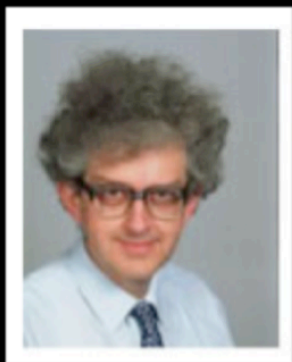


Chemistry 20 Unit C - Acids and Bases

**Polyprotic Acids
and Bases and
A Brief Review**





**Dr. Martyn Poliakoff
Proudly Presents:**

**The Periodic Table
Movie of the Day!!!!**

POS Checklist

- identify monoprotic and polyprotic acids and bases and compare their ionization/dissociation.



LEARN WHAT I SAY!!!

And watch this video...

<http://www.youtube.com/watch?v=YtN9CW01QDM>

Polyprotic Acids

Polyprotic acids are two things in one too!

- 1. They're a pretty good acid, and**
- 2. They're an acid.**

Allow me to explain...

Most acids are monoprotic, meaning they have one proton or hydrogen atom in them.

ex) HCl, HCN, HNO₃(aq), etc.

only one proton...

But some acids have two hydrogens in them: they can react twice with water to produce hydronium!

ex) H₃PO₄(aq)

three protons!



<http://www.youtube.com/watch?v=IRqMLNrZtg4>

Like that horrible movie *Multiplicity*, the acids become weaker each time they react.

Only the first reaction really produces an interesting amount of hydronium.

Rxn 1:



Rxn 2:



Rxn 3:



With each reaction, polyprotic acids react less, producing less hydronium.

We can also have polyprotic bases which follow the same general trend.

