



## Year 9 HOME LEARNING

Subject: Shape

Time to complete: 50 minutes

**Learning Objective:** To recognise and create patterns with 2D and 3D shapes.

*The answers to the questions are included at the bottom. We would like the students to self-mark their work. This is a very valuable learning tool as it gives pupils immediate feedback and encourages independence and ownership over their learning. Please send your work in when you have marked it, showing any corrections that you have made.*

**Mrs Nowacka**

### Warm up:



Add up each row, column and diagonal in the grids and place the sums in the boxes on the sides and bottoms.

6	7	3	→	
5	9	2	→	
8	1	4	→	
↓	↓	↓	↘	

13	6	16	8	→	
9	1	12	10	→	
3	5	11	2	→	
14	4	7	15	→	
↓	↓	↓	↓	↘	

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

You can use 100 square grid to help you with counting.

**Task**

Watch the video. Using what you have learnt, complete the questions below.

<https://vimeo.com/477201436>

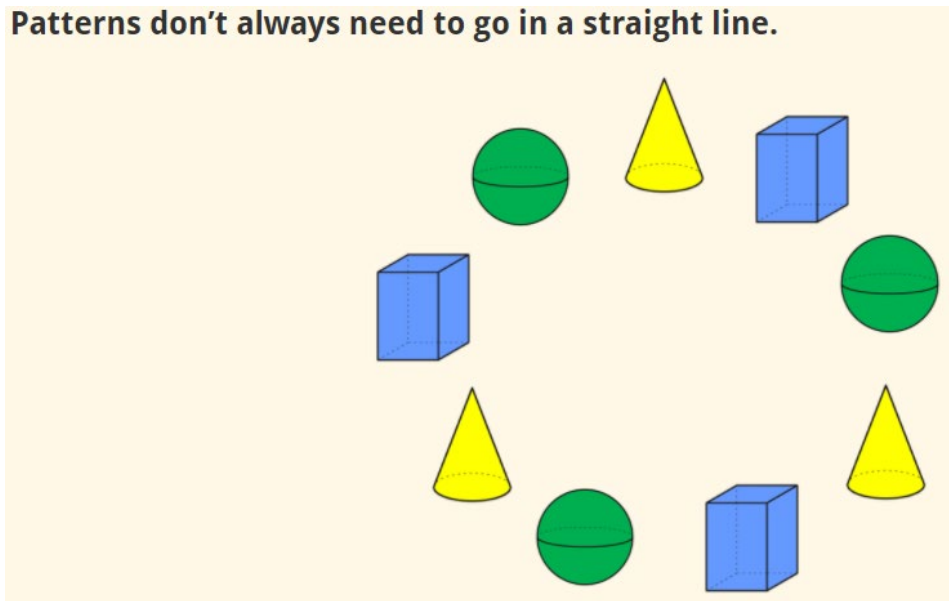
**Key information:**

We can create patterns using 2D and 3D shapes.

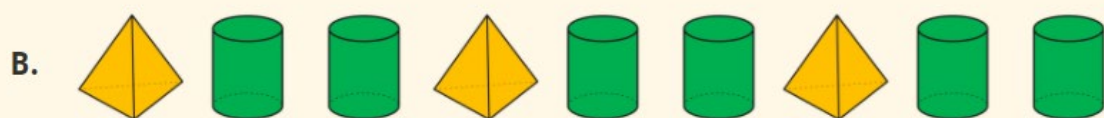
Shape **patterns** are sequences with shapes that are repeated in the same order each time.

Patterns can focus on the **size**, **colour** or **orientation** of shapes.

Patterns don't always need to go in a straight line.

