

# ***PROBLEM SOLVING PROCESSES***

## ***FOR YOUNGER CHILDREN***

*Lily Pad*  
*What to Do*  
*Chart*  
*We Wish*  
*Chart a Solution*

## ***FOR OLDER CHILDREN AND ADULTS***

*Goal Wish Problem Solving*  
*Creative Problem Solving*  
*Six Point Problem Solving*  
*African Problem Solving*  
*Synectics*

## PROBLEM SOLVING PROCESSES FOR YOUNG CHILDREN

1. ♡ "LILY PAD"-- From *CPS for KIDS*, written by Bob Eberle and B. Stanish, published (1980) by D.O.K. Publishers, Inc., 71 Radcliffe Rd., Buffalo NY 12414.
2. \* "WE WISH" PROBLEM SOLVING--for larger groups, adapted from CCRC's Goal Wish Problem Solving by K. Albert, J. Johnson, P. Prutzman, and P. Quinn.
3. ★ "WHAT TO DO"--problem solving method, written by Kathryn Hegeman, published (1982) by Trillium Press, Box 921, Madison Square Station, New York, NY 10159. There are two levels of this method, one for preschoolers and one for K-3 graders.
4. ◇ "CHART A SOLUTION" PROBLEM SOLVING--from The Learning Works, Inc., for older primary and intermediate grades.

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### STEPS OF THE ABOVE PROBLEM SOLVING PROCESSES

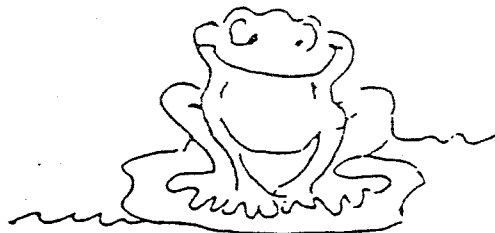
#### ♡ 1. "LILY PAD" STEPS

Start with the last step. Write it on a lily pad.  
Go back to step one and write it on a lily pad.  
Go to step two and write it on a lily pad.  
Go to step three and write it on a lily pad.  
Read all of the four steps in order.

#### \* 2. "WE WISH" STEPS

Brainstorm large group problems.  
Group chooses problem to work on.  
Group chooses three owners of problem.  
Owners describe problem in detail.  
Entire group brainstorms goal wish solutions--i.e., I wish....  
Owners get together and choose their preferred solution. They tell the whole class why they prefer that solution.  
If no objections are raised,---  
Solution is accepted and implemented.

A frog may have to jump on a lot of lily pads to get where it wants to go. Our goals, what we want to have happen, are sometimes like that, too. On the big lily pad, Number 4, write one thing you would like to have happen. Now go back to the other lily pads and write in what must happen before you get to the big lily pad.



No. 1 \_\_\_\_\_  
\_\_\_\_\_

No. 1 \_\_\_\_\_

No. 2 \_\_\_\_\_  
\_\_\_\_\_

No. 2 \_\_\_\_\_

No. 3 \_\_\_\_\_  
\_\_\_\_\_

No. 3 \_\_\_\_\_

No. 4 \_\_\_\_\_  
\_\_\_\_\_

No. 4 \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# WE WISH . . . .

## A PROBLEM SOLVING PROCESS FOR CLASSES OR OTHER LARGER GROUPS

### WE WISH PROBLEM SOLVING

- I. Brainstorm classroom problems (RECORD)
- II. Group chooses a problem to work on. (Each person chooses three of them. The one chosen most often is the one to be worked on.) The problem needs to be narrow in scope and specific.
- III. The owners describe the problem. (People who have this problem will discuss its details.).
- IV. Entire group brainstorms Goal Wish solutions. (RECORD)  

I wish .....
- V. Owners get together and choose their preferred solution. They tell why they prefer that solution. (Optional: Try to get owners to agree on one solution)
- VI. The owners tell how and when the solution will be implemented.

# GOAL WISH PROBLEM SOLVING

- I. Brainstorm problems
  - not global, small enough
- II. Group chooses a problem to work on
  - choose a real, individual problem
  - choose on the basis of interest
- III. "Owner" describes the problem in greater detail and depth
  - after the owner's description, question for clarity may be asked
- IV. Group brainstorms "goal wish" solutions (record)
  - state solutions beginning with "I wish. . . ."
  - not "You could . . . ." or "You should. . . ."
  - avoid blame
- V. Owner chooses preferred solution and describes possible difficulties with it
  - be sure to narrow down the problem, not widen it here
- VI. Group brainstorms ways to overcome difficulties (record)
- VII. Owner chooses ways to overcome difficulties and states how and when the solution will be implemented.

