



# MOLES, MOLECULES, & GRAMS WORKSHEET

Name : \_\_\_\_\_

Date : \_\_\_\_\_

## Answers

1) How much do  $7.4 \times 10^{23}$  molecules of  $\text{AgNO}_3$  weigh?

Molar mass of  $\text{AgNO}_3 = 169.87 \text{ g/mol}$

So,  $7.4 \times 10^{23}$  molecules of  $\text{AgNO}_3$  weigh 208.7 grams

2) How much do  $7.5 \times 10^{23}$  molecules of  $\text{H}_2\text{SO}_4$  weigh?

Molar mass of  $\text{H}_2\text{SO}_4 = 98 \text{ g/mol}$

So,  $7.5 \times 10^{23}$  molecules of  $\text{H}_2\text{SO}_4$  weigh 122.03 grams

3) How much do  $4.5 \times 10^{22}$  molecules of  $\text{Ba}(\text{NO}_2)_2$  weigh?

Molar mass of  $\text{Ba}(\text{NO}_2)_2 = 229.35 \text{ g/mol}$

So,  $4.5 \times 10^{22}$  molecules of  $\text{Ba}(\text{NO}_2)_2$  weigh 17.13 grams

4) How much do  $4.3 \times 10^{21}$  molecules of  $\text{UF}_6$  weigh?

Molar mass of  $\text{UF}_6 = 352.02 \text{ g/mol}$

So,  $4.3 \times 10^{21}$  molecules of  $\text{UF}_6$  weigh 2.51 grams

5) How much do  $1 \times 10^{24}$  molecules of  $\text{BCl}_3$  weigh?

Molar mass of  $\text{BCl}_3 = 117.17 \text{ g/mol}$

So,  $1 \times 10^{24}$  molecules of  $\text{BCl}_3$  weigh 194.53 grams

6) How much do  $3.3 \times 10^{23}$  molecules of  $\text{N}_2\text{I}_6$  weigh?

Molar mass of  $\text{N}_2\text{I}_6 = 789.44 \text{ g/mol}$

So,  $3.3 \times 10^{23}$  molecules of  $\text{N}_2\text{I}_6$  weigh 432.53 grams

7) How much do  $2.3 \times 10^{24}$  molecules of  $\text{Ag}$  weigh?

Molar mass of  $\text{Ag} = 107.87 \text{ g/mol}$

So,  $2.3 \times 10^{24}$  molecules of  $\text{Ag}$  weigh 411.92 grams