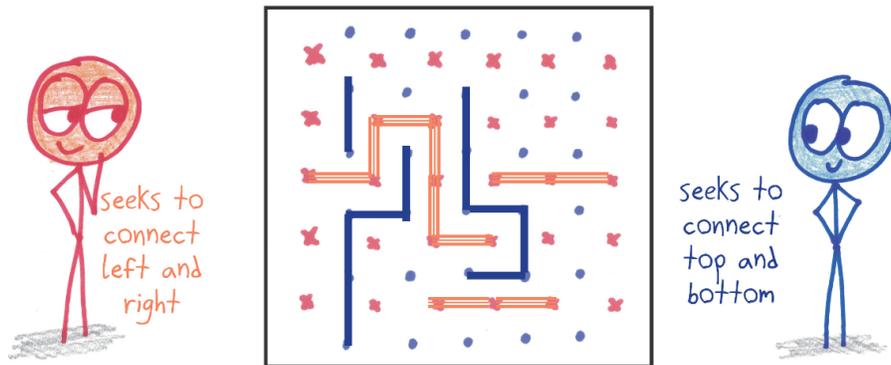# Bridg-It
A Game of Connections

For this classic game, you'll need two players, each with their own color pen. To begin, draw **two overlaid grids of dots, one in each color**. 5-by-6 is a good size, but you can go smaller (e.g., 4-by-5) or larger (e.g., 8-by-9). Then, **take turns connecting two adjacent dots in your color** via a short vertical or horizontal line. Lines may never cross.

The winner is whoever can **build a continuous chain across the long dimension of their grid**.

Invented by David Gale in the 1950s, and sold as a board game in the 1960s, Bridg-It is actually just one example of the Shannon Switching Game, developed by mathematician Claude Shannon several years earlier.[1] In Shannon's version, you draw any network that you like, labeling two special nodes "A" and "B." Players take turn shading arcs in their respective colors. One player (called "Short") aims to connect A to B. The other player (called "Cut") aims to prevent such a connection.

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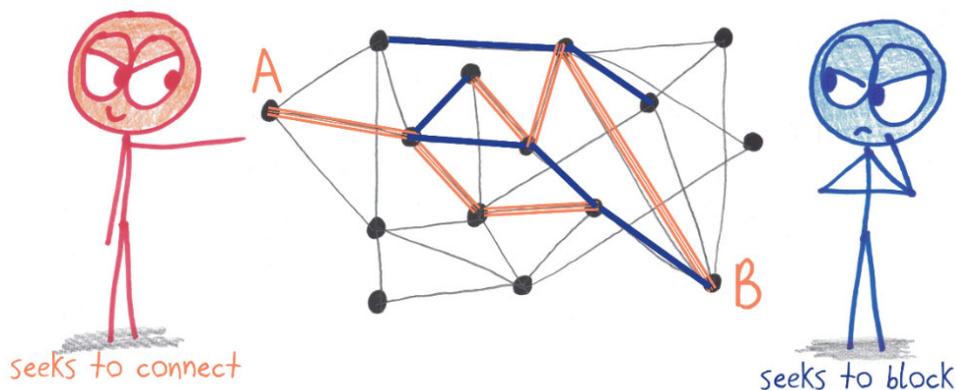
[1] Shannon was the founder of Information Theory, and better yet, a total mad scientist. Over the years, he built a fleet of unicycles, a flame-throwing trumpet, a juggling robot, a calculator that worked on Roman numerals, and my personal favorite, a box with a switch that, when flipped "ON," prompted a disembodied hand to emerge from within and grouchily flip the switch back to "OFF." It was a kind of existential snooze button.

As it turns out, no Shannon Switching Game can end in a tie. This is easy to see in general (since A and B must either be connected, or not) yet much less obvious for Bridg-It. In any case, I love how the asymmetry of Shannon's game—one player a creator, the other a destroyer—can be paraphrased into a symmetric game, with each player trying to build a bridge.