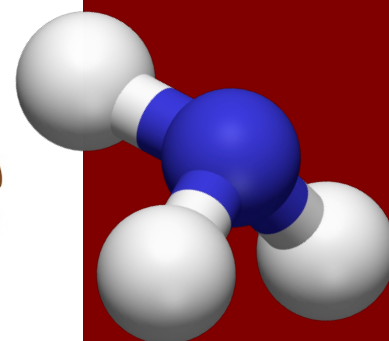


Middle School Chemistry

Acids, Bases, and Neutralization



TeachWithFergy

Preview File

Please enjoy this preview of your Student Version of the lesson. I've created this PDF for ease of viewing and to decrease the file size but of course, your lesson will be in PowerPoint format.

- Some slides appear blank because they have been removed.
- Student versions have portions of the text removed which is given in the teacher version and appear as _____
- Other slides may have on them, this represents writing that has been removed.

Create a list

Create a list below of 5 acidic substances
and 5 basic substances

pH

- ---
- It is measured on a scale (pH scale) from 0-14
 - 7 (Neutral) = Water and Blood
 - Less than 7 (Acidic) = e.g. Vinegar
 - More than 7 (Basic) = e.g. Ammonia

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Acids

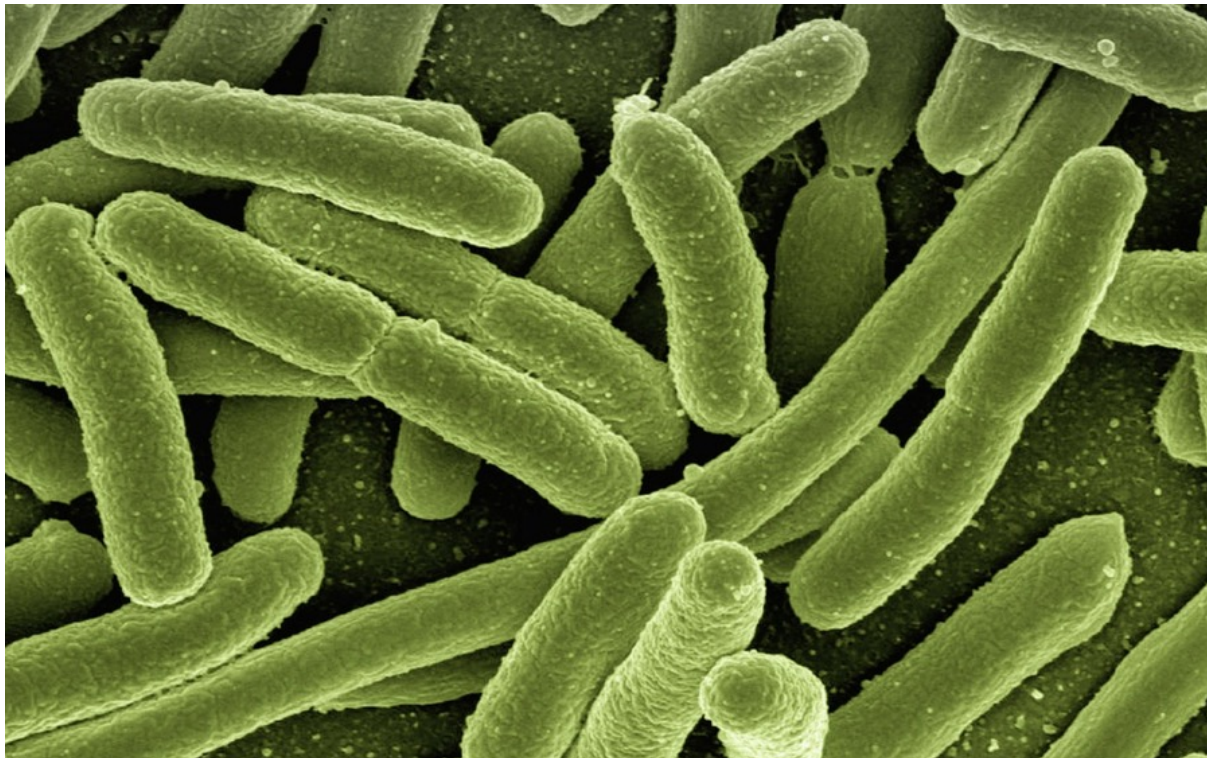
- pH less than ($<$) 7
- Sour-Tasting
- Reactive $\rightarrow$ Dangerous



