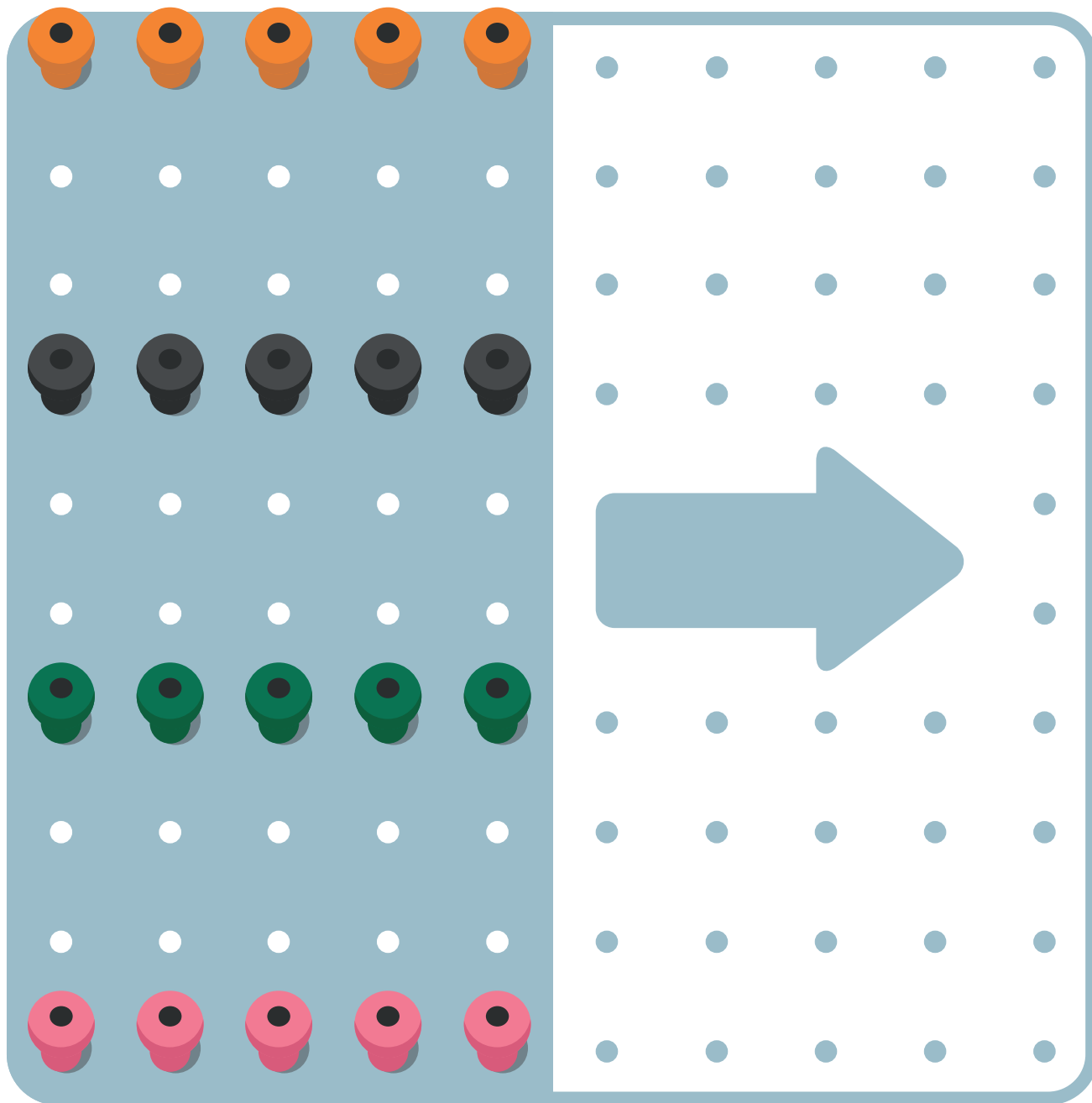


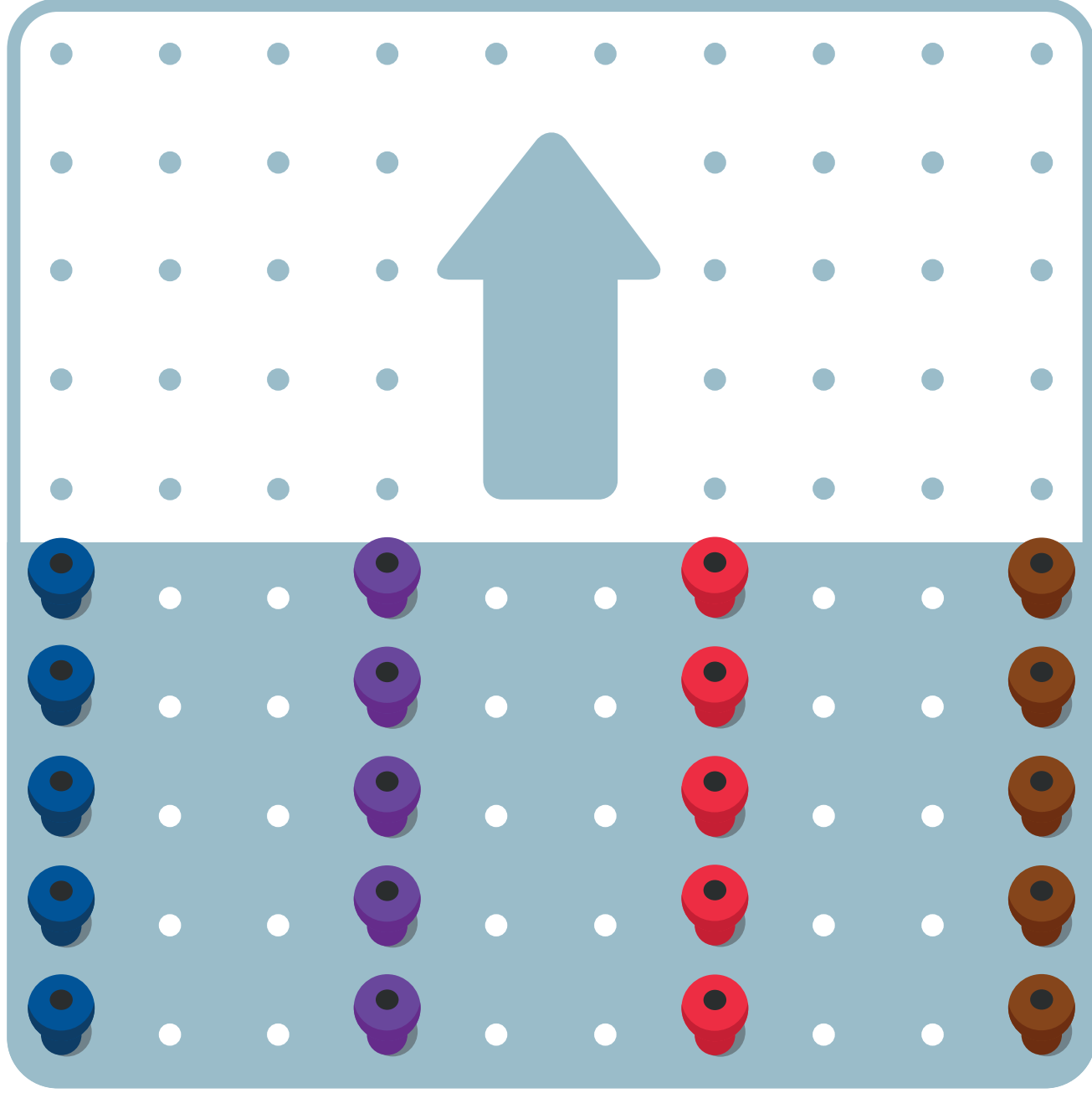
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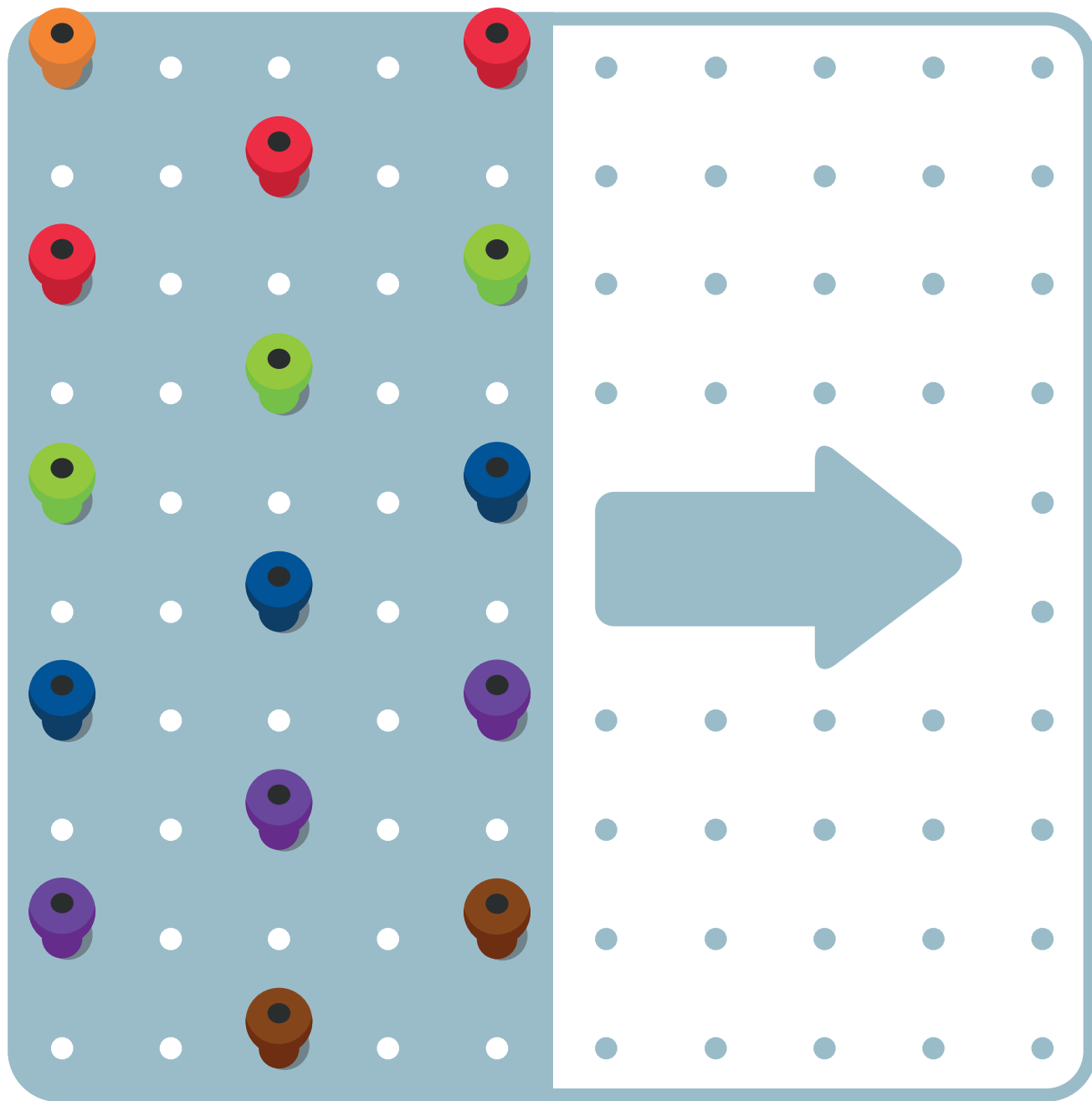


