

A close-up photograph of several green fern fronds, showing the intricate, feathery structure of the leaves. The fronds are vibrant green and appear to have small droplets of water on their surfaces. The background is dark and out of focus, making the ferns stand out.

RICH MATHEMATICAL TASK BOOKLET

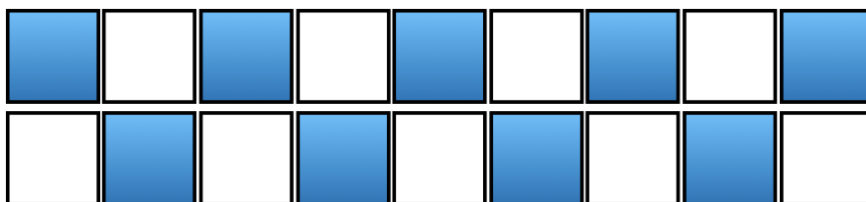
ALGEBRA

YEAR 1

Copy Masters

Task 1

Kaiser likes making trains with cubes. This is his first train:

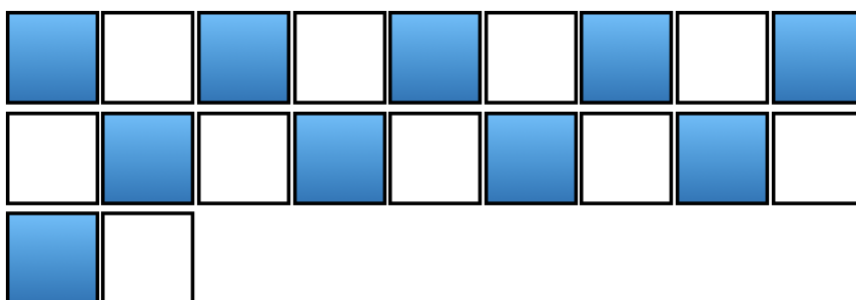


Copy the pattern.

Represent the train using letters and circle the unit of repeat.

How many cubes in his first train?

This is his second train:



Copy the pattern.

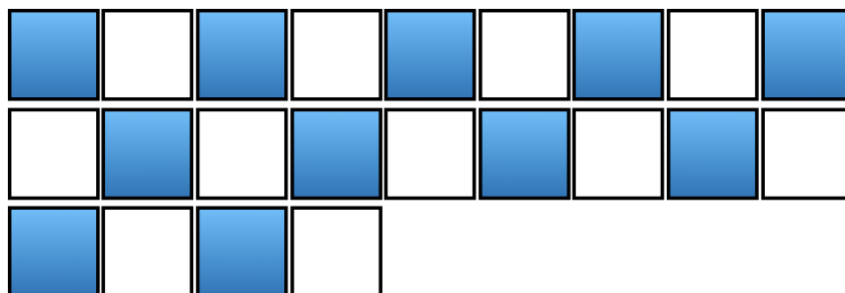
Represent the train using letters and circle the unit of repeat.

How many cubes in his second train?

Year 1: Number and Algebra: Patterns and Relationships

Task 1 – continued

This is his third train:



Copy the pattern.

Represent the train using letters and circle the unit of repeat.

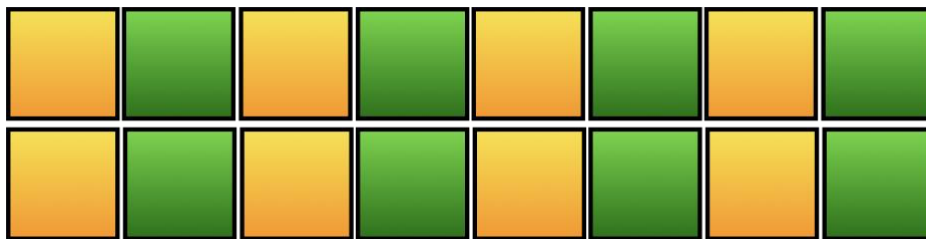
How many cubes in his third train?

Use the hundred board table and highlight which numbers the blue blocks match with.

What patterns do you notice?

