6 The gravitational field strength at the Earth's surface is $9.81 \, N \, kg^{-1}$. Assume that the Earth is a sphere of radius $6.37 \times 10^6 \, m$.

What is the mean density of the Earth?

A $1840 \, kg \, m^{-3}$

B $2890 \, kg \, m^{-3}$

C $5510 \, kg \, m^{-3}$

D $4.68 \times 10^{10} \, kg \, m^{-3}$