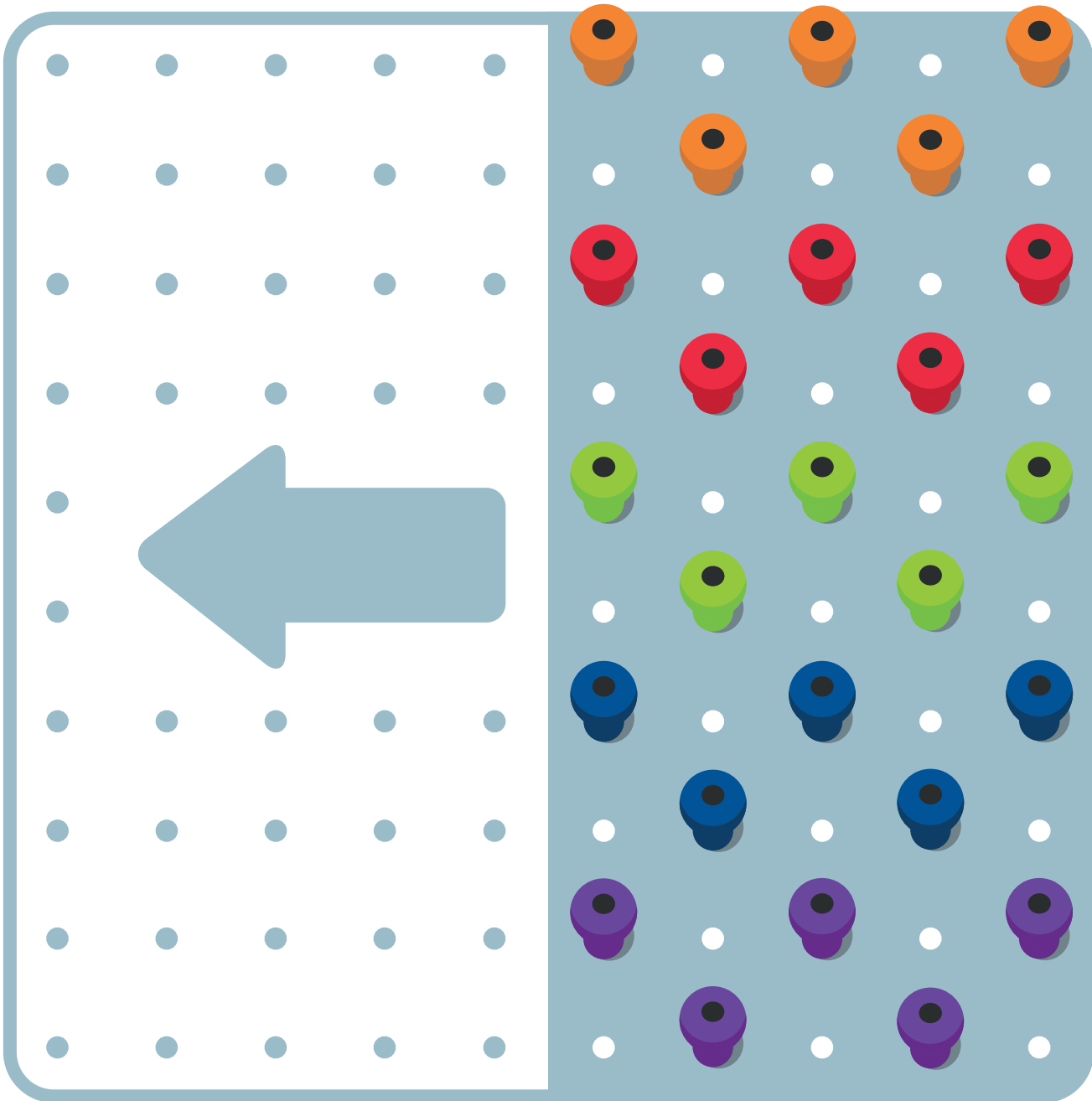


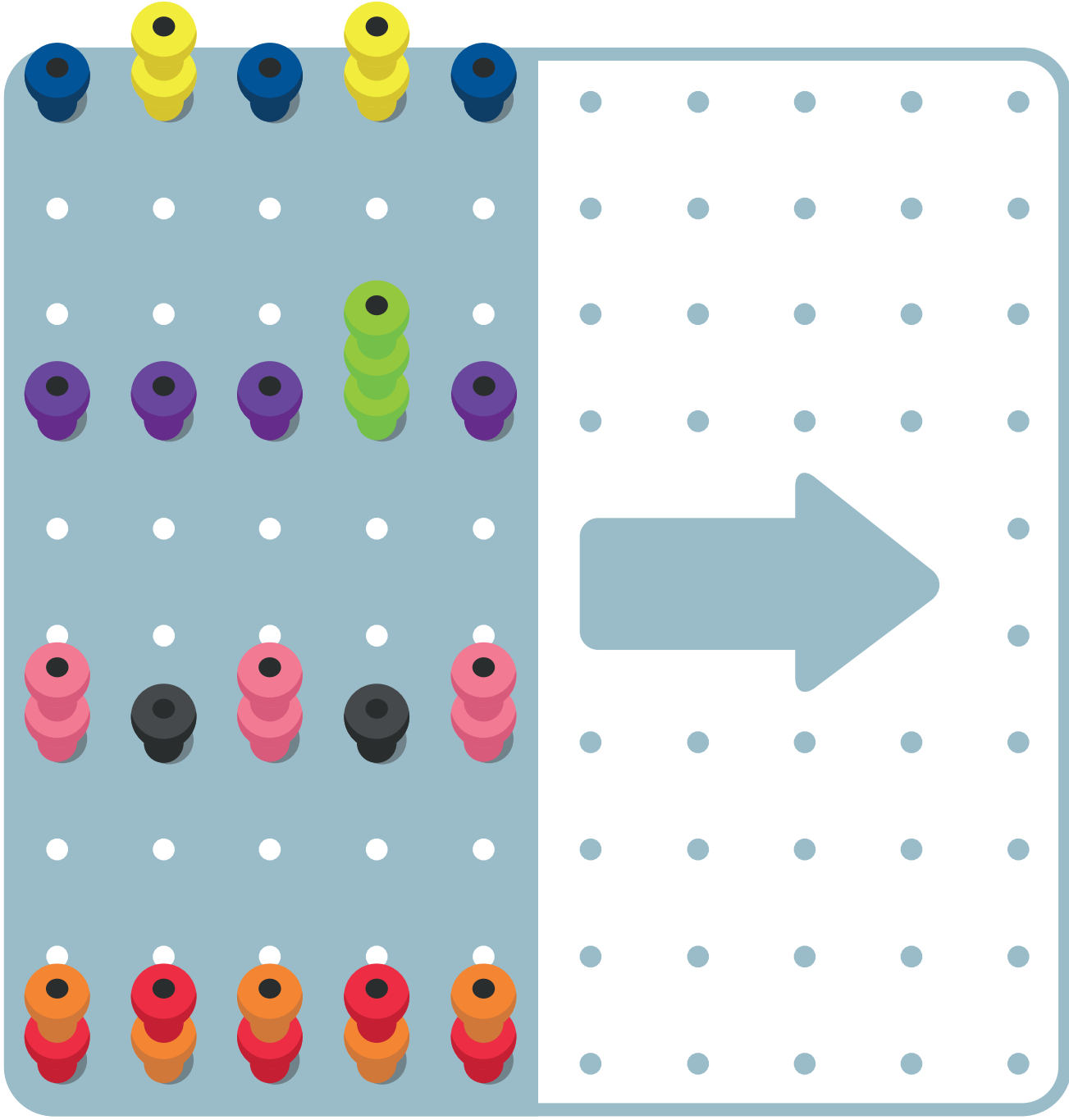


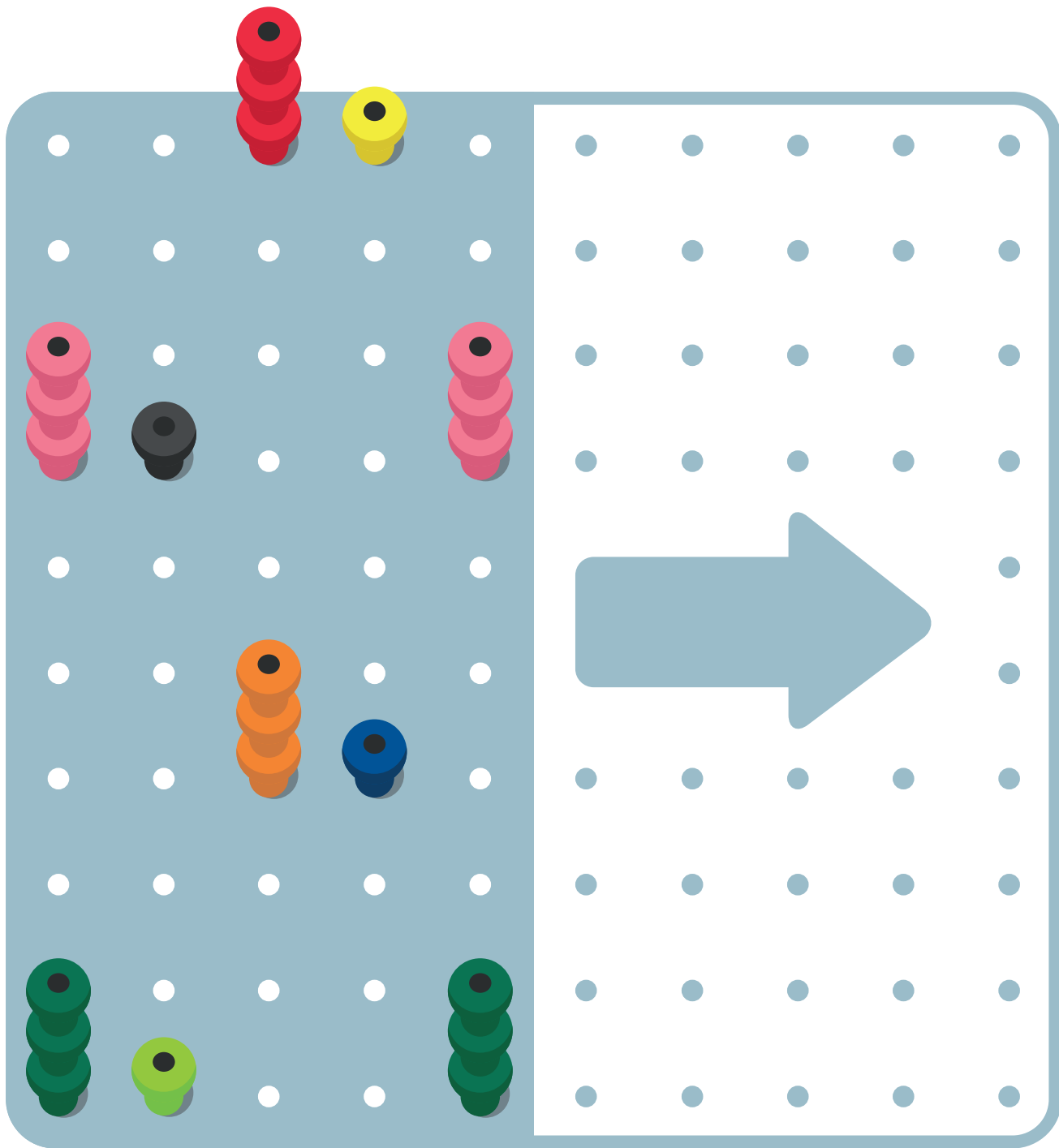






















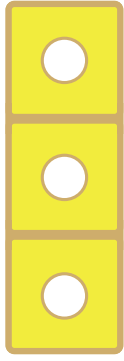


$$1 \text{  < 2 \text{  $$

$$2 \text{   > 1 \text{ $$

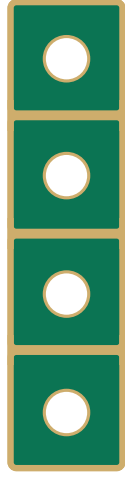
$$2 \text{   = 2 \text{  $$

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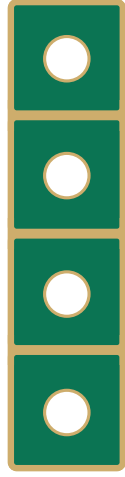


