







# Metals react with hydrochloric acid\*

\*Hydrochloric acid is a typical acid.



## Question

What is observed when aluminium and zinc are allowed to react with hydrochloric acid separately ?





The background is a vibrant, abstract composition of yellow, green, and blue splatters and textures. A large, thick red circle is centered on the page. To the right of the circle, a thick purple arrow points horizontally towards the right edge of the frame.

*Answer*

1. The metal dissolves.



## 2. A colourless gas evolves.

**Note !**

Never write "*Hydrogen* gas evolves." as an answer for the observation.

We must describe the colour of the gas, even it is colourless.



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## Question

Do all the metals react with hydrochloric acid ?

Metal + Hydrochloric acid  
→ Metal chloride + Hydrogen  
(for lead and more reactive metals)



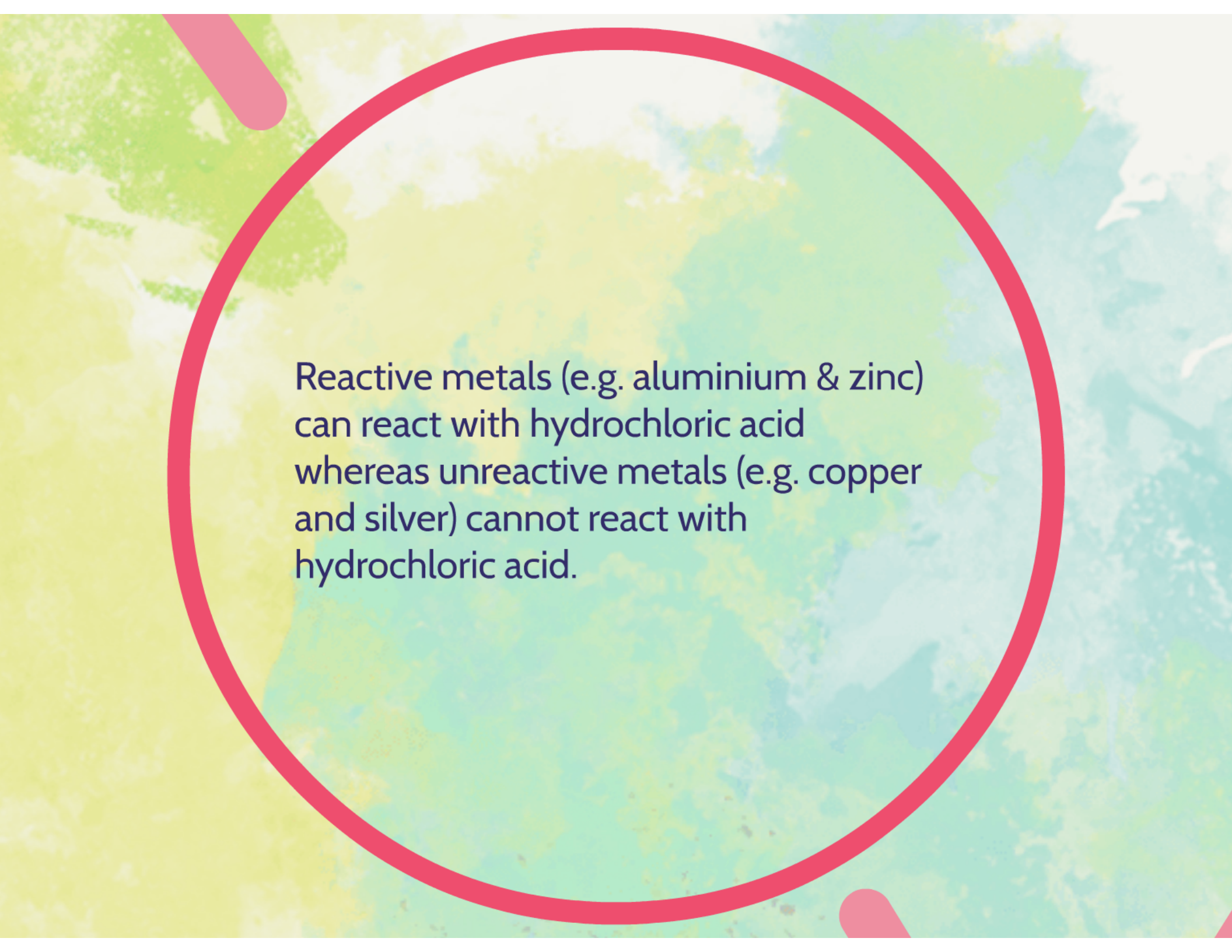




*Answer*

No.

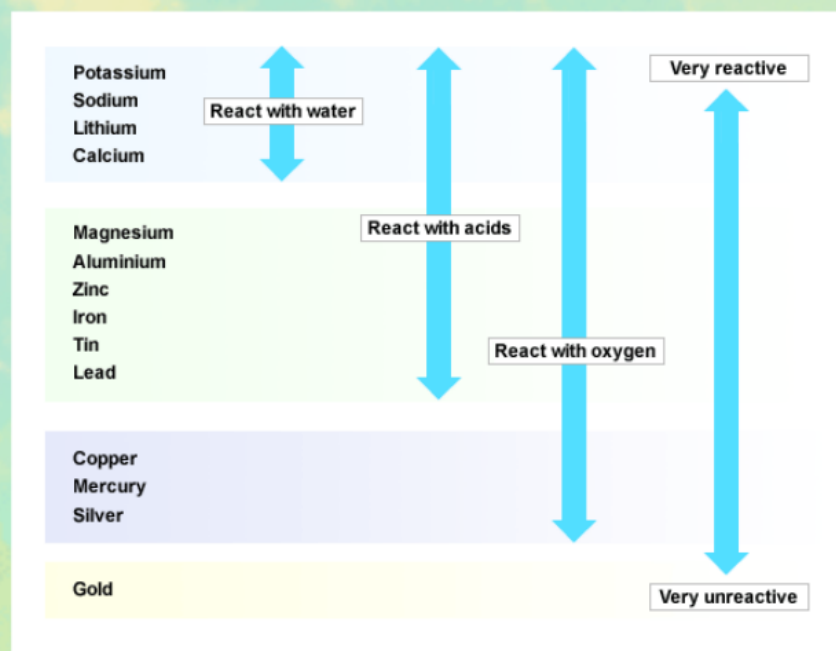
Copper does not react with hydrochloric acid.



Reactive metals (e.g. aluminium & zinc)  
can react with hydrochloric acid  
whereas unreactive metals (e.g. copper  
and silver) cannot react with  
hydrochloric acid.



Metals below lead in the metal reactivity series have **NO** reaction with hydrochloric acid.



**Metal + Hydrochloric acid**



**Metal chloride + Hydrogen**

**(for lead and more reactive metals)**



# Metals react with other acids



Reaction of metals and acids :

1. The metal dissolves.
2. A colourless gas evolves.  
(The gas is hydrogen.)
3. Metals less reactive than lead have no reaction with the acids.

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# Copper reacts with acid !



