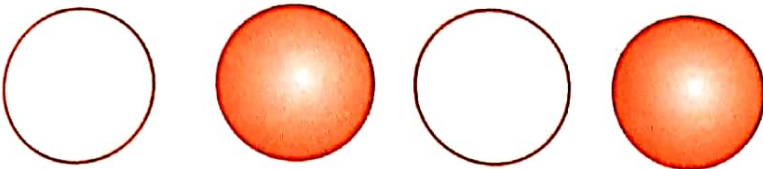

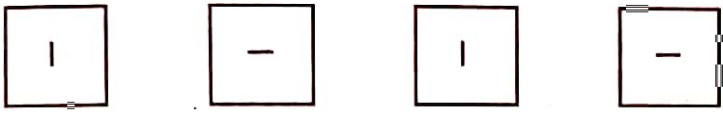



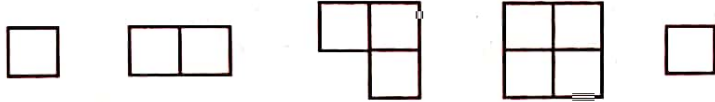
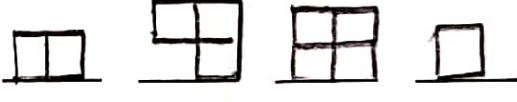
# Activity-1

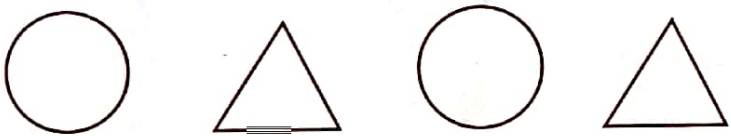
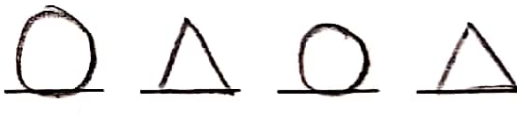
Some patterns are given below. Study them carefully and complete them.


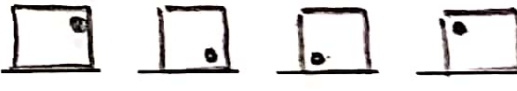
1.  

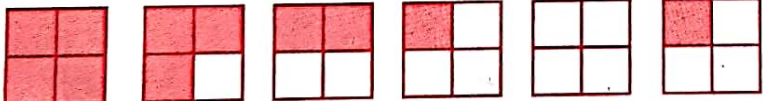

2. P Q R R Q P P Q R R

3.  

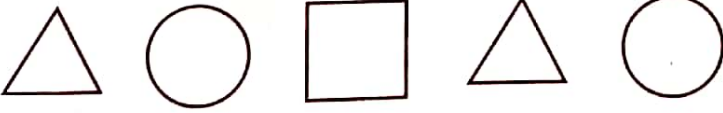
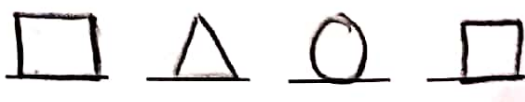
4.  



5.  

6.  

7.  

8. A B B C C C D D D D E

9.  

10.  

# Number Patterns

Numbers also follow patterns.

1. Look at the numbers 12, 14, 16, 18,.....

Here  $14 = 12 + 2$ ,  $16 = 14 + 2$ ,

$18 = 16 + 2$  and so on.

The next numbers in this pattern will be

$20 = 18 + 2$ ,  $22 = 20 + 2$ ,

$24 = 22 + 2$  and so on.

2. Take numbers 9, 18, 27, 36, .....

$9 = 9 \times 1$ ,  $18 = 9 \times 2$ ,  $27 = 9 \times 3$ ,  $36 = 9 \times 4$

The next number will be  $9 \times 5 = 45$ ,  $9 \times 6 = 54$ ,  $9 \times 7 = 63$  and so on.

3. 1, 10, 100, 1000, 10000, .....

$1 \times 10 = 10$ ,  $10 \times 10 = 100$ ,  $100 \times 10 = 1000$ ,  $1000 \times 10 = 10000$  and so on .....

The next numbers will be  $10000 \times 10 = 100000$ ,  $100000 \times 10 = 1000000$  and so on.

4. 7, 15, 31, 63, .....

$15 = 2 \times 7 + 1$ ,  $31 = 2 \times 15 + 1$ ,  $63 = 2 \times 31 + 1$

The next numbers will be  $127 = 2 \times 63 + 1$ ,  $255 = 2 \times 127 + 1$  and so on.