Year 1: Number and Algebra: Patterns and Relationships

Task 1 (independent)



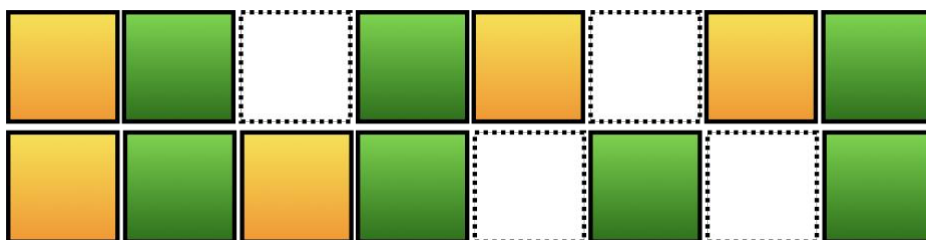
Copy the pattern.

What is the unit of repeat? Circle this.

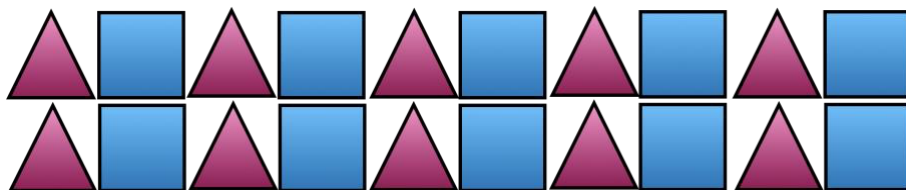
How many blocks are there altogether?

How many yellow blocks?

How many green blocks?



Draw the missing blocks.

Task 1 (independent continued)

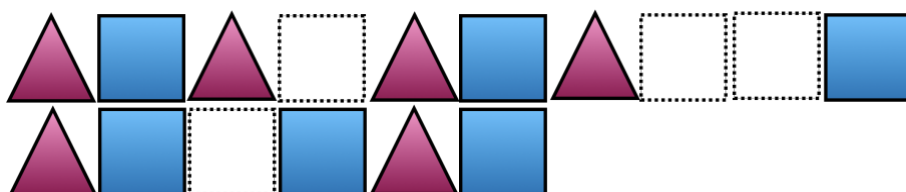
Copy the pattern.

What is the unit of repeat? Circle this.

How many shapes are there altogether?

How many triangles?

How many squares?



Draw the missing shapes.

Make your own pattern.

What is the unit of repeat for your pattern?

Task 2

Sina is playing with her Lego and making rows on the floor. Her baby brother keeps knocking the pieces. Can you help Sina fix the rows?

This is her first Lego row:



Colour in the missing Lego pieces.

Copy the pattern.

Draw the Lego row.

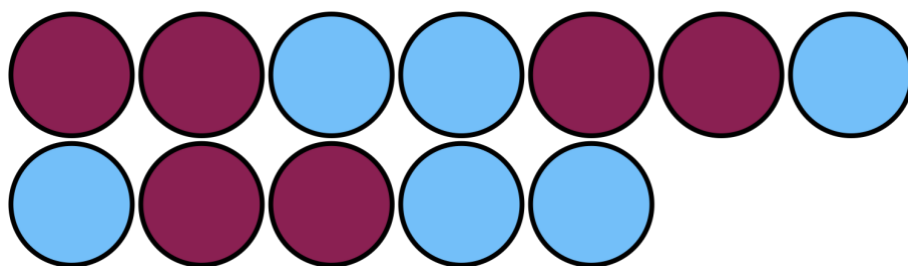
What is the unit of repeat?

How many cubes in the unit of repeat?

What colour would the 18th piece be?

What colour would the 21st piece be?

What colour would the 28th piece be?

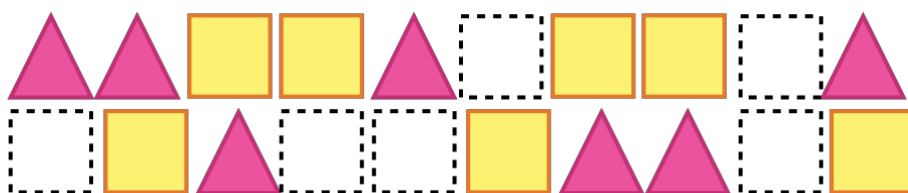
Task 2 (independent)

Copy the pattern.

