

A close-up photograph of several green fern fronds, showing the intricate, feathery structure of the leaves. The fronds are vibrant green and appear slightly wet, with some water droplets visible. The background is dark and out of focus, emphasizing the texture and detail of the fern leaves.

RICH MATHEMATICAL TASK BOOKLET

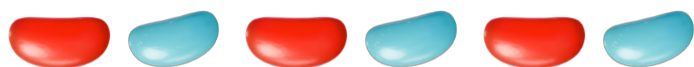
# ALGEBRA

YEAR 0

Copy Masters

**Task 1**

Marise likes to eat her jellybeans like this:

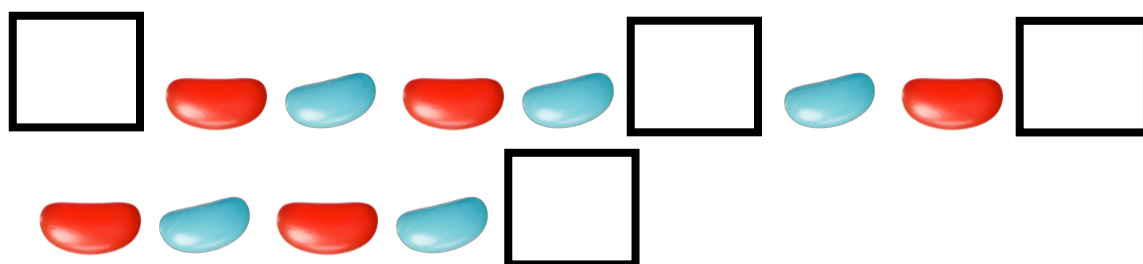


Use the jellybeans to copy how Marise eats them.

Draw the jellybeans and colour them in. What is the unit of repeat?

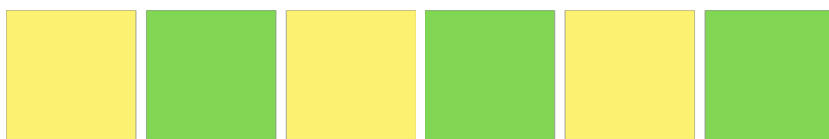
How many jellybeans did she eat? How many red jellybeans? How many blue jellybeans?

What colours would the missing jellybeans be?



*Year 0: Number and Algebra: Patterns and Relationships*

**Task 1 (independent)**



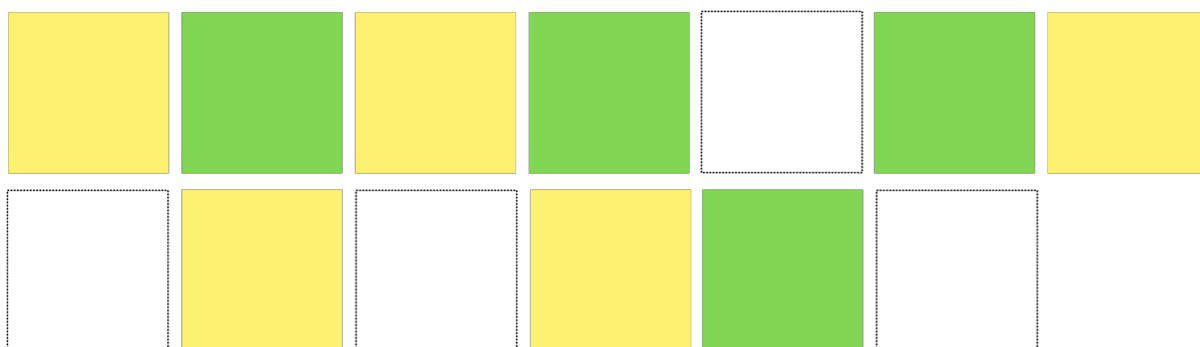
Copy the pattern.

What is the unit of repeat? Circle this.

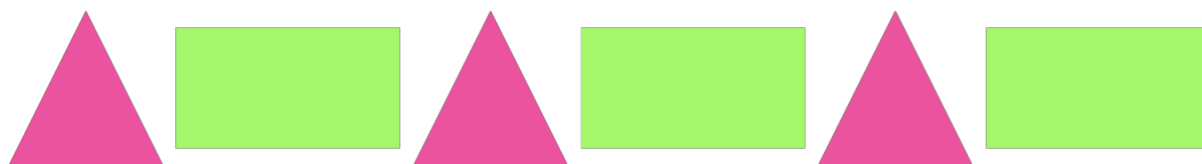
How many blocks are there altogether?

