# Y1 Properties of Shape: Make 2D Shape Patterns

Aim:	Success Criteria:	Resources:		
Recognise and name common 2-D and	I can identify the core of 2D shape patterns.	Lesson Pack		
3-D shapes.	I can continue 2D shape patterns	2D shapes		
DfE Ready-to-Progress Criteria: Recognise common 2D and 3D shapes	I can complete 2D shape patterns.			
presented in different orientations, and	I can create 2D shape patterns.			
know that rectangles, triangles, cuboids and pyramids are not always similar to	Key/New Words:	Preparation:		
one another. (1G-1)	2D shape, circle, triangle, square, rectangle,	Differentiated Make 2D Shape Patterns Activity		
To introduce 2D shape patterns.	pattern, repeat, core, before, after, next,	Sheets - one per child		
To introduce 25 shape patterns.	create, continue, complete, describe.	Diving into Mastery Activity Cards - as required		

**Prior Learning:** It will be helpful if children have experience sorting 2D shapes. The lesson <u>Sort 2D Shapes</u> has been prepared to support this learning.

#### **Learning Sequence**

(3)	<b>Remember It:</b> The Lesson Presentation revisits previous learning by inviting the children to describe how groups of 2D shapes have been sorted. Invite children to suggest different ways to sort a collection of 2D shapes shown in different sizes and orientations.	
Whole Class	<b>Describe Patterns:</b> The Lesson Presentation asks children to spot patterns in the classroom. It then invites children to describe different repeating patterns of 2D shapes. Patterns will include more than two elements: the same shapes shown in different orientations and the same shape shown more than once in the core of the pattern.	
Whole Class	Say Patterns: The Lesson Presentation invites children to say what they see in a repeating pattern.  Demonstrate how this strategy can help children to continue the pattern.	
	<b>Find the Shape:</b> The Lesson Presentation shows a repeating pattern. Ask the children what comes before a named shape and what comes after. The next slide shows a new pattern. Invite the children to ask talk partners to name shapes using the terms before and after.	
Whole Class	<b>Find the Core:</b> The Lesson Presentation asks children to identify the part of a pattern that is repeated. This is the core of the pattern. Invite the children to find and describe the core. Demonstrate how this can be identified by drawing a ring around it. Can the children identify the core of 2D shape patterns?	
Whole Class	<b>Continue the Pattern:</b> The Lesson Presentation shows patterns formed in different directions. Ask the children which strategy they would use to help them continue the patterns: either saying the pattern or finding the core. Can the children continue 2D shape patterns?	
Whole Class	Complete the Pattern: The Lesson Presentation shows patterns with missing parts. Ask the children how they could find a solution: either saying the pattern or finding the core. Can the children complete 2D shape patterns?	
	Make a Pattern: The Lesson Presentation invites children to make a pattern on their whiteboards with three 2D shapes. Share some examples of the children's patterns. Ask the children what is the same about the patterns and what is different. Invite the children to say what would come next and explain how they know. Can the children make 2D shape patterns?	



Make 2D Shape Patterns: Children complete differentiated Make 2D Shape Patterns Activity Sheets. They identify the core of patterns created with 2D shapes showing different sizes and orientations. Children continue patterns and complete patterns by drawing the missing shapes. They use 2D shapes to make patterns of their own. Can the children identify the core of 2D shape patterns? Can they continue, complete and create 2D shape patterns?





The core children have to find is made of two 2D shapes. They find the next shape in a sequence then continue two different patterns. Children complete two patterns by drawing the missing 2D shapes. They use 2D shapes to create their own pattern. Children will benefit from using 2D shapes to support their learning.



The core children have to find is made of three 2D shapes. They find the next shape and continue a pattern. Children complete two patterns by drawing the missing 2D shapes. They use 2D shapes to create their own pattern then they use the same shapes to make a new pattern. Children will benefit from using 2D shapes to support their learning.



The core children have to find is made of three 2D shapes. They continue a pattern then complete two patterns by drawing the missing 2D shapes. They use 2D shapes to create their own pattern then they use the same shapes to make two new patterns. Children will benefit from using 2D shapes to support their learning.





**Diving into Mastery:** Schools using a mastery approach may prefer to use the following as an alternative activity. These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.



Children find the core in a 2D shape pattern. They continue and complete patterns by drawing the missing 2D shapes. The children use 2D shapes to create their own pattern then use the same shapes to make a new pattern. Children will benefit from using 2D shapes to support their learning.



Children explore how many different patterns they can make with 2D shapes as they investigate if a statement is correct. They check and correct a pattern, then create a pattern with one error for a friend to find and correct. Children will benefit from using 2D shapes to support their learning.



Children are presented with a pattern based around a rectangle. They explore how many different cores they can find. The children investigate what would happen if a shape was removed from the pattern or if a shape was repeated. Children create their own patterns surrounding a shape and invite friends to investigate the core. Children will benefit from using 2D shapes to support their learning.





**Check It:** The Lesson Presentation invites children to check patterns. Ask the children to identify errors and explain what they could do to correct them.

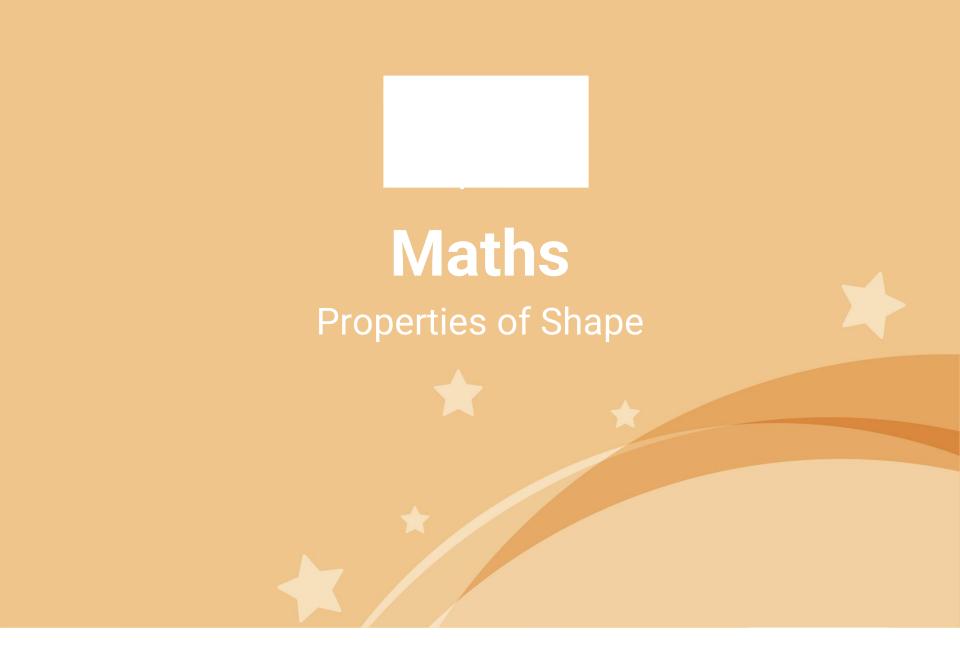
#### **Explore**it

Learnit: Children will find this visually exciting Knowledge Organiser a useful tool for learning 2D shape names and properties.

