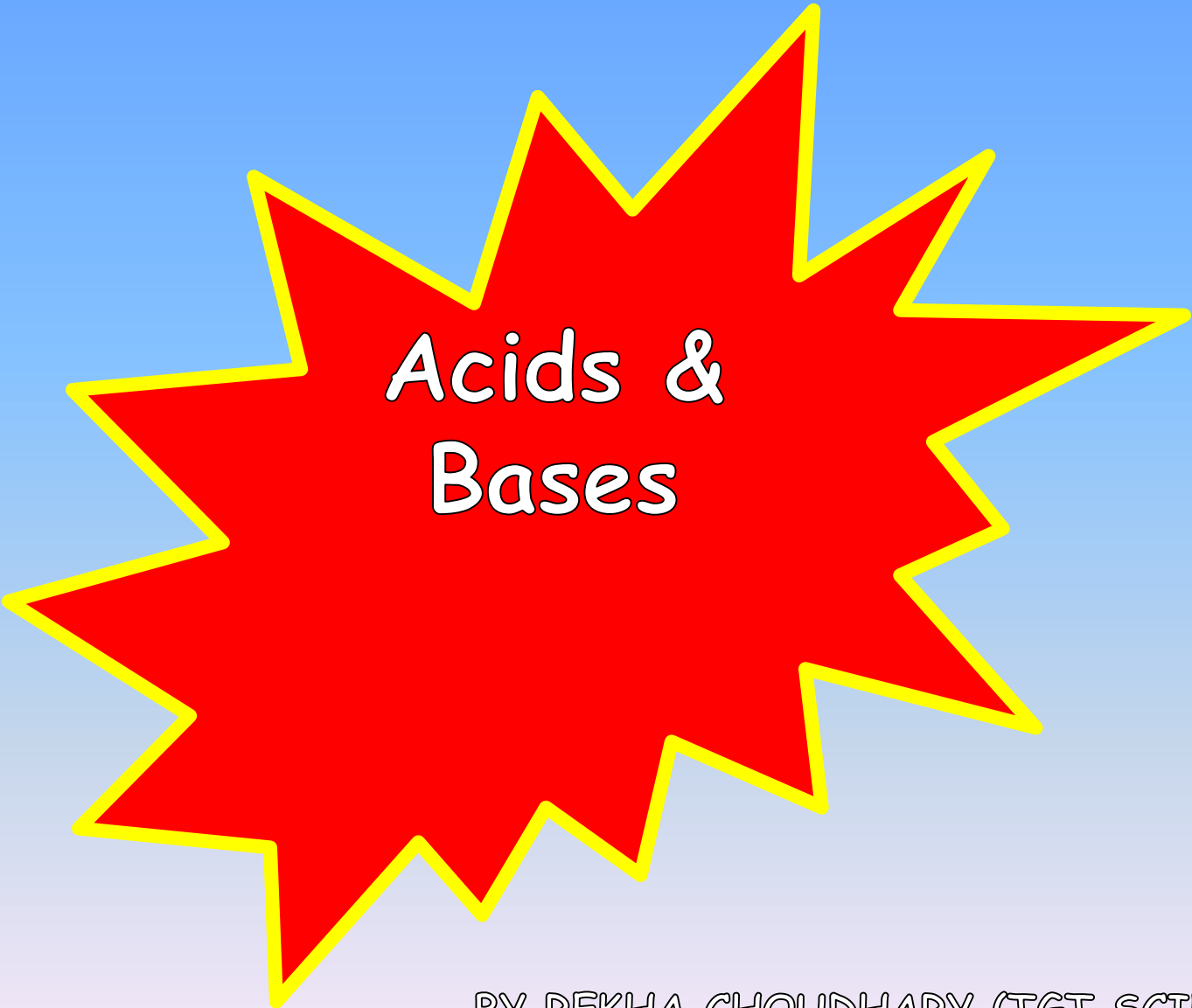




Acids & Bases

BY REKHA CHOUDHARY (TGT SCIENCE)

CHEMICAL REACTION OF ACIDS AND BASES

-  REACTION WITH METALS
-  REACTION WITH METAL CARBONATE
-  REACTION WITH METAL HYDROGEN CARBONATE
-  REACTION WITH METALLIC OXIDES
-  REACTION WITH NON-METALLIC OXIDES
-  REACTION WITH EACH OTHER.

