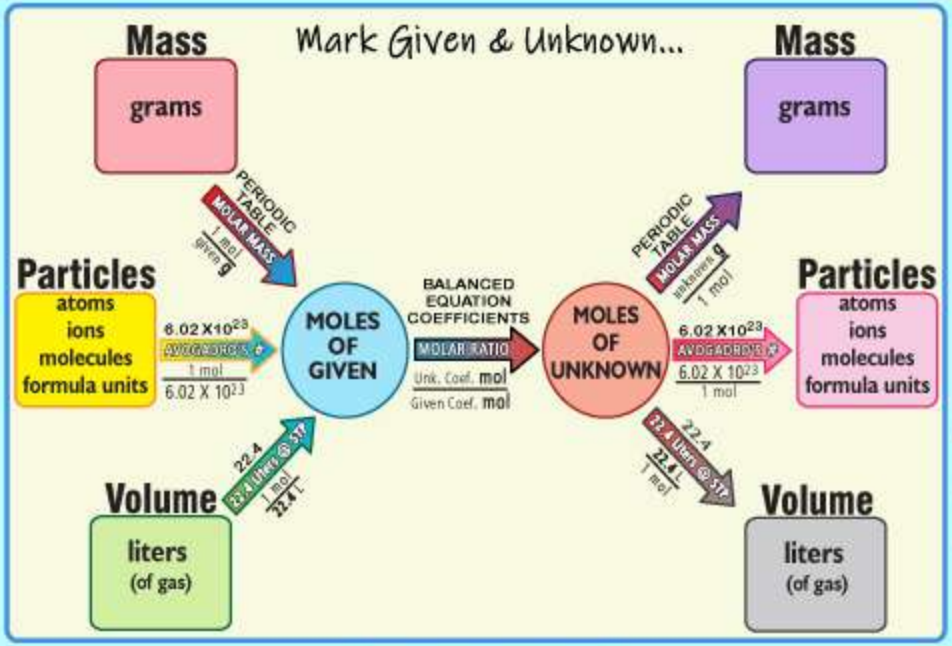


DRAG GIVEN UNKNOWN

Practice

How many **grams of Al_2O_3** are needed to produce **34.5 L of O_2** gas at STP?

$$2Al_2O_3 \rightarrow 4Al + 3O_2$$

GIVEN

UNKNOWN

#of STEPS

TYPE

Show your work...

