Consider the category of modules over an algebra or perhaps of sheaves on a space. Can you define an equivalence between two such categories? One surprisingly effective method for doing this is inspired by the representation theory of \( \text{sl}(2) \). We will survey various applications of this technique including Chuang and Rouquier’s remarkable proof of Broué’s defect conjecture for symmetric groups, equivalences between categories of coherent sheaves on Grassmannians and constructions of homological knot invariants.