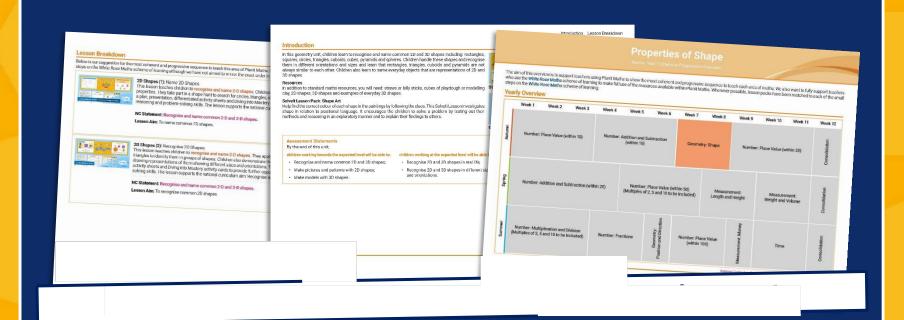
Continueit: Children use 2D shapes to make a repeating pattern and ask a friend to continue the pattern.

Solveit: Children make a pattern with 2D shapes and remove some shapes. They then ask a friend to complete the pattern by adding

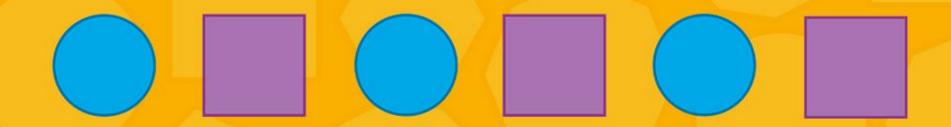
the missing shapes.



# Need a coherently planned sequence of lessons to complement this resource?



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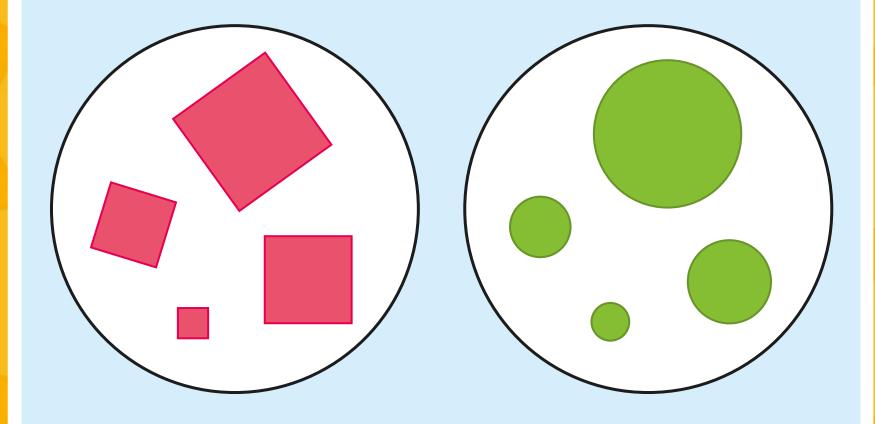
### Aim

To introduce 2D shape patterns.

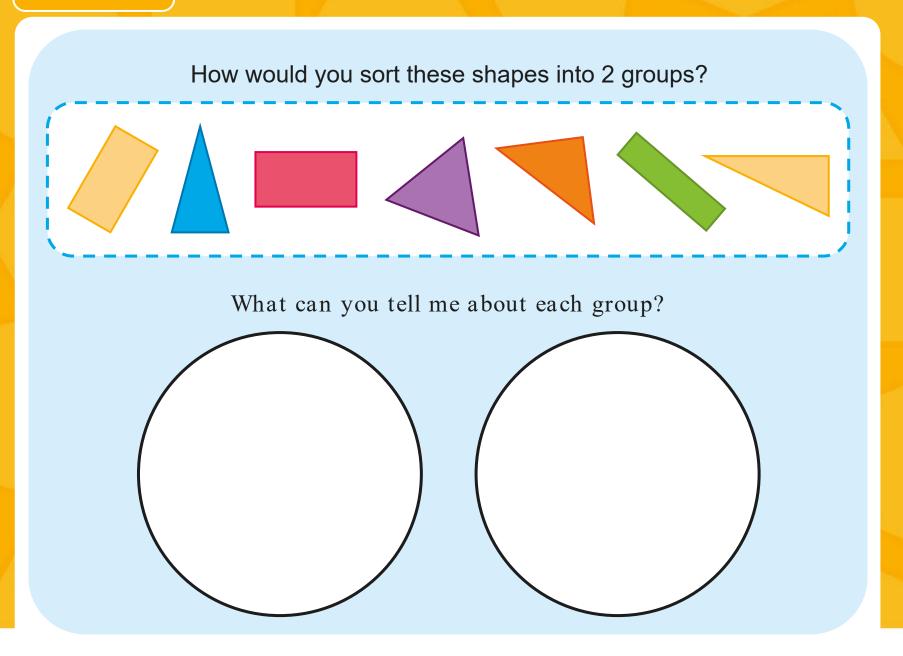
### **SuccessCriteria**

- I can identify the core of 2D shape patterns.
- I can continue 2D shape patterns.
- I can complete 2D shape patterns.
- I can create 2D shape patterns.

How have these 2Dshapes been sorted?

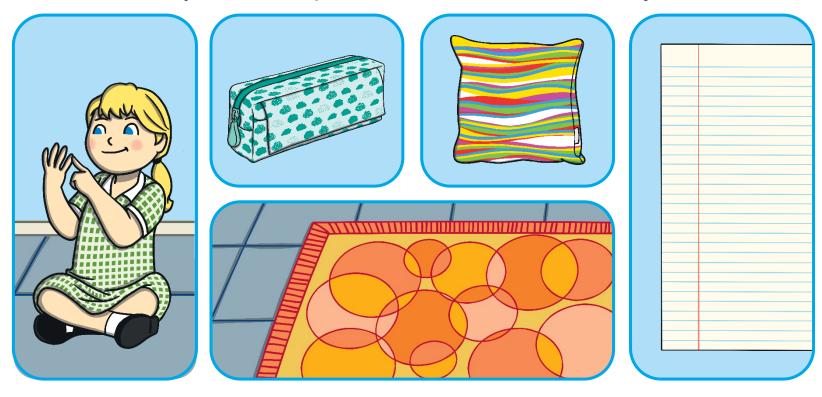


Can you find more ways to describe how they have been sorted?



# What are patterns?

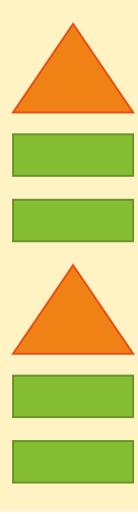
Can you see the patterns on these classroom objects?

