MATHEMATICS THROUGH ACTIVITY

Supplementary Work Book

Class - VI

State Council of Educational Research & Training (West Bengal)

25/3, Ballygaunge Circular Road, Kolkata-700 019

MATHEMATICS THROUGH ACTIVITY

For Class - VI

(Supplementary Book)

(English Translation of Kajer Madhyame Ganit)

1. Name : .....
2. Mother's Name : .....
3. Father's Name : .....
4. Name of the School : .....
5. Name of the Village/City : .....
6. Name of the District : .....

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25/3, Ballygaunge Circular Road, Kolkata-700 019

This supplementary book will be distributed to each student, reading in Class VI of schools approved by West Bengal Board of Secondary Education, from the office of the District Project Officer of West Bengal Sarba Siksha Mission, approved and financed by West Bengal Sarba Siksha Mission.

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PREFACE

Some important perspectives regarding teaching learning in school level are published in National Curriculum Framework (2005). It has been Mentioned that for all - round development of child (a) Daily experience of child should be connected with the knowledge acquired from school. (b) Tendency to mere memorisation should be discouraged. (c) It should be carefully noticed that teaching learning shouldn't be text book oriented only. (d) Evaluation system should be flexible and connected to daily classroom-teaching. (e) Democratic environment should be created in classroom for all round development of each child.

It has been directed in the new time-table of West Bengal Board of Secondary Education to arrange peer-learning and remedial lesson in Mathematics and other subjects once in a week and to set up Mathematics laboratory. Its main objective is to learn through activity and to overcome the weakness in Mathematics. In this context, State Council of Educational Research and Training arranged a number of seminars in concerned subjects. Board members and teachers from Schools approved by Board were present in those seminars. The work-sheet obtained from those seminars had been applied in classroom teaching in some selected schools through District Institution for Education and Training (DIET).

After performing the experimental application, some of the opinions obtained from the teachers are as follows :

- To learn Mathematics through activity is encouraging and acceptable.
- This type of teaching learning method is interesting to teachers and learners.
- Application of this method will make the learners attentive and enthusiastic in learning.
- Learners have shown their interests in the application of Mathematics through activity and the lessons delivered were all practical. This method of teaching will make the learners more interested in Mathematics learning.

The teachers of Secondary Schools were invited to make work-sheet (suitable for class VI/VII/VIII) for learning Mathematics through activity in the wokshops arranged by DIET and SCERT(WB).

It has been noticed that teachers are very much interested in this type of work and many of them submitted work-sheet to us. State Council of Educational Research and Training (WB) is grateful to all of them.

At first, Sri Subrata Biswas and Sri Gautam Bhattacharya, officers of this Council verified the acceptability of all the work sheets collected and helped in editing of this supplementary book.

This supplementary book is published for each learner, centering the concept of Mathematics Laboratory of class VI/VII/VIII in the 11th five-year-plan of Sarvasiksha Abhijan with objective in qualitative improvement of teaching learning in upper primary level. It is expected that, in due course of time the students will get this book in sufficient number from the office of the District Project Officer. Teachers and learners will be able to further develop new work-sheet taking cue from those already made. So it is expected that more and more new ideas will evolve from the work sheet published in this book.

We shall be more enriched if we get opinions and suggestions from teachers, learners and people interested about this supplementary book.

Prof. Rathindranath De
Director
State Council of Educational Research & Training (W. B.)

List of the articles needed to perform the activity in each of the work-sheet of this supplementary book are as follows :

a) Marbles

b) Stick, jute striks, straw

c) Box made of paper, Card board

d) Nails

e) Rope, rubber band, threed.

f) Papers-while and coloured, graph paper,

g) Plates

h) Thermocol balls, discs,

i) Gum, Cellotape

j) Pen, sketch pen

k) Scissors

l) Glass

m) Water

n) Sponge Cube

o) Scale, Protractor.

p) Geoboard, boardpin

q) Colour.

Name of the activity

PART-1 WORK SHEET FOR PRELIMINARY KNOWLEDGE OF MATHEMATICS

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

Name of School.....

.....

write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

5) .....

Activity – 1 : How to differentiate less or more and long or short.

Materials : Few marbles, few sticks of various lengths

Description of the Activity	Your Comments
1) Take few marbles in your two hands and count 2) Keep two sticks side by side	

Questions : 1) If you have five marbles in your left hand and four marbles in your right hand, in which hand you have more ? Again if your left hand has five marbles and right hand has seven, which hand has more marbles.

2) See the pictures below and say which is longer and which is shorter ?

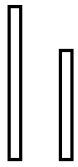
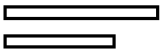
Figure No. 1 

Figure No. 2 

1 Change the lengths, arrange in reverse direction

Notes : The teacher would ask questions after drawing figures on the board or showing sticks of various length.

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR PRELIMINARY KNOWLEDGE OF MATHEMATICS

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

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1) .....

2) .....

3) .....

4) .....

5) .....

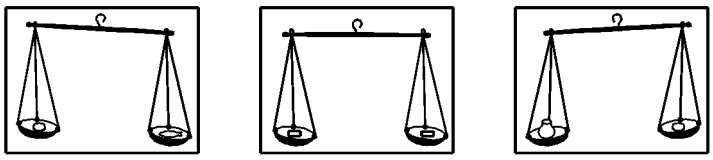
Activity – 2 : To differentiate light or heavy

Materials : A hard stick, the cover of two tin container, a strong rope, knails.

Preparation : Make a balance as advised by the teacher (prepare in the productive or creative activity class or the teachers to make and provide).

Description of the Activity	Your Comments
1) Take two difiarent type of things or same type of things in two hands. 2) Take two different or same type articles in two hands of a balance.	

Questions : 1) After observing the following figures or taking Similer or different type of materials in your hand say which is heavey or which is light.



Note : 1) Teacher may draw on the board

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR PRELIMINARY KNOWLEDGE OF MATHEMATICS

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

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1) .....

2) .....

3) .....

4) .....

5) .....

Activity – 3 : The process of addition and subtraction.

Materials : Few students.

Note : Few students should get together for this activities.

Description of the Activity	Your Comments
1) Nine students to stand together 2) Five of you stay in one side and four to be on the opposite side 3) Keep exchange your places between the two groups	

Questions : 1) Which group has more strength if two of you go from the group of five to the other group ?

2) Which group has fewer student ? In which group the student joined ? From which group the number of students decreased now ? and how may students are there in the larger group ? How many students are there in the smaller group now ?

Comments : The concept of addition and subtraction can also be developed by use marbles or other materials in the two hands of the learner.

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

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2) .....

3) .....

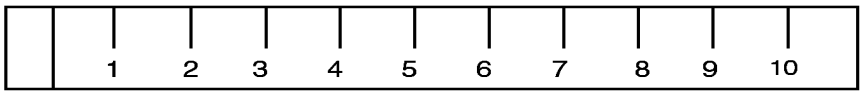
4) .....

5) .....

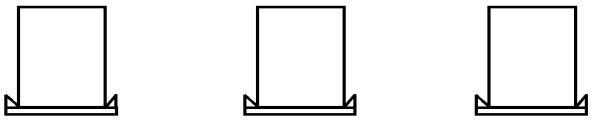
Activity – 4 : Recognition of the symbols =, ≠, <, > and their proper application.