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4

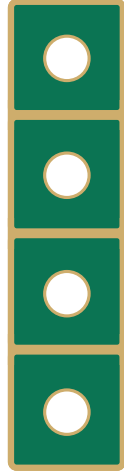


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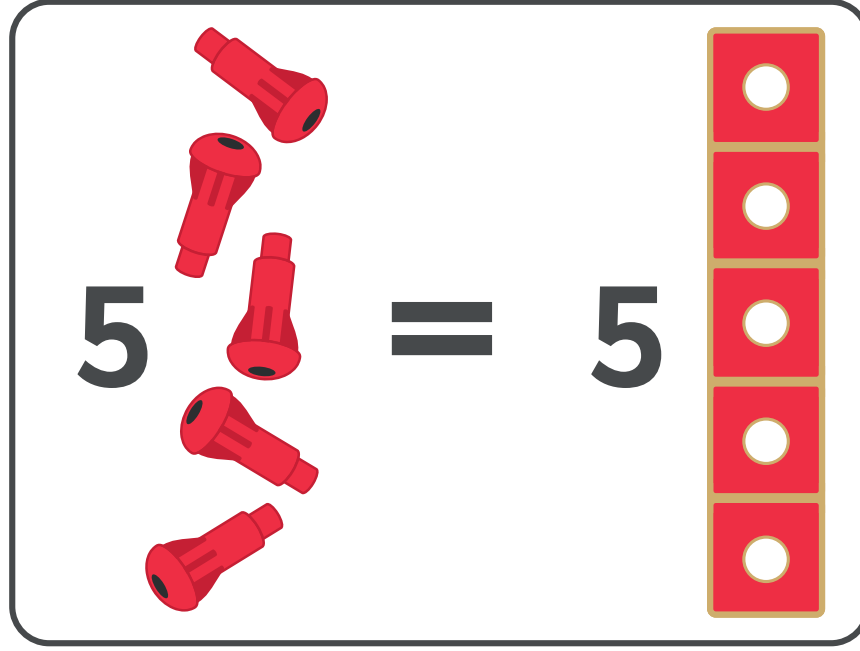
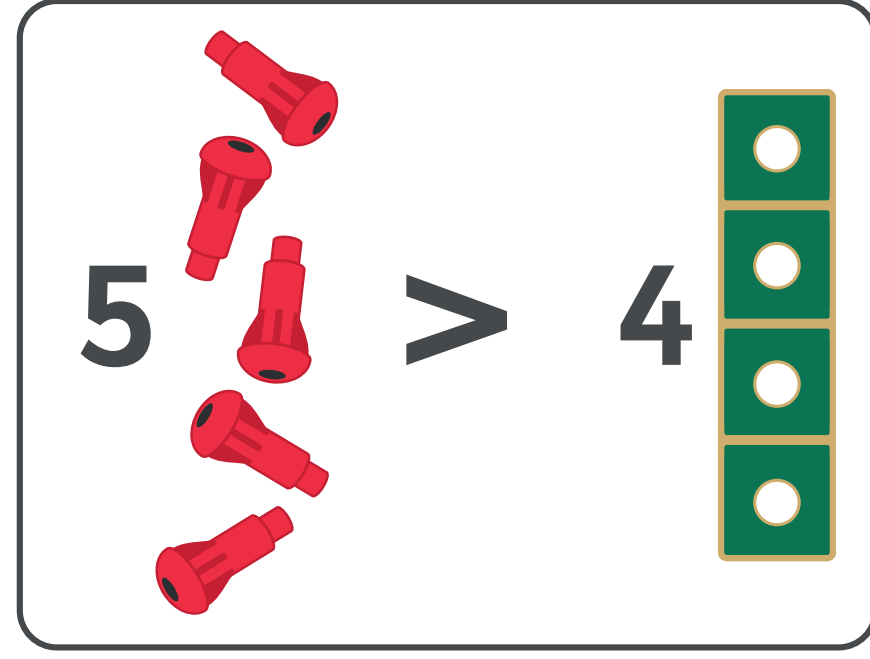
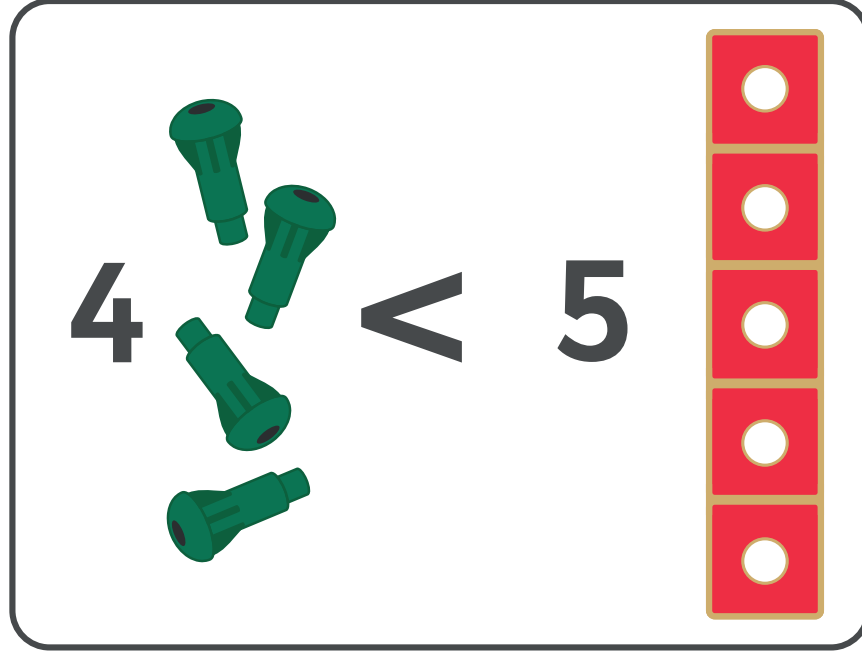
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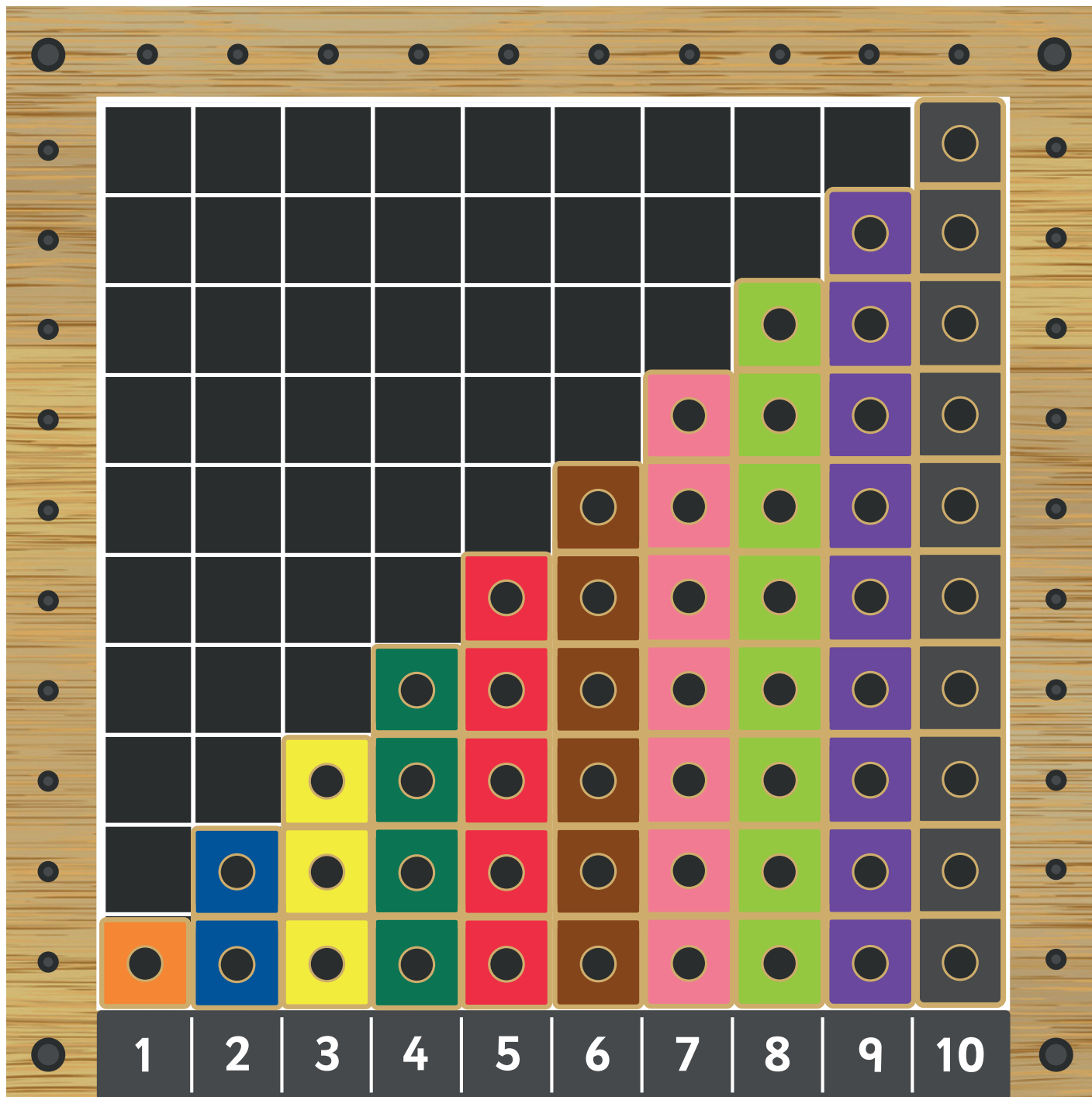


