

# Value-Based Problem Solving

There are many useful problem-solving strategies to identify and restate a problem, work toward a possible solution, and then re-evaluate the solution based on constraints, limitations, advantages, and disadvantages.

## TEACHER DIRECTIONS

- › Before students watch the video, review the problem-solving strategy to be used.
- › **Clarify:** Explain the difference among terms: constraints/limitations and roadblocks/obstacles. Clarify any questions students have related to their task.
- › **Video Introduction:** Provide a brief background to the video presentation and introduce the topic. Watch the first segment of the video.
- › **Think and Write:** Direct students to redefine the topic/problem before starting to think about a solution. List the constraints and limitations discussed identified in the video presentation.
- › **Groups:** Group students by choice or assignment. Remember to be sensitive to learners' needs (reading skills, attention skills, language skills) when creating pairs or triads.
- › **Problem-Solving Task:** Provide a time limit for students to agree on two possible solutions to the problem considering constraints/limitations. Provide discussion time to share possible consequences, the value of the consequence (how important is it?) and how the constraint or limitation could be eliminated. Then continue with the video.
- › **Discussion:** Provide discussion time for students to compare the actual solution to their own.

## STUDENT DIRECTIONS

- › Students will overview the problem-solving strategy to be used.
- › **Clarify:** Ask clarifying questions related to the problem-solving task.
- › **Video:** Watch the first segment of the video and take notes that will help to solve the problem. Listen carefully for information on the constraints and limitations identified by the presenter.
- › **Think and Write:** Redefine the problem by writing a problem statement on the problem-solving worksheet. List the constraints and/or limitations you heard identified.
- › **Group:** Partner or form groups according to the teacher's direction.
- › **Problem-Solving Task:** Work with your partner/group to: define the problem, state the constraints/limitations, and identify two possible solutions to solve the problem.
- › **Share:** Share one of your possible solutions and identify the value of the consequence of your choice. Discuss how it is like or unlike the presenter's solution and why you think it would be a useful solution to consider.

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# Value-Based Problem Solving | Student Template

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One approach to solving a problem is to brainstorm different thoughts and ideas when it is first presented. Listen carefully to the problem presented by the professional expert in the video. State the problem in the blue box below. List some possible solutions (by yourself or with your identified group). Discuss the consequences of this solution and decide if the consequences would be a pro or a con. In the value box, agree on the importance of the consequence and the reason you believe the consequence to be a pro or a con.

› The problem:



Possible Solutions	Consequences If I adopt this solution?	Pro or Con	Value How important is the consequence? Why?



› How does my problem solution compare/contrast to the expert's solution?

Name: \_\_\_\_\_ Video Title: \_\_\_\_\_ Date: \_\_\_\_\_