34.5 L O_2

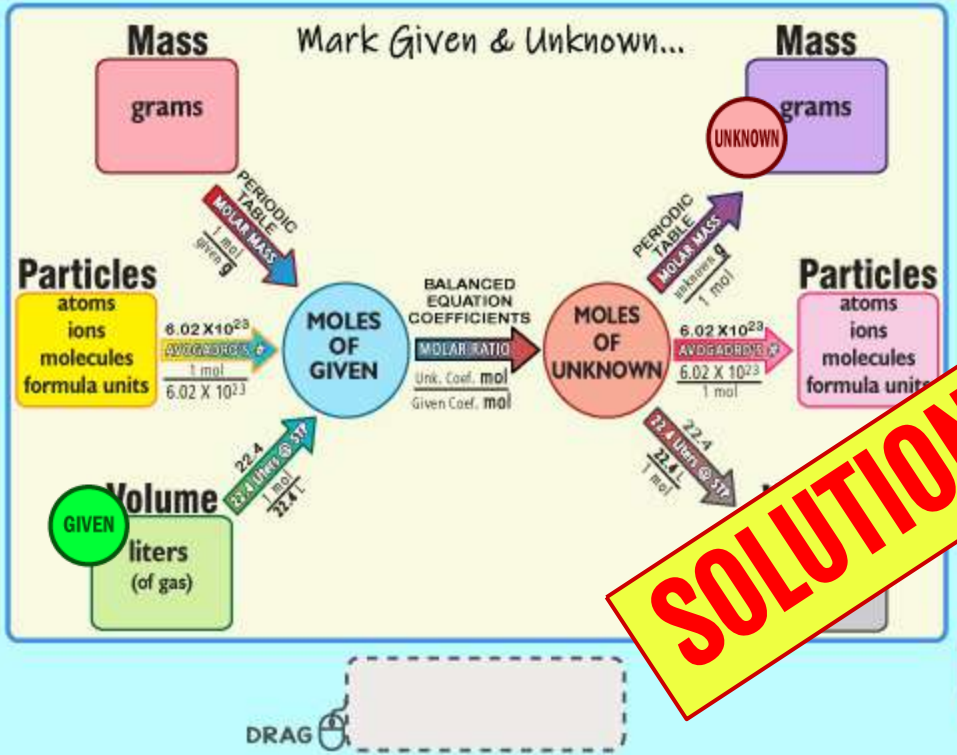
Molar Ratio

=

ROUNDED ANSWER

TYPE

© Teamwork Toolbox



SOLUTION

Practice

How many **grams of Al_2O_3** are needed to produce **34.5 L of O_2** gas at STP?

$$2Al_2O_3 \rightarrow 4Al + 3O_2$$

GIVEN	Liters of O_2
UNKNOWN	Grams of Al_2O_3

3
#of STEPS

TYPE

Show your work...

$$34.5\ L\ O_2 \cdot \frac{1\ mole}{22.4\ liters} \cdot \frac{2\ mol\ Al_2O_3}{3\ mol\ O_2} \cdot \frac{101.96\ grams}{1\ mole} =$$

Molar Ratio

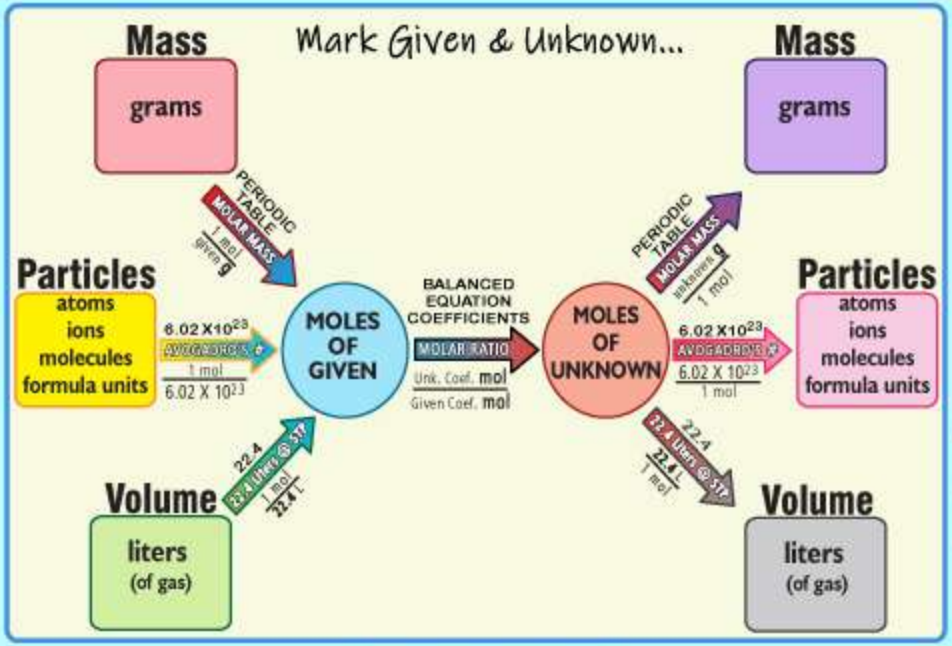
ROUNDED ANSWER

105 grams Al_2O_3

TYPE

© Teamwork Toolbox

CHECK YOUR WORK BEFORE MOVING ON TO THE NEXT SECTION!