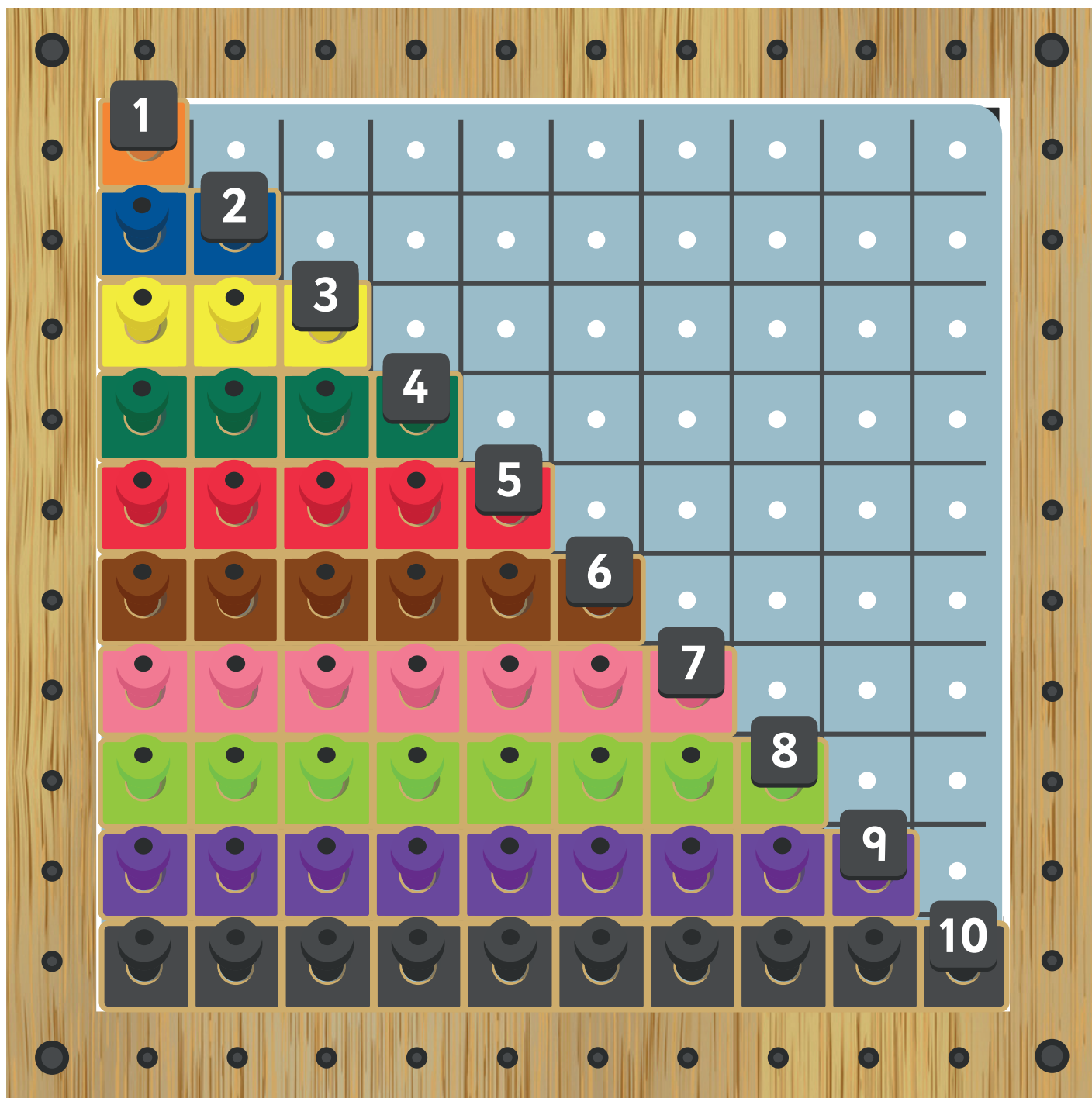
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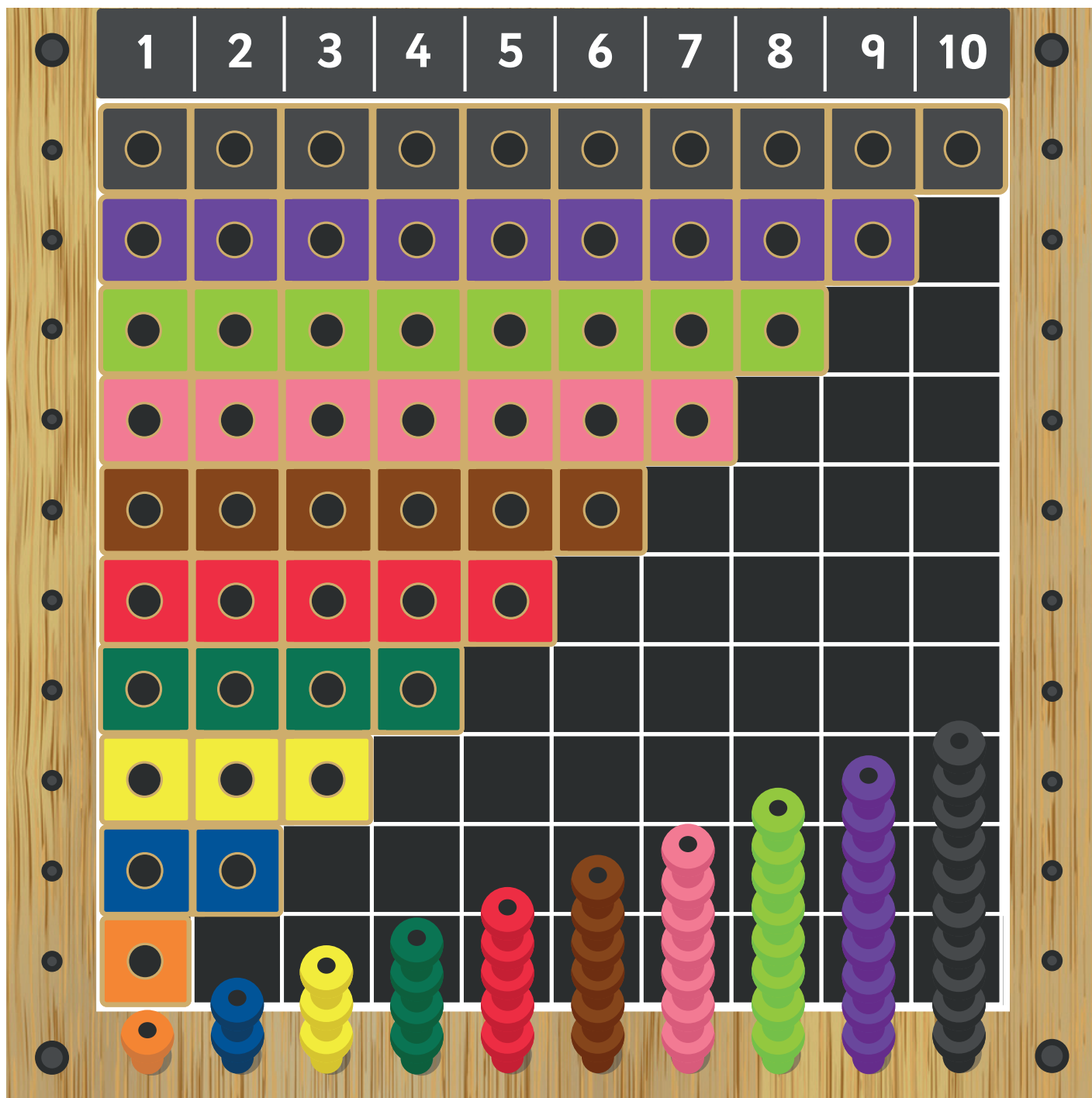
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