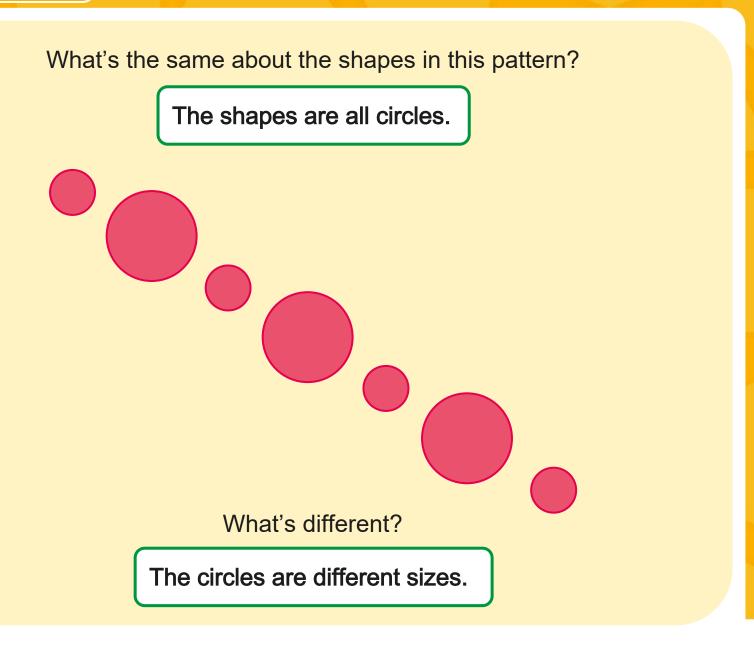


What can you tell me about them?

Can you see any patterns in your classroom?

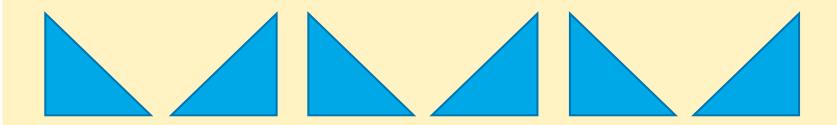
What do you notice about this pattern?





What's the same about the shapes in this pattern?

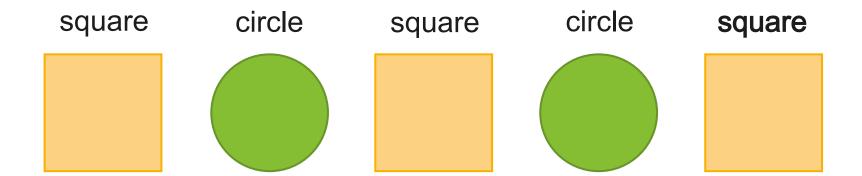
The shapes are all triangles.



What's different?

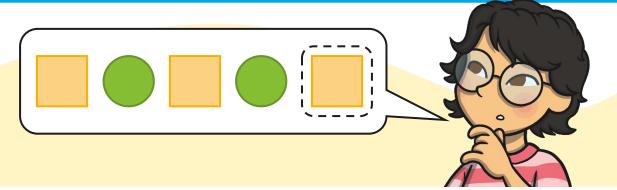
The triangles are facing different directions.





What would the next shape be?

Saying the pattern can help you work out what comes next



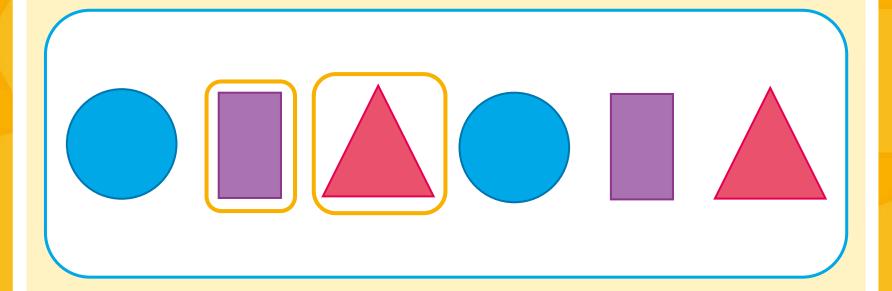
Say the name of each shape as it appears

triangle
square

triangle
square
triangle
square

What would the next 2 shapes be?

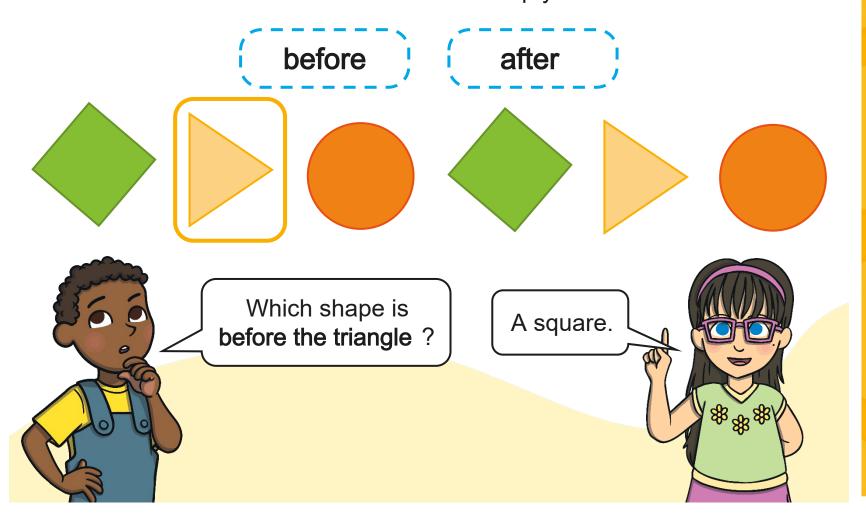
Which shape is the traitangle?



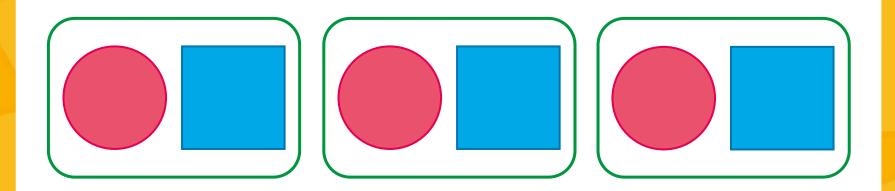
Which shape is after the raitangle?

Take turns with a talk partner to give clues about a shape.

Use these words to help you.