DRAG GIVEN UNKNOWN

1 How many **moles of S_2** are needed to produce **.750 moles of SO_2** gas?

$$S_2 + 2O_2 \rightarrow 2SO_2$$

GIVEN

UNKNOWN

#of STEPS

TYPE

Show your work...

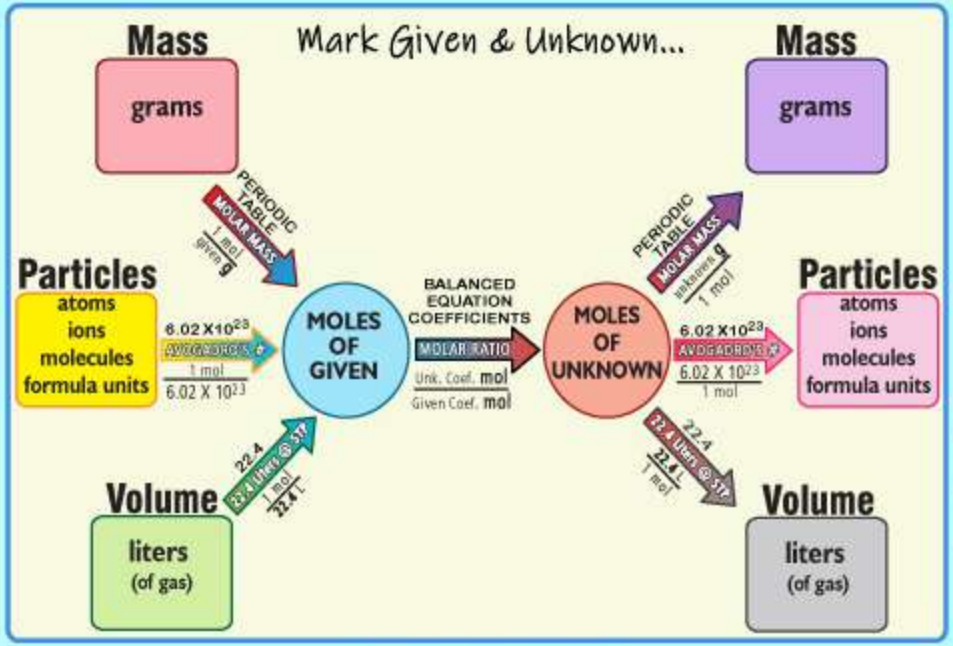
Molar Ratio

ROUNDED ANSWER

= Moles S2

TYPE

© Teamwork Toolbox



DRAG GIVEN UNKNOWN

2 How many **liters of H_2** gas are made when **1.50 moles of Al** are reacted @ STP?

$$2Al + 6HCl \rightarrow AlCl_3 + 3H_2$$

GIVEN

UNKNOWN

#of STEPS

TYPE

Show your work...