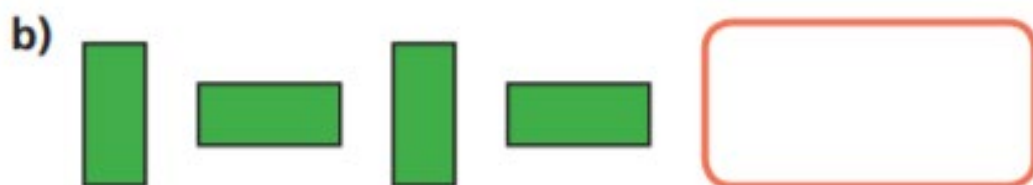
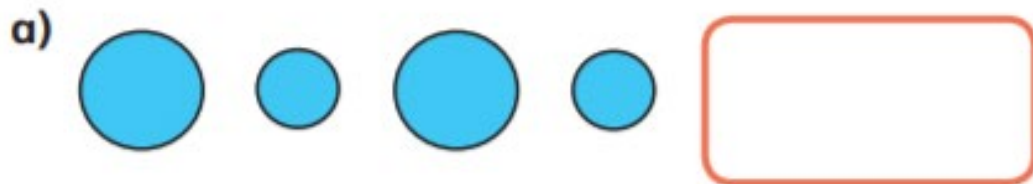


Which pattern is incorrect?

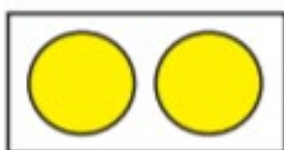
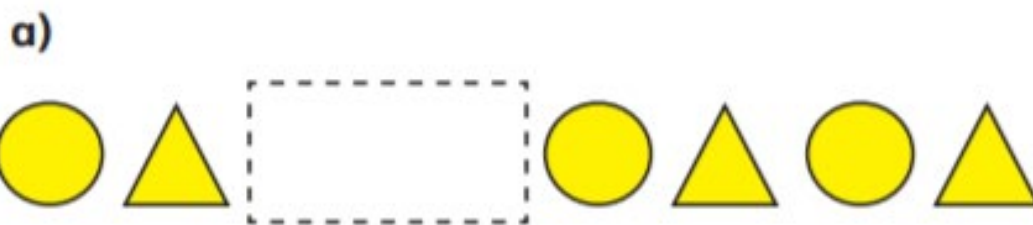


## Patterns with 2-D and 3-D shapes

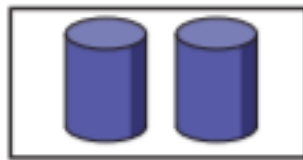
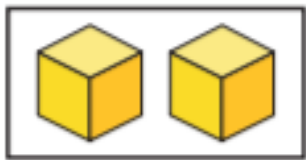
1 Draw the next 2 shapes in each pattern.



2 Tick the shapes that fit in the pattern.



b)



3



My pattern goes:  
circle, circle, square,  
then it repeats.

Draw the first 9 shapes in Jack's pattern.



4

Amir makes a pattern with these shapes.

- 4 cuboids
- 3 cones
- 4 cylinders

What could Amir's pattern be?