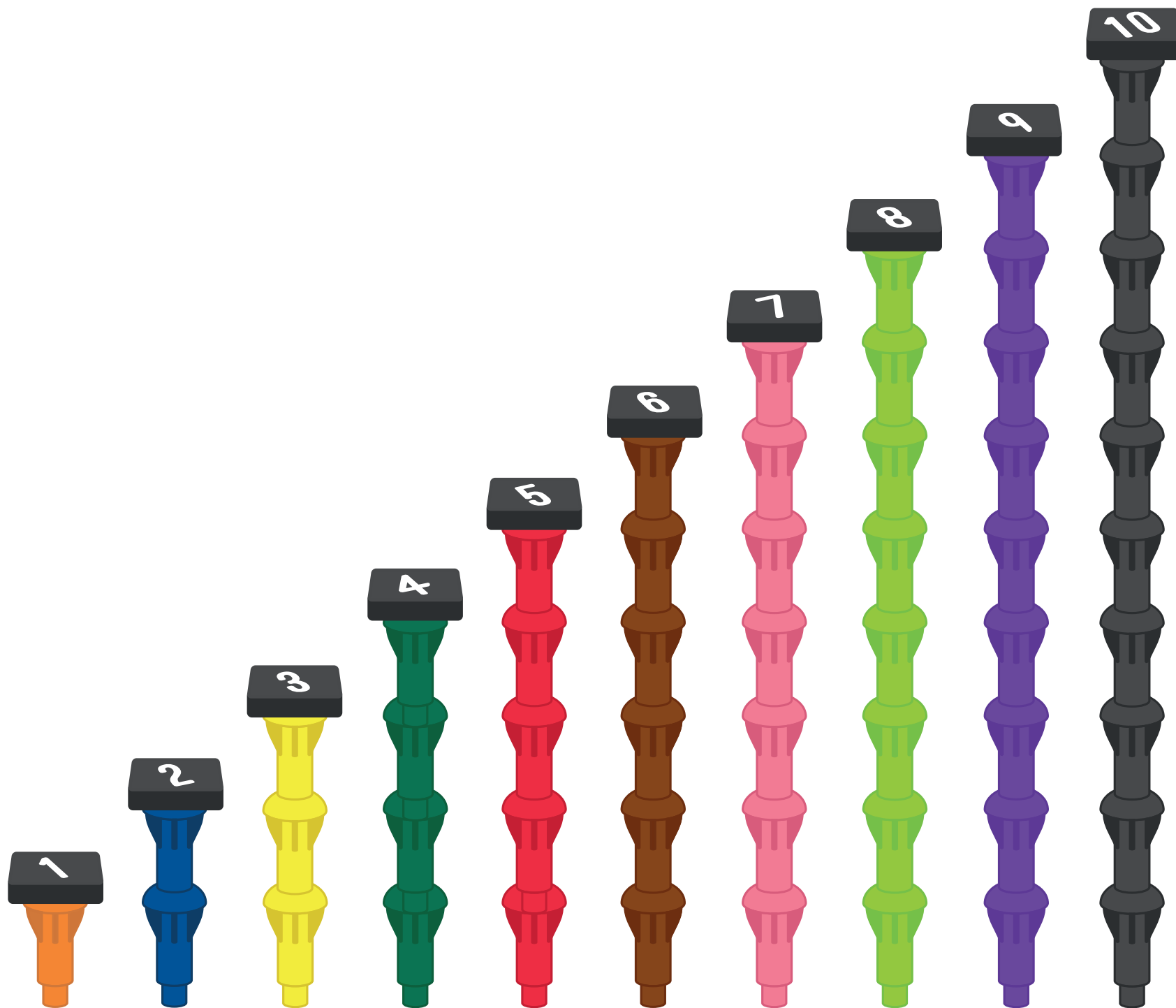
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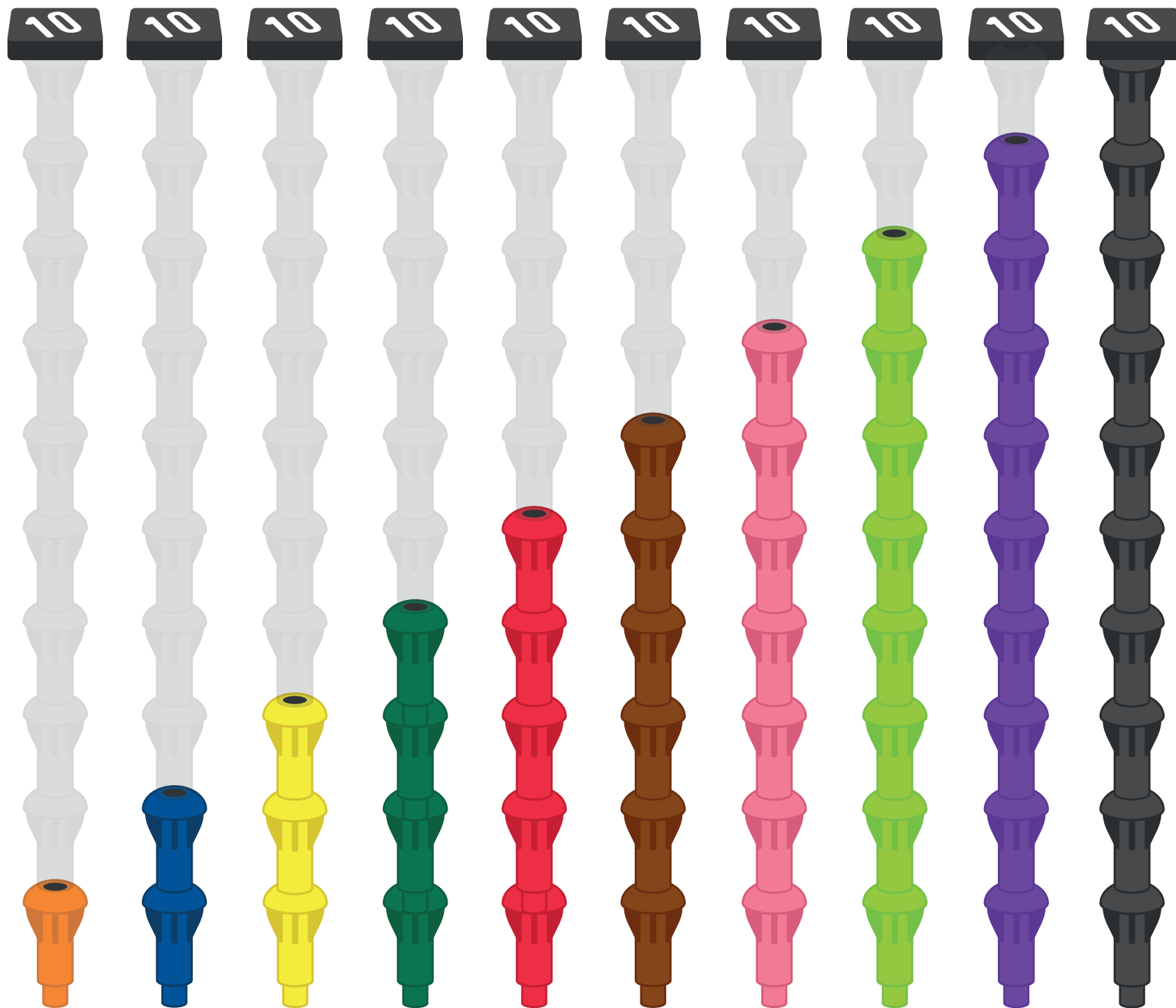


