Given N random points on the plane, what is the shortest network connecting these points? This is a classic Polya-type question—easy to state but surprisingly deep and multi-layered. In this talk I will borrow from Polya’s ”teach by guessing” approach to pluck some of the low hanging fruit of this problem: $N = 3$, and a few special cases for larger values of $N$. (Received February 11, 2020)