ACIDS AND METALS

When a metal reacts with an acid, the products are a salt and hydrogen gas.



The salt produced depends on the metal and type of acid involved in the reaction:

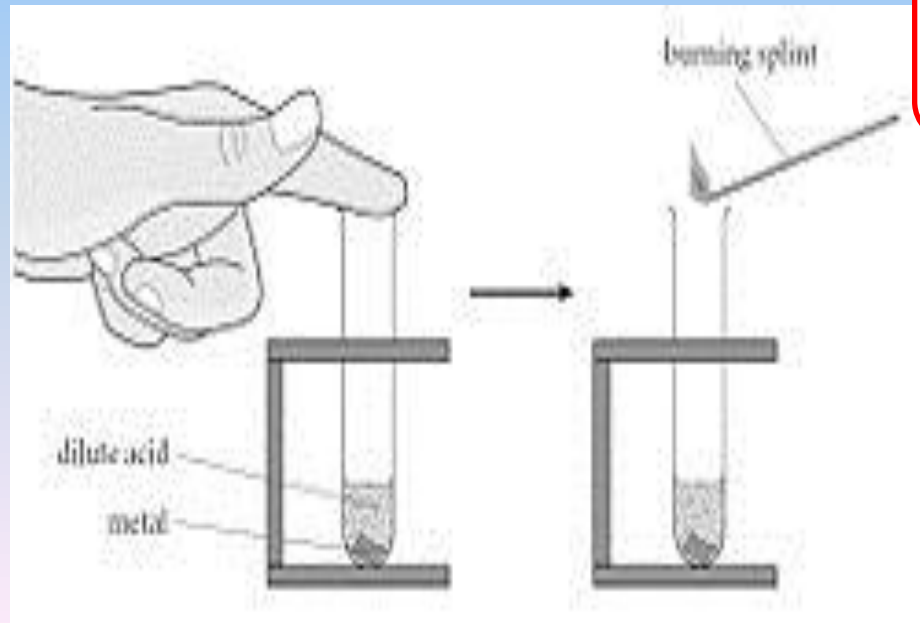
- When a metal reacts with **hydrochloric acid**, the salt produced is a **metal chloride**.
- When a metal reacts with **sulfuric acid**, the salt produced is a **metal sulfate**.

What has been made during the reaction?

Metal + acid -> salt + hydrogen

Magnesium + hydrochloric acid → magnesium chloride + hydrogen

The name 'chloric' becomes chloride and gets added to the metal to become a salt



Metal reactions with acids

Many metals react with acids. When this happens, effervescence or bubbling occurs.

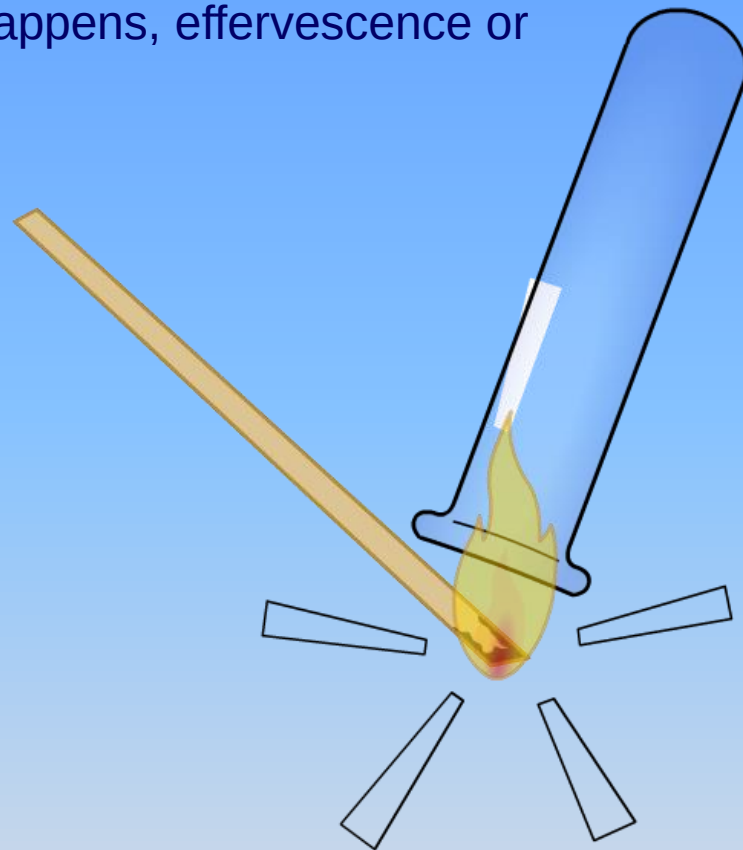
What do the bubbles indicate?