## Notes on GOAL WISH PROBLEM SOLVING,

adapted from CCRC's manual *Friendly Classroom for a Small Planet*.

Goal Wish Problem Solving is adapted from *The Practice of Creativity- A Manual for Dynamic Problem Solving* by George M. Prince, first published in 1970. The book was a direct result of the author's work with Synectics, Inc., a group he co-founded in 1960. CCRC adapted the process in 1972 and has used it successfully since. This problem solving process provides a structure for older children and adults to work on their problems within a supportive group.

Often a problem implies an accusation or blame, but formulating the solution as a "goal wish" emphasizes finding a non judgmental solution. Using "I wish" language encourages coming up with solutions without accusing others or placing blame. Consider as an example the following problem: A child continually puts down others in class. Instead of placing blame for the child's actions on someone else and saying, "The teacher (or principal or parent) should make her stop putting others down," a "goal wish" solution might be "I wish the child could find something she is good at and feel better about herself."

A good size for these problem solving groups is four to seven people. Groups work best if the members are homogeneous, perhaps all grade four teachers, or all from the high school math department, all parents of toddlers, or all guidance counselors, or all fifth grade students, etc. In this way, problems in which all have an interest can be worked on. However, people less familiar with problems discussed can often present a fresh, objective perspective.

Each group selects a facilitator and a recorder to write down brainstormed solutions. If a number of problems with aspects common to the group are brainstormed, one problem can be chosen for the initial session and other sessions can be set up weekly or daily to work on the problems one at a time. Some parent groups have met monthly in Goal Wish Problem Solving sessions, working on one problem per session.

## CREATIVE PROBLEM SOLVING INTRODUCTION

[This material, an introduction to a problem solving chapter, was written for *CCRC's Friendly Classrooms and Communities for Young Children*, the latest version of the K-2 Manual which CCRC has been using in packet form for a number of years. The current version is nearing final draft and will be published soon by CCRC.]

Creative Problem Solving, as described by CCRC, refers to a number of step-by-step approaches to solving personal and small/medium/large group problems. Sometimes those problems are small and discrete (i.e., choosing between two flavors of ice cream) or larger and wide-ranging (i.e., who to invite to a birthday party, or how to solve a friendship dispute, or where to go on our class trip). Very young children may not have the skills or developmental level to use such techniques as mediation, so we might use "Lily Pad", a guided problem solving method with very few steps.

When working with young children, problem solving can be approached in at least two ways, i.e., children can be prepared for problem solving by practicing and becoming adept at the skills needed when they problem solve, and children can learn specific problem solving processes. This manual will include several problem solving skills lesson plans and two problem solving processes which are appropriate for young children.

Whether it is a math problem or a problem of conflict between children, many skills are needed to be effective in a problem solving situation. One way to begin immediately to work on problem solving is to select some skills to work on. Often, teachers or facilitators are already working on many of the skills with the children in their groups. Some of those skills which are often helpful in problem solving are:

fluency--	generating a large number of ideas brainstorming
flexibility--	developing alternate uses for common objects developing alternate ideas from what is known
originality--	combining knowns into unknowns developing new (new to you) ideas
elaboration--	adding on, extending, embroidering
making connections--	connecting unrelated items and thoughts
paradox--	things can be two ways at once--hot-cold, up-down
risk taking--	taking a chance which increases risk willingness to put one's self on the line
memory training--	developing observation skills developing ways of remembering
communication skills--	listening, speaking, observing
cooperation skills--	group building skills
affirmation skills--	affirming self and others
bias awareness skills--	developing cultural awareness

## FLUENCY

Fluency is the ability to think of lots of possibilities or answers. The key word is MANY. Developing fluency skills allows children to see that they have numerous options to choose from and that there frequently may be more than one answer to a question.

Being fluent helps one to see that there may be many solutions to a problem that previously had been thought of as a "dead-end" issue. Fluency leads to originality. "Quantity breeds quality."

## BRAINSTORMING

Brainstorming is the basic technique for increasing fluency. This skill increases with practice. Here are some steps to guide you in using brainstorming with children.

1. Give the rules before beginning.
2. No put-downs.
3. Teacher should accept all responses without comments.
4. Teacher should tell students to "hold-onto" their idea until it's written down.
5. Students may give responses orally or write them.

Groups will generate more responses than individuals.

## FLEXIBILITY

Flexibility is finding ways to alter ideas, things, or habits. The key word is ADAPT. It is the ability to use many different approaches or strategies to solve a problem.

## ORIGINALITY

Originality is the ability to think of clever ideas, unusual responses, or see something in a different way. The key word is UNIQUE.