What is the unit of repeat? Circle this.

Use the equipment to make a second pattern that matches but uses different colours. Extend this by one unit of repeat.

Make another pattern that matches using sounds or actions and extend this by one unit of repeat.



Draw the missing shapes.

Make your own pattern.

What is the unit of repeat for your pattern?

Year 1: Number and Algebra: Patterns and Relationships

Task 3

Use the shape blocks to copy these patterns and continue them:



What is the unit of repeat?

What would the 15th shape be?

What would the 22nd shape be?

What would the 30th shape be?



What is the unit of repeat?

What would the 15th shape be?

What would the 22nd shape be?

What would the 30th shape be?



What is the unit of repeat?

What would the 15th shape be?

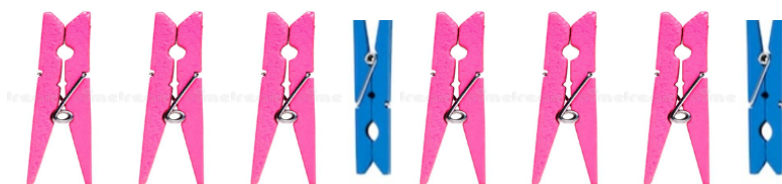
What would the 22nd shape be?

What would the 30th shape be?

Year 1: Number and Algebra: Patterns and Relationships

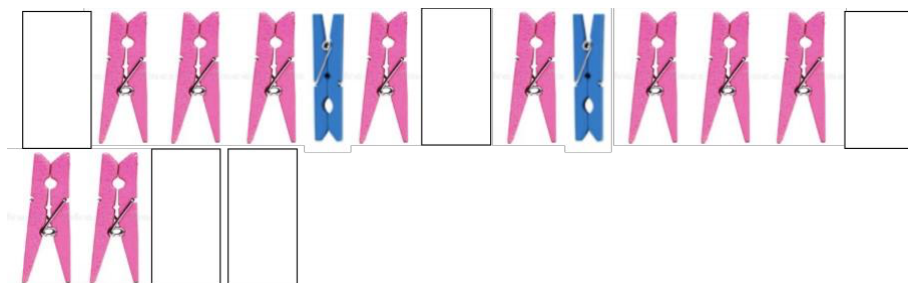
Task 3 (independent)

Hamuera is playing with the washing pegs and makes this pattern:



Use the picture cards to copy the pattern.

What is the unit of repeat?



Draw the missing pegs.

Hamuera continues the pattern using the pegs.

What colour would the 20th peg be?

What colour would the 25th peg be?

What colour would the 40th peg be?

Can you use different material and make the same pattern?

Task 4

Tagi is making a kaho using pomea seeds, tuitui (candlenut), and shells.

This is her pattern:



Use the picture cards to copy the pattern.

What is the unit of repeat?