A gas is produced.

How can you test to find out if the gas produced is hydrogen?

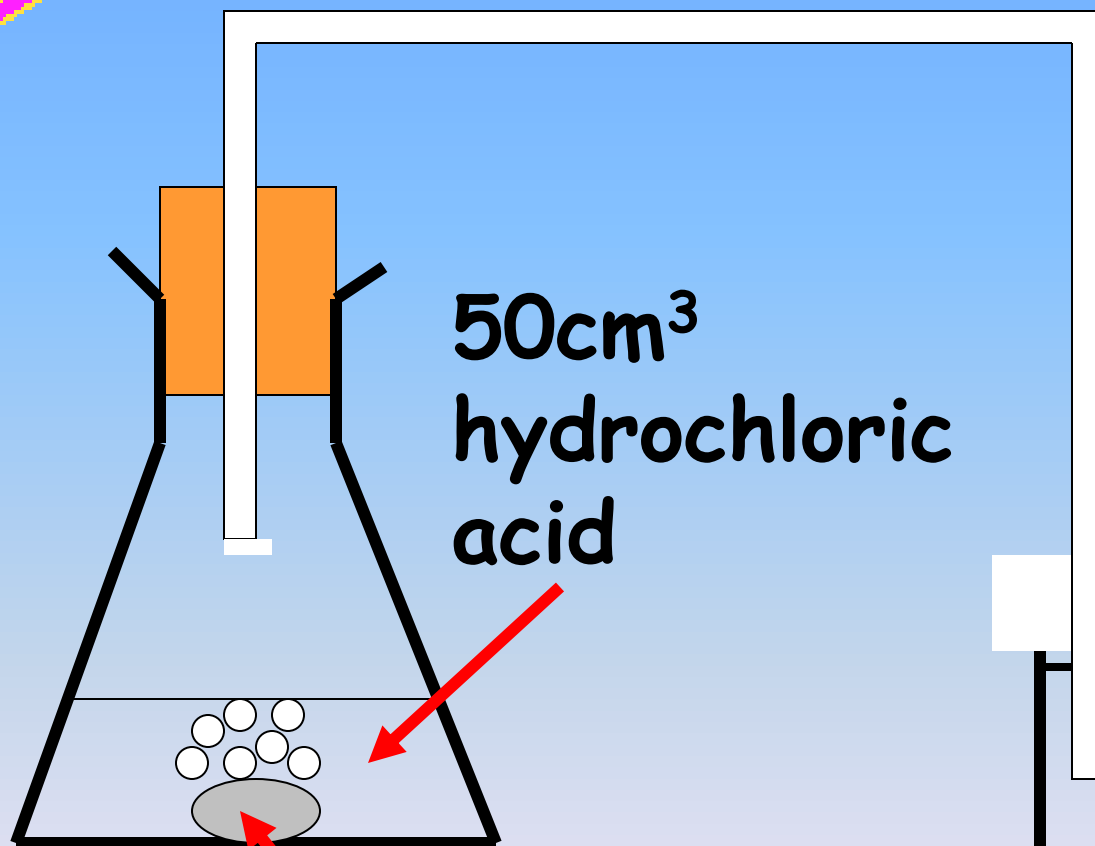
Place a burning splint next to the mouth of the test tube.

