

Tabletop Trickery

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This month's *Puzzle Corner* is a powerful optical illusion that persists in seeming impossible, even when you prove that it's not. A variation of this illusion appeared in the April 1998 *Physics Teacher* magazine, and is credited to Martin Gardner, the noted puzzle-creator. It consists of two seemingly very different tables that turn out to have congruent tops.

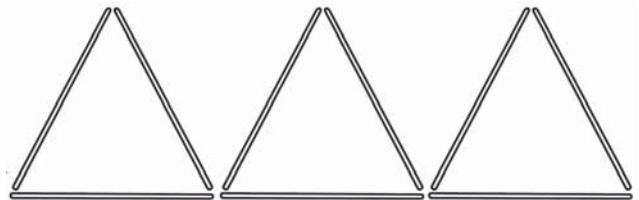
Our version of this puzzle pictures a room full of tables, and the challenge is to find the two that have congruent tops. To present this activity to your class, simply give each student a copy of the student page and allow them time to select the two tabletops that are congruent. Do not allow more than a couple of minutes for this portion of the activity. Students should have time to examine the page, but not be allowed to measure or use anything else to verify their responses.

To check their answers, the most effective method is to give each student (or group of students) a transparency copy of the page. This can be laid on top of their originals and rotated until the two congruent tables are discovered. Another option is to make a second photocopy of the page on white paper and allow students to cut out the tabletops that they think are congruent and compare them.

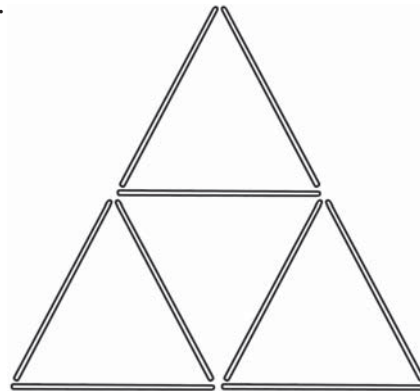
I can virtually guarantee that none of your students will select the correct two tables on the first guess. The illusion is so powerful that even those who have seen the original are unable to find the two congruent tables when there are many to choose from. Hopefully this activity will engage students and interest them in the fascinating realm of optical illusions. For more of these powerful puzzles, see the Optical Illusion/Visual Puzzles section of the newly reprinted AIMS publication *Puzzle Play*.

Last Month's Puzzle

The previous puzzle corner consisted of three triangles made from nine toothpicks as shown below.

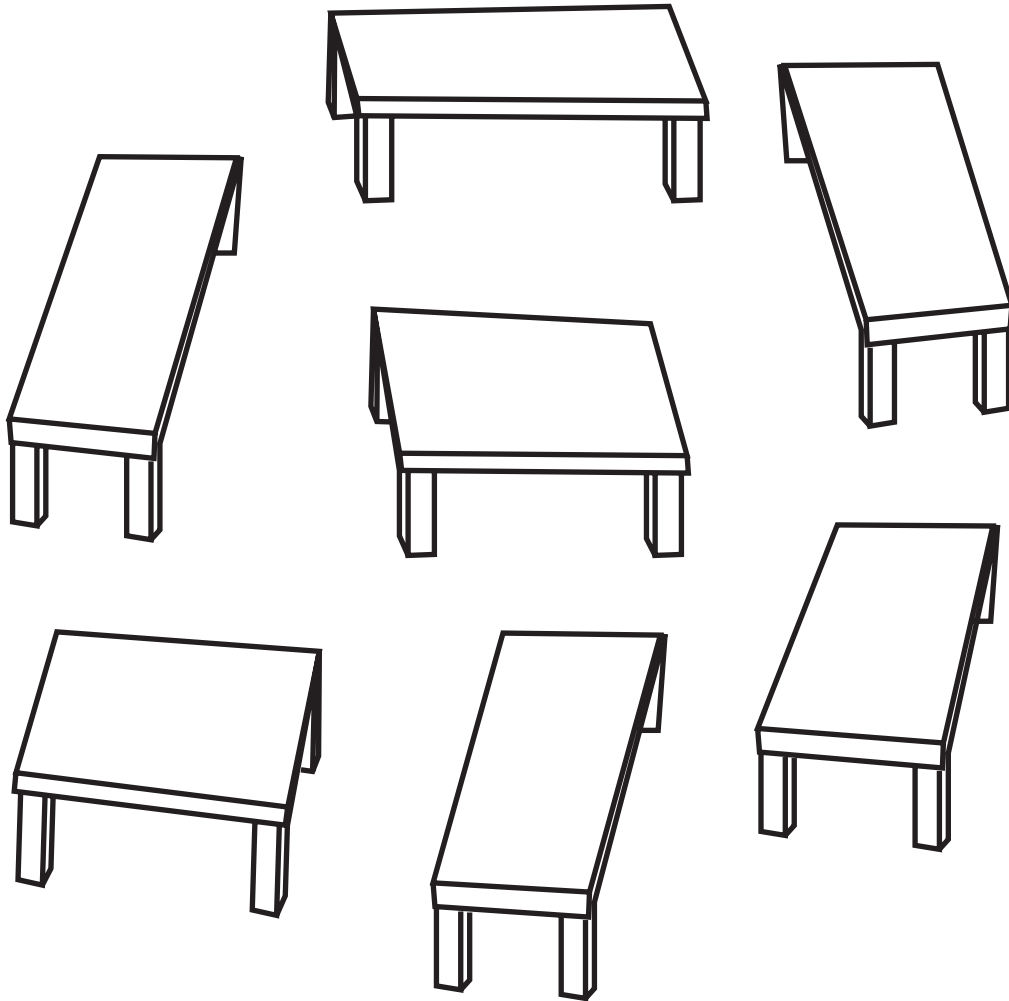


The challenge was to move only three of those toothpicks to create a total of five triangles. This can be accomplished by moving the triangle on either the left or right above the other two triangles. This gives you four small triangles and a fifth large triangle.



Tabletop Trickery

Two of the tabletops in this picture are congruent. They are exactly the same size and shape. Can you find the two that are the same? Circle your choices, then use the second page your teacher will give you to check your answer.



Were you surprised by the results?

Why is this illusion so powerful?