Materials : A piece of paper 5 cm. broad and 60 cm. long. Two card boards of size 50 cm. X 30 cm. hard papers like playing cards with numbers 0, 1, 2, 3, ..., 9 and symbols ≠, =, < & > written and gum, blank pages.

Preparation : Number line to be made with the instruction of the teacher, light peels of bamboo tree, if used with 5 cm. interval, it would be more permanent (Productive or creative activity classes may be used for the preparation of number line or teacher will supply it.)



Three stands as shown below like photo stand to be made on which the cards may be stacked.



Description of the Activity	Your Comments
1) See the position of the numbers on the number line 2) Take three card board stand	

Questions : 1) [9] [ ] [10]

Which sign out of >, =, ≠ , < will be placed in the blank stand on the middle ?

[2] [=] [4]

2) Is there any mistake ? If yes, which of the two signs > or < should be placed in between the two numbers ?

N. B. – Teachers to ask appropriate questions in order of complexity of the signs =, ≠, <, >

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR PRELIMINARY KNOWLEDGE OF MATHEMATICS

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 5 : Writing a numbers according to its place value, add or subtract numbers of two digits.

Materials : Stick, colour, pices of jute sticks, coloured thread rubber band.

Date.....

Name of School.....

.....

write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

5) .....

Description of the Activity	Your Comments
1) Arrange the sticks in a bunch of 10. 2) Tie each bunch with rubber band or piece of thread.	

Questions :

1) If you have two bunches each of ten and four more sticks, how many sticks are there? Write in number mathematical language.

2) If there are three bunches of ten and no more sticks left, then how many sticks will there be ?

3) Now tell how many bunches of ten are there ?

4) If one bunch of ten is taken off out of three bunches of ten, how many sticks wil be there ? Write the number in mathematical language.

Suggestion : (For the teachers) – It is better if problems on addition and subtraction are done on two different days.

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

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General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

5) .....

Activity – 6 : Addition and subtraction of two numbers of two digit according to place value.

Materials : Stick, broken pieces of jute sticks covered with colour paper / coloured refill of pens, rubber bands and coloured thread

Description of the Activity	Your Comments
1) Arrange the sticks in a bunch of 10 each and tie them with coloured band.	

Questions :

1) Two bunches of ten will give you how much ? Write the number in mathematical language.

2) Two bunches of ten and six more sticks will make it how much ? Write down number in mathematical language.

3) If one bunch of ten and two more sticks are taken out from a lot of three bunches of ten, how many stickswill remain there ? Write the number in mathematical language.

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR PRELIMINARY KNOWLEDGE OF MATHEMATICS

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

Name of School.....

.....

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1) .....

2) .....

3) .....

4) .....

5) .....

Activity– 7 : To construct, read and write a three digits number.

Materials : Sticks, rubber bands or beads, thread

Special Note : Abacus may be used

Description of the Activity	Your Comments
1) Arrange the sticks in a bunch of 10 and tie them with rubber bands or thread. Then tie ten such bunch together with a rubber band or thread. 2) Tie ten beads together each having ten beads and use it as a symbol of one hundred	

Questions : 1) If a bunch of ten made in the 1st step added with the bunch of ten what will be result ? Write in number in mathematical language.

2) If a bunch of ten made in the 2nd step is added with a bunch of ten beads what will be the result, write it in mathematical language.

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR PRELIMINARY KNOWLEDGE OF MATHEMATICS

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

Name of School.....

.....

write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

5) .....

Activity – 8 : Concept of even and add numbers

Materials : Few marbles

Description of the Activity	Your Comments
1) Take few marbles. 2) Count and say how many marbles you took. 3) Form groups with two marbles in each group.	

Questions : 1)  – From this group can we say that the number is even ?

2) Is there any marble left after forming groups with two marbles in each group ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR PRELIMINARY KNOWLEDGE OF MATHEMATICS

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

5) .....

Activity – 9 : Concept of determination of quotient and remainder between two numbers.

Materials : Some marbles, a few plates.

Sub Unit : Divide 22 by 5

Description of the Activity	Your Comments
1) Take out 22 marbles from a set of marbles form a few groups with 5 marbles in each group, and keep them on separate plates.	

Questions : 1) How many plates are there with 5 marbles in each plate ?

2) How may marbles are left after making groups with five in each group.

3) What will be the quotient and remainder if 22 is divided by 5.

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR PRELIMINARY KNOWLEDGE OF MATHEMATICS

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

5) .....

Activity – 10 : Concept of prime and composite number

Materials : A few plastic straws

Description of the Activity	Your Comments
1) Arrange three stands in one or more glasses with same similar pattern. 2) Arrange four stands in one or more glasses with same similar pattern. 3) Arrange similarly with 2, 5, 6, 7 and 8 number of straws in different glasses.	

Questions : 1) Which number of straws could be arranged in only two ways ?

2) Which number could be arranged in more than two ways ?

3) As four straws can be arranged in one straw in different glass or two straws in two different glass or 4 straw in one glass then what will be the nature of the number 4 prime or composite ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR PRELIMINARY KNOWLEDGE OF MATHEMATICS

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

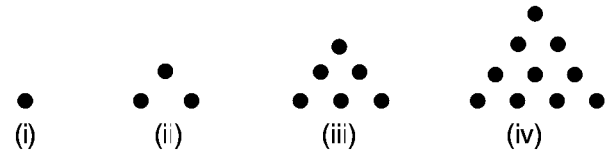
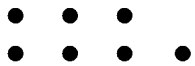
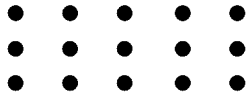
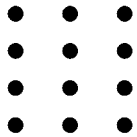
3) .....

4) .....

5) .....

Activity – 10A : Concept of prime and composite number.

Materials : Hard board, small balls of thermocol, gum.

Description of the Activity	Your Comments
1) Fix the small termocol balls on a hard board in the following manner. (a)  (b)  (c)  (d) 	

Questions : 1) Which number are prime and which number are composite out of the numbers from 1 to 15 ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

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General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 11 : Use of a mathematical sign.

Materials : Some hard papers, pen and a part of scissor.

Date.....

Name of School.....

.....

write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

5) .....

Description of the Activity	Your Comments
1) Cut of a some hard papers like the playing cards. 2) Write the signs + , – , ÷ , X and 0,5 on the papers like playing cards with the pen.	

Questions : 1) 5 ☐ 0 = 5 Which sign will be placed in the second card ?

2) 5 ☐ 0 = 0 What will be the sign in the second card ?

3) 5 + ☐ = 5 What will be the symbol of this third card ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

5) .....

Activity – 12A : Concept of Average

Materials : A few plastic glass, straw

Description of the Activity	Your Comments
1) Take three glasses and 12 straws. 2) Arrange the straws in such a way that the number of straws in every glass is equal.	

Questions : 1) If you keep 4 straws in every glass, then 4 is the value of what in this case ?

2) If these are 5 straws in the first glass, 4 in the second glass and 3 straws in the third glass, then what is the average number of straws in the three glasses ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR PRELIMINARY KNOWLEDGE OF MATHEMATICS

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Date.....

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1) .....

2) .....

3) .....

