



Mental Rotation

STEM Sims

Lesson 2: Is Time a Factor?

Have you ever heard the saying, “Being quick on your feet?” The saying means that a person can quickly solve a problem without having to spend a long time deriving the solution. Can you determine the relationship between problem-solving time and other seemingly unrelated factors?

Doing the Science

1. Start the Mental Rotation Simulation by clicking on the “Sim” tab.
2. Click the “Begin” button.
3. Use the sliders to rate your experience and abilities, and then click the “Done” button.
4. Read the on-screen instructions and click the “Begin Test” button to start testing.
5. After completing the test, note and record in Table 1 your score displayed on the screen.
6. Collect and record in Table 1 the scores of ten of your classmates. Do not include their names in the table.
7. Copy the 11 Time-Scaled Scores and Dancing Ability ratings (yours and the ten classmates) into a spreadsheet. Run a correlation between the Time-Scaled Scores and Dancing Ability ratings. Record the result in Table 1.
8. Repeat step 7 for Time-Scaled Scores and Athletic ability.
9. Repeat step 7 for Time-Scaled Scores and Experience with Spatial Orientation problems.

Table 1.

Student	Time-Scaled Score	Dancing Ability	Athletic Ability	Experience with Spatial Problems
You				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Correlation				

Do You Understand?

1. Which factor, Dancing Ability, Athletic Ability, or Experience with Spatial Problems had the strongest correlation with the students’ Time-Scaled Scores? Propose a possible reason for the strongest correlation.