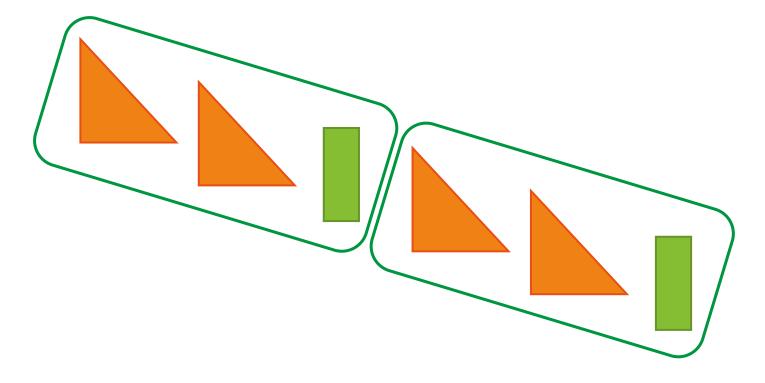


The part of a pattern that repeats is called the core.



What can you tell me about the core of this pattern?

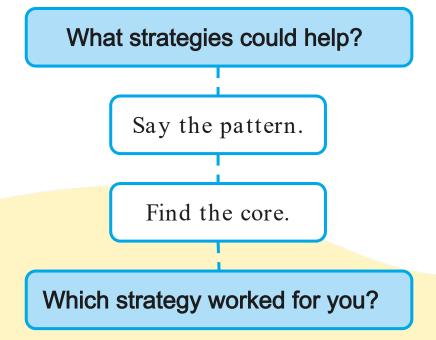
Can you find the core of this pattern?

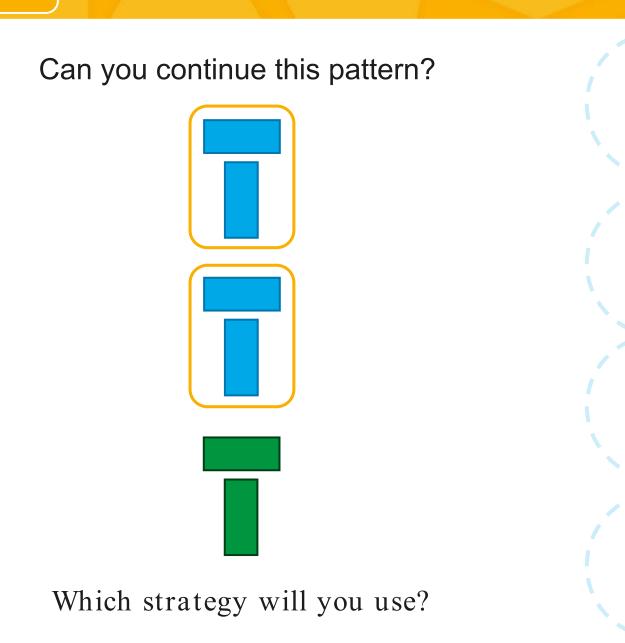


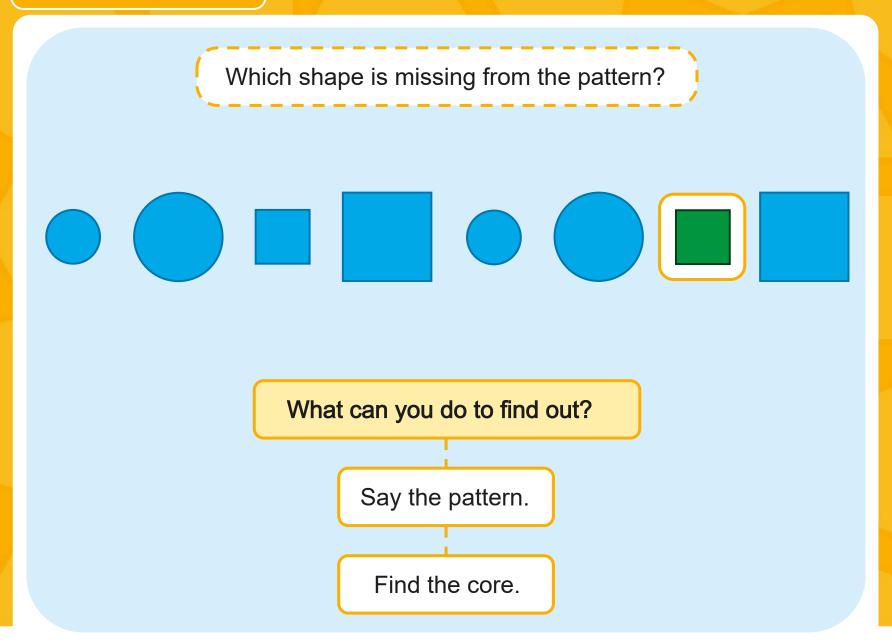
What can you tell me about the core of this pattern?

Can you continue this pattern?

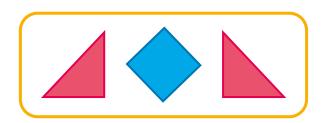








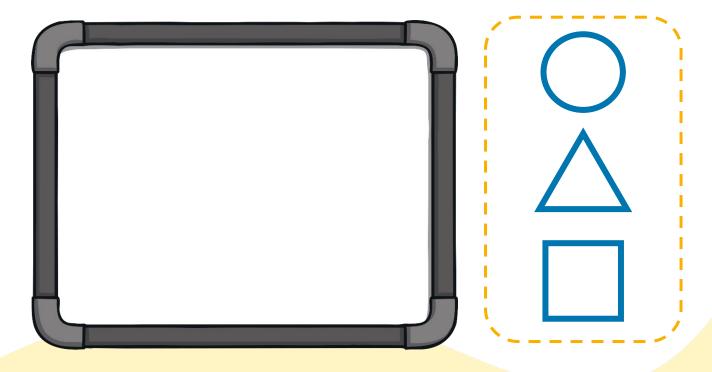
Where do these shapes belong in the pattern?





How did you know where to place each shape?

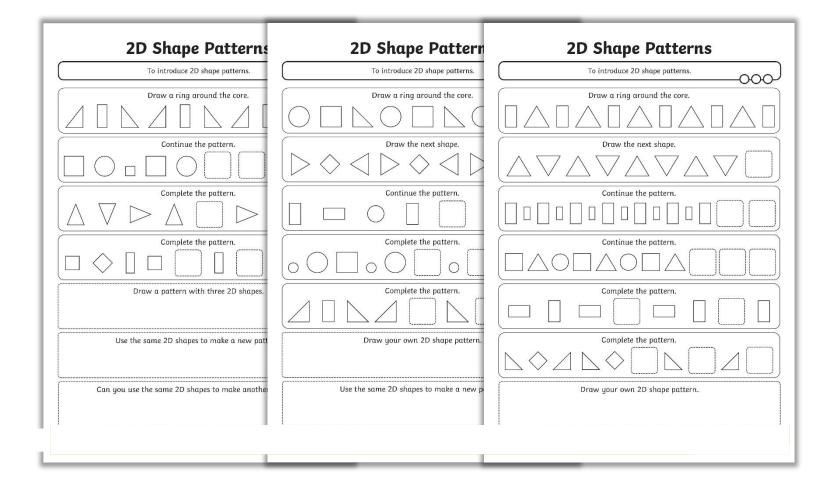
Use these shapes to make a pattern on your whiteboard.