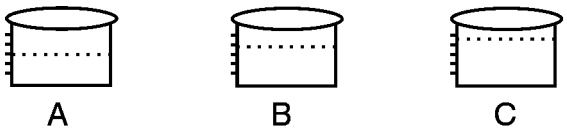
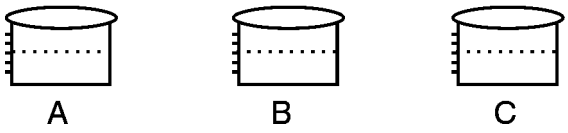
4) .....

5) .....

Activity – 12B : Concept of Average

Sub unit : To determine the average of 3, 4, 5

Materials : Three glasses with labels marked on its outer wall, some water.

Description of the Activity	Your Comments
1) Fill in one glass upto the third label, 2nd glass upto the fourth label and the third glass upto the fifth mark.  2) Now pore the water of one glass to the other glass so that each glass has water marked upto same label.  	

Questions : 1) In the first stage, which glass has more water and which has less ?

2) In the sencond stage, what is the label of water in each glass ?

3) What is the average of 3, 4 and 5 ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

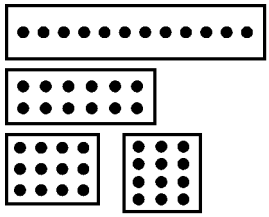
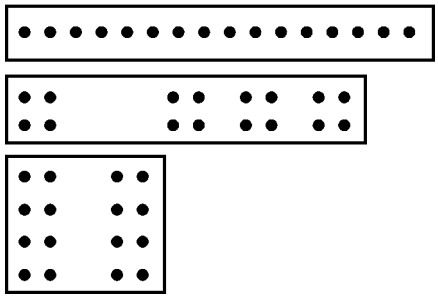
4) .....

5) .....

Activity – 13 : Concept of H. C. F.

Sub unit : To determine the H. C. F. of 12 and 16.

Materials : A few marbles.

Description of the Activity	Your Comments
1) Take 12 marbles and arrange in a single line. Arrange them in two or three or four rows as shown in the following figures.  2) Arrange 16 marbles in a single row or two rows or three rows or four rows as shown in the following figures. 	

Questions :

1) What are the factors of 12 ?

2) What are the factors of 16 ?

3) What are the common factors of 12 and 16 ?

4) What are the H.C.F. of 12 and 16 ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

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1) .....

2) .....

3) .....

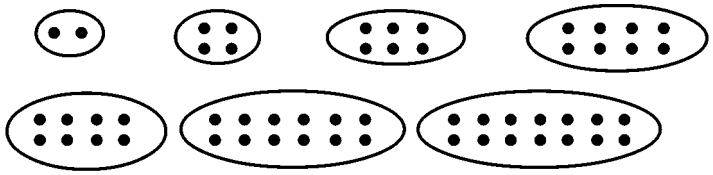
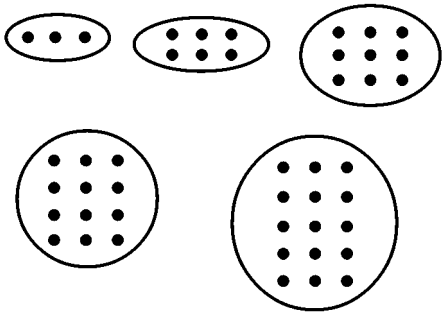
4) .....

5) .....

Activity – 14 : Concept of L. C. M.

Sub unit : Find the L. C. M. of 2 and 3.

Materials : A few marbles.

Description of the Activity	Your Comments
1) Keep with two given marbles add a pair of marbles one after another and arrange them in three or four lines as shown in the following figures.  2) Keep adding three marbles each time with three given marbles as shown in the following figures. 	

Questions :

1) What are the multiples of 2 ?
2) What are the multiples of 3 ?
3) What are the common multiples of 2 and 3 ?
4) Which is the least common multiple of 2 and 3 ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

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Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

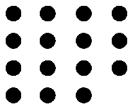
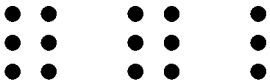
4) .....

5) .....

Activity – 15 : Concept of factors

Sub unit : Factors of 15

Materials : Few marbles.

Description of the Activity	Your Comments
1) Arrange 15 marbles in one horizontal row and 15 vertical columns. 	
2) Arrange 15 marbles in two rows and 8 columns. 	
3) Arrange 15 marbles in 4 columns and 4 rows. 	
4) Arrange 15 marbles in 5 columns and 3 rows. 	

Questions : 1) What are factors of 1 and 15 ?

2) Is 4 a factor of 15 ?

3) Is 3 a factor of 15 ?

4) Is 8 a factor of 15 ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR PRELIMINARY KNOWLEDGE OF MATHEMATICS

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

5) .....

Activity – 16 : Concept of multiples.

Sub unit : Multiples of 3

Materials : Few marbles.

Description of the Activity	Your Comments
1) Keep three marbles together. 	
2) Take threee more marbles. 	
3) Take three more marbles. 	
4) Take three more marbles. 	
5) Take three more marbles. 	

Questions : 1) What are the first three multiples of 3 ?

2) What are the multiples of 3 between 1 and 20 ?

3) What are the first three multiples of 3 out of 12, 13 and 14 ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR PRELIMINARY KNOWLEDGE OF MATHEMATICS

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

5) .....

Activity – 17 : Concept of Factors.

Sub unit : Factors of 15

Materials : Few marbles.

Description of the Activity	Your Comments
1) Take a marble are at a time out of 15 marbles. 	
2) Take out two marbles at a time from 15 marbles. 	
3) Take out three marbles at a time out of 15 marbles. 	
4) Take out four marbles at a time out of 15 marbles. 	
5) Take out 5 marbles at a time out of 15 marbles. 	
6) Take out 6 marbles at a time out 15 marbles. 	
7) Take out 7 marbles at a time out 15 marbles. 	
8) Take out 8 marbles at a time out 15 marbles. 	

Questions : 1) What are the factors of 15 ?

2) Are 2 and 8 factors of 15 ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR PRELIMINARY KNOWLEDGE OF MATHEMATICS

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

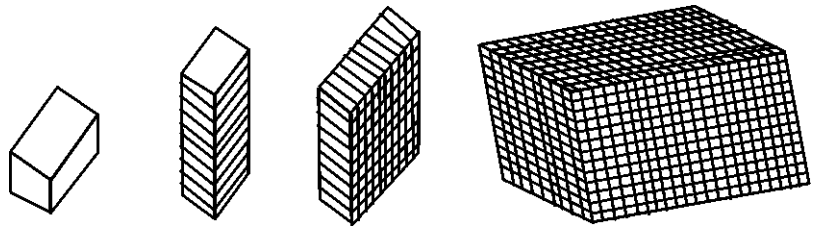
3) .....

4) .....

5) .....

Activity – 18 : Concept of absolute value and place value

Materials : Cube of a sponge, paper, hard board, sketch pen, scissor, stick.