A 'squeaky pop' as the gas ignites shows that hydrogen is the gas produced in this reaction.



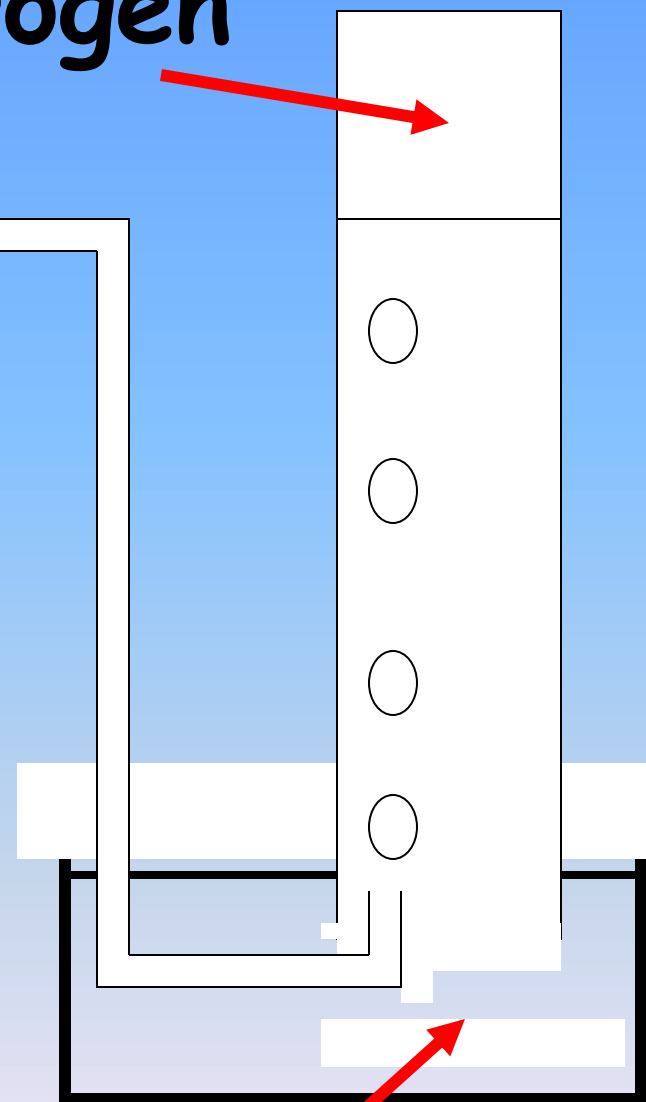


Hydrogen



50cm³
hydrochloric
acid

Magnesium metal



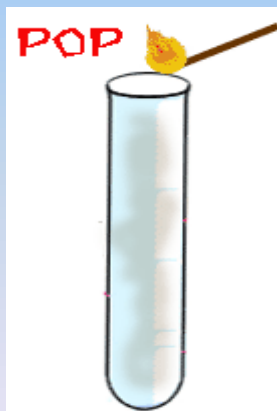
Water

Practical Activity

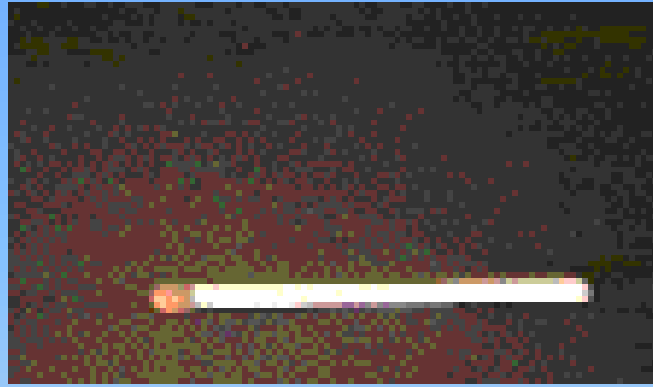
EXPERIMENT-

Add metal to acid and collect the gas that comes off.
Test the gas. Write what you observe