How many yellow blocks?

How many green blocks?



Draw the missing blocks.

**Task 1 (independent)**

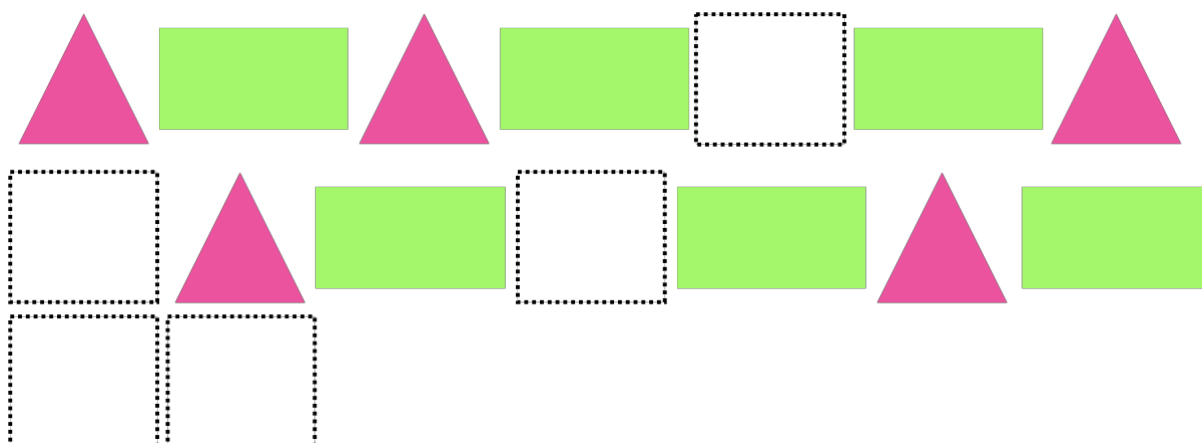
Copy the pattern.

What is the unit of repeat? Circle this.

How many shapes are there altogether?

How many triangles?

How many squares?



**Task 2**

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

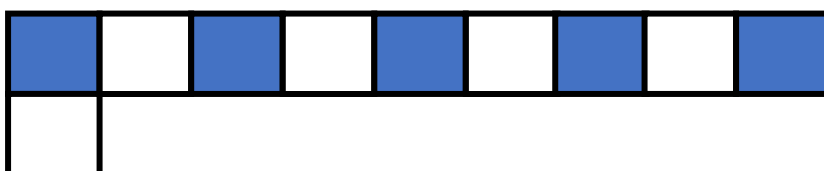


Copy the pattern.

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

How many cubes in his first train?

This is his second train:

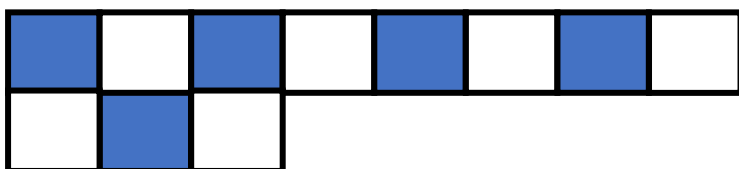


Copy the pattern.

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

How many cubes in his second train?

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?

**Task 2 (independent)**

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



Copy the train.

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 train.

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

How many cubes in his second train?

Make your own train.

What is your unit of repeat?

Ask a friend to copy your train.

**Task 3**

Lilianne is making a snake with cubes. This is her first snake:



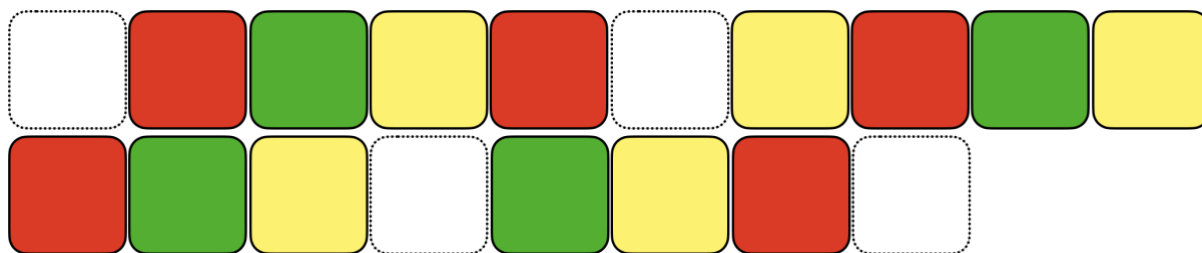
Copy the pattern.