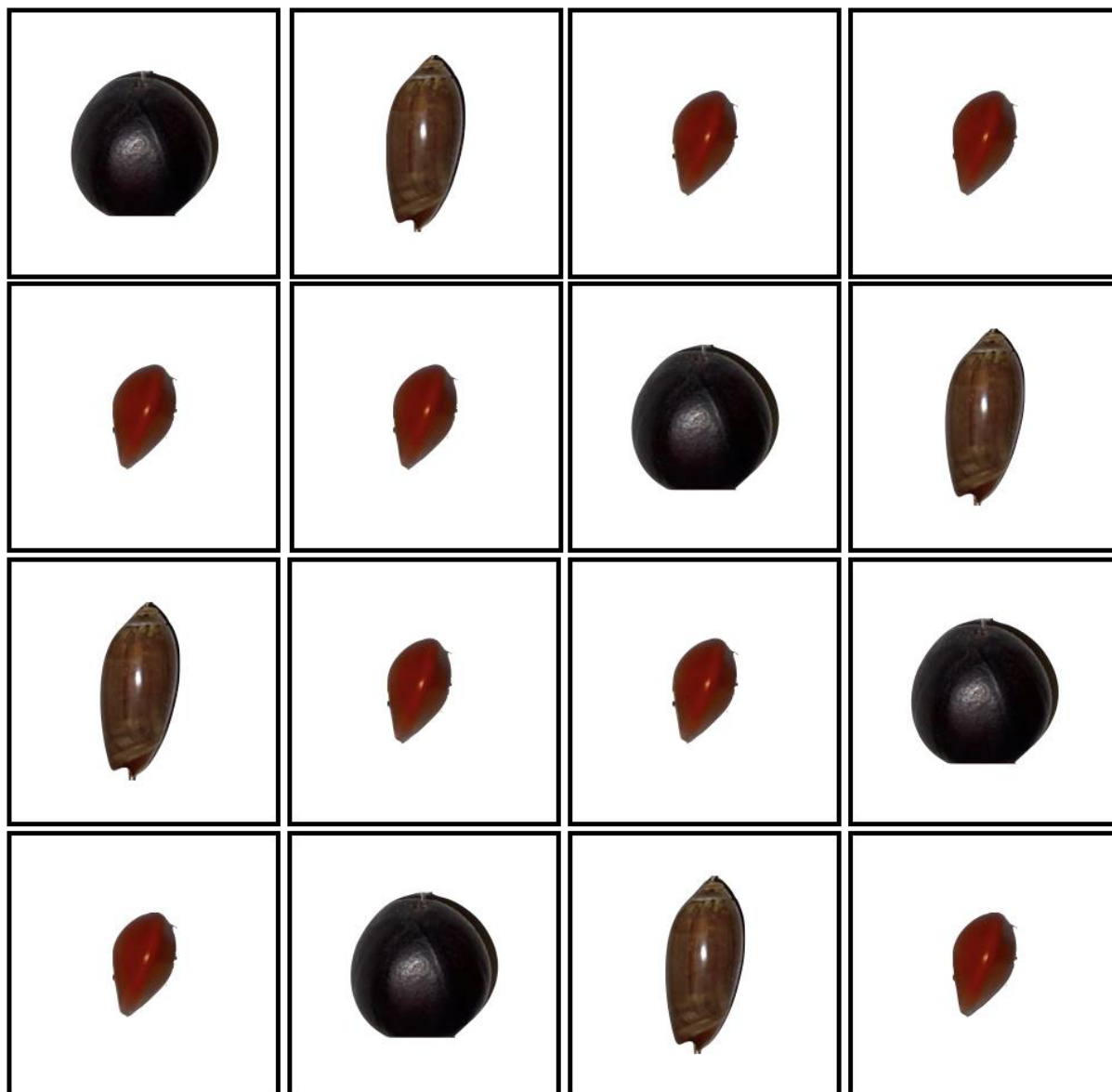


Draw the missing pieces.

What would the 20th piece be?

What would the 24th piece be?

What would the 28th piece be?

*Year 1: Number and Algebra: Patterns and Relationships***Task 4 (picture cards)**

Year 1: Number and Algebra: Patterns and Relationships

Task 4 (independent)

Tagi is helping to make kahoa for her cousin's party. Each kahoa uses the following pattern:



Use the picture cards to copy the pattern.

What is the unit of repeat?



Draw the missing pieces.

Use different materials and make the same pattern.

*Year 1: Number and Algebra: Patterns and Relationships***Task 5**

Tane is looking at the dogs at the park.



He decides to count all the eyes for the dogs that he sees.

If there was one dog, how many eyes would there be?

If there were two dogs?

If there were four dogs?

Complete the table:

| Number of dogs | Eyes |
|----------------|------|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |

How many eyes would there be for 10 dogs?

How many eyes would there be for 20 dogs?

Find three patterns in the table.

Task 5 (independent)

Leeanna sees some children riding bicycles at the park.



She decides to count the number of wheels that she sees.

Complete the table:

| Number of bicycles | Wheels |
|--------------------|--------|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |

How many wheels would Leeanna see for 10 bicycles?

How many wheels would Leeanna see for 15 bicycles?

Write three patterns that you notice in the table.

What rule could Leeanna use to find the number of wheels for any number of bicycles?

Year 1: Number and Algebra: Patterns and Relationships

Task 6

Niu is making an 'ula lole.