## ELABORATION

Elaboration is the ability to take something simple and stretch or expand on it by embellishing. The key words are ADD TO.



## WHAT ARE SOME PROBLEM SOLVING SKILLS?

Below is a list of problem solving skills. Following each term is a brief explanation of what is meant by that term.

fluency-----ability to generate a large number of ideas, brainstorming, sheer volume of ideas

flexibility-----alternate uses for common objects

originality-----new (new to you)  
combining knowns into unknowns

elaboration-----adding on, extending, embroidering, embellishing

tolerance of ambiguity--having two or more possible meanings, meaning hidden in difficult form

making connections-----synectics, ability to make connections between seemingly unrelated things

paradox-----things can be two or more ways at the same time, i.e., hot-cold, up-down, love-hate-a seemingly contradictory statement that may nonetheless be true

risk taking-----pursuing a course or idea which chances exposure to loss, damage, or criticism

memory training-----developing observation skills, holding a lot of information in mind at one time

# ***SIX POINT PROBLEM SOLVING***

## ***STEP ONE-----IDENTIFY AND DEFINE THE CONFLICT***

What is the conflict? Who owns the problem?

## ***STEP TWO-----GENERATE POSSIBLE ALTERNATIVE SOLUTIONS***

Brainstorm - don't censor!

## ***STEP THREE--EVALUATE ALTERNATIVE SOLUTIONS***

Check solutions out with everyone involved.

## ***STEP FOUR----DECIDE ON THE BEST ACCEPTABLE SOLUTION***

Can everyone agree to the solution?

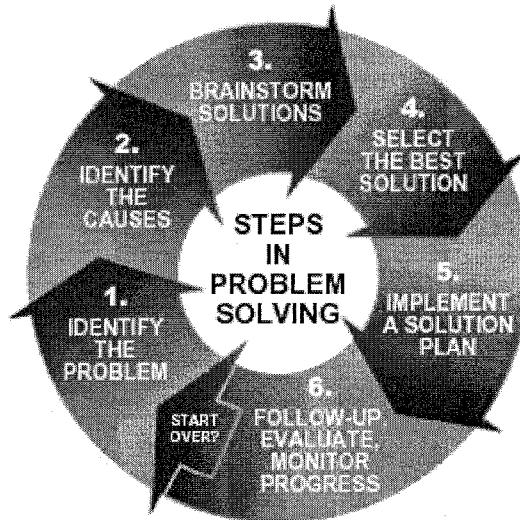
## ***STEP FIVE-----WORK OUT WAYS OF IMPLEMENTING THE SOLUTION***

Include an action plan and timeline.  
Schedule an evaluation date.

## ***STEP SIX-----FOLLOW UP TO EVALUATE***

How did the process and the solution work?

## Problem-Solving Process



### Steps in Problem Solving

1. Identify the problem
2. Identify the causes
3. Brainstorm solutions
4. Select best solution
5. Implement solution plan
6. Follow-up, evaluate, monitor progress

# ***AN AFRICAN PROBLEM SOLVING METHOD***

## ***Notes from a workshop by Dr. Hamdesa Tusso at the 1994 COPRED conference in St. Paul MN***

Dr. Hamdesa Tusso, Professor at George Mason University, presented the following problem solving method from Africa. Many kinds of conflicts are resolved using this method including domestic, marriage, property, inter- and intro-community national and international conflicts. The method is employed until the conflict is resolved. There is no time limit and therefore, the problem solving could last one day, two weeks, or more. Knowledge of the history, proverbs and culture of the people is an important part of the process.

The main features of the process are: identification of the problem, fair representation, deliberation, decision verdict, declaration, admission of guilt, penalty, forgiveness, cleansing through ritual and reconciliation.

These are the steps:

1. Identify the conflict through a presentation to the community leaders.
2. Identify elders, and facilitators for coordination of information of elders.
3. Formation of elders and selection of judge (not totally arbitration)
4. Deliberation of the conflict.
5. Hearing from conflict parties.
6. Hearing from witnesses. If stories are contested, the whole family is invited.  
(Dr. Tusso mentioned that it was unlikely the truth would not be told with the whole family present.)
7. Sort out issues and allegations.
8. Declaration of the findings (Verdict).
9. Admission of wrongdoing. (Someone must admit doing wrong.)
10. Forgiveness.
11. Administration of penalty.
12. Reconciliation.

The last stage may include hugging each other, taking time to talk out the situation. It is a bonding phase. The group does not want to remember the conflict anymore because they do not want the children to inherit animosity. A solution might even include one disputant family adopting the child of the other disputant family. Conflict is not personalized. Rituals remind people of the history. There is an assumption that conflicts will be resolved and that everyone will continue to be part of the group.