What is the unit of repeat? How many cubes in the unit of repeat?

How many cubes are there altogether?

Draw a picture of the snake and colour it.

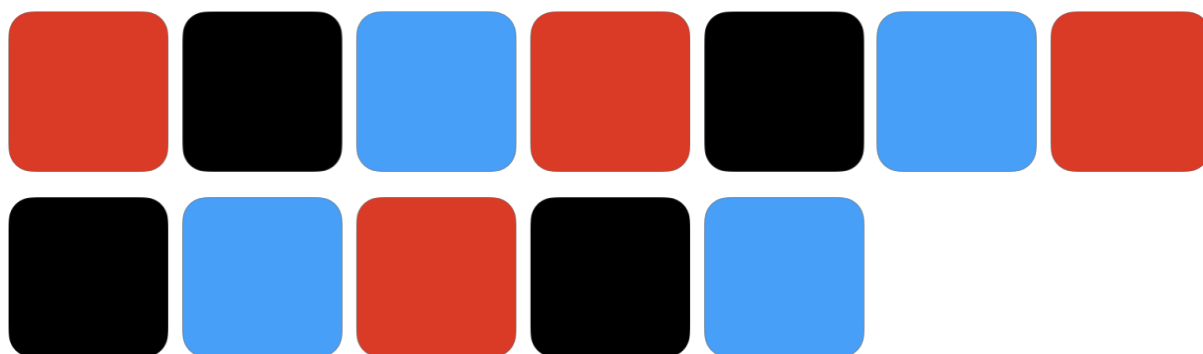
What colours would the missing cubes be?



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

Use the equipment to make another pattern that matches and extend this by one unit of repeat.

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

**Task 3 (independent)**

Copy the pattern.

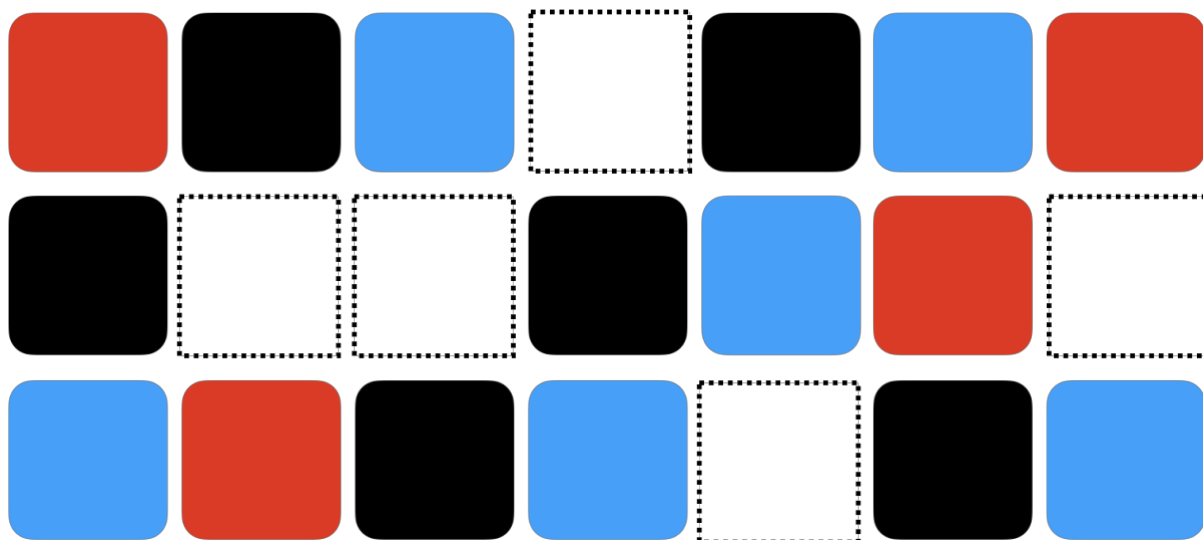
What is the unit of repeat? Circle this.