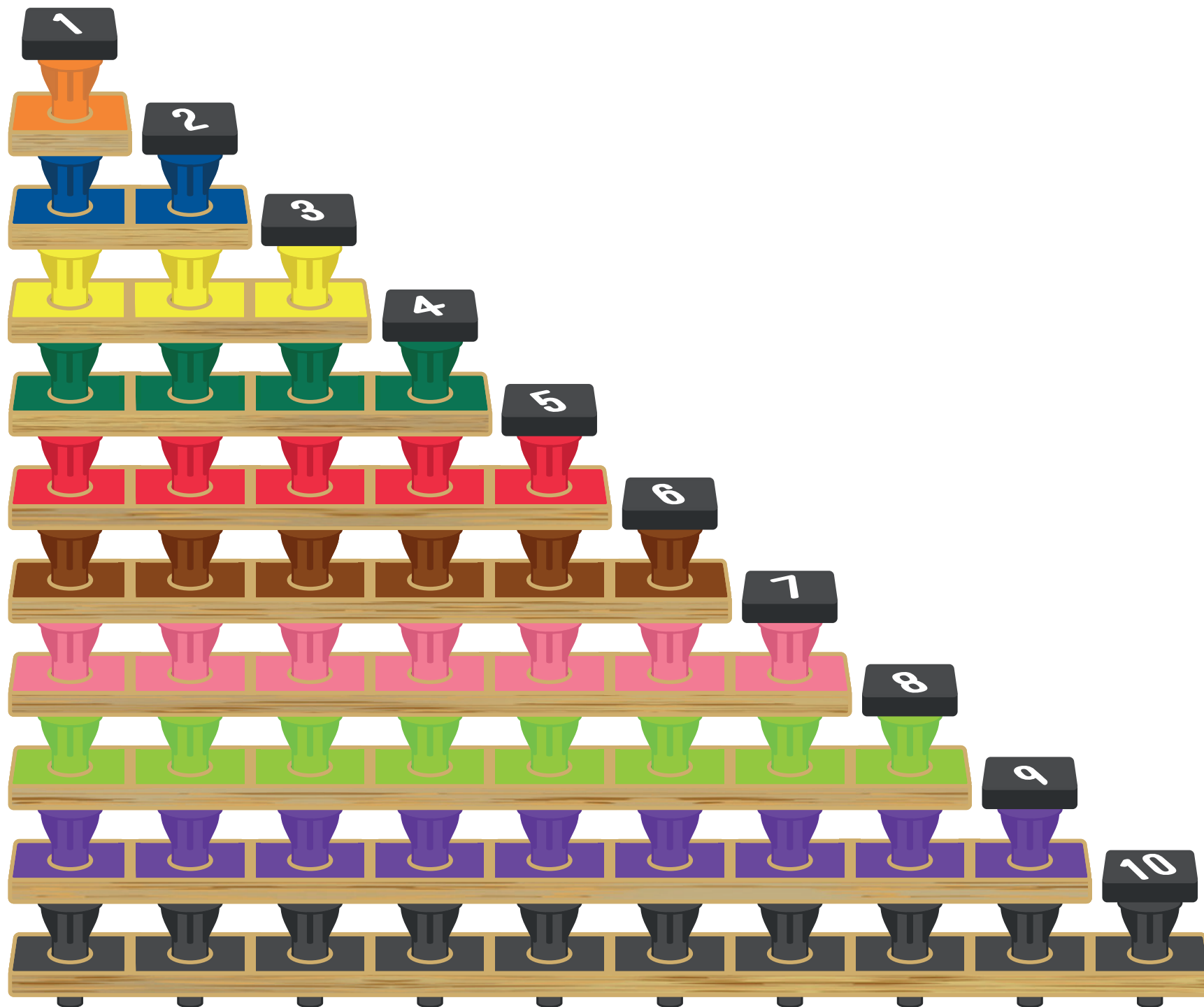


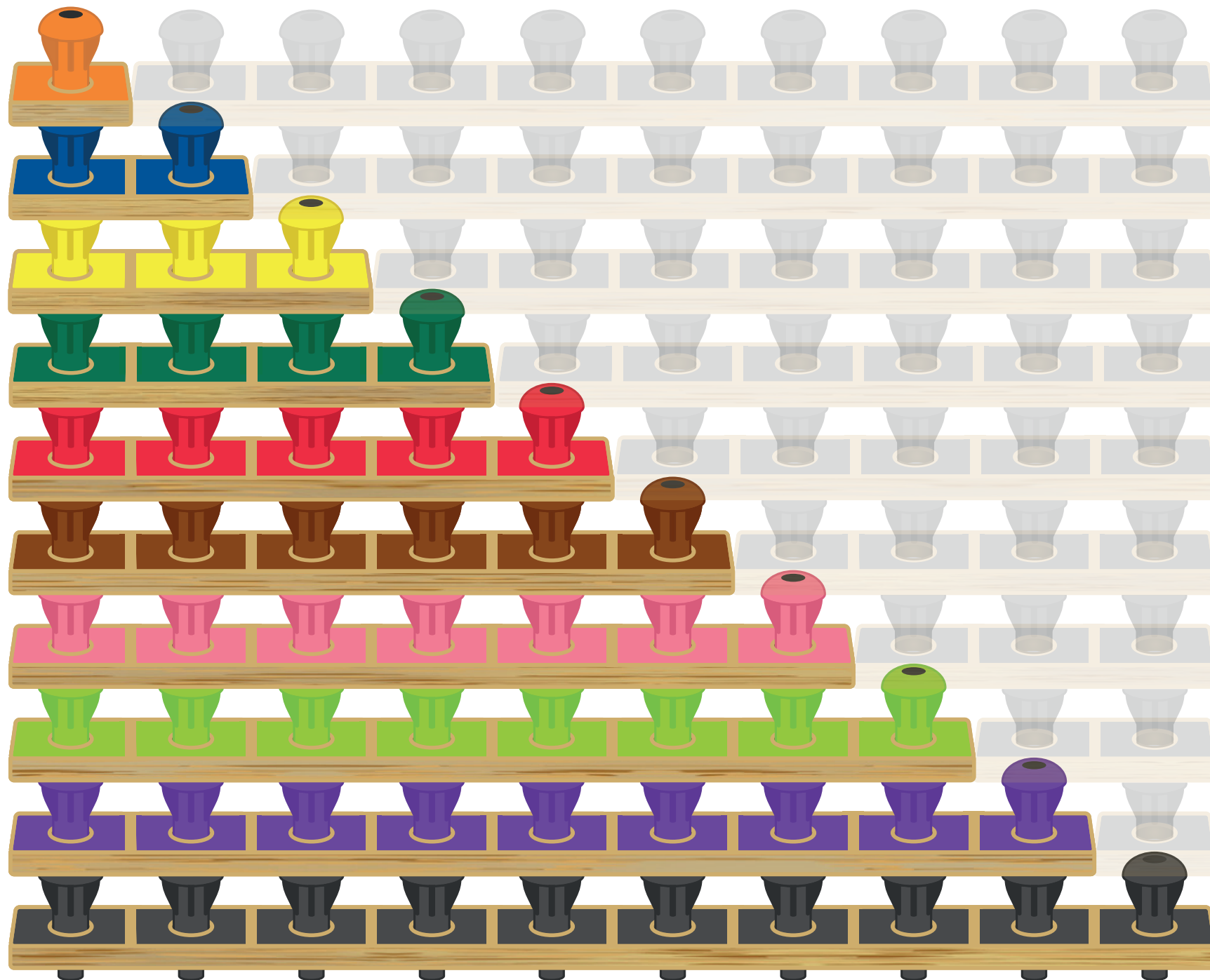




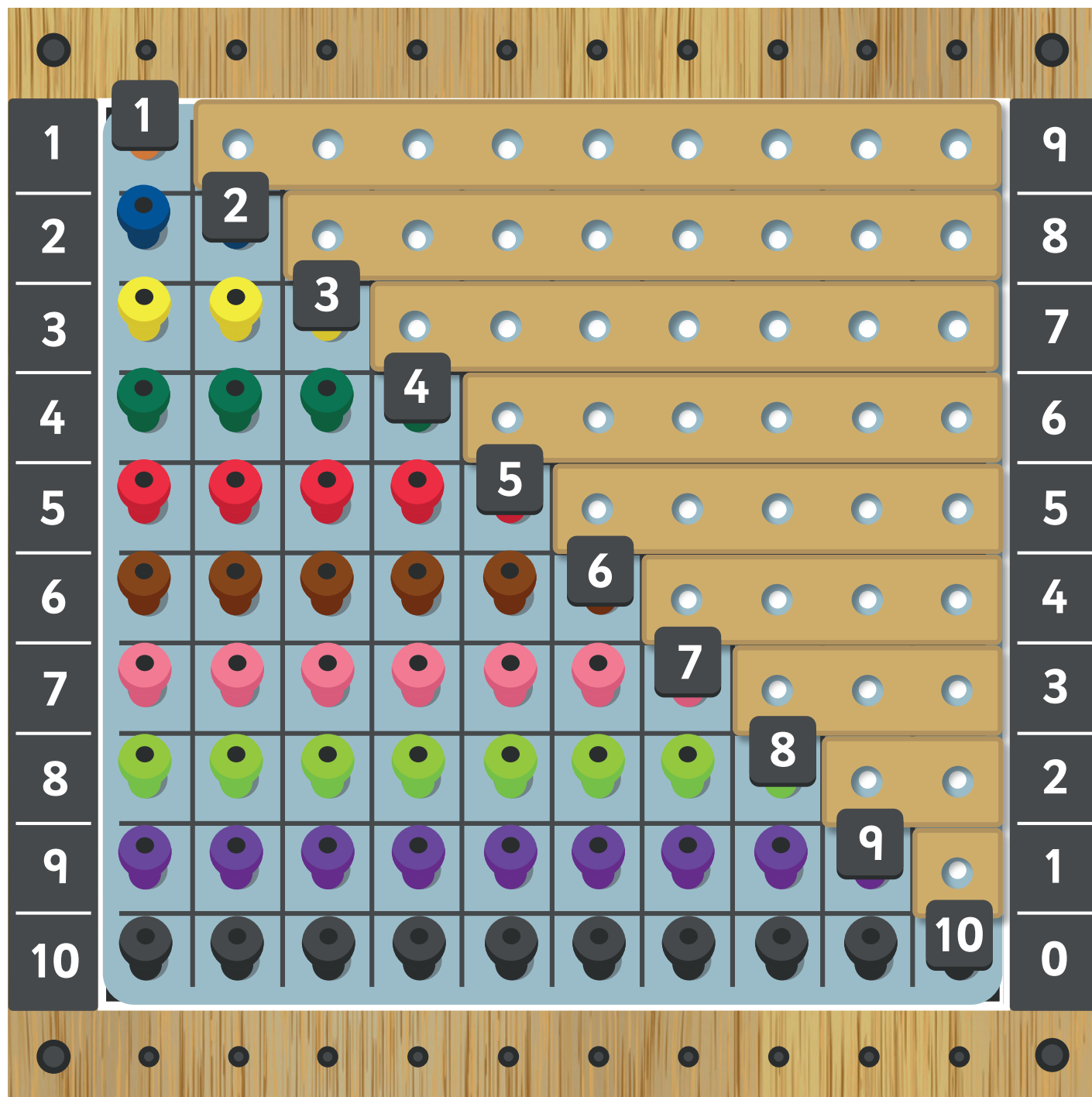