## Activity-3

### Summative Assessment Based On CCE

Skills / Aspects - Concept, Written work

1. Study the patterns carefully and complete them.

(a) 24, 26, 28,

30, 32, 34, 36

(b) 6, 13, 20,

27, 34, 41, 48

(c) 86, 80, 74,

68, 62, 56, 50

(d) 180, 162, 144,

126, 108, 90, 72

(e) 15, 30, 45,

60, 75, 90, 105

(f) 867, 767, 667,

567, 467, 367, 267

(g) 8, 108, 208,

308, 408, 508, 608

(h) 1600, 800, 400,

200, 100, 50, 25

## 2. Sum of odd numbers

$$1 = 1 = 1 \times 1$$

$$1 + 3 = 4 = 2 \times 2$$

$$1 + 3 + 5 = 9 = 3 \times 3$$

$$1 + 3 + 5 + 7 = 16 = 4 \times 4$$

$$1 + 3 + 5 + 7 + 9 = 25 = 5 \times 5$$

Did you observe the pattern ?

Now, complete the following :

$$(a) \quad 1 + 3 + 5 + 7 + 9 + 11 = 6 \times 6 = \boxed{36}$$

$$(b) \quad 1 + 3 + 5 + 7 + 9 + 11 + 13 = \boxed{7 \times 7} = \boxed{49}$$

$$(c) \quad 1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 = \boxed{8 \times 8} = \boxed{64}$$

$$(d) \quad 1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 = \boxed{9 \times 9} = \boxed{81}$$

## 3. Sum of even numbers

$$2 = 2 = 1 \times 2 = 1 \times (1 + 1)$$

$$2 + 4 = 6 = 2 \times 3 = 2 \times (2 + 1)$$

$$2 + 4 + 6 = 12 = 3 \times 4 = 3 \times (3 + 1)$$

$$2 + 4 + 6 + 8 = 20 = 4 \times 5 = 4 \times (4 + 1)$$

Did you observe the pattern ?

Now, complete the following :

$$(a) \quad 2 + 4 + 6 + 8 + 10 = \boxed{30} = 5 \times 6 = 5 \times (5 + 1)$$

$$(b) \quad 2 + 4 + 6 + 8 + 10 + 12 = \boxed{42} = \boxed{6 \times 7} = \boxed{6 \times (6 + 1)}$$

$$(c) \quad 2 + 4 + 6 + 8 + 10 + 12 + 14 = \boxed{56} = \boxed{7 \times 8} = \boxed{7 \times (7 + 1)}$$

$$(d) \quad 2 + 4 + 6 + 8 + 10 + 12 + 14 + 16 = \boxed{72} = \boxed{8 \times 9} = \boxed{8 \times (8 + 1)}$$



#### 4. Table of 3 :

Observe the table of 3 and look for the pattern

|                    |                           |
|--------------------|---------------------------|
| $3 \times 1 = 3$   | $(0 + 3 = 3)$             |
| $3 \times 2 = 6$   | $(0 + 6 = 6)$             |
| $3 \times 3 = 9$   | $(0 + 9 = 9)$             |
| $3 \times 4 = 12$  | $(1 + 2 = 3)$             |
| $3 \times 5 = 15$  | $(1 + 5 = \underline{6})$ |
| $3 \times 6 = 18$  | $(1 + 8 = \underline{9})$ |
| $3 \times 7 = 21$  | $(2 + 1 = \underline{3})$ |
| $3 \times 8 = 24$  | $(2 + 4 = \underline{6})$ |
| $3 \times 9 = 27$  | $(2 + 7 = \underline{9})$ |
| $3 \times 10 = 30$ | $(3 + 0 = \underline{3})$ |

#### Interesting Fact

This pattern helps us to identify whether a given number is divisible by 3 or not.

We simply add the digits and if the digits are 3, 6 or 9 then the number is divisible by 3.

**Example:** 243 ( $2 + 4 + 3 = 9$ )

So, 243 is divisible by 3.

### Mental Maths Corner

#### Formative Assessment Based On CCE

Skill / Aspect - Mental Ability

Tick (✓) the correct answer :

1. What comes next?

(a)  (b)  (c)