Compare your patterns.

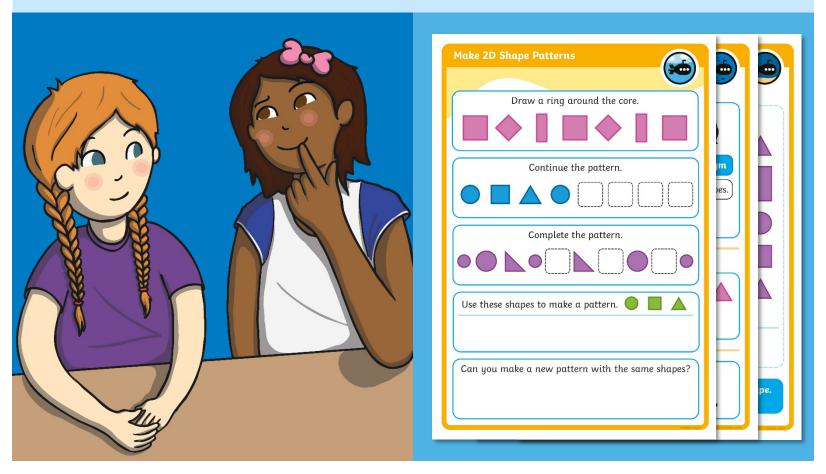
What's the same about them?

What's different?

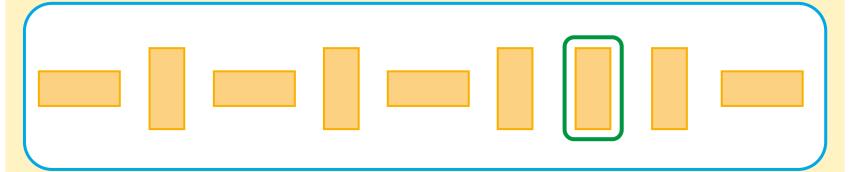


## **Diving into Mastery**

## Dive in by completing your own activity!

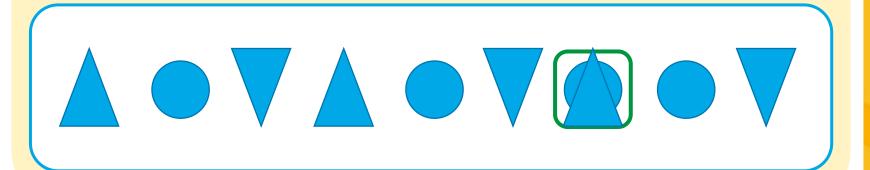


Are these patterns correct?



Can you spot the mistakes?

What would you do to correct them?



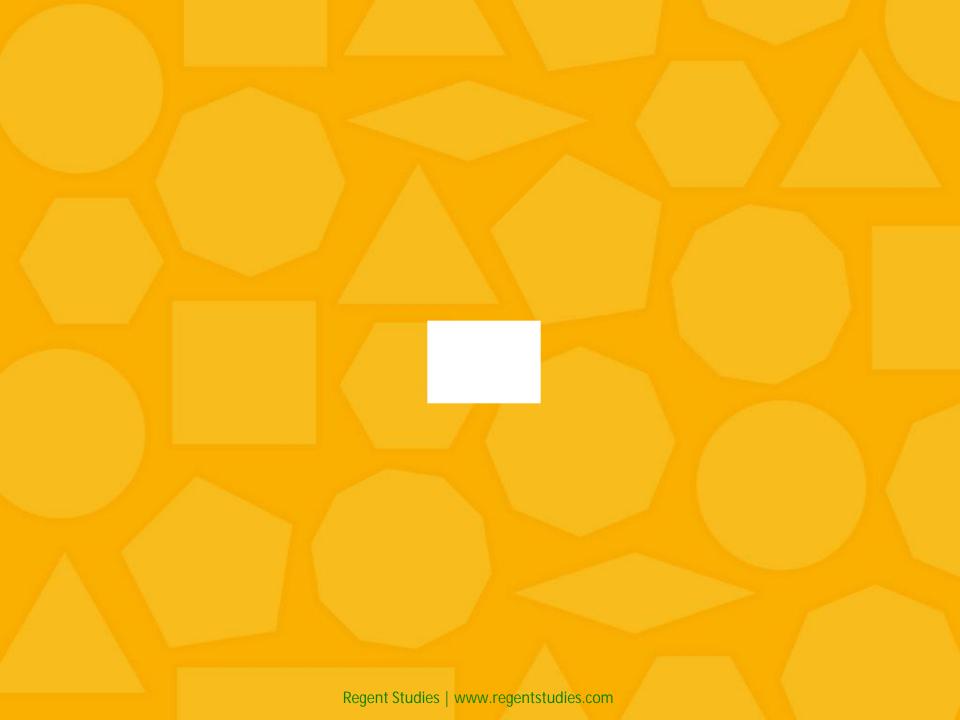
### Aim



To introduce 2D shape patterns.

### **Success Criteria**

- I can identify the core of 2D shape patterns.
- I can continue 2D shape patterns.
- I can complete 2D shape patterns.
- I can create 2D shape patterns.



Aim: To introduce 2D shape patterns.					Date:					
				Delive	red By:		Suppo	ort:		
Success Criteria	Ме	Friend	Teacher	Т	PPA	s	ı	AL	GP	
I can identify the core of 2D shape patterns.				Notes	/Evidend	e				
I can continue 2D shape patterns.										
I can complete 2D shape patterns.										
I can create 2D shape patterns.										
Next Steps										
•										
•										
		Т	Teacher				l Inde	ependent		

Т	Teacher	I	Independent
PPA	Planning, Preparation and Assessment	AL	Adult Led
S	Supply	GP	Guided Practice

Aim: To introduce 2D shape patterns.			Date:						
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Success Criteria	Ме	Friend	Teacher	Т	PPA	s	ı	AL	GP
I can identify the core of 2D shape patterns.				Notes	Evidenc	æ			
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Next Steps		•							
•									
•									

Т	Teacher	I	Independent
PPA	Planning, Preparation and Assessment	AL	Adult Led
S	Supply	GP	Guided Practice

# **2D Shape Patterns**

To introduce 2D shape patterns.					
Draw a ring around the core.					
Draw the next shape.					
Continue the pattern.					
Continue the pattern.					
Complete the pattern.					
Complete the pattern.					
Draw your own 2D shape pattern.					

