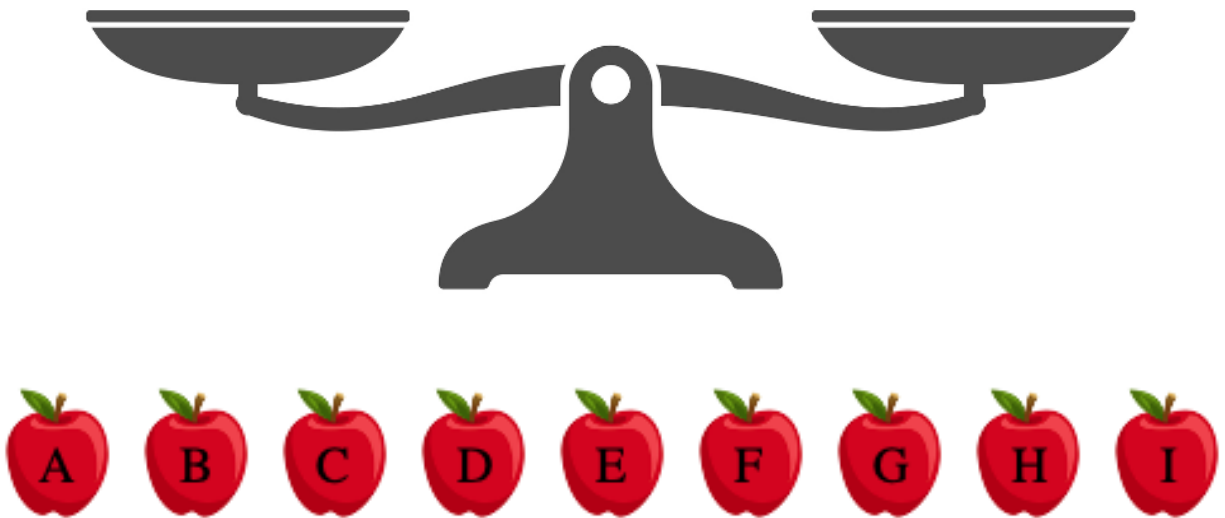


On Balance:

Level D

Suppose you were presented with nine apples (A through I). Eight apples are the same weight, and the ninth either weighs more or weighs less than the others. List the process steps and decisions you need to make in order to determine which apple is different, and whether it is heavier or lighter than the others.



You are given any number of apples between 3 and 9, and you know that one of the apples is either heavier or lighter than the others, which all weigh the same. For each set of apples, what is the least number of weighings necessary to guarantee that you find the one that is a different weight than the others and whether it's lighter or heavier?