Description of the Activity	Your Comments
1) Take a hard board and cover it with a paper. 2) Fix a cube on the board. Let us assume it a unit [like fig (a)]. 3) Then fix ten such units are on top of the other with the help of the stick [fig (b)]. 4) Then like figure (b) fix ten such blocks to make a figure like (c). 5) Then take 10 such blocks of figure (c) to make a solid block like fig (d).  (a) (b) (c) (d)	

Questions :
1) How many units are the block (b) ?
2) How many units are the block (d) ?
3) How many units are the block (c) ?
4) How many units are the block (a) ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR PRELIMINARY KNOWLEDGE OF MATHEMATICS

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

Name of School.....

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1) .....

2) .....

3) .....

4) .....

5) .....

Activity – 19 : Classification of triangles according to its sides.

Materials : A few sticks.

Description of the Acitivity	Your Comments
1) Make a triangle with three stick of equal length. 	
2) Form a triangle with two sticks of equal length and one of unequal length. 	
3) Take three sticks of different lengths and arranged them in the form of a triangle. 	

Questions : 1) What is the name of the first triangle ?

2) If the sides are unequal what is the name of the triangle ?

3) What is the difference between equilateral and isosceles triangle ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

PART - II WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

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4) .....

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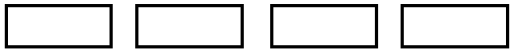
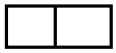
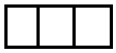
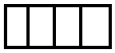
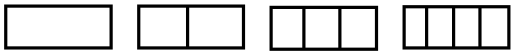
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 20 : Fraction and its Algebra.

Materials : Papers, scale, sketch pen, part of scissors.

Description of the Assignment	Your Comments
1) Cut of four equal rectangular pieces from a sheet of paper. 	
2) Divide one of the above four rectangles into two equal pieces. 	
3) Divide the another into three equal pieces. 	
4) Divide another piece into four equal pieces. 	
5) So now you have. 	

Questions : 1) How much is one part of the 2nd stage of activity ?

2) Is it possible to cover ½ part with two pieces of ¼ parts ?

3) Can you cover 2/3 part with the help of two 1/3 parts ?

4) Now keep each of the divided part one on top of the other to comment and verify $\frac{1}{2} > \frac{1}{3} > \frac{1}{4} > \frac{1}{5} > \frac{1}{6} > \frac{1}{8}$?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

Name of School.....

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1) .....

2) .....

3) .....

4) .....

5) .....

Activity – 21 : Concept of perfect square number.

Materials : Papers, scale, part of scissors.

Preparation : Prepare 30 pieces of square papers each measure 1cm X 1cm.

Description of the Activity	Your Comments
1) Take a piece of paper and try to arrange in a square. Then take two pieces and then three pieces, then four pieces keep increasing the number, try to arrange in a square form so that number of papers in row and column are equal in each case. 2) Write In each case how many piece of paper is required to make a square	

Questions :

1) Have you got a square with one piece of paper ?

2) Have you got a square with two pieces of paper ?

3) Have you got a square with four pieces of paper ?

4) Is it possible to make a square with 12 pieces of paper ? At best how many square pieces are required to have equal numbers in row and column, that is to make a square ?

5) Out of those numbers with what you could make a complete square, what was the largest number of pieces used ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

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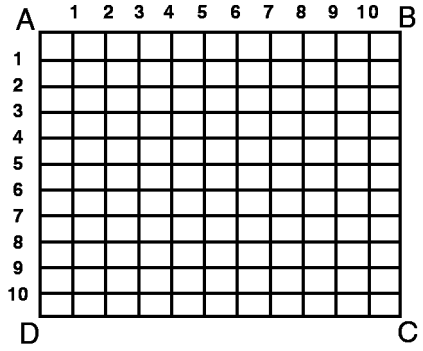
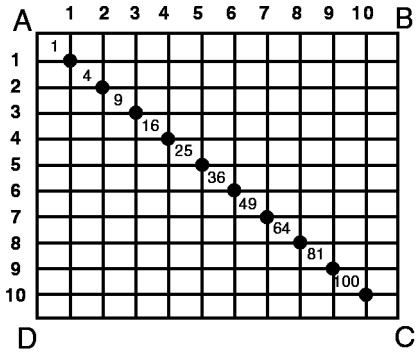
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 22 : Concept of square of a number.

Materials : Graph paper with 1cm. X 1cm. scale, pencil.

Description of the Activity	Your Comments
1) Take a graph paper of size 10 X 10 sq. units and mark them as shown in this figure. 	
2) Fold along this line AC. Write down the number of square used where the sides of the small square intersect each other. 	

Questions : 1) Write down the square root of the numbers ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

.....

write the names of the participants (not more than 5 or 10).

1) .....

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3) .....

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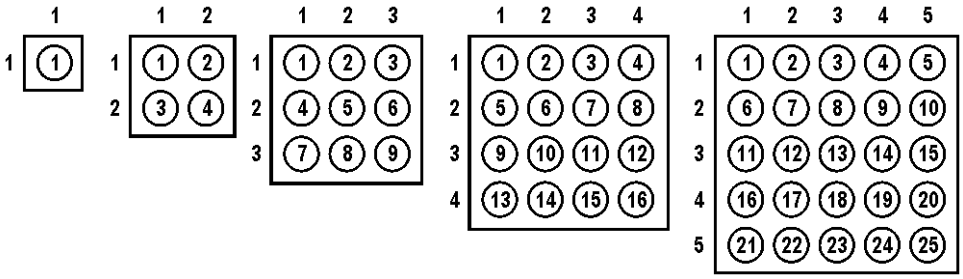
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 23 : Concept of square root of a number.

Sub unit : To find the square root of 25.

Materials : Art Paper; Tip-sheets

Description of the Activity	Your Comments
1) Put 1,2,3,4 and 5 tips on Art Paper in square form.  2) Look, how many Tips are there in square formed on Art paper ? 3) How many rows are there in the square formed on Paper ? Write it	

Questions : 1) What is the square-root of 1 ?

2) What is the square root of 25 ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

Name of School.....

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1) .....

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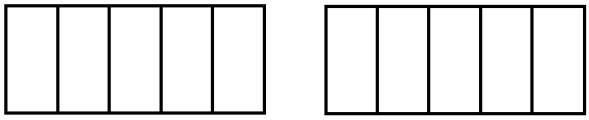
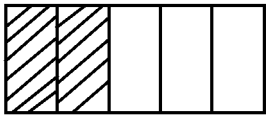
Activity – 24 : Concept of fractions.

Sub unit : Idea of 2 / 5

Materials : Paper, pair of scissors, pencil, scale

Preparation by the teachers : To explain how to fold a rectangular piece of paper into five equal parts.

Description of the Activity	Your Comments
1) Take two rectangular papers and divide each of them into five equal parts.  2) Shade the first two parts of one of the paper with pencil and cut of the shaded part. 	

Questions : 1) After folding the paper into five equal division. What will be the value of each part with respect to the whole.

2) Place the shaded pieces on the other paper along the same folds.

3) What part of the whole paper is the shaded part pasted on it ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

5) .....

Activity – 25 : Concept of LCM

Sub unit : To find LCM of 2, 3, 4, 5, 6.

Materials : Hard Board, chart paper , scale, pencil, sketch pen, pair of scissors.

Preparation by the teachers : Expose the students with the some idea of base board.

Description of the Activity	Your Comments
1) Take a base board and write 1 to 100 on it. Now mark the multiples of two with a sketch pen. Use a different colour to mark the multiples of 4, 5 and 6 using different colours in each case. 2) Watch the numbers from 1 onwards on the base board.	

