# Seeking a Solution
## Becoming an Effective Problem Solver

<table>
<thead>
<tr>
<th>Critical Learning</th>
<th>Materials and Interaction</th>
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<tbody>
<tr>
<td>✓ Understand what is meant by “problem solving”</td>
<td>• Access to the internet</td>
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<tr>
<td>✓ Explain 5 strategies, or techniques, for problem solving</td>
<td>• Student Resource and Student Response page</td>
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<tr>
<td>✓ Identify a problem, use a problem solving approach to arrive at a solution.</td>
<td>• 5 Sticky notes</td>
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<td>• Work with a partner</td>
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### Minds On

Problem solving refers to a situation in which you have a goal, but have no known or routine way of attaining it. The process of problem solving involves understanding the problem, planning steps and using reasoning to reach your goal, or solution. Problem solving skills are highly valued at college, in the workplace, and in life in general. Often, problem solving results in making a decision about a course of action.

A think-pair-share strategy consists of 3 steps:
1. think about the issue or question independently,
2. join a partner,
3. share your thinking with a partner and consider your partner’s thinking.

The steps are important for thinking process:
- you have an opportunity to access what you know and make personal connections,
- you have an opportunity to benefit from someone else’s thinking,
- you have an opportunity to articulate your thinking aloud, hear someone else think aloud, and then adjust as necessary by modifying, combining or adding ideas.

If your situation allows, use a think-pair-share strategy to understand the 5 techniques:

- Locate the guide, *Problem Solved! A Guide for Employers and Practitioners* at the internet address above. The first section, Problem Solving Techniques, outlines five different techniques, or strategies, for solving problems. The 5 techniques are:
  1. Five Whys Technique
  2. Proact Technique
  3. Creative Technique
  4. Collaboration Technique
  5. Plan, Do, Check, Act (PDCA) Technique

In conversation with your teacher, on your Student Response page, explain:
- Which technique you are most likely to use when working independently and why
- Which technique you are most likely to use when working on teams and why
- Which technique you are least likely to use and why.
Action!

- Read the scenario “The Problem with Group Work” that follows this lesson:

**Step 1**: Use 5 sticky notes. Ask yourself as you read: What really is the root problem? How would I mostly likely handle the problem? Pause to answer these questions 5 times, each time jotting your thinking on a sticky note and placing at the appropriate place in the scenario.

**Step 2**: Complete the Student Response page organizer, “The Problem With Groups” that follows the scenario, referring back to the scenario as necessary.

**Step 3**: Work through “Problem-Solving”, Student Response #2. This outline refers to Section 2 of “Problem Solved! A Guide for Employers and Practitioners”, which is transcribed for you.

Consolidation

- The trick with reflection is to avoid settling for an easy answer. Use guiding questions as an opportunity to assess your learning in an honest and meaningful way.

- Reflect on how well you solved the problem from the scenario using the following question prompts:

  1. Which of the techniques described in “The Guide for Employers and Practitioners” would you have used to solve the problem in the scenario? Why?
  2. How well do you think you solved the problem?
  3. What might you do differently? Why?
  4. What have you learned about problem-solving that might help you to deal with other problems?

Connections and Next Steps

- Turn your learning into action:
  - Who needs to hear about problem solving? A teacher? Employer? Classmate?
  - Why does this individual or group of people need to know?
  - What key ideas would you include in a report on problem solving?
  - What format or medium would you use to convey your message?

- This lesson prepares you for the next lesson: “Writing a Memo to Resolve a Problem” (5.2).
In one of your first-year college courses, your teacher has assigned you to work with three other students on a major research project. The assignment is worth 40% of the final mark and is due in four weeks. Your instructor indicates that by completing this assignment in groups, students will be provided with an opportunity to experience a workplace-like situation in which people must work collaboratively and constructively to produce a product. Your instructor argues that group work teaches students the benefits of teamwork and forces students to problem solve. There are a few stipulations that the teacher has highlighted. First, the groups are teacher-selected and no changes will be made. After all, employees don’t necessarily choose who their co-workers are. Second, all group members will get the same mark. Third, the group must deal with any problems or issues that arise.

You are diligent and hardworking. One of the members in your group, Dan, is quite bright but tends to keep to himself. Another member of the group, Artie, is academically weak, but always works hard to do his part of the work. The final member of the group is Shelby. She is unmotivated and unreliable as the result of holding down two part-time jobs. She has managed to pass the course so far because she is bright and has done well on tests.

Your group has divided the tasks equally among all members and decided on meeting dates and times. You find that the other members look to you as group leader. At your next meeting date, you discover that everyone except Shelby has completed his/her share of the work. She apologizes and promises to have the work done by the next meeting date. Not surprisingly, by the next meeting date, she has completed only parts of last week’s work and none of this week’s work. Your group members are livid and insist that you do something. What do you do?
# Seeking a Solution – Student Response #1

## Becoming an Effective Problem Solver

### THE PROBLEM WITH GROUPS Organizer

<table>
<thead>
<tr>
<th>What do I know?</th>
<th>What can I do?</th>
</tr>
</thead>
<tbody>
<tr>
<td>For example:</td>
<td>For example:</td>
</tr>
<tr>
<td>• I cannot consult with the teacher</td>
<td>• Discuss the issue with Shelby to find out</td>
</tr>
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<td>...</td>
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## Conclusions
Seeking a Solution – Student Response #2
Becoming an Effective Problem Solver

Problem Solving

STEP 1: WHAT IS THE PROBLEM?
• What are the symptoms of the problem?
• What is the root cause of the problem — the real problem?

STEP 2: WHAT ARE THE POTENTIAL SOLUTIONS?
• Are there any factors that you need to consider when choosing a solution? (e.g., policies, procedures, etc.)
• What are the advantages and disadvantages of each possible solution?
• What are the consequences of each possible solution?

STEP 3: WHAT IS THE BEST SOLUTION?
• Which solution is the best overall? Why?
• Choose a solution and act on it!

STEP 4: IS THE PROBLEM SOLVED?
• Did the chosen solution solve the problem? If not, return to Step 1 to review the problem again. Try using a different approach.


Teacher's Feedback:

☐ Still to do: _____________________________________________________________

☐ Successful

Comments:
Seeking a Solution
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Literacy Learning Self-Assessment Checklist

得意 Check items you have completed confidently in this lesson. Highlight items about which you have questions or need to consolidate further.

Critical Learning

☐ Understand what is meant by “problem solving”
☐ Explain 5 strategies for problem solving
☐ Identify a problem, and use a problem solving approach to arrive at a solution.

Minds On

☐ I understand 5 approaches to problem solving
☐ I know how and why to use a think-pair-share strategy
☐ I am aware of which problem solving techniques I am most likely and least likely to use

Action!

☐ I can use a guiding question and a limited number of sticky notes as a reading comprehension strategy
☐ I can apply a problem solving framework to a specific situation
☐ I can apply problem solving steps to a specific situation

Consolidation

☐ I understand why reflecting is important for learning
☐ I can use guiding questions to reflect on my thinking