1.50 mol Al

Molar Ratio

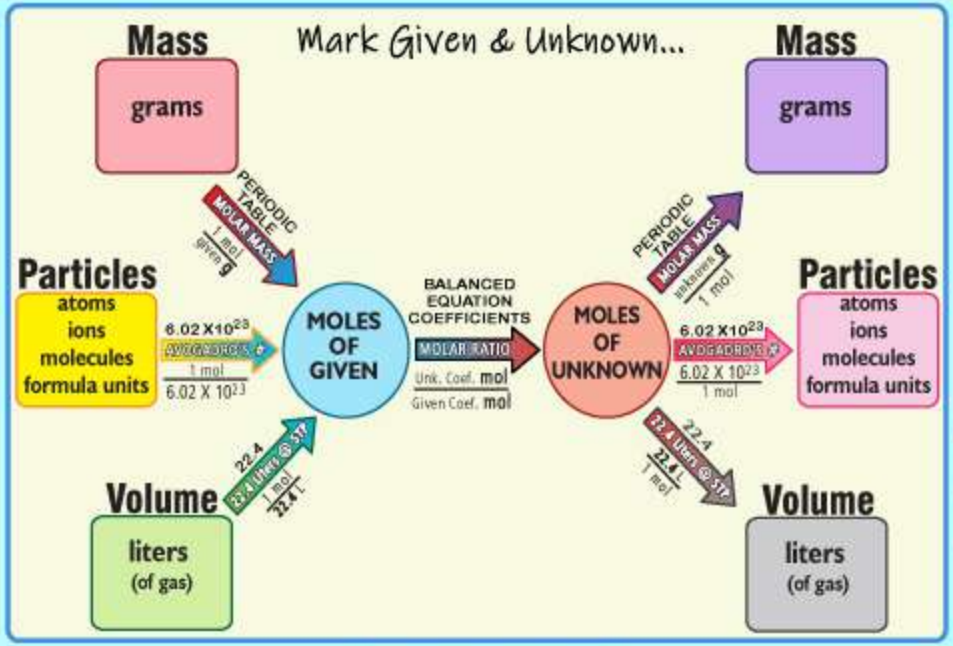
=

ROUNDED ANSWER

L H2

TYPE

© Teamwork Toolbox



DRAG GIVEN UNKNOWN

3 How many **grams of C_3H_8** must be used to produce **3.75×10^{24} molecules of CO_2** gas?

$$C_3H_8 + 5O_2 \rightarrow 3CO_2 + 4H_2O$$

GIVEN

UNKNOWN

#of STEPS

TYPE

Show your work...

3.75×10^{24} molecules CO_2

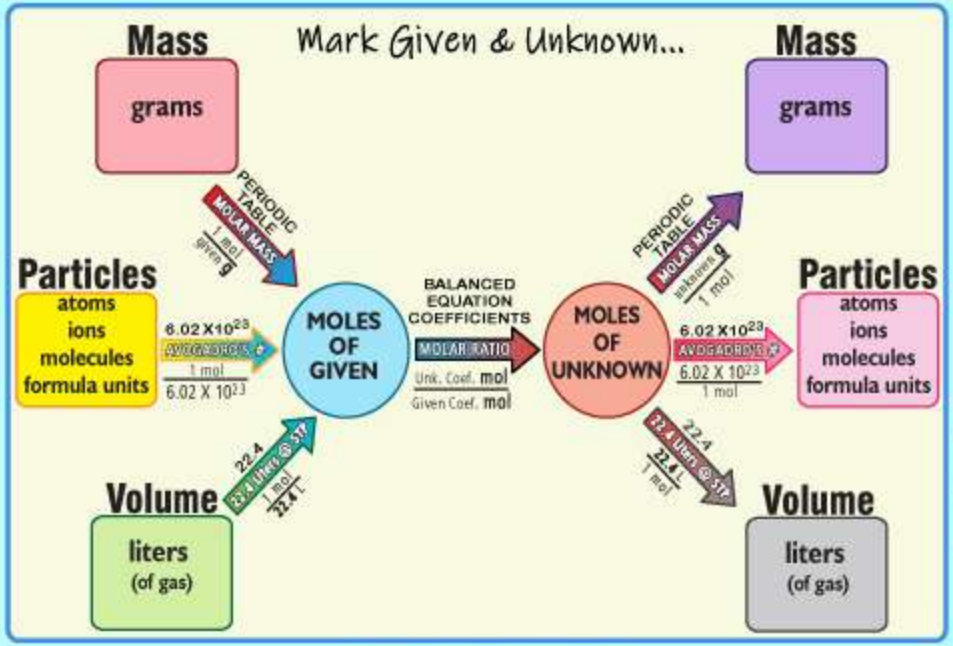
Molar Ratio

ROUNDED ANSWER

TYPE

© Teamwork Toolbox

CHECK YOUR WORK BEFORE MOVING ON TO THE NEXT SECTION!



DRAG GIVEN UNKNOWN

4 How many **atoms of Al** are needed to react with **34.5 grams of O_2** gas?

$$4Al + 3O_2 \rightarrow 2Al_2O_3$$

GIVEN

UNKNOWN

#of STEPS

TYPE

Show your work...

