

Estimated Time

In most cases, we do **NOT** recommend adding time constraints to the Problem Scenarios because it may disrupt the thought process. There will be times when it will be helpful to go “under the clock” to prepare for the Performance Tasks. Therefore, we have included time estimates for you to use to prepare for testing.

Problem Scenario: *“Background Music”*

The Main Problem: **A primary school is thinking of playing background music in the classroom as students work. Is it a good idea?**

Your students will be viewing this problem from a **science** perspective.



**Total Time:
110 minutes**

How can we test the benefits of "music therapy"?
Students will review an experiment that tests how plants respond to different types of music.

They will then consider whether the results of these experiments can be used to promote or discourage the use of background music.

Step ①

Review
Stimulus
Items
30 minutes

Stimulus Item #1 — “Music and Plants” (science experiment)

***Students should take notes as they review the Stimulus Items*

Step ②

Classroom
Discussion
30 minutes

Lead a **class discussion** about issues related to the topic. You are being provided a sheet to help you guide the classroom discussion.

Step ③

Student
Response

****students should have access to their notes as they enter their answers*

****students may also have access to the Stimulus Items as they enter their answers*

40 minutes

Project Option: Have students **conduct the experiment** that has been provided, which tests the influence of music on plant growth. This is an experiment that requires several weeks of observations (if time is a factor, you can have students analyze “mock results”). Discuss the results as a class, and draw a conclusion as to whether the music had an impact. Ask students if they feel that the results of this experiment could help make any predictions about how background music might effect student grades. How could the experiment be adjusted to test that hypothesis?

↑ The “Project Response” is NOT included in this time estimate ↑

“Testing Conditions” Option: Have students answer the following questions using the online assessment system. Remind students to use information from the Stimulus Items to support their response.

- 1) **Describe an experiment that could be conducted to determine whether or not background music improves student grades. Be sure to identify the controlled variables and independent variables in the experiment.**

Step ④

Analysis

Rubrics to grade student entries have been provided, and all questions have been mapped to the content standards. Results can be analyzed through the online system.