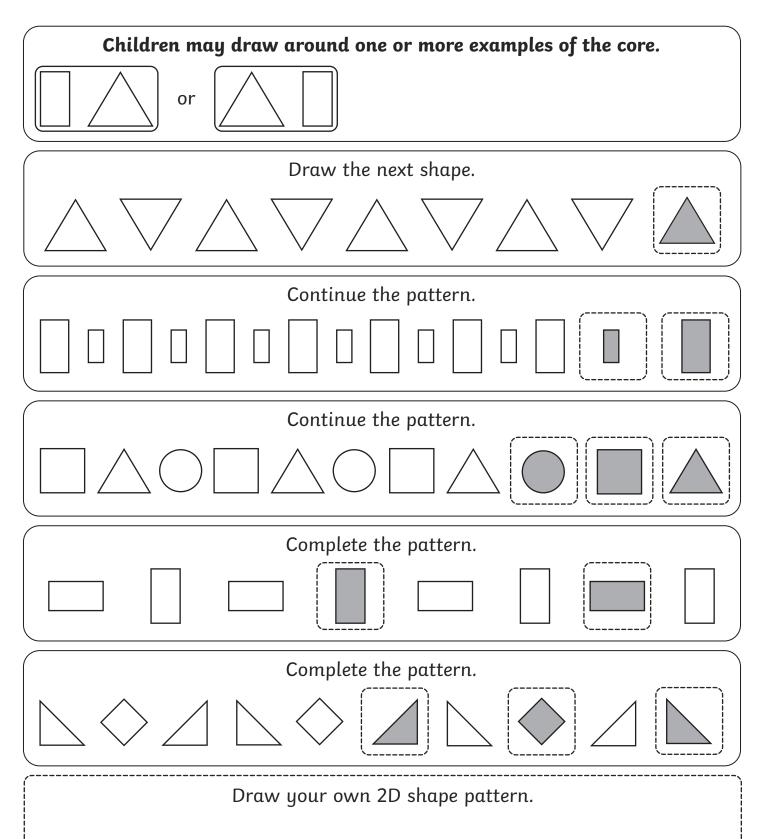
# **2D Shape Patterns**

To introduce 2D shape patterns.
Draw a ring around the core.
Draw the next shape.
Continue the pattern.
Complete the pattern.
Complete the pattern.
Draw your own 2D shape pattern.
Use the same 2D shapes to make a new pattern.
ose the same 2D shapes to make a new pattern.
;   

# **2D Shape Patterns**

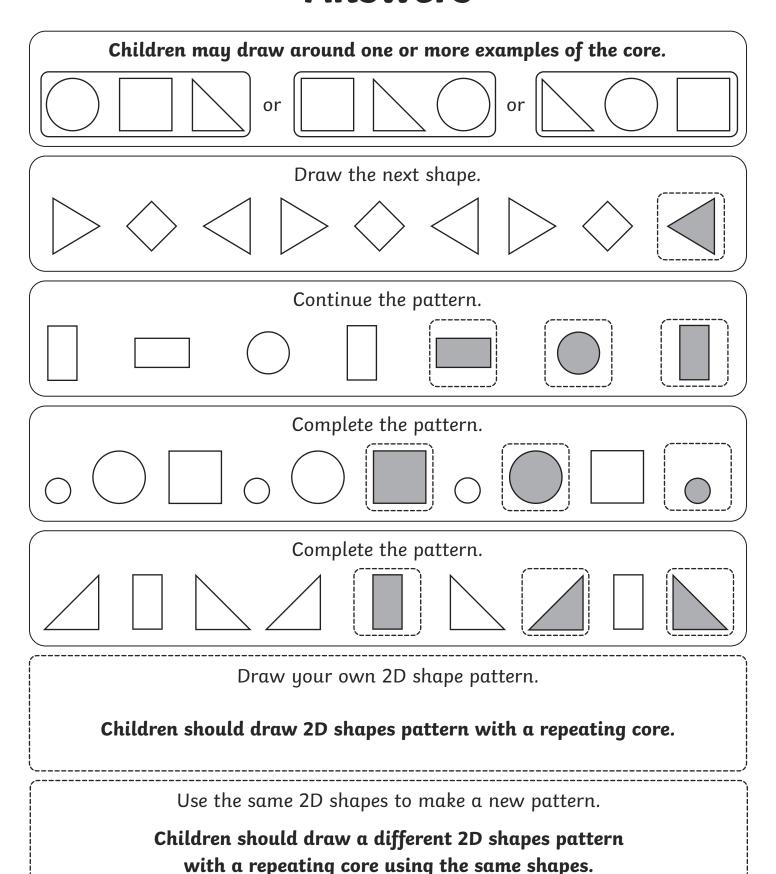
To introduce 2D shape patterns.					
Draw a ring around the core.					
Continue the pattern.					
Complete the pattern.					
Complete the pattern.					
Draw a pattern with three 2D shapes.					
Use the same 2D shapes to make a new pattern.					
Can you use the same 2D shapes to make another pattern?					
1 					

# **Answers**

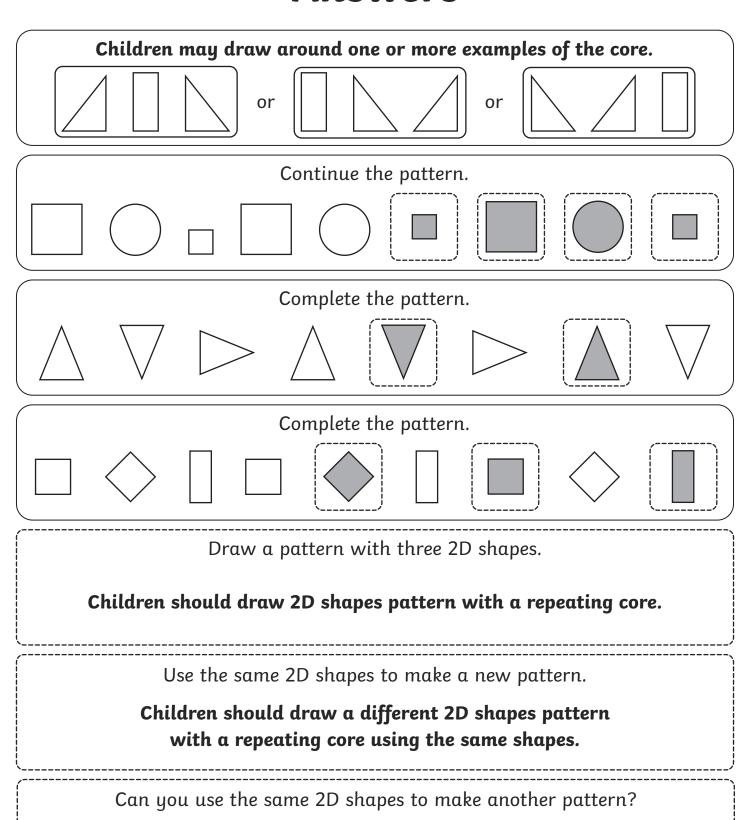


Children should draw 2D shapes pattern with a repeating core.

# **Answers**



# **Answers**



Children should draw a different 2D shapes pattern with a repeating core using the same shapes.

