

PROBLEM-SOLVING

"I have not failed. I've just found 10,000 ways that won't work."

Thomas Edison

INTRODUCTION

Problem-solving is at the center of most work environments. Whether the problems are simple or complex, being able to solve problems effectively, efficiently, and with confidence will greatly contribute to the success in one's career. Effective problem-solving involves having the right attitude and applying a system that breaks down the problem, considers multiple solutions, and evaluates results. Since the act of music making constantly provides new challenges and problems to solve, both individually and in a collaborative setting, it is a very powerful training ground for students to develop this important skill.

LEARNING OBJECTIVES

From this lesson, students should be able to:

- Identify and define a problem
- Take a systematic approach to the problem
- Find multiple solutions to consider
- Evaluate the results and apply the system again if a solution doesn't work

8-10 MINUTE LESSON INTRODUCTION

At the beginning of a class, inform students that you will be discussing *problem-solving*. Briefly explain that effective problem-solving is essential to career success in almost every field, and that music provides an excellent opportunity to develop these skills. Discuss how problem-solving takes place as an individual is confronted with a challenge, as well as in collaborative working environments. Further discuss how effective problem-solving involves applying a process that can be used in any work situation.

You are encouraged to draw upon your own experience and examples when presenting this material. Briefly explain to your students that the process of effective problem-solving involves:

- **The Right Attitude:** Problem-solving requires an open mind and a willingness to acknowledge there is a problem. It also requires a strong sense of curiosity to constantly ask questions that can lead to a possible solution. For many, problem-solving is fun, like working on a puzzle or a brain game. So, enjoy the process!
- **Defining the Problem:** Once a problem is acknowledged, it's time to drill down to accurately define the problem. Once defined, a problem can often be expressed in a single sentence.
- **Breaking Down the Problem:** If the problem is complex, it might involve a web of multiple symptoms contributing to the problem that will need to be addressed. Effective problem-solving can involve breaking the problem down into smaller, more manageable components.
- **Generating Possible Solutions:** With the problem defined and broken down, one can apply divergent thinking to come up with multiple solutions. Through analysis, the best available solution can be selected and put into action.
- **Evaluating Results:** Evaluate the results to see if you successfully solved the problem. If the problem hasn't been fully resolved, the process can be repeated to create new solutions.

ASSIGN PROBLEM-SOLVING ACTIVITY

Distribute the following two-page activity to your students, and provide a due date that works best with your class schedule. You may wish to assign students a particularly tricky excerpt from the class's new repertoire, or solve a problem individually such as a technique they wish to master.

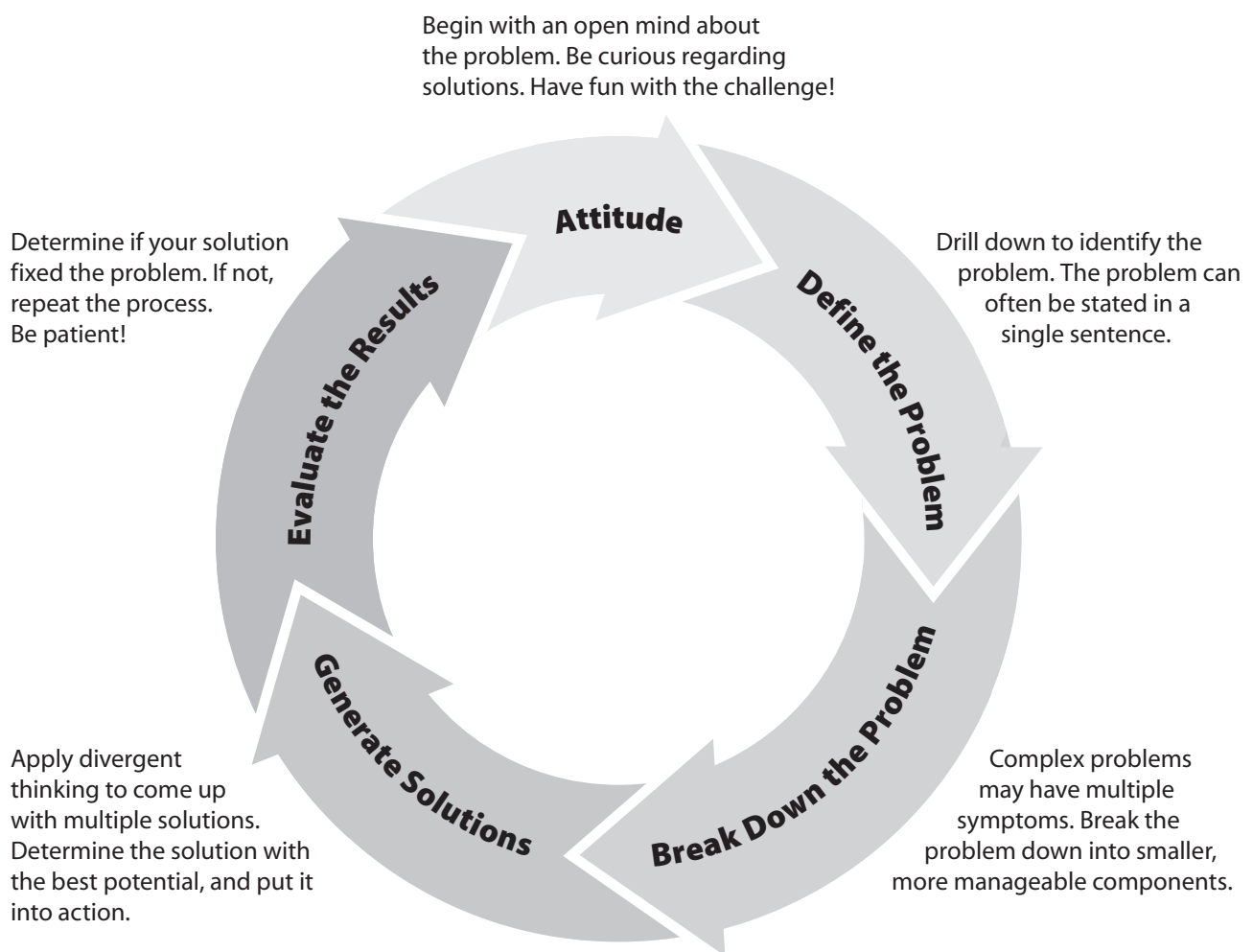
8–10 MINUTE LESSON SUMMARY AND REFLECTION

On the due date of the activity, schedule 8–10 minutes at the beginning of class to review and summarize the results.

Name _____ Due Date _____

ACTIVITY **PROBLEM-SOLVING**

1. Effective problem-solving comes from applying a process. This process can be applied to almost any problem—musical, academic, or work related. Review the following graphic (from the top moving clockwise), which outlines a problem-solving process.



2.  **Watch and Learn:** For additional information, review the video of professionals discussing problem-solving.