2. 15, 32, 66, ....., 270

(a) 132  (b) 134  (c) 136

3. Find the missing shape :

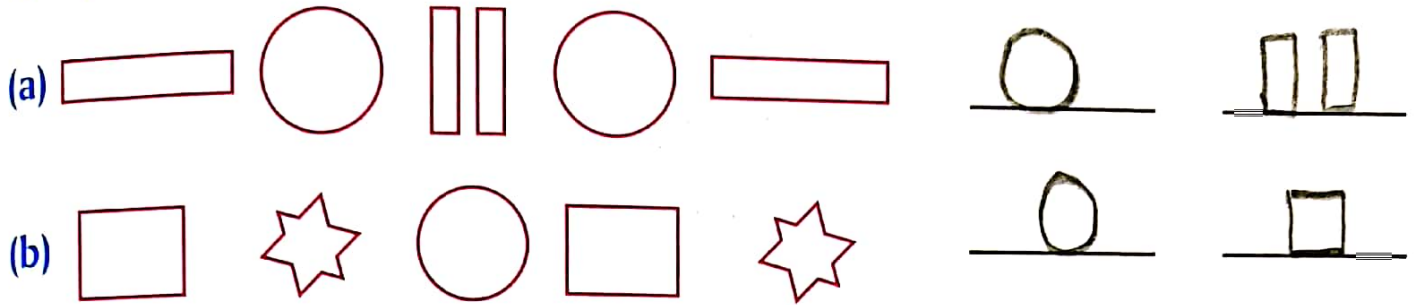
(a)  (b)  (c)

# Review Exercise

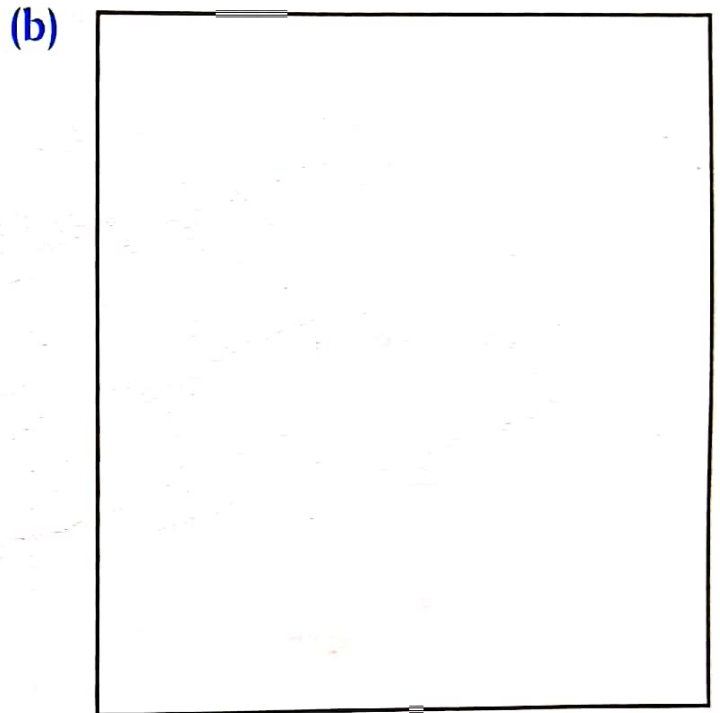
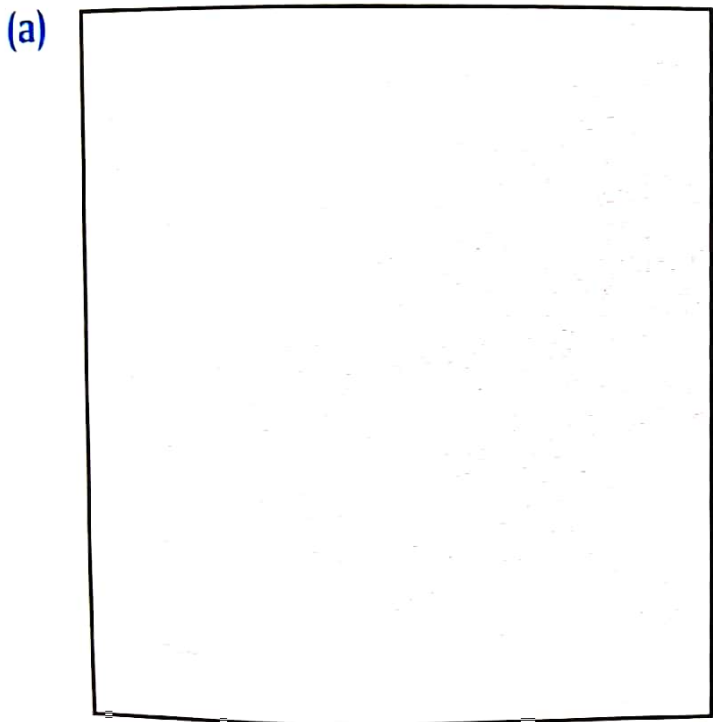
Summative Assessment Based On CCE

Skills / Aspects - Concept, Written work

1. Complete the following patterns :



2. Draw 2 tile patterns and colour them.



3. Look at the pattern and complete the series :

(a) 4, 10, 22, 46, ...94..., ...190..., ...382...

(b) 200, 170, 140, 110, ...80..., ...50..., ...20...