She is making this pattern:



Complete the table below:

| Number of units of repeat | Fruit burst | Minties | Total number of lollies |
|---------------------------|-------------|---------|-------------------------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| | | 4 | |
| 5 | | | |
| | 12 | | |
| | | | 21 |

What patterns do you notice in the table?

Year 1: Number and Algebra: Patterns and Relationships

Task 6 (independent)

Mereana is making an 'ula lole with Crunchie and Mars bars

She is making this pattern:



Use the picture cards to copy the pattern.

What is the unit of repeat?

Represent the pattern using letters or shapes.

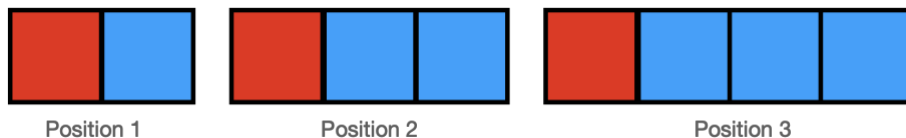
Complete the table below:

| Number of units of repeat | Crunchie | Mars bars | Total number chocolate bars |
|---------------------------|----------|-----------|-----------------------------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |

What patterns do you notice in the table?

*Year 1: Number and Algebra: Patterns and Relationships***Task 7**

Teanau is using the shape blocks to build patterns.



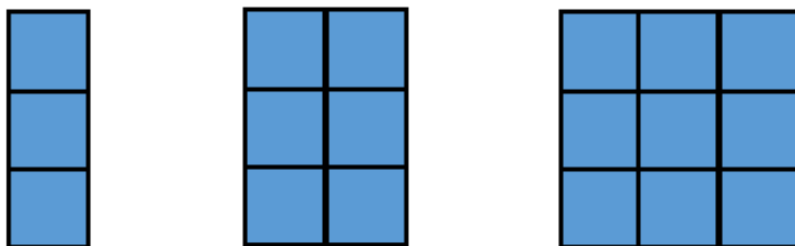
Use the picture cards and drawings to show Position 4.

What about Position 5?

Draw these patterns.

Draw what Position 10 would look like.

Describe in words what Position 15 would look like.

Task 7 (independent)

Copy the pattern using the shapes cards.

Draw the pattern.

Draw what the pattern would look like for pattern 5.

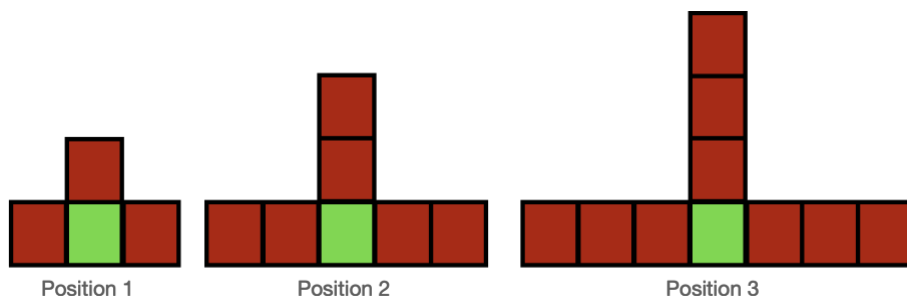
Draw what the pattern would look like for pattern 10.

Describe what the pattern would look like for pattern 20.

Year 1: Number and Algebra: Patterns and Relationships

Task 8

This is my pattern:



Copy the pattern using the square cards.

What might Position 4 look like?

Complete the table:

| Position number | Number of Green Squares | Number of Red Squares | Total number of squares |
|-----------------|-------------------------|-----------------------|-------------------------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Task 8 (independent)

Leilani is building a Lego tower:



What is the unit of repeat?

What colour would the 20th brick be?

What colour would the 31st brick be?

Complete the table:

| Number of units of repeat | Red bricks | Blue bricks | Yellow bricks | Green bricks | Total number of bricks |
|---------------------------|------------|-------------|---------------|--------------|------------------------|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |

What patterns do you notice in the table?