# **\*\*\***

#### **Adult Guidance with Question Prompts**

Children find the core in a 2D shape pattern. They continue and complete patterns by drawing the missing 2D shapes. The children use 2D shapes to create their own pattern. They then use the same shapes to make a new pattern. Children will benefit from using 2D shapes to support their learning.

What can you tell me about the shapes in this pattern? What is the same about the shapes? What's different? What do we mean by the core of a pattern? Can you find the core of this pattern?

Can you say this pattern? What would come next? How do you know?

Can you describe this pattern?
Which shape would you put in each space?
Can you explain why?

Which shapes can you see? How will you arrange these shapes to make a pattern?

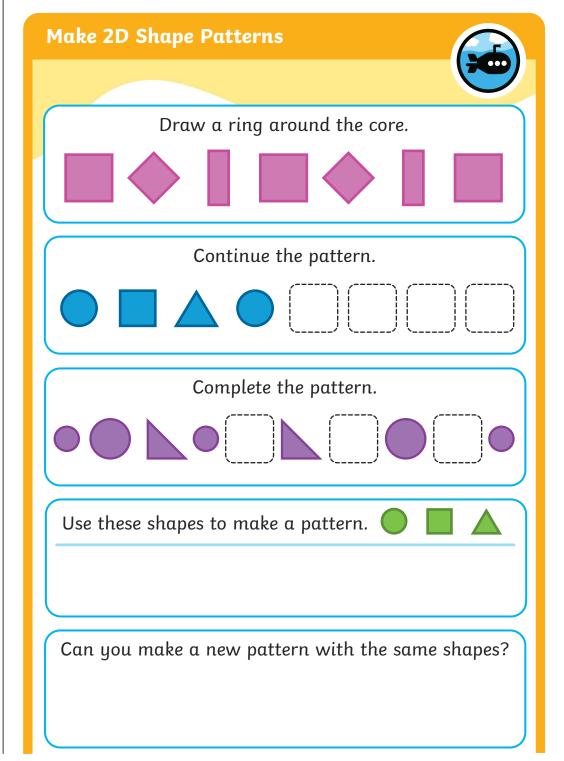
What if I made this pattern?

What would you change? Why?

Tell me about your pattern.

Can you use the same shapes to make a different pattern?

Show me.



#### **Adult Guidance with Question Prompts**

Children explore how many different patterns they can make with 2D shapes as they investigate if a statement is correct. They check and correct a pattern and then create a pattern with one error for a friend to find and correct. Children will benefit from using 2D shapes to support their learning.

What is the challenge asking us to do?
Which shapes can you use?
Can you use the shapes more than once?
Do you have to use all of the shapes?

How many patterns does Kym think she can make with the shapes? Why?

Do you agree with Kym? Why?
How will you begin? What will you do next?
What can you do to keep track of your ideas?
What did you discover?
Can you spot the mistake?

How would you correct it?

What can you do to check?

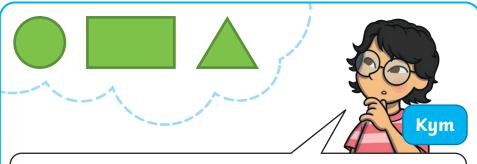
Can you use the same shapes to make a pattern? Include one mistake.

Invite a friend to find the mistake and ask them what they would do to correct it.

#### Make 2D Shape Patterns



Use these shapes to make patterns. Use each shape once in the core.



I can make 3 core patterns because there are 3 shapes.

Is this correct?
Can you prove it?

Kym made a pattern with the shapes.



Can you spot the mistake? How would you correct it?

Make a pattern with the 2D shapes.

Include 1 mistake.

Can a friend spot the mistake and correct it?

# **1**

#### **Adult Guidance with Question Prompts**

Children explore how many different cores they can find in the pattern. They investigate what would happen if a shape was removed from the pattern or if a shape was repeated. Children create their own patterns and invite friends to investigate the core. Children will benefit from using 2D shapes to support their learning.

Can you find the core of this pattern?
What if the core started with the next shape?
How many possibilities can you find?
What if the pattern worked from right to left?

How would the core change if you took away the rectangles? What if you could repeat a shape?

Arrange a pattern around a shape.

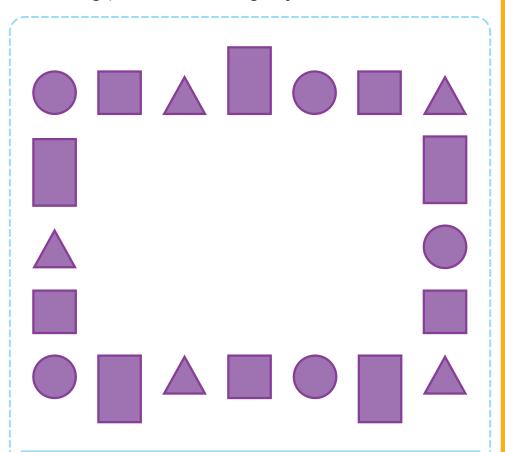
Make sure the whole core repeats itself.

Ask a friend to identify the core and to find different possibilities.

#### Make 2D Shape Patterns



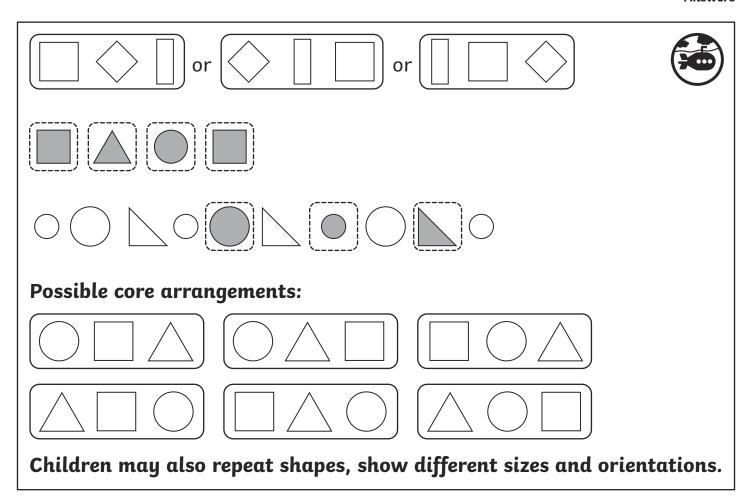
Can you find the core of this pattern? How many possibilities can you find?



What if you took away the rectangles? What if a shape was repeated?

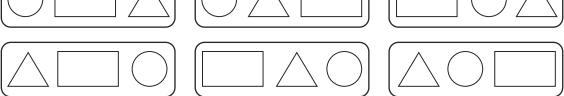
Use 2D shapes to make a pattern around a shape.

Ask a friend to find the core.



