



What is the mass of 5 moles of Fe_2O_3 ?

The mass of a substance is calculated $m = n \times M$.

The molar mass of Fe_2O_3 is

$$M = 2M_{Fe} + 3M_O = 2 \times 55.8 \frac{g}{mol} + 3 \times 16 \frac{g}{mol} = 159.6 \frac{g}{mol}$$

The mass of 5 moles is $m = 0.5 \text{ mol} \times 159.6 \frac{g}{mol} = 79.8 \text{ g}$