

Chemistry AS90934
Describe chemical reactions: Thermal decomposition

Use this to quickly identify the areas you need to study
Fold along the dotted line so that the answers are hidden.
Try the questions and check your answers.

QUESTION	YOUR ANSWER	CORRECT ANSWER
Name this chemical: Cu(OH) ₂		copper(II) hydroxide
What does the "thermal" in thermal decomposition mean?		heat
What colour is copper(II) carbonate, CuCO ₃ ?		green
Complete the word equation: copper(II) carbonate $\xrightarrow{\text{heat}}$ _____ + carbon dioxide		copper oxide / copper(II) oxide
What colour is sodium hydrogen carbonate?		white
CaCO ₃ $\xrightarrow{\text{heat}}$ CaO + CO ₂ : Would you see a colour change?		no (both white)
What happens to limewater when CO ₂ is bubbled through it?		turns cloudy / milky
Complete: metal hydroxide $\xrightarrow{\text{heat}}$ _____ + _____		metal oxide + water
What colour is copper(II) oxide?		black
NaHCO ₃ decomposes when heated to give _____, _____, carbon dioxide and water		sodium carbonate
What's another scientific name for sodium hydrogen carbonate?		sodium bicarbonate
_____ $\xrightarrow{\text{heat}}$ zinc oxide + carbon dioxide		zinc carbonate
Why does thermal decomposition need heat energy?		to break bonds
What colour is zinc oxide when it is hot?		yellowy-green
Is this reaction thermal decomposition? $2\text{Mg} + \text{O}_2 \xrightarrow{\text{heat}} 2\text{MgO}$?		no
What carbonates decompose most easily, those of reactive metals or unreactive metals?		unreactive

Metal hydrogen carbonate $\xrightarrow{\text{heat}}$ metal carbonate + _____ + _____	water & carbon dioxide
_____ (s) $\xrightarrow{\text{heat}}$ CuO(____) + CO ₂ (g) : Complete the gaps	CuCO ₃ (s) (g)
Green copper carbonate turns to liquid when heated. True or false?	False
Thermal decomposition reactions are easily reversible. True or false?	False
Zn(OH) ₂ (s) $\xrightarrow{\text{heat}}$ _____ + _____	ZnO(s) H ₂ O(l)
Sodium carbonate decomposes more easily than CuCO ₃ . True or false?	false
What colour is sodium hydrogen carbonate?	white
2 _____ (s) $\xrightarrow{\text{heat}}$ Na ₂ CO ₃ (s) + H ₂ O(l) + CO ₂ (g)	NaHCO ₃
_____ $\xrightarrow{\text{heat}}$ lead oxide + carbon dioxide	lead carbonate
Magnesium hydroxide $\xrightarrow{\text{heat}}$ magnesium oxide + _____	water
In thermal decomposition reactions, one substance breaks down into ____ or ____ simpler substances	2 3
Is this a thermal decomposition reaction? CuO + H ₂ $\xrightarrow{\text{heat}}$ Cu + H ₂ O	no
What is the chemical formula for calcium carbonate?	CaCO ₃
Is this thermal decomposition? CuCO ₃ + 2HCl → CuCl ₂ + CO ₂ + H ₂ O	no
What colour is carbon dioxide gas?	colourless
CuCO ₃ $\xrightarrow{\text{heat}}$ CuO + CO ₂ : What is the colour change?	green to black
_____ $\xrightarrow{\text{heat}}$ magnesium oxide + water	magnesium hydroxide
What is the chemical formula for sodium hydrogen carbonate?	NaHCO ₃
CuSO ₄ (aq) + Na ₂ CO ₃ (aq) → CuCO ₃ (s) + Na ₂ SO ₄ (aq). Is this decomposition?	no
What reagent (chemical) is used to test for the presence of carbon dioxide gas?	Lime water