Questions :

1) What are the multiples of 2, 3, 4, 5, and 6.

2) Which are those numbers marked with 5 different colour ?

3) Which is the least number marked of the 5 different colour ?

4) What is the L.C.M of the above numbers ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

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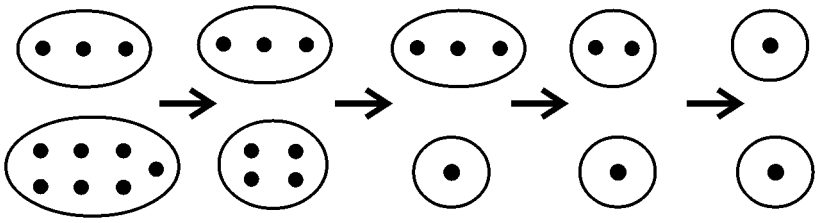
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Actuvuty – 26 : To find the H.C.F by method of division.

Sub unit **:** HCF of 3 and 7

Materials **:** Few discs.

Instruction : Two students will play at a time. To remove that number of discs from the one having greater number of discs as the one with lesser number of discs has.

Description of the Activity	Your Comments
1) Take two plates keep three discs in one and seven discs on the other.  2) Start playing as explained above till the number of discs become equal with both of you 	

Questions : 1) At the end of the game how many discs left the plate ?

2) What is the HCF of 3 and 7 ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

5) .....

Activity – 27 : To find HCF by division method.

Sub unit : HCF of 35 and 20.

Materials : A stick and a pair of scissors.

Description of the Activity	Your Comments
1) Take two sticks one measuring 35 unit length and the other 20 unit. 35 unit 20 unit 2) Place shorter stick on the longer and find how many unit exess are in the longer one. 20 unit | 15 unit 15 unit 3) Place the 15 unit stick on the 20 unit long stick and cut off the extra length. 15 unit | 5 unit 5 unit 4) Cut off the 15 unit length stick into pieces 5 unit each. Now check if excess length the longer stick is there. 5 | 5 | 5	

Questions :
1) What are the factors 35 ?
2) What are the factors of 20 ?
3) What is the HCF of 20 and 35 ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

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General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 28 : Concept of directed number

Materials : Paper, Pair of scissors, Dice of Ludo, Sketch pen, Colour, Scale.

Special note : Two students will play together.

Instruction : Two students will play at a lime. One who has loss, will take the disc from the other.

Description of the Activity	Your Comments
1) Cut out a blank of paper in the shape of a scale mark 0 in the middle. 2) Mark the numbers -1 to -10 in equal interval on the left of 0 and the numbers +1 to +10 in equal interval on its right. 3) Colour the Dice of ludo one red one green. 4) The students will start playing.	

Instruction :

1) When red dice is played , count the number you find, to the right and the number shown when you play the green dice, move in the left direction.

2) After the die are played start from “0” move to the number of pieces shown in the 1st dice, then for the 2nd dice start counting from the place where the 1st count ends. Move in the direction according to the colour of the dice and direction as mentioned above.

Questions :

1) If the red dice shows 5 and green one shows 3 where will be the final count end ?

2) What will be the final count when the red shows 4 and the green shows 6 ?

- **Write your observations and queries, if any :**

- **Teacher’s Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

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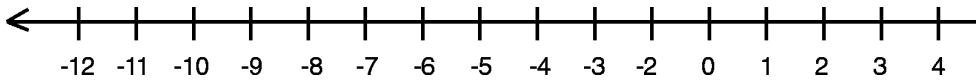
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 29 : Multiplication of directed numbers with the help of number line.

Sub unit : To find the product of (-4) x (+3).

Materials : Paper, Scale, Pencil, Pair of scissors, a stick which is equal.

Description of the Activity	Your Comments
1) Draw the number line on a paper with the help of a scale.  2) Place the stick on the number line, starting one end at '0', then mark on it upto -4, cut off this length of the stick. 3) Use the pice and measure the length of 3 times the length of the stick cut off on the number line starting from zero towards the left, the last point found.	

Questions : 1) At which number the last point shown by the stick on the numbr line

2) So (–4) taken 3 times, that is (–4) x (+3) is how much ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

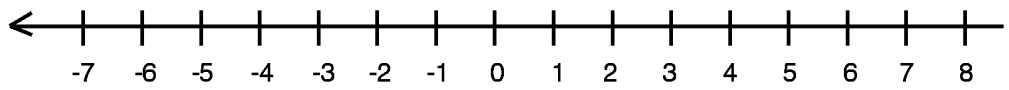
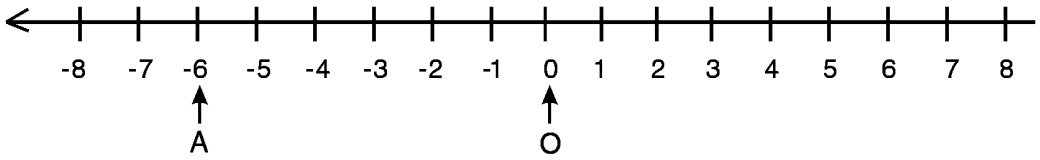
5) .....

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 30 : Multiplication of directed numbers with the help of number line

Sub unit : To find the product of (–2) x (–3)

Materials : Paper, scale, pencil, pair of scissors, stick

Description of the Activity	Your Comments
1) Draw the number line on a paper with the help of the scale.  2) Break the stick measuring a length from 0 to (–2). 3) Place the broken piece on the number line start from zero to the left to get a measure of three times the length of stick. Mark the last end thus found.  4) Take a longest peice of stick to measure the total length then place it on the right of 0 and mark the last end	

Questions : 1) What is the length of the segment $\overline{OA}$?

2) What is the point on the number line where the end of the stick touches the number line.

3) What is the multipication of (–2) x (–3).

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

.....

write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

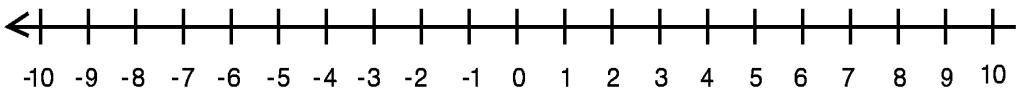
5) .....

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 31 : Multiplication of directed numbers with the help of number line.

Sub unit : To find The product of (+5) x (–2)

Material : Paper, scale, pencil, pair of scissors, stick.

Description of the Activity	Your Comments
1) Draw the number line on a paper.  2) Cut off a piece of stick measuring a length from 0 to 5 unit on the number line. [_____] 3) Measure twice the length of the stick on the number line starting from zero, to the left and mark where the last point ends on the number line.	

Questions : 1) Which number is shown on the number line where the stick touches its last count ?

2) What is the prodcut of (+5) x (–2) ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

.....

write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

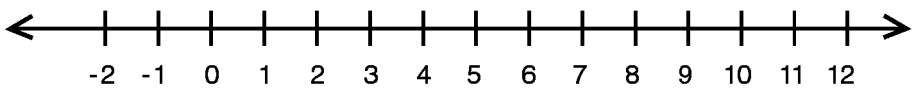
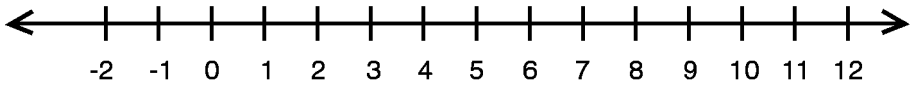
5) .....