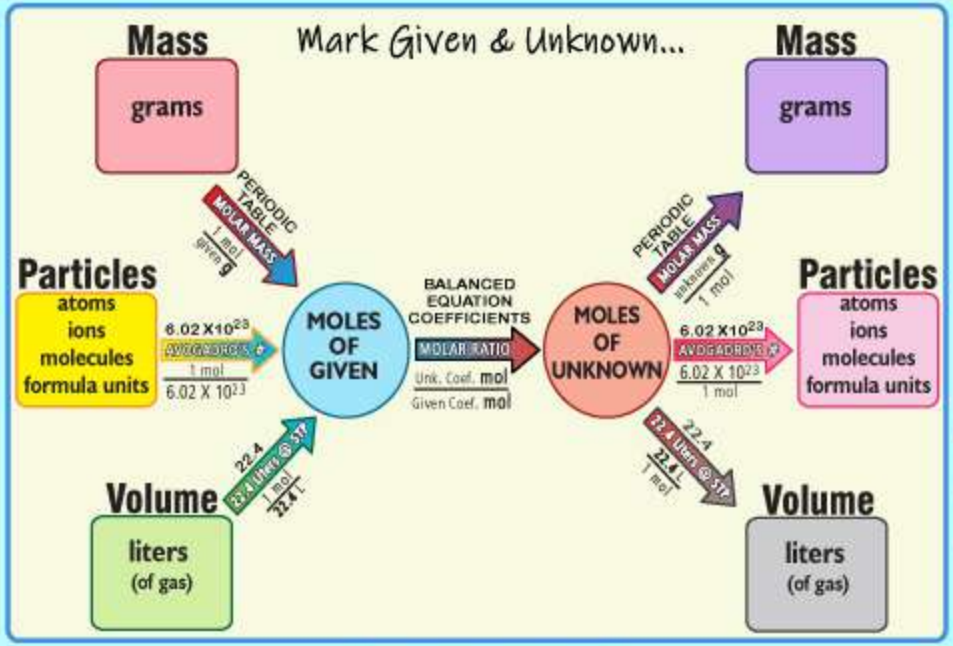
34.5 grams O_2

Molar Ratio

ROUNDED ANSWER

TYPE

© Teamwork Toolbox



DRAG GIVEN UNKNOWN

5 What **mass of KCl** can be produced if **30.0 grams of Cl_2** reacts with excess KBr?

$$2KBr + Cl_2 \rightarrow 2KCl + Br_2$$

GIVEN

UNKNOWN

#of STEPS

TYPE

Show your work...