Acids

Act as preservatives to keep food good longer

- _____

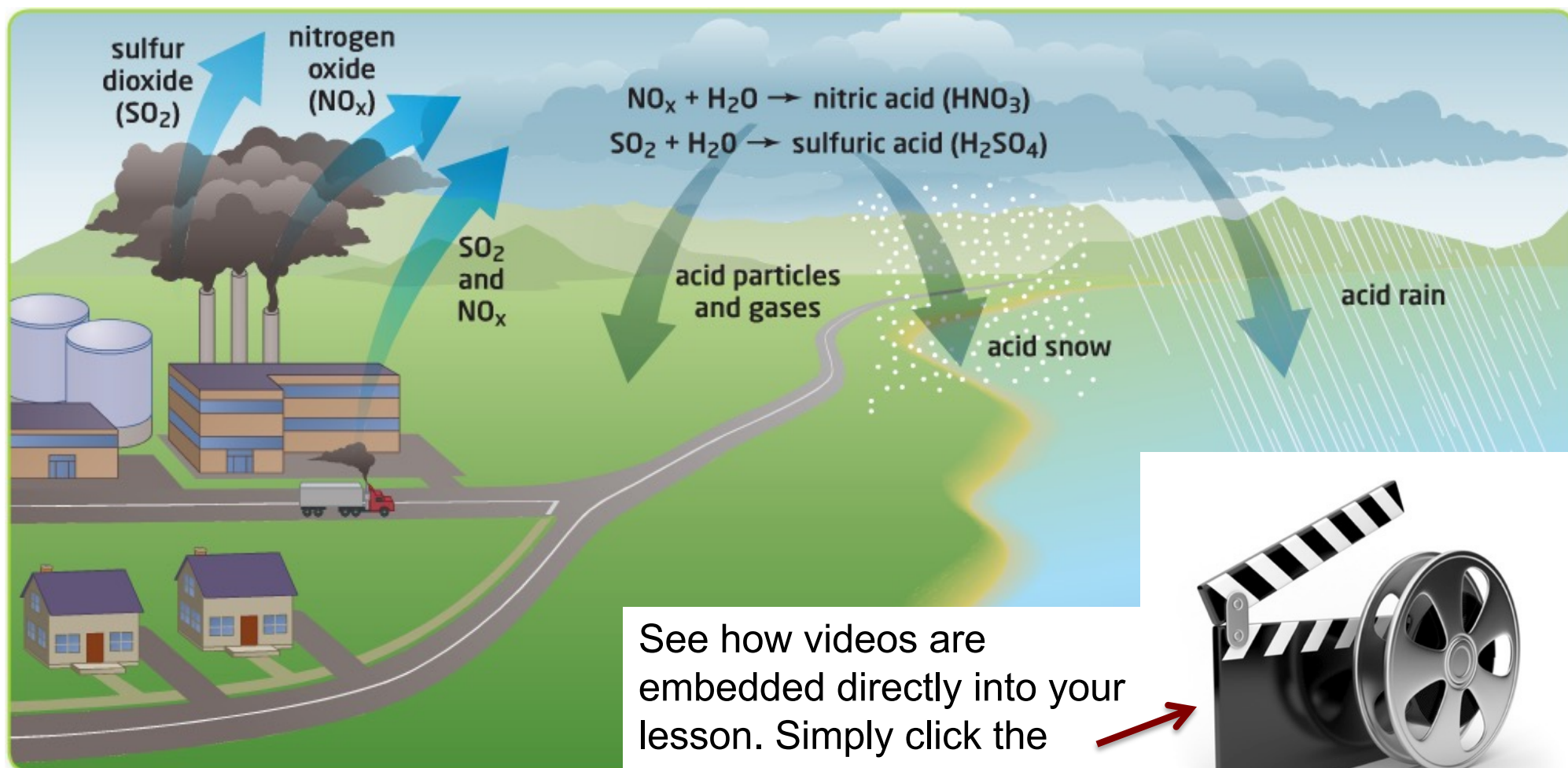


Bacteria that can make
food go bad

Acid Rain

- When coal, oil, and gas are burned to make energy for your car or home, harmful things are sent into the air
- These harmful things mix with water in the air to form acids
- _____

Acid Precipitation



See how videos are embedded directly into your lesson. Simply click the image in slideshow mode



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Neutralization Reactions

When an acid reacts with a base

- _____
- water is created



Application of Neutralization Reactions - Cleaning up chemical spills

On March 31, 2007, a train was transporting 150 000 L of sulfuric acid. The train suddenly derailed and spilled some of the acid into the nearby river. This created an ecological disaster. Fish died and washed up on shore and people who lived nearby couldn't give it to their livestock.

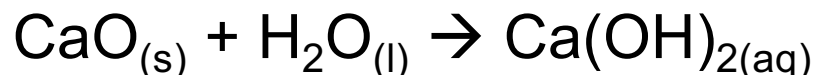
The emergency response unit added calcium oxide (CaO), to the river upstream from the spill in order to neutralize the acid.