How many blocks are there altogether?

How many red blocks?

How many black blocks?

How many purple blocks?



Draw the missing blocks.



**Task 3 (independent)**

Copy the pattern.

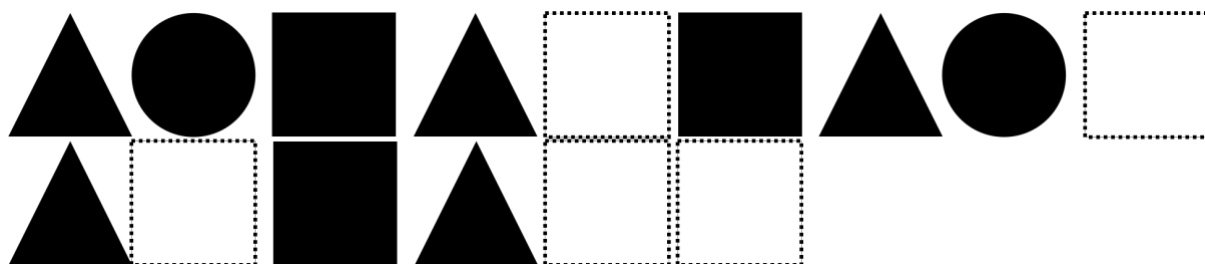
What is the unit of repeat? Circle this.

How many shapes are there altogether?

How many triangles?

How many circles?

How many squares?



Draw the missing shapes.

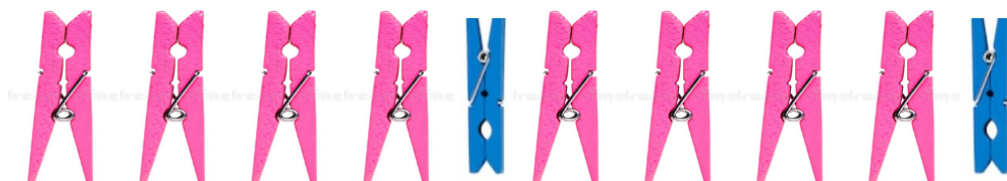
Make your own pattern.

What is the unit of repeat for your pattern?

## Task 4

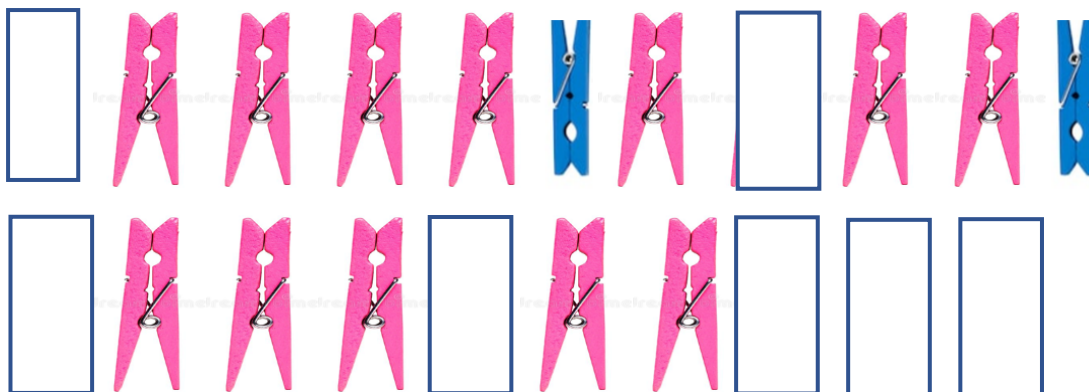


Hamuera is playing with the washing pegs and makes this pattern:



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.

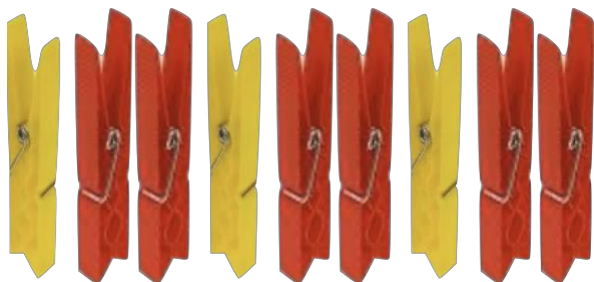
What colour would the 21st peg be?