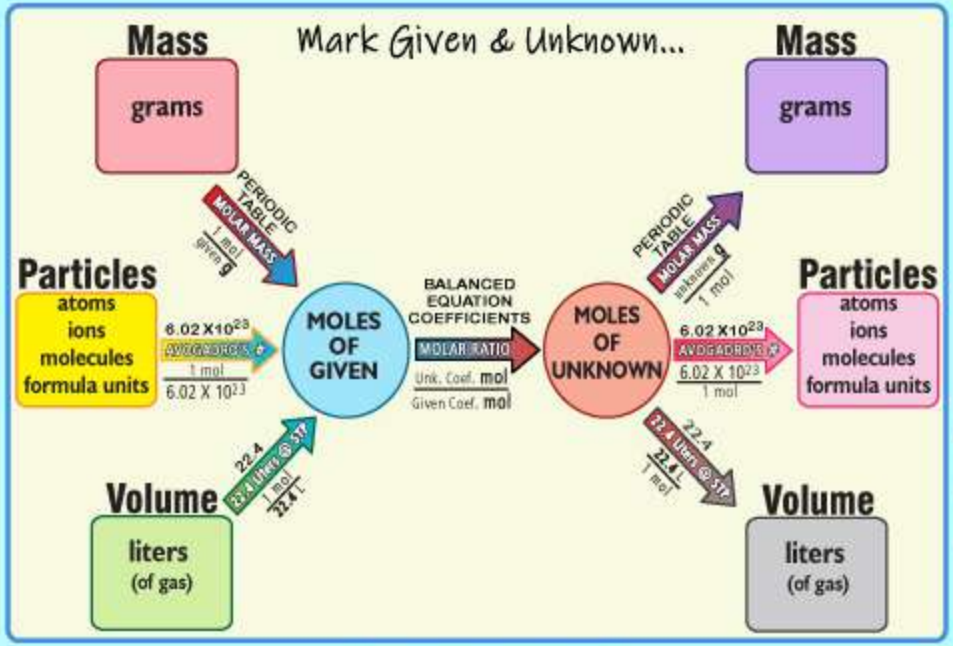
30.0 grams Cl_2

Molar Ratio

ROUNDED ANSWER

TYPE

© Teamwork Toolbox



DRAG GIVEN UNKNOWN

6 How many **grams of SO_2** can be produced if **2.5 moles of O_2** are used?

$$S_2 + 2O_2 \rightarrow 2SO_2$$

GIVEN

UNKNOWN

#of STEPS

TYPE

Show your work...

2.5 moles O_2

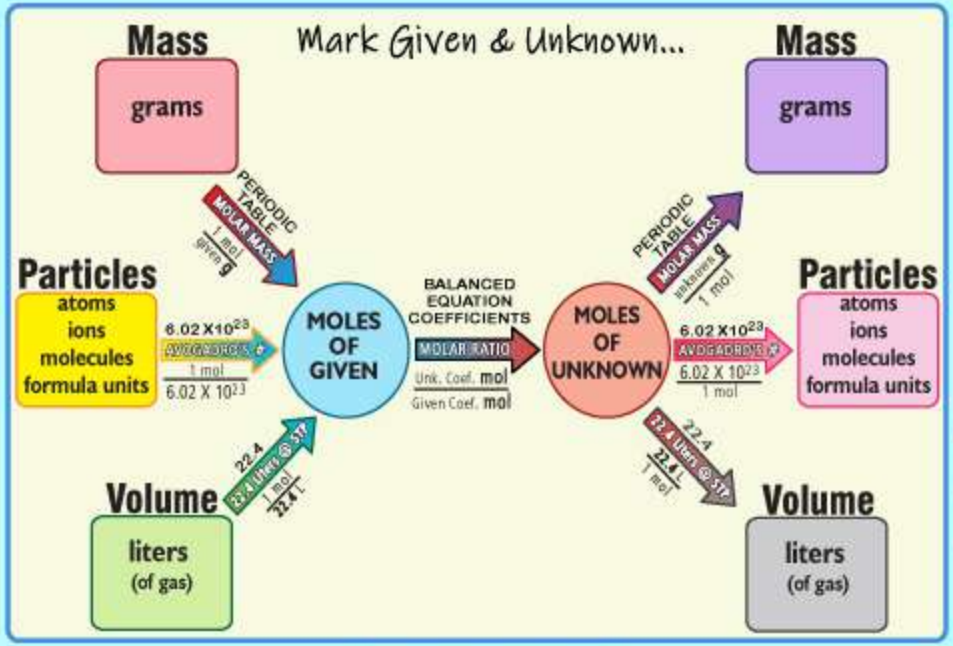
ROUNDED ANSWER

*Depending on the number of steps in this conversion, you may not need all three sections of this grid.

TYPE

© Teamwork Toolbox

CHECK YOUR WORK BEFORE MOVING ON TO THE NEXT SECTION!



DRAG GIVEN UNKNOWN

7 How many **moles of H_2** gas are released when **3.85 moles of HCl** react with excess aluminum?

$$2Al + 6HCl \rightarrow 2AlCl_3 + 3H_2$$

GIVEN

UNKNOWN

#of STEPS

TYPE

Show your work...