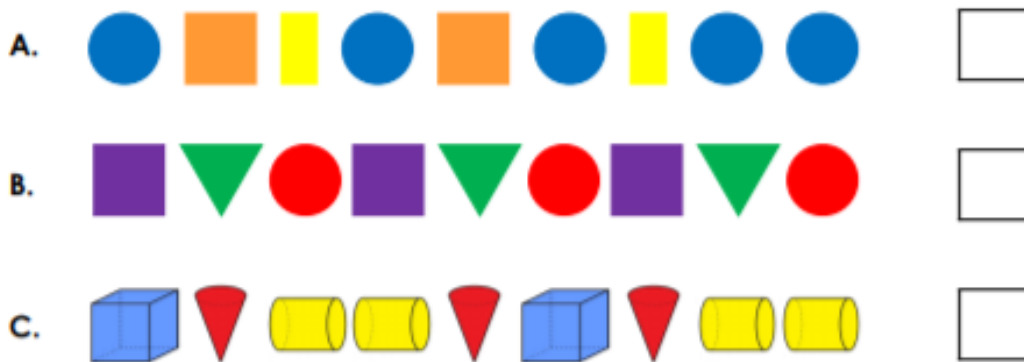
## Patterns with 2D and 3D Shapes

4. Draw the correct shapes to continue the pattern below.



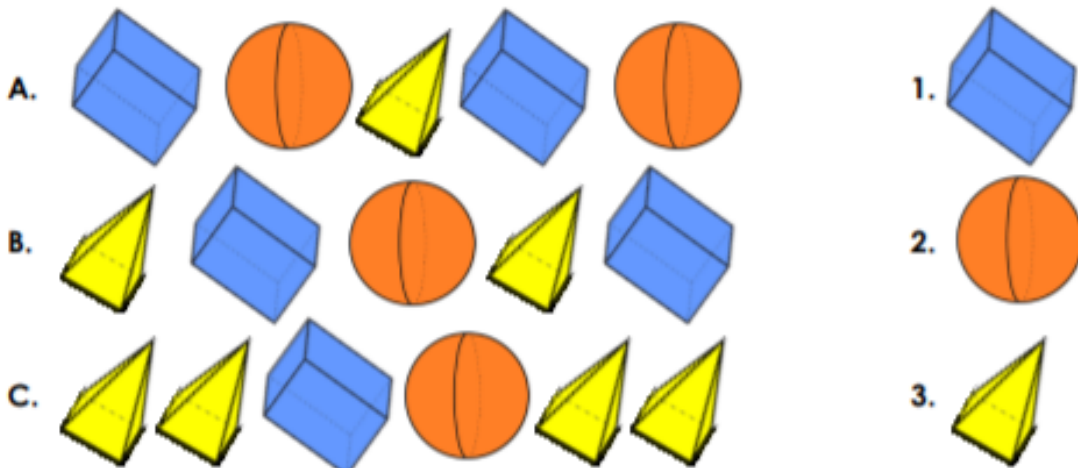
VF  
HW/Ext

5. Tick the correct pattern.



VF  
HW/Ext

6. Match each pattern to the shape that will be needed next.



RPS  
HW/Ext

**Answers:**


**Warm up:**


6	7	3	→	16
5	9	2	→	16
8	1	4	→	13
↓ ↓ ↓ ↓ ↓				
19	17	9		19


13	6	16	8	→	43
9	1	12	10	→	32
3	5	11	2	→	21
14	4	7	15	→	40
↓ ↓ ↓ ↓ ↓					
39	16	46	35		40

**Task:**

Which pattern is incorrect?

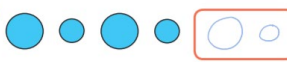
A. 

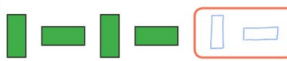
B. 


C. 

4. circle, square, triangle  
 5. B  
 6. A - 3, B - 2, C - 1

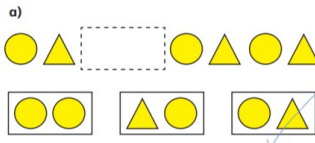
1 Draw the next 2 shapes in each pattern.

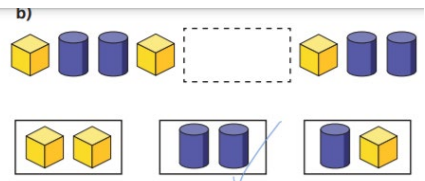
a) 

b) 


c) 

2 Tick the shapes that fit in the pattern.

a) 

b) 

3

 My pattern goes: circle, circle, square, then it repeats.

Draw the first 9 shapes in Jack's pattern.



Save your work:

If you are using a computer, open a blank document to do your work (you can use Word or Publisher). Don't forget to SAVE it with your name, the lesson you are doing and the date.

For example: T.Smith Maths 8 April

If you would like us to see or mark your work please email it or send a photo of your completed work to:

**Mrs Nowacka:** [dnowacka@glebe.bromley.sch.uk](mailto:dnowacka@glebe.bromley.sch.uk)

Thank you