We will conduct a test for hydrogen (squeaky pop test)



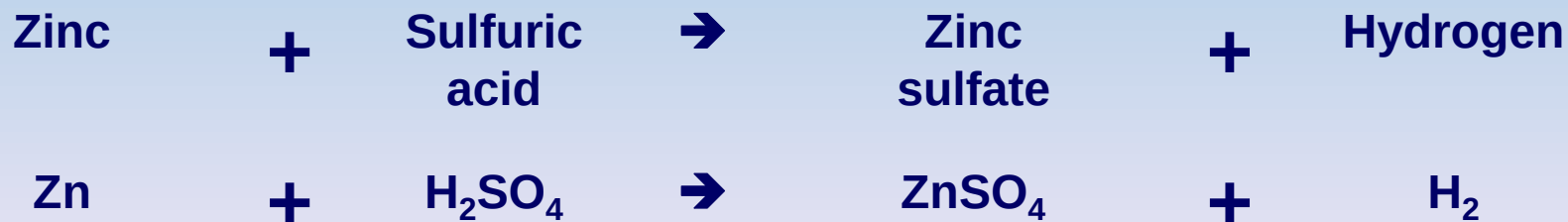
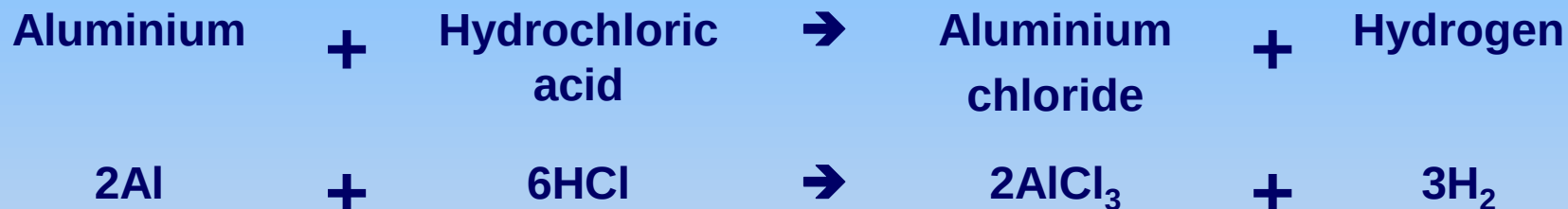
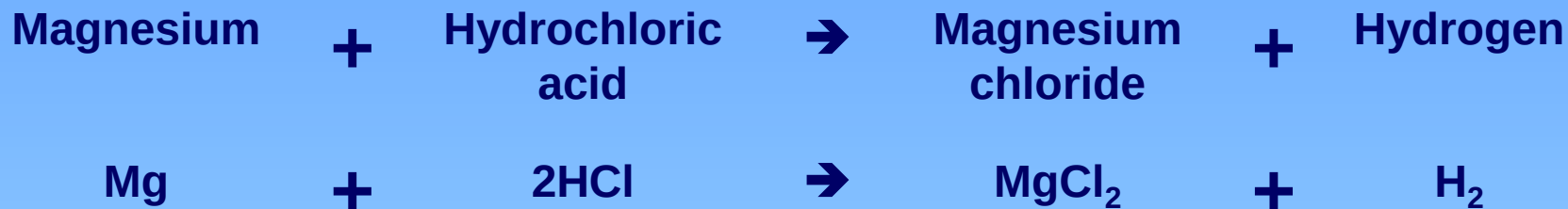
Test the hydrogen with a lit spill.



The gas will give a SQUEAKY
POP.

Metals and Acid - Equations

What are the products of each reaction?



METALS AND BASES

- MOSTLY METALS DO NOT REACT WITH BASES
- A FEW METALS SUCH AS ZINC REACTS WITH BASE SODIUM HYDROXIDE AND FORMS SODIUM ZINCATE



Complete the following equations

- Metal + Acid →
- Magnesium + Nitric acid →
- Zinc + Hydrochloric acid →
- Zinc + Sodium hydroxide →