In 1926 Emil Artin gave an algebraic characterization of braids as sequences of crossings. These sequences, or more properly, cosets of these sequences, form an infinite group that Artin defined in terms of generators and relations. The answers to many questions about braids, however, have remained elusive even in the relatively simple case of three-strand braids.

In this talk we solve the problem of enumerating distinct three-strand braids in terms of their minimum crossing number representations. The Fibonacci numbers play a surprising role in the solution to this problem.