What colour would the 30<sup>th</sup> peg be?

What colour would the 34<sup>th</sup> peg be?

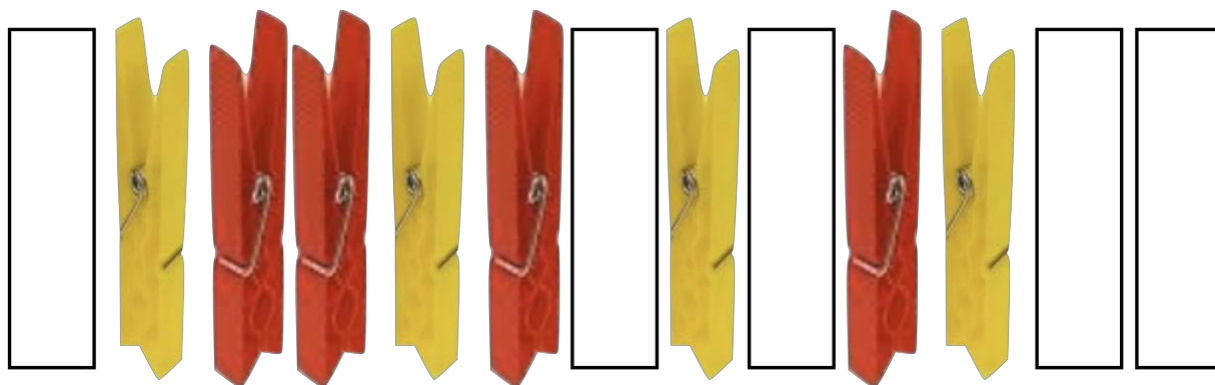
**Task 4 (independent)**

Talia 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.

Talia continues the pattern using the pegs.

What colour would the 15th peg be?

What colour would the 19<sup>th</sup> peg be?

What colour would the 30th peg be?

## Task 5

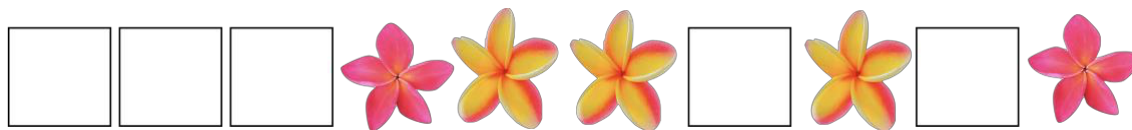


Anshuma is helping to make mala for her cousin's wedding. Each garland uses the following pattern:



Use the picture cards to copy the pattern.

What is the unit of repeat?



Draw the missing flowers.

What colour would the 10<sup>th</sup> flower be?

What colour would the 12<sup>th</sup> flower be?

What colour would the 19<sup>th</sup> flower be?

**Task 5 (resource)**

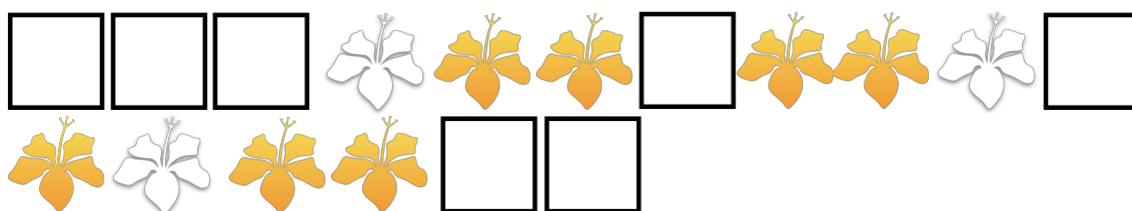
**Task 5 (independent)**

Anshuma is helping to make mala for her cousin's wedding. Each garland uses the following pattern:



Use the picture cards to copy the pattern.

What is the unit of repeat?



Draw the missing flowers.



Use different material and make the same pattern.

**Task 6**

Kiriwai is looking at the piwakawaka in her garden.