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 32 : Multiplication of directed numbers with the help of number line.

Sub unit : To find the Product of (+4) x (+3)

Material : Paper, scale, pencil, pair of scissors, stick.

Description of the Activity	Your Comments
1) Draw the number line on a paper with the help of a scale.  2) Cut off the stick marking equal to a length of 0 to 4 unit on the number line [————————]. 3) Measure three times the length of the stick starting from zero to the right on the number line and mark the end on the line.  	

Questions : 1) Which number is shown on the line where the sticks ends ?

2) What is the product of (+4) x (+3) ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

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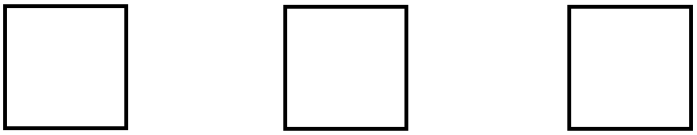
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 33 : To identify different type of numbers.

Sub unit : Paper, pencil, sketch pen, paper boxes.

Preparation : Use the sheets to cut off few small squares of equal sizes, small rectangles of equal size and triangles of equal size.Use different colour of sketch pen and write different type of numbers on the pieces of papers taken use similar numbers on the same shape. For examples all the square papers may be used for the natural numbers, whole numbers or integer on the rectangular strips, triangular shapes may be used for the rational numbers and so on.

Description of the Activity	Your Comments
1) Take few square, rectangular and triangular pieces of papers in a big box. 2) Take three boxes in which each box will have papers of same shape.  (A) (B) (C)	

Questions : 1) What are the numbers writen on the square papers found in the box (A) ?

2) What numbers are writen on the rectangular paper in the box (B) ?

3) What numbers are writen on the triangular paper found in the box (C)?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 34 : Concept of perimeter.

Materials : Few sticks of equal length, scale.

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

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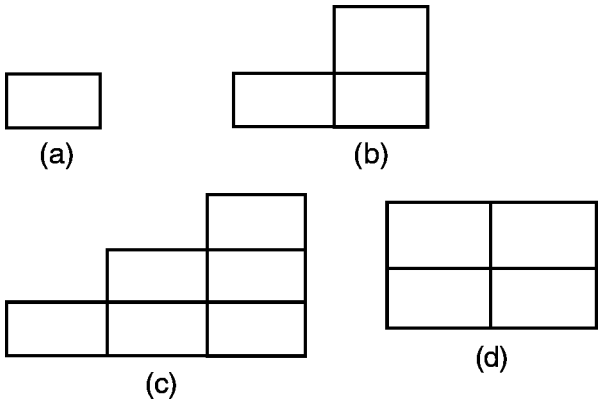
Description of the Activity	Your Comments
1) Use few sticks to make different shapes like shown on figures (a), (b), (c), (d) below.  2) Take out the sticks covering the boundary of each figure and arrange in a straight line.	

Questions :

1) Count the number of sticks used for each type of figure ?

2) How many sticks are required to cover the outer boundary of each type of figure ?

3) What fraction of (b), (c) and (d) is (a) ?

4) How much the length of perimeter of each figures ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

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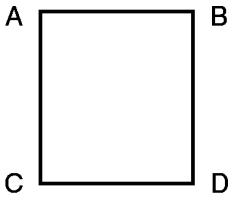
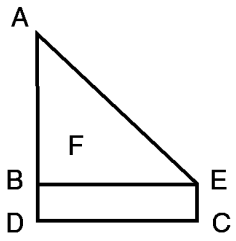
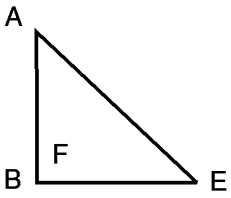
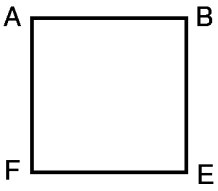
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 35 : Concept of geometrical figures.

Sub unit : Square

Materials : Sheet of paper, pen, pair of scissors,a book, scale.

Preparation : To devolope the concept of a rectangle,keep a book on a piece of paper and draw a line around it.

Description of the Activity	Your Comments
1) Take a large paper rectangular in a shape. 	
2) Fold it in the way as shown below. 	
3) Cut off along the line BE. 	
4) Now spread open the folded paper. 	

Questions : 1) $\overline{AB}$, $\overline{BE}$, $\overline{EF}$ and $\overline{AF}$ – are the lines equal in length ?

2) What is the shape of the folded paper when you opened it flat ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

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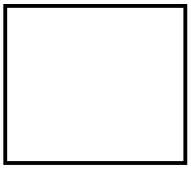
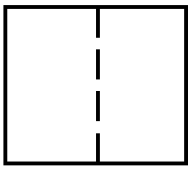
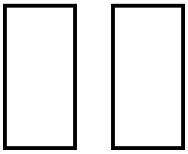
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 36 : Concept of geometrical figures.

Sub unit : Rectangular shape.

Materials : Paper, pair of scissors, scale.

Description of the Activity	Your Comments
1) Take a square paper. 	
2) Fold it from the middle so that one part talls on this other symmetrically. 	
3) Cut off from middle along the fold. 	

Questions : 1) How many pieces of paper you have got now ?

2) Are the four sides of the paper equal in length ?

3) What are the shapes of the paper pieces you have ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

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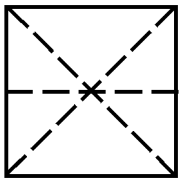
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 37 : Concept of geometrical figures.

Sub unit : Rectangular, Square, Triangular shape.

Materials : Paper, scissor.

Description of the Activity	Your Comments
1) Fold a square shaped paper as shown below.  2) Cut off along the folds. N. B. Separate sheets to be taken for all types of figures.	

Questions : 1) How many square shaped and how many trianguler pieces are there ?

2) What remark you can make on the triangular pieces ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

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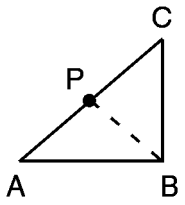
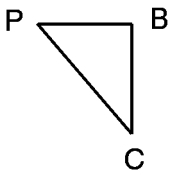
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 38 : Concept of geometrical figures.

Sub unit : Triangular shape.

Materials : Paper, Scissors, Pen.

Description of the Activity	Your Comments
1) Fold a square paper as shown below. 2) Fold along PB from the midpoint P of AC as shown.   	

Questions : 1) Compare the shapes found after the first fold and then after the second fold ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

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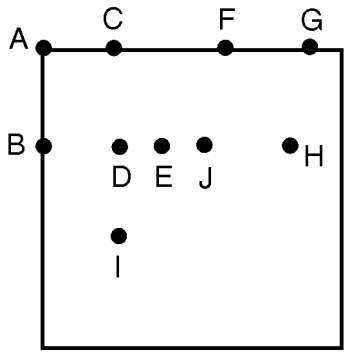
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 39 : Identification of different type of triangles and their classification.

