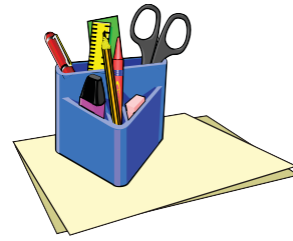


Activity

7



OBJECTIVE

To add and subtract two digit numbers with carrying

MATERIAL REQUIRED

Cardboard, cutter, adhesive, markers of different colours, white paper, chart paper

METHOD OF CONSTRUCTION

1. Take a cardboard of a convenient size and paste a white paper on it.
2. Take a chart paper and cut out sufficient number of identical pieces of different shapes of the type shown in Fig. 1.

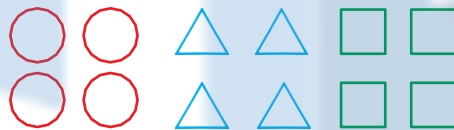


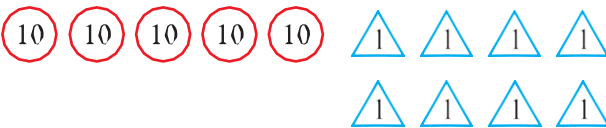
Fig. 1

3. Write number 1 in each , 10 in each  and 100 in each  to denote one's, tens and hundreds respectively.
4. We can replace one  by ten  and one  by ten  and so on.

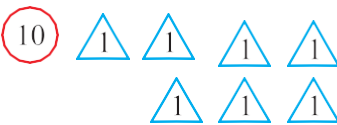
DEMONSTRATION

(A) Addition (say $58 + 17$)

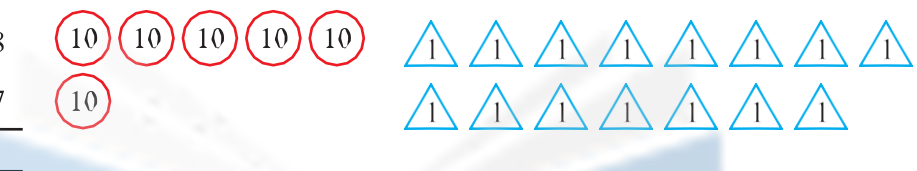
1. Take 5  shapes and 8  shapes to represent the number 58.

58 : 

2. Take one  and seven  to represent the number 17.

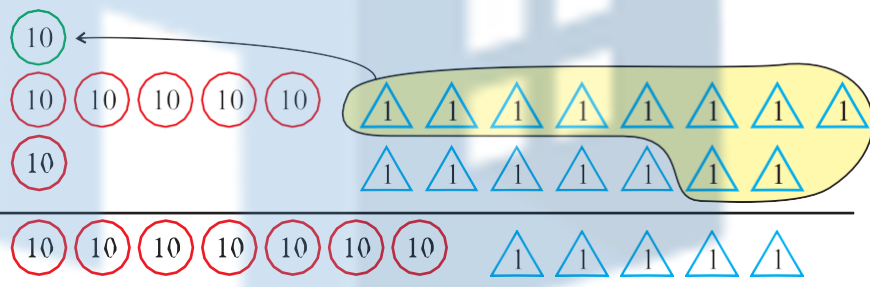
17 : 

3. To add 58 and 17, write these number as shown below:

$$\begin{array}{r} 58 \\ + 17 \\ \hline \end{array}$$


4. To add, count all  shapes. These are 15, which means one  (carry) and five .

- 5.

$$\begin{array}{r} 1 \\ 58 \\ + 17 \\ \hline 75 \end{array}$$


So, $58 + 17 = 75$

This activity may be repeated for addition of various two 2-digit numbers.

(B) Subtraction (say 34 – 19)

1. Take three shapes  and four shapes  to represent the number 34.

34: 

2. Take one $\textcircled{10}$ and nine $\triangle_1$ to represent 19.

19: $\textcircled{10}$ $\triangle_1$ $\triangle_1$ $\triangle_1$ $\triangle_1$ $\triangle_1$ $\triangle_1$ $\triangle_1$ $\triangle_1$ $\triangle_1$

3. To subtract 19 from 34, write these numbers as shown below.

$$\begin{array}{r} 34 \quad \textcircled{10} \textcircled{10} \textcircled{10} \triangle_1 \triangle_1 \triangle_1 \triangle_1 \\ -19 \quad \textcircled{10} \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \\ \hline \end{array}$$

4. 9 ones cannot be subtracted from 4 one's. So, convert one $\textcircled{10}$ into ten one's as shown below.

(Pair nine $\triangle_1$ from 34 and nine $\triangle_1$ from 19.)

$$\begin{array}{r} \overset{2}{\cancel{3}}4 \quad \textcircled{10} \textcircled{10} \textcircled{10} \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \\ -19 \quad \textcircled{10} \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \\ \hline 15 \quad \textcircled{10} \triangle_1 \triangle_1 \triangle_1 \triangle_1 \triangle_1 \end{array}$$

This activity may be repeated for subtraction of any two 2-digit numbers.

OBSERVATION

(A) Addition

Complete the following table:

S. No.	First number	Second number	Sum
1	28	15	—
2	72	65	—
3	65	11	—
⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮

(B) Subtraction

Complete the following table:

S. No.	First number	Second number	First number–second number
1	23	9	$23 - 9 = \underline{\hspace{2cm}}$
2	85	46	$85 - 46 = \underline{\hspace{2cm}}$
3	78	65	$78 - 65 = \underline{\hspace{2cm}}$
.	.	.	.
.	.	.	.
.	.	.	.

APPLICATION

1. This activity may be useful in explaining the process of addition and subtraction (with or without carrying) of 2 digit numbers.
2. This activity may be extended for the addition and subtraction of 3 digit numbers.