She decides to count all the tails for the piwakawaka that she sees.

If there was one piwakawaka, how many tails would there be?

If there were two piwakawaka?

If there were four piwakawaka?

She decides to count all the eyes for the piwakawaka that she sees.

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

If there were two piwakawaka?

If there were four piwakawaka?

Now she decides to count all the eyes and tails for the piwakawaka that she sees.

If there was one piwakawaka, how many eyes and tails would there be?

If there were two piwakawaka?

If there were four piwakawaka?

*Year 0: Number and Algebra: Patterns and Relationships*

**Task 6 continued.**



Complete the table:

Number of piwakawaka	Tails	Eyes	Tails and eyes
1			
2			
3			
4			
5			



**Task 6 (independent)**

Roman sees some children riding tricycles at the park.



He decides to count the number of wheels and children that he sees.

Complete the table.

Number of tricycles	Wheels	Children	Wheels and children
1			
2			
3			
4			
5			

Write three patterns that you notice going down.

Write three patterns that you notice going across.

*Year 0: Number and Algebra: Patterns and Relationships*

**Task 7**



Mereana is making an 'ei katu with leaves and flowers

She is making this pattern:



Complete the table below:

Number of units of repeat	Yellow flowers	Pink flowers	Total number of flowers
1			
2			
3			

What patterns do you notice in the table?

**Task 7 (independent)**

Mereana is making an 'ei katu with leaves and flowers

She is making this pattern:



Use the picture cards to copy the pattern.

What is the unit of repeat?

Complete the table below:

Number of units of repeat	Yellow flowers	Pink flowers	Total number of flowers
1			
2			
3			

**Task 8**

At Te Oro the Siva Samoa group is learning a mau'ulu. As part of the dance, they used these movements:

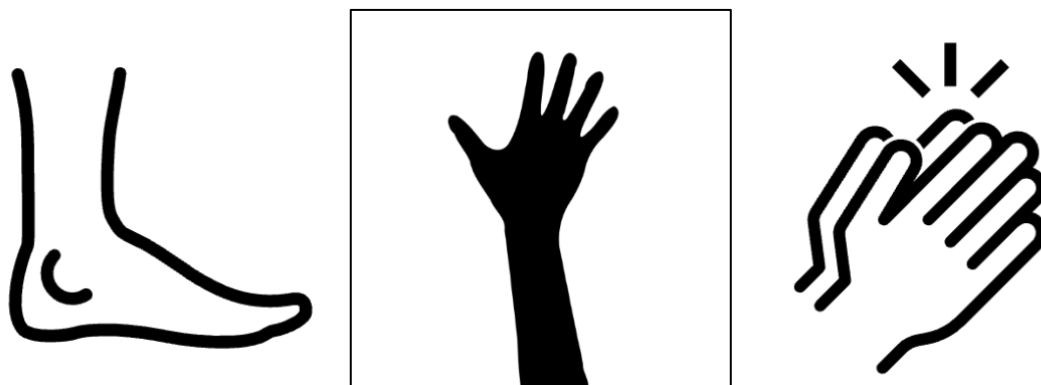
tap, tap, arm, arm, arm, clap

They repeat these moves lots of times throughout the dance.

If they repeat the moves two times, how many taps would there be? How many arms would there be? How many claps would there be?

Complete the table below:

Number of movement sequence	Tap	Arm	Clap
1			
2			
3			
4			
5			

**Task 8 (Resource)**

*Year 0: Number and Algebra: Patterns and Relationships***Task 8 (independent)**

Use the shapes to make a pattern. Draw the pattern and circle the unit of repeat.

Choose a different material and make the same pattern.