Materials : A geo-board, board pins, rubber bands, papers, pencil, pair of scissors, scale, protractor.

Description of the Activity	Your Comments
1) Mark the points on the geo board as shown below and fix a pin in each point marked. 	
2) Enclose the figures ADE, ADI, ABD, ICJ, AFG, EHJ and those found on the board, with the help of rubber bands cut off paper pieces with same size and shape of these figures.	
3) Measure the length of sides of the triangles with a scale and the angles using a protractor.	

Questions : 1) Note down the measures thus found ?

2) How are they different from each other ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

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General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 40 : Classification of quadrilaters

Materials : A geo-board, board pins, rubber bands, papers, a pair of scissors, pencil, scale, protractor.

Prior prepartion : Teacher here to explain the students about the geo board

Description of the Activity	Your Comments

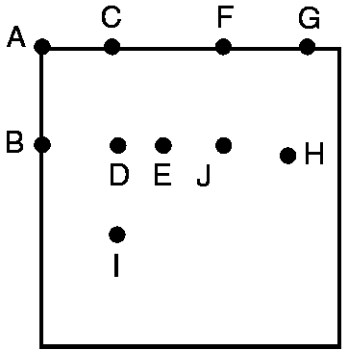
1) Mark the points on the geo board as shown below

N. B. :

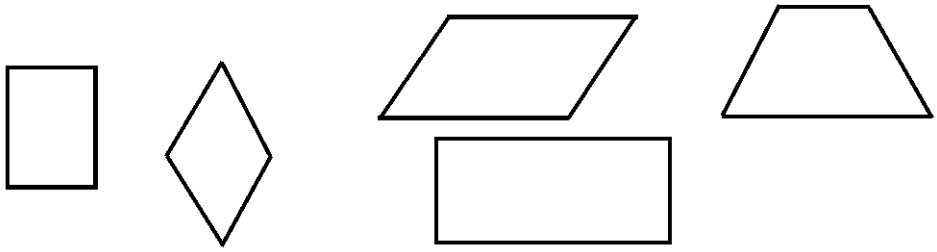
1) THE SEGMENTS AC, FG, AB, AC, FJ, GH, BAD, DE, EJ, JH, DI are all of equal length.

2) The points A, B; C, D, I; F, J; G, H must be on the same vertical lines.

3) The group of points A, C, F, G; B, D, E, J, H must be on the same horizontal line



2) Cover the figures ABDC, CBIE, CBEF, FGEH, ABJF with rubber bands and cut of papers with the same measure and shape.



3) use scales and protractor to measure the sides and angles of each figure.

Questions : 1) What are the measures of the lengths and angles of each type of quadilatsals.

2) What kind of angles are there in each type of figures.

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

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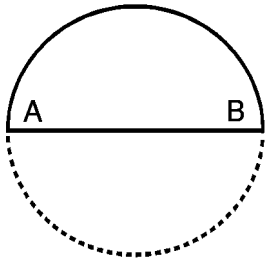
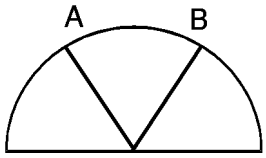
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 41 : Concept of geometrical figures

Sub unit : Hexagonal shape.

Materials : Paper, scissor, scale

Description of the Activity	Your Comments
1) Take a circular peice of paper and fold from the middle. 	
2) Make the points 'B' and 'A' on the circumstance in such a way that the semicircle is divided in three equal parts. 	
3) Cut off along the folds from 'A' and 'B' to the centre.	
4) Open the paper from its folds.	

Questions : 1) How many sides are there in a hexagon ?

2) Measure to see it all sides of the hexagon are equal ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

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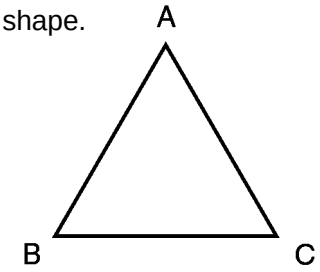
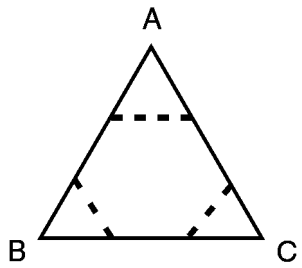
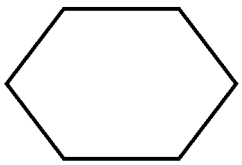
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 42 : Concept of geometrical figures

Sub unit : Hexagonal shape.

Materials : Paper, scissor, scale

Description of the Activity	Your Comments
1) Take a piece of paper triangular in shape. 	
2) Use the scale to draw lines as shown in the figure 	
3) Cut off along the lines marked. 	

Questions : 1) How many sides are there in a hexagon ?

2) Measure and find whether all sides of the hexagon are equal or not ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

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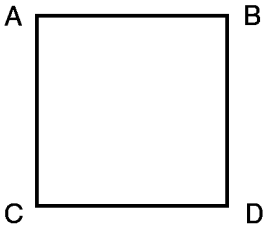
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 43 : How to make a regular octagonal shape by folding papers

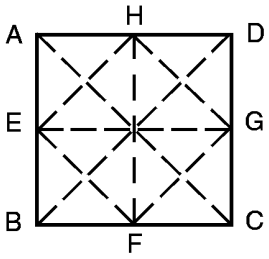
Materials : Paper, pencil, part of scissor, scale

Description of the Activity	Your Comments

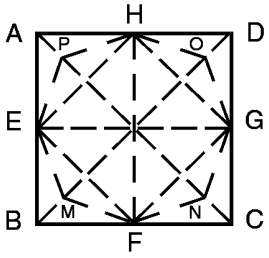
1) Take a square paper



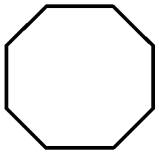
2) Fold to place AB on DC and then to place AD on BC, mark the mid points of the sides thus found. Join the mid points with a scale and pencil. Now fold by placing B on the corner D and C on the point A. Mark the lines along the folds.



3) Fold from A about EH, B about EF, C about FG, and D about HG. Now mark the point where the corners meet the two diagonal AC and BD.



4) Join EP, PH, HO, OG, GN, NF, FM and ME cut along these lines.



Questions : 1) How many sides does the figure have now ?

2) Meausre each side and verify are they equal in length ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

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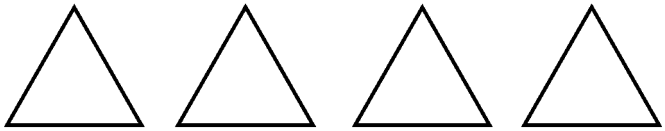
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity– 44 : Concept of geometrical figures

Sub unit : Regular tetrahedronal shape.

Materials : Card board, paper, pair of scissors, gum, sketch pen

Description of the Activity	Your Comments
1) Take four equilateral triangles made out of the card board papers.  2) Fix three triangles on the three sides of one triangle along the sides and make the opposite vertices of these three triangles to meet at one point.	

Questions : 1) How many surfaces does the model have now ?

2) How many edges are there ?