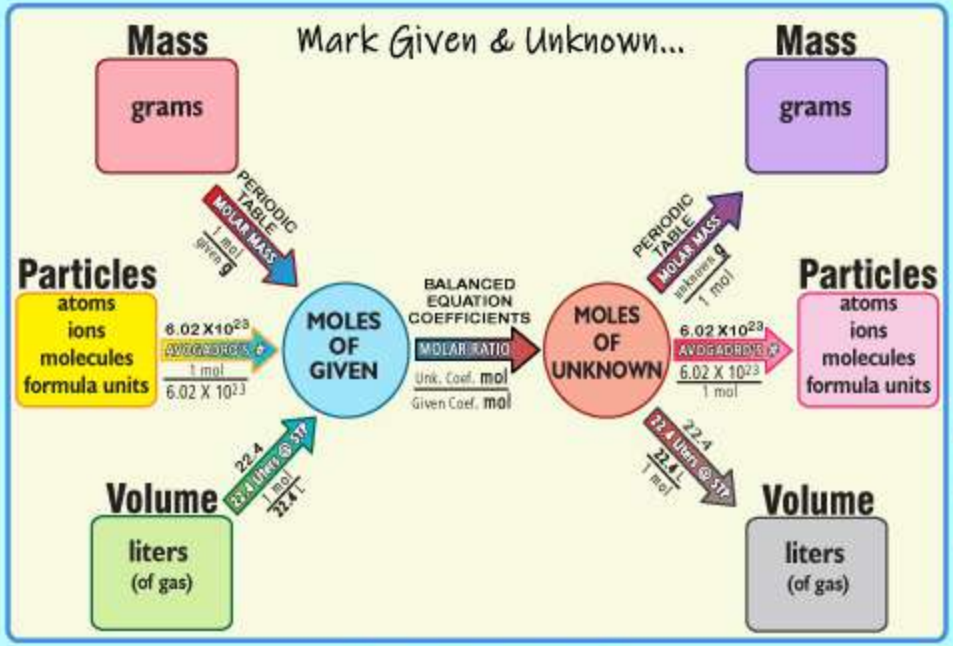
3.85 moles HCl

ROUNDED ANSWER

*Depending on the number of steps in this conversion, you may not need all three sections of this grid.

TYPE

© Teamwork Toolbox



DRAG GIVEN UNKNOWN

8 How many **liters of H_2O** gas are produced when **7.25 liters of C_3H_8** are burned at STP?

$$C_3H_8 + 5O_2 \rightarrow 3CO_2 + 4H_2O$$

GIVEN

UNKNOWN

#of STEPS

TYPE

Show your work...