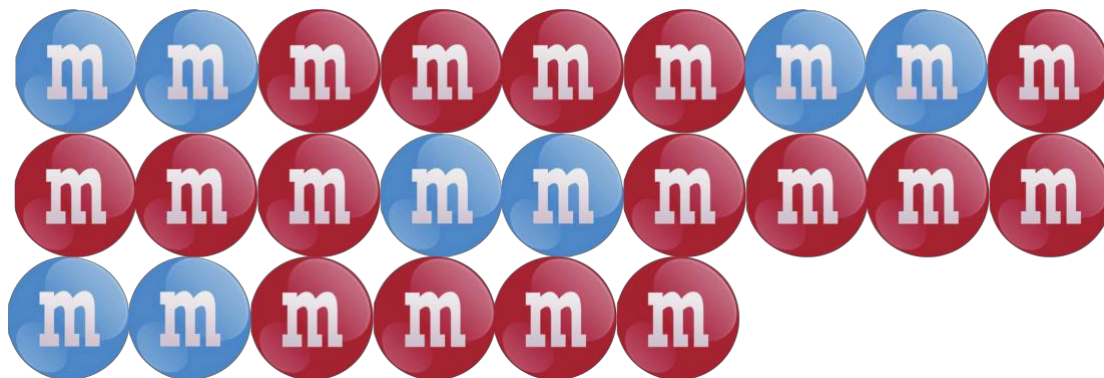
Use letters to make your pattern.

Use actions to make your pattern.

Show your pattern to a friend and ask them to copy it.

**Task 9 (optional task)**

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



Complete the table below:

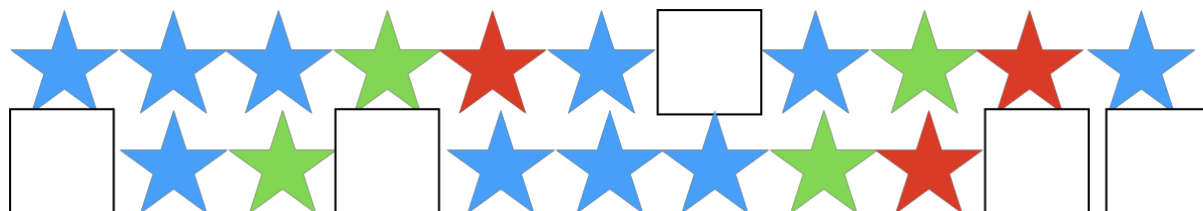
Number of units of repeat	Blue M & Ms	Red M & Ms	Total number of M & Ms
1			
2			
3			
4			
5			

What patterns do you notice in the table?

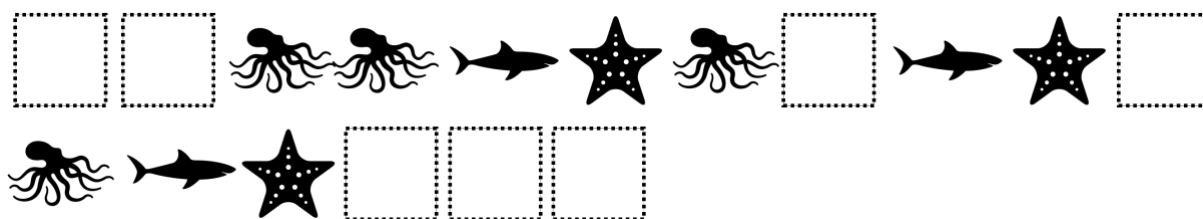
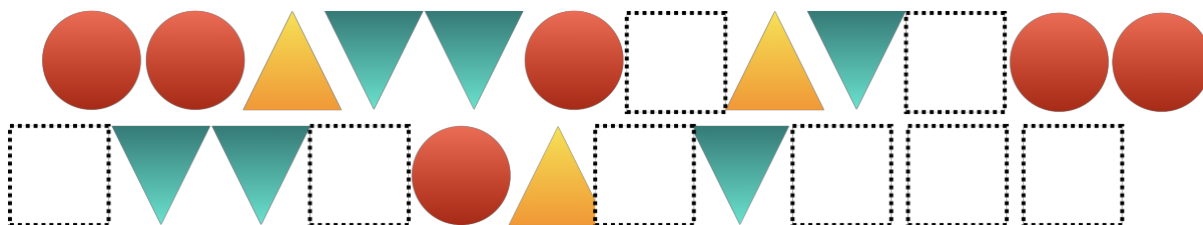
*Year 0: Number and Algebra: Patterns and Relationships*

**Task 9 (independent optional task)**

Complete the patterns



\_ \_ r r m m t r r m m t r r m \_ t r \_ m m t





**Task 10 (optional task)**

Leilani is building a Lego tower:



What is the unit of repeat?

What colour would the 20<sup>th</sup> brick be?

What colour would the 31<sup>st</sup> 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					