3) How many vertices does it here ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

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General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

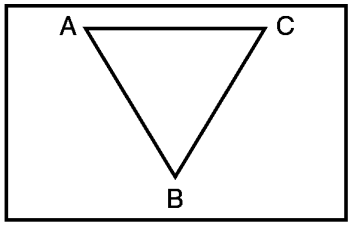
Activity – 45 : Concept of geometrical figures

Sub unit : Regular tetrahedronal shape.

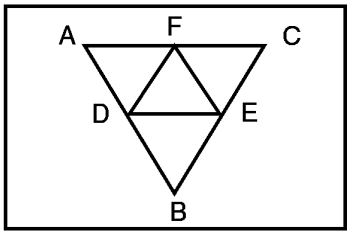
Materials : Card board, pair of scissors, gum, sketch pen, cellotape

Description of the Activity	Your Comments

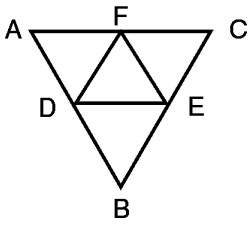
1) Draw a equilateral triangles of side 5 cm on a card board paper.



2) On each side of the triangle draw three equilateral triangles.



3) Cut along the sides AB, BC, CA



4) Fold along the lines DE, EF, FD to bring the triangles ΔAFD, ΔDEB and ΔFEC together so as other vertices A, B and C meet at a point and your would find the pair of edges AD, DB, BE, EC and FC, AF to run side by side. Fix the figure with cellotape.

Questions : 1) How many surfaces does the model have now ?
2) How many edges are there ?
3) What is the number of vertices the model you made has ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

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write the names of the participants (not more than 5 or 10).

1) .....

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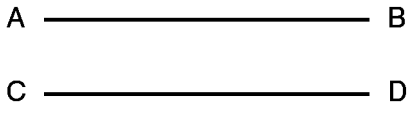
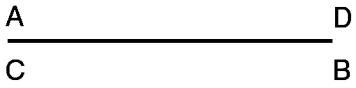
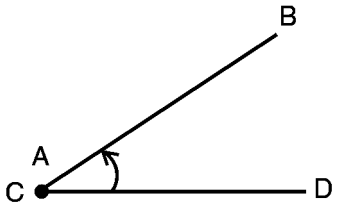
General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 46 : Concept of angle by rotating of a line

Materials : Sticks or straw, a thread, paper, pencil, protractor, scissors

Description of the Activity	Your Comments
1) Take two sticks and keep one on top of the other. 	
2) Tie the two sticks with A and C points together 	
3) Now rotate the stick AB about A. as shown in the figure. 	

Questions : 1) What is the measure of ∠BAD or ∠BCD ?

2) How many arms does the angle have ?

3) Which is the vertex or angular point. ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

.....

write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

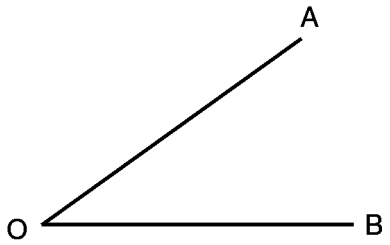
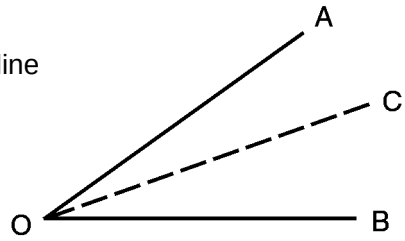
4) .....

5) .....

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

Activity – 47 : To bisect an angle by paper folding

Materials : Paper, pencil, pair of scissor, portractor

Description of the Activity	Your Comments
1) Draw an angle on a piece of paper and cut it out. 	
2) Fold the place OB on OA and mark line along the fold. 	

Questions : 1) Has the measure of the angle reduced after folding ?

2) Are the meaures of the angles ∠AOC and ∠COB equal ?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

WORK SHEET FOR CLASS VI

Date.....

Name of School.....

.....

write the names of the participants (not more than 5 or 10).

1) .....

2) .....

3) .....

4) .....

5) .....

General Instruction : Learners, do yourself the work according to the instruction. Write the question in the work sheet in your own language and submit it to your teacher. Teachers may add appropriate questions if necessary.

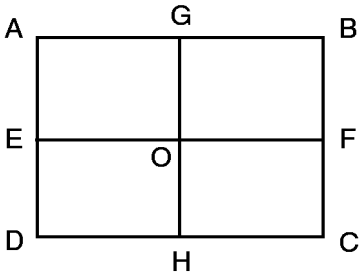
Activity – 48 : To draw a perpendicular bisector of a line segment with the help of paper folding.

Materials : Paper, sketchpen, protractor, scale.

Description of the Activity	Your Comments

1) Take a square shaped paper.

2) Fold the paper from the middle to place AB on D and another fold in a perpendicular direction to place BC on AD. Draw lines with the Sketch pen along the folds.



3) Mark the point of intersection of the two folds.

4) Measure the lenghts of $\overline{EF}$, $\overline{OE}$, $\overline{OF}$ and the angles $\angle GOF$, and $\angle EOG$.

Questions : 1) What are the measures of the angles ?

2) Is the point 'O' the mid point of the line segment $\overline{EF}$?

- **Write your observations and queries, if any :**

- **Teacher's Remarks :**

MATHEMATICS THROUGH ACTIVITY

Continuous And Summative Evaluation of Learners' Activity.

Learners' Name :

Class : **Section :** **Roll No :**

It is clearly mentioned in the notice (No- SSA/226/08. date : 29/12/2008) regarding evaluation for the schools approved by West Bengal Board of Secondary Education that, oral examination may be replaced by Project work. So it is proposed that the evaluation -sheet in this supplementary book may be used for each learner instead of oral examination of 10 marks in Mathematics. It is advised to do each activity as a group-work. Though the learners do their activity in a group, They should write their observations and remarks in their work-sheet in own language either individually or after discussing with their co-learners. The learners should write their queries individually, too, about their activities. the teachers while evaluating, each activity should consider 4 point scale A,B,C,D to calculate the efficiency with regard to the following abilities of the learners –

a) Ability to do the work, mixing with others in the group.

b) Sincerity, seriousness, enthusiasm and regularity in every-activity on its part.

c) Leadership.

d) Special ability to observe/remark.

e) Ability to analyse information/result.

f) Ability to express valued opinion.

g) Ability to solve the problem.

h) Ability to frame perfect and clear sentences.

i) Ability to question properly about the activity.

j) Ability to apply Mathematics in practical life.

k) Ability to express in mathematical language.

Considering above mentioned points teachers may award grade to he learners on the basis of 4 point scale A = very good, B = good, C= Average and D = needs improvement. They can evaluate the cearner's for obtaining average grade in project work.

Work Sheet No.	Abiltty (a)	Abiltty (b)	Abiltty (c)	Abiltty (d)	Abiltty (e)	Abiltty (f)	Abiltty (g)	Abiltty (h)	Abiltty (i)	Abiltty (j)	Abiltty (k)	Teacher's signature	Guardian's signature
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2													
3													
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Work Sheet No.	Abiltty (a)	Abiltty (b)	Abiltty (c)	Abiltty (d)	Abiltty (e)	Abiltty (f)	Abiltty (g)	Abiltty (h)	Abiltty (i)	Abiltty (j)	Abiltty (k)	Teacher's signature	Guardian's signature
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