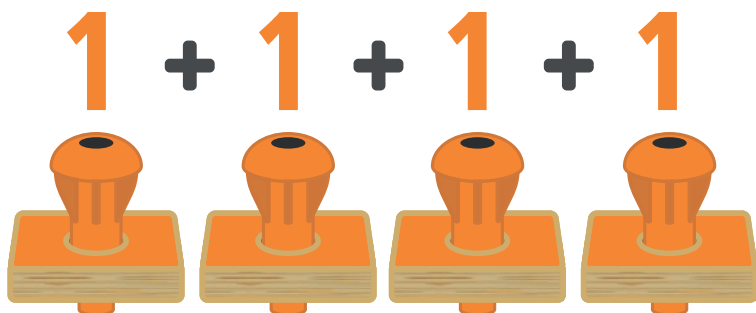
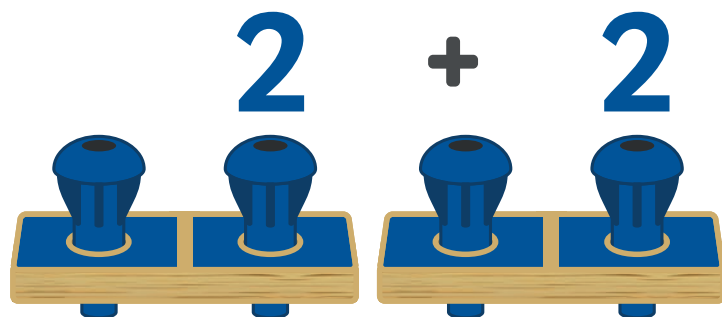
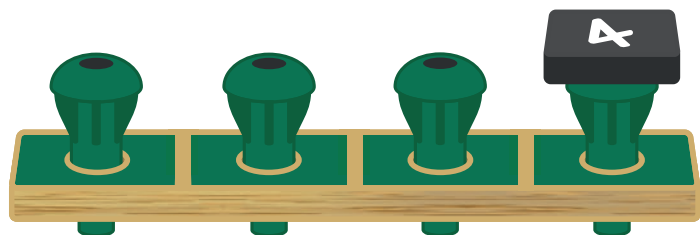


