Counterfeit Coins

You have 10 stacks of coins, each consisting of 10 quarters. One entire stack is counterfeit, but you don't know which one. You do know the weight of a real quarter and you know that each counterfeit coin weighs one gram more than it should.

You may weigh the coins on a scale that tells you exactly how heavy the coins are. What is the smallest number of weighings necessary to determine which stack is counterfeit?