

# Weigh to go!

You are appearing on a new TV quiz show called “The Golden Hour”, which gives contestants the chance to win bars of gold if they can solve that week’s challenge.

You and the other contestants are given 9 bars of “gold” – but only ONE is REAL. All 9 bars look identical and there is only one way to tell which is the real one. All the bars weigh the same except the real gold bar – which is heavier than the others.



The programme host explains that the only equipment you can use is an old fashioned pair of balances. The contestant who can work out which is the REAL gold bar using the balances the LEAST number of times will win the gold.



Barney Brainless thinks that he will need to use the balances NINE times to work out which is the real gold bar.

Barry Boastful – who thinks he is brilliant - reckons he can do it by using the balances only SIX times.

After some thought, Bertie Boffin says quietly that he can do it after only THREE weighings.

What about you? How many times will you need to use the balances to guarantee finding the real gold bar?



The next week, the challenge is even harder. Contestants have to find the real bar from 25 bars. How many times would you need to use the balances?