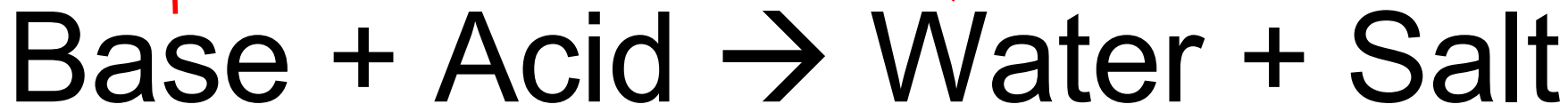
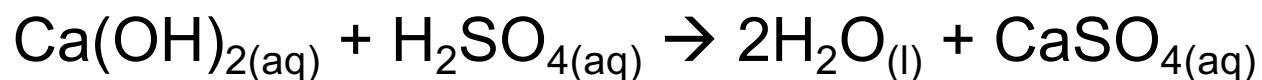
Application of Neutralization Reactions - Cleaning up chemical spills

This spill cleanup strategy relied on a two-step neutralization reaction:

1) Calcium oxide, CaO , reacts in water to form basic calcium hydroxide:



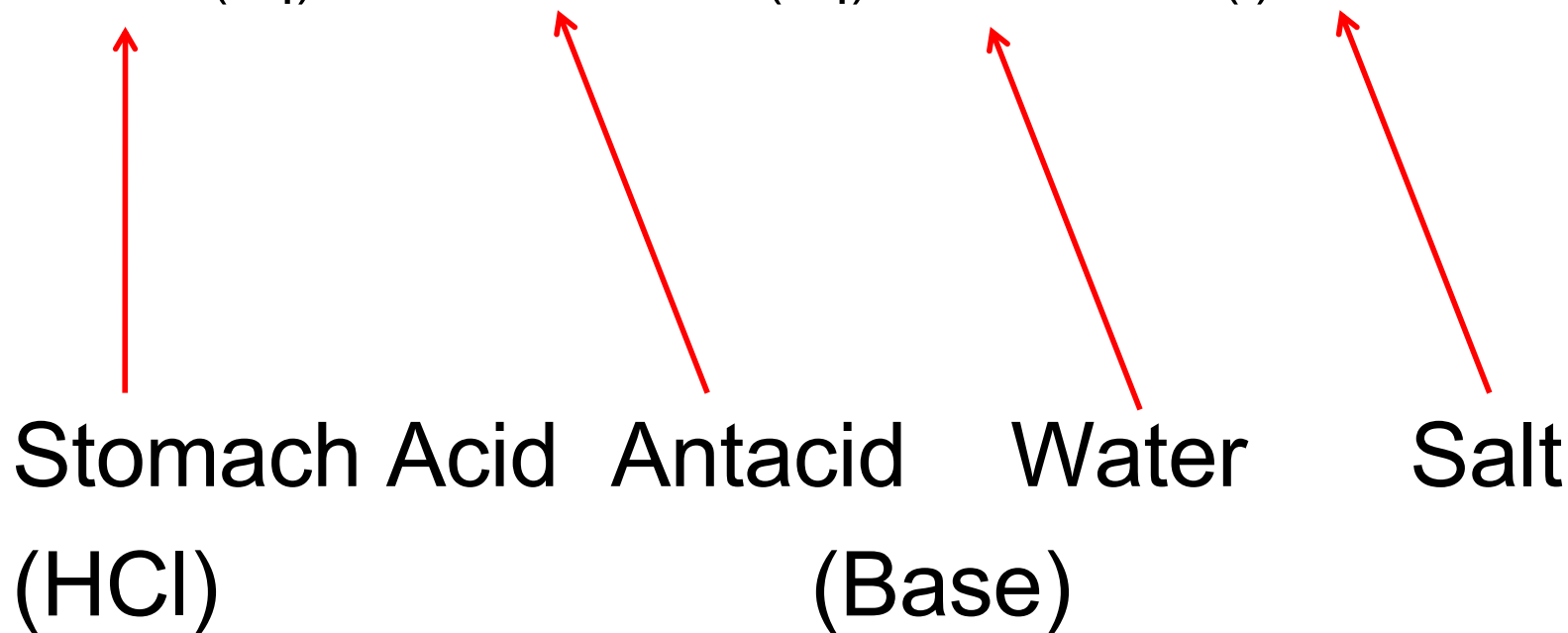
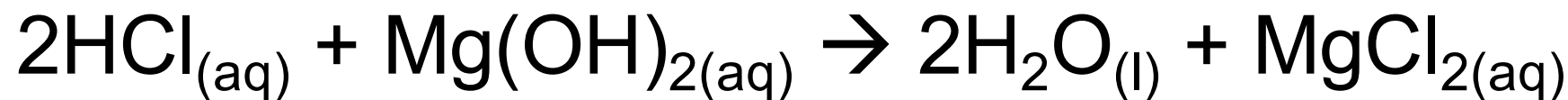
2) Calcium hydroxide neutralizes sulfuric acid in the river, producing a harmless solution of water and calcium sulfate:



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Heartburn Neutralization Reaction



Indicators

- Certain chemicals change colour when they are placed in acidic or basic solutions

- _____