Year 1: Number and Algebra: Patterns and Relationships

Task 9

At Kapa Haka, the group is learning tī rākau. As part of the game, they used these movements:

Tap tī rākau on the ground, tap tī rākau on the ground, tap tī rākau together, throw tī rākau to partner.

They repeat these moves lots of times throughout the game.

If they repeat the moves two times, how many taps on the ground would there be?

How many taps together would there be?

How many throws would there be?

Complete the table below:

| Number of sequence | Tap ground | Tap together | Throw |
|--------------------|------------|--------------|-------|
| 1 | | | |
| | | | 2 |
| | 6 | | |
| 4 | | | |
| | | 5 | |
| 6 | | | |

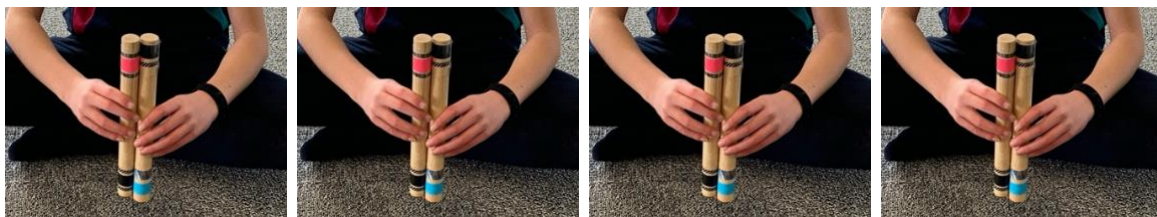
Year 1: Number and Algebra: Patterns and Relationships

Task 9 (action cards)

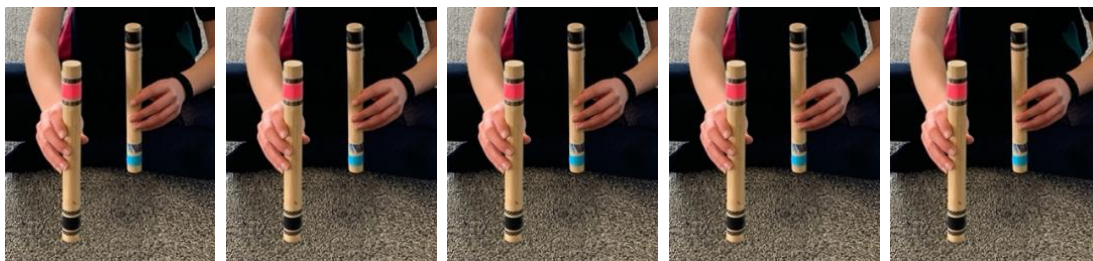
Tap Ground



Tap together



Throw



Task 9 (independent)

Karlos is eating M & Ms. He like to eat his two favourite colours in a pattern:



Complete the table below:

| Number of units of repeat | Blue M & Ms | Red M & Ms | Total number of M & Ms |
|---------------------------|-------------|------------|------------------------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

What patterns do you notice in the table?

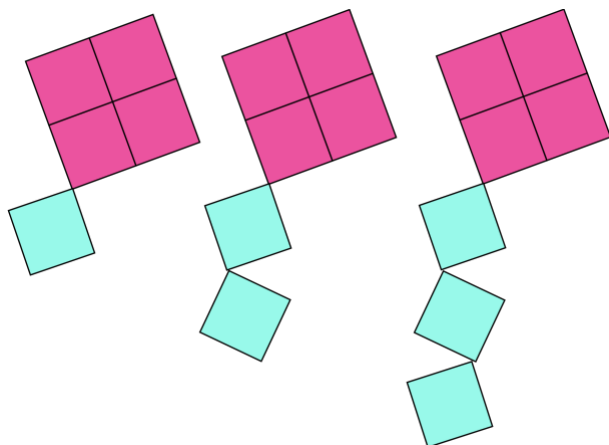
What rule could you use to find the number of blue M & Ms?

What rule could you use to find the number of red M & Ms?

What rule could you use to find the total number of M & Ms?

Task 10

This is my squares pattern:



Copy the pattern using the square shapes.

Build and draw Position 5.

Build and draw Position 8.

Describe what Position 10 would look like.

How many squares would you need for Position 10?