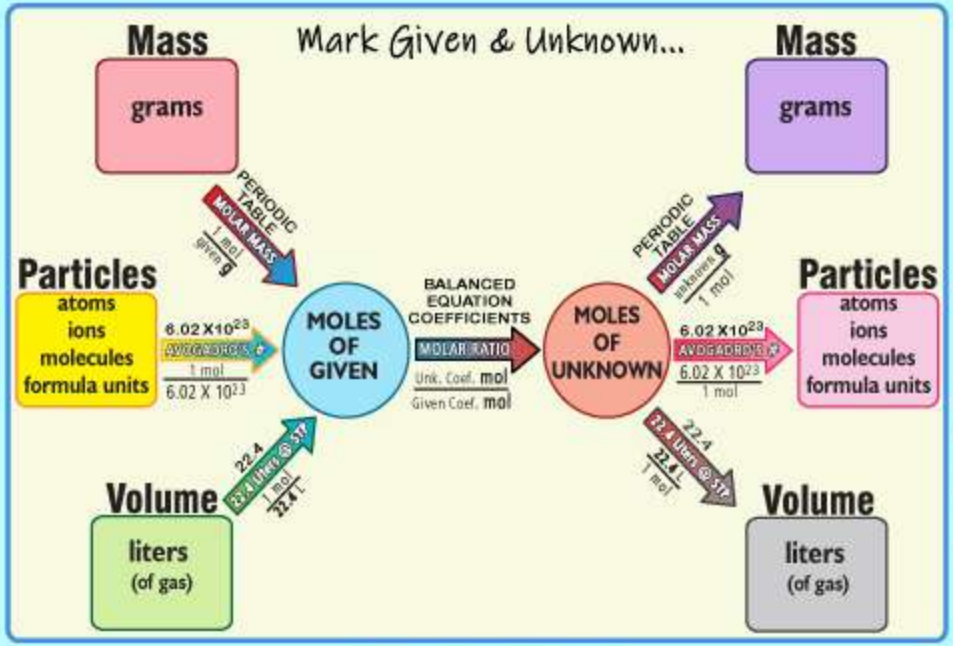
7.25 liters C_3H_8

ROUNDED ANSWER

TYPE

*Depending on the number of steps in this conversion, you may not need all three sections of this grid.

© Teamwork Toolbox



DRAG GIVEN UNKNOWN

9 What **mass of Zn** is needed to react with **55.0 grams of HCl?**

$$Zn + 2HCl \rightarrow ZnCl_2 + H_2$$

GIVEN

UNKNOWN

#of STEPS

TYPE

Show your work...

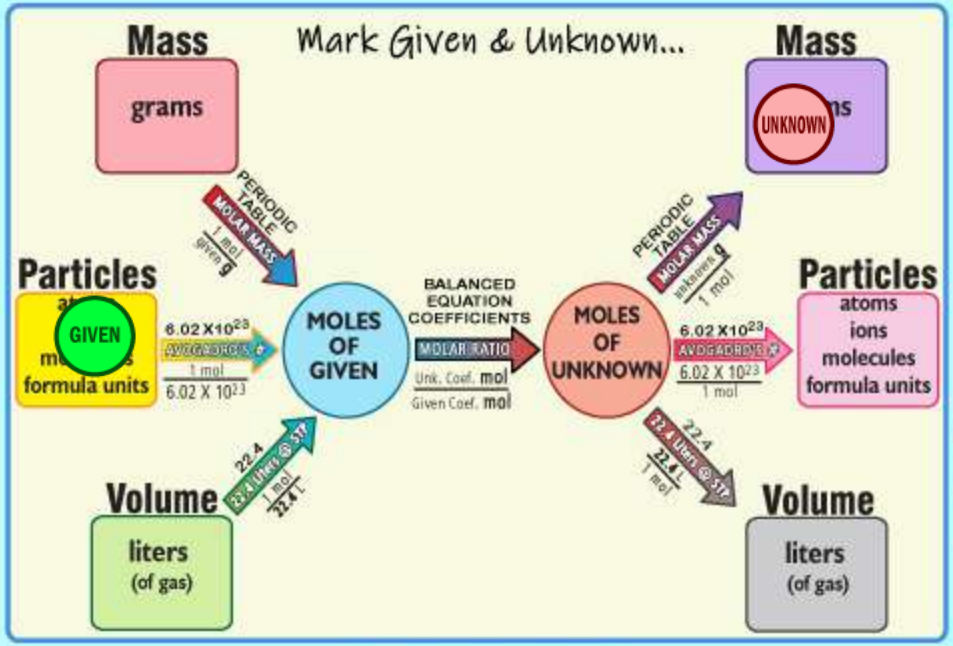
55.0 grams HCl

ROUNDED ANSWER

*Depending on the number of steps in this conversion, you may not need all three sections of this grid.

TYPE

© Teamwork Toolbox



DRAG

10 What **mass of iron (III) oxide** is produced when **3.88 X 10^{25} molecules of oxygen** reacts with excess iron?

$$4Fe + 3O_2 \rightarrow 2Fe_2O_3$$

GIVEN

UNKNOWN

#of STEPS

TYPE

Show your work...

ROUNDED ANSWER

*Depending on the number of steps in this conversion, you may not need all three sections of this grid.

TYPE

© Teamwork Toolbox