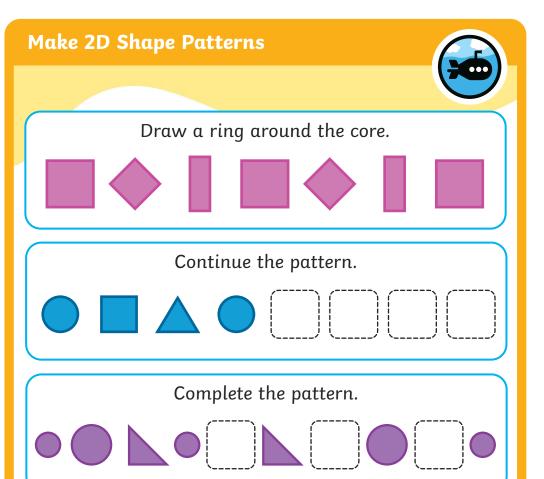


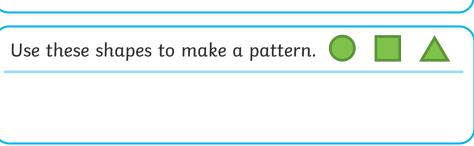




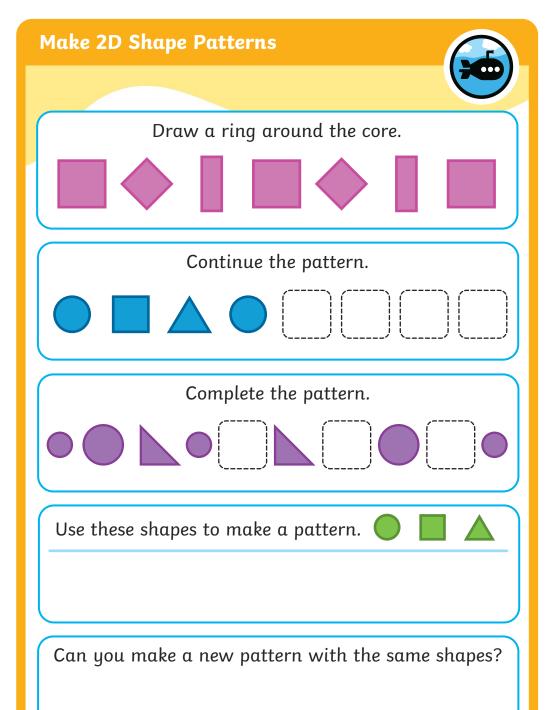
Kym got the last shape incorrect. It needs to be a rectangle not a circle.

Cores from left to right:	Cores without the rectangle from left to right:	Example of a core with a shape that has been doubled from left to right:	
From right to left:	From right to left:	From right to left:	



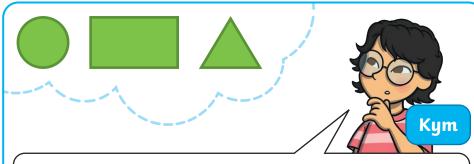


Can you make a new pattern with the same shapes?





Use these shapes to make patterns. Use each shape once in the core.



I can make 3 core patterns because there are 3 shapes.

Is this correct?
Can you prove it?

Kym made a pattern with the shapes.



Can you spot the mistake? How would you correct it?

Make a pattern with the 2D shapes.

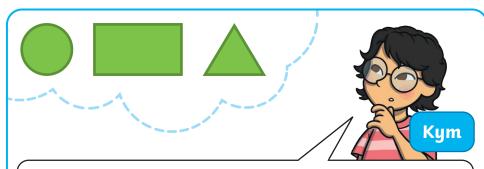
Include 1 mistake.

Can a friend spot the mistake and correct it?

### Make 2D Shape Patterns



Use these shapes to make patterns. Use each shape once in the core.



I can make 3 core patterns because there are 3 shapes.

Is this correct?
Can you prove it?

Kym made a pattern with the shapes.



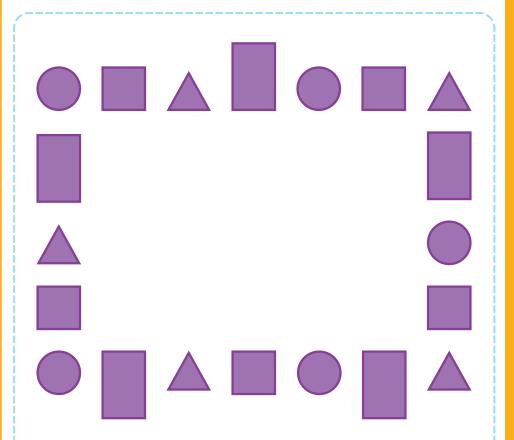
Can you spot the mistake? How would you correct it?

Make a pattern with the 2D shapes.
Include 1 mistake.

Can a friend spot the mistake and correct it?



Can you find the core of this pattern? How many possibilities can you find?



What if you took away the rectangles? What if a shape was repeated?

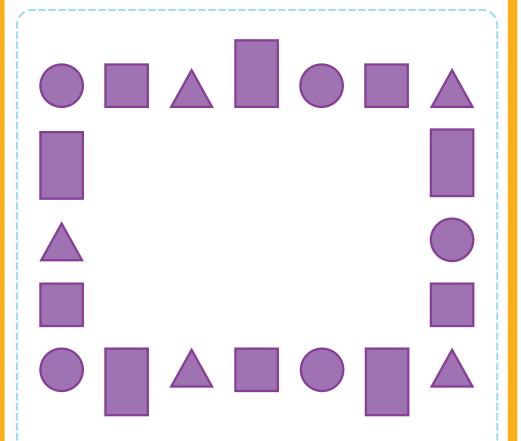
Use 2D shapes to make a pattern around a shape.

Ask a friend to find the core.

#### Make 2D Shape Patterns



Can you find the core of this pattern? How many possibilities can you find?



What if you took away the rectangles? What if a shape was repeated?

Use 2D shapes to make a pattern around a shape.

Ask a friend to find the core.

Properties of Shape   Make 2D Shape Patterns	Properties of Shape   Make 2D Shape Patterns
To introduce 2D shape patterns.	To introduce 2D shape patterns.
I can identify the core of 2D shape patterns.	I can identify the core of 2D shape patterns.
I can continue 2D shape patterns.	I can continue 2D shape patterns.
I can complete 2D shape patterns.	I can complete 2D shape patterns.
I can create 2D shape patterns.	I can create 2D shape patterns.
Properties of Shape   Make 2D Shape Patterns	Properties of Shape   Make 2D Shape Patterns
To introduce 2D shape patterns.	To introduce 2D shape patterns.
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I can create 2D shape patterns.	I can create 2D shape patterns.
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I can complete 2D shape patterns.	I can complete 2D shape patterns.
I can create 2D shape patterns.	I can create 2D shape patterns.
Properties of Shape   Make 2D Shape Patterns	Properties of Shape   Make 2D Shape Patterns
To introduce 2D shape patterns.	To introduce 2D shape patterns.
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I can continue 2D shape patterns.	I can continue 2D shape patterns.
I can complete 2D shape patterns.	I can complete 2D shape patterns.

I can create 2D shape patterns.

I can create 2D shape patterns.