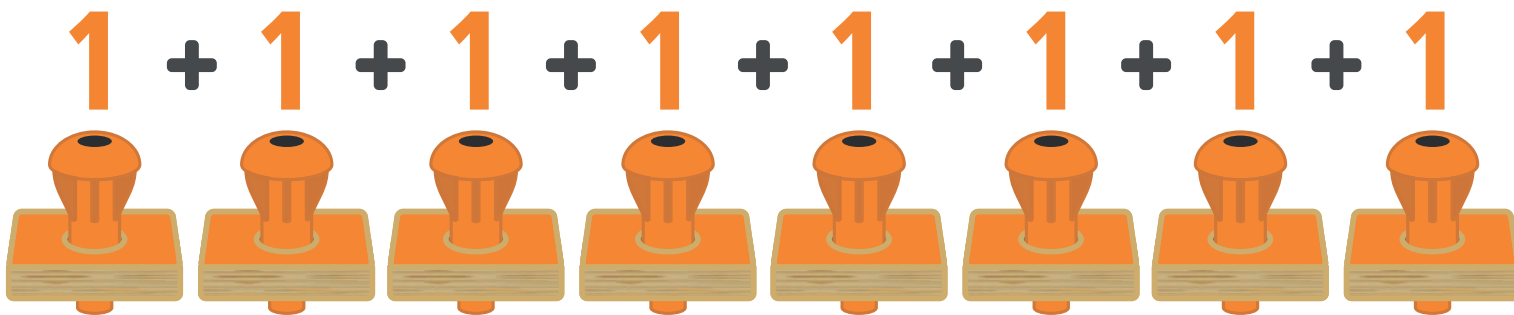
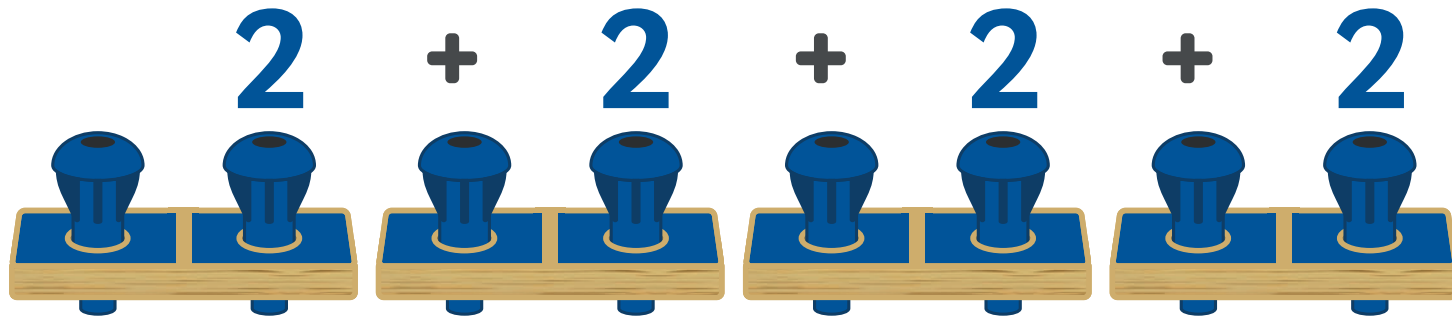
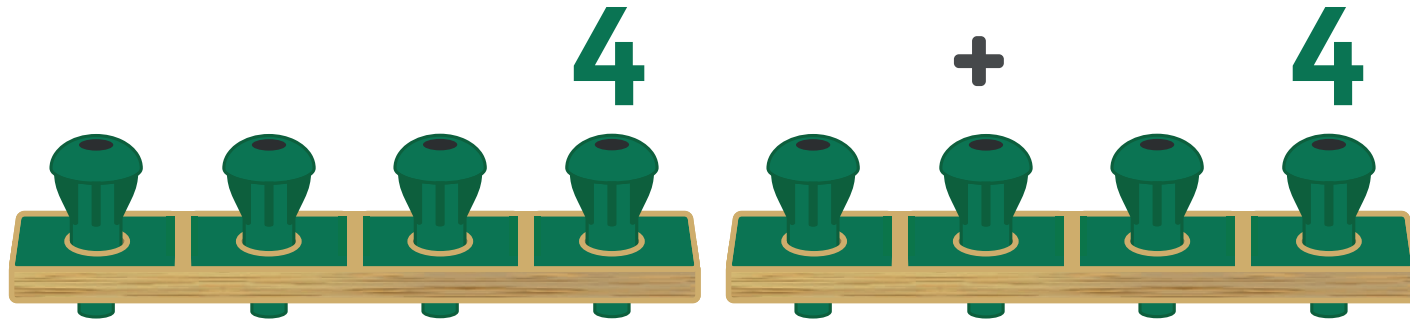
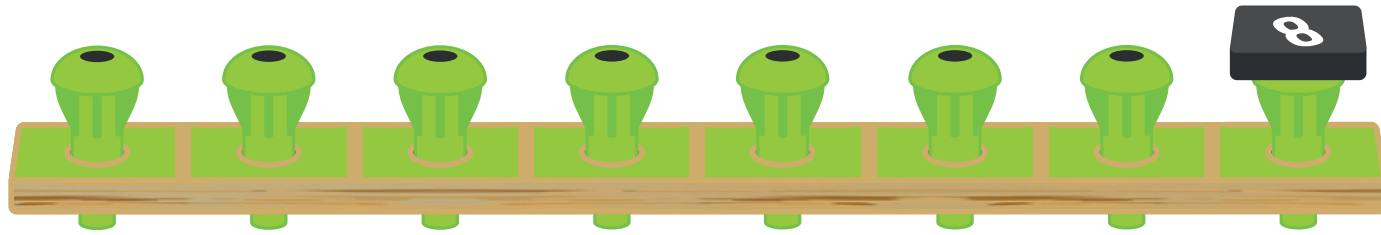




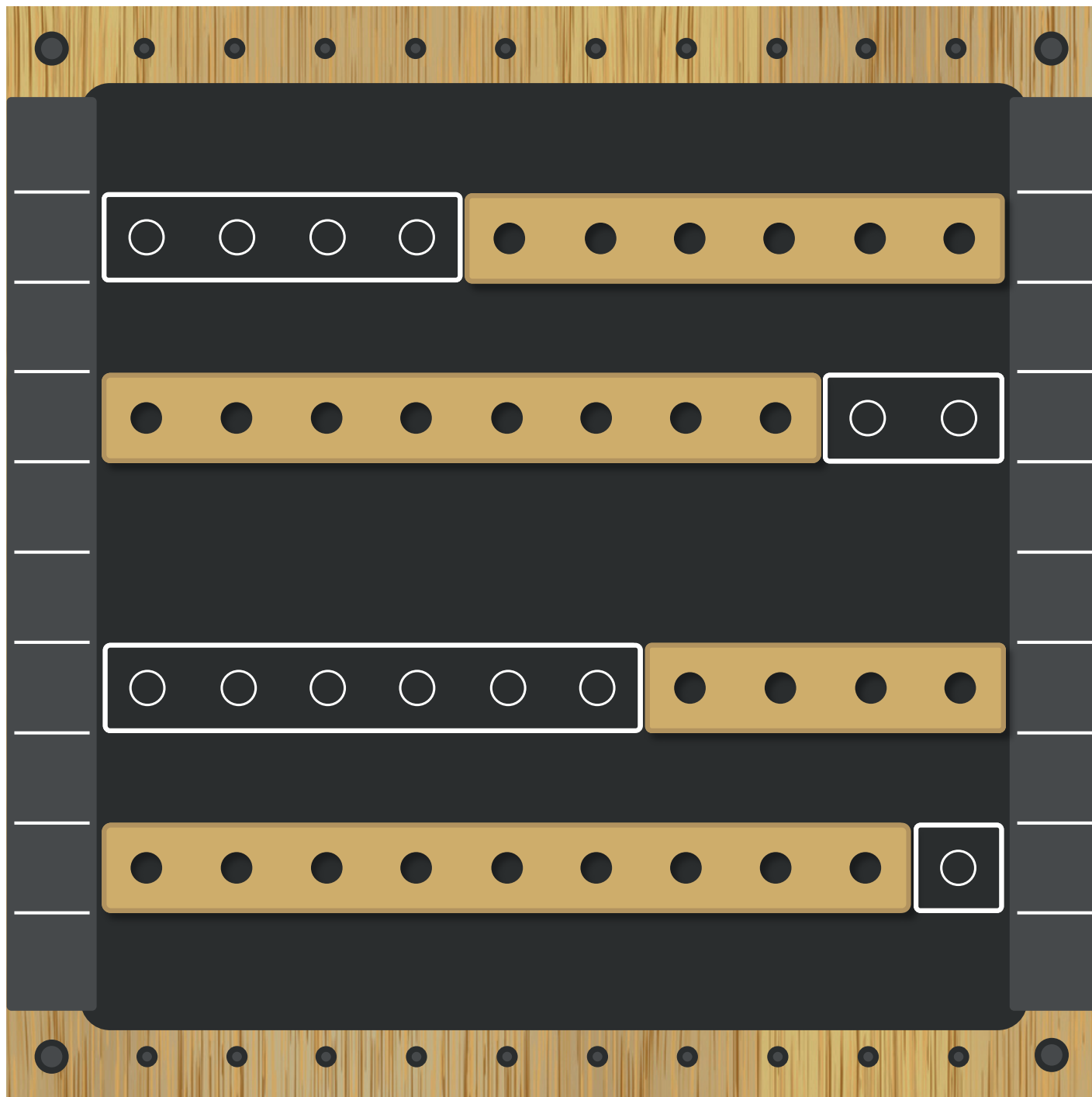








1	2	3	4	5	6	7	8	9	10
1		2	1 + 2 + 3 + 4 = 10						4
			5 + 3 + 2 = 10						
			4 + 6 = 10						6
			1 + 9 = 10						9
			10 + 0 = 10						10



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**A BIG THANK YOU TO**



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Child Psychologist & Former Head Teacher



**Christina Wood**

Lead School Improvement Advisor for Mathematics

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