

Chapter - 19 Problem Solving

Lesson Objective :

- What is problem and how to analyse ?
- What is problem solving?
- How to solve a problem?

Skills to be attained : Problem solving skill

Tools / Websites / Resources : Nil

Teacher Led Instructions :

What is problem and how to analyse

We encounter various problems daily, big or small, that require solutions based on available resources. They are

Step 1 : Identify the problem

Step 2 : Analyse the problem

Step 3 : Collect relevant data

Step 4 : Choose the best solution

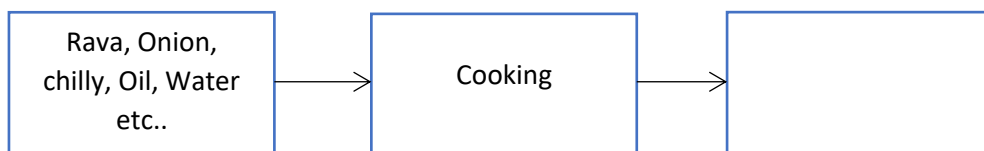
Step 5 : Implement the solution

Step 6 : Obtain the result



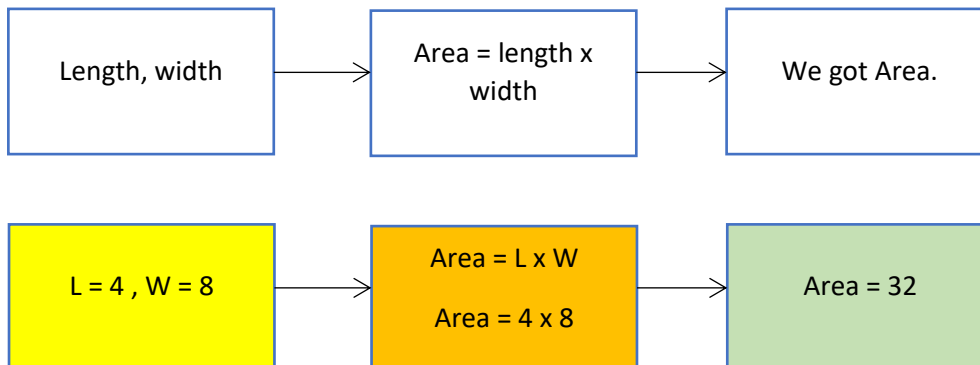
Problem 1 :

To prepare Upma, we need some ingredients then we cook and serve



Problem 2 :

To find the **area of a rectangle**, we need to know its length and width.



A simple code in python for above problem is

```
l = 4
w = 8
area = l * w
print(area)
```

Student Activities :

Activity 1 : What are the materials required to draw a picture and what is the outcome you will get ?

Activity 2 : What are the materials you need to build a house ? When you get all these materials what will be the outcome ?

Activity 3 : Analyse the following problems and find out input data and output solution.

Problem	Input	Output
add = a+b+c	a,b,c	add
avg = (x+y+z)/3	x,y,z	avg
x=a+b y=a-b z=a*b sum=x+y+z	a,b	sum
a=m+n b=a+5 c=a+b ans=a*b*c		
S=(a+b+c) /2 area=s*(s-a)*(s-b)*(s-c)		

$w=(a+b)^2$ $v=(x+y)^2$ $ans=(w^2+v^2)$		
---	--	--

Conclusion : Understanding problem-solving techniques equips us to tackle challenges more effectively by breaking them down, analyzing options, and finding the best solutions.

Activity :

<https://docs.google.com/forms/d/e/1FAIpQLSdBn0MEJOFR8UdEBMz8Eh0TYPVx93TEhRglkgiBoT-jeIg0pQ/viewform?pli=1>