Ozone

Bill Bryson -> Short history of nearly everything,   
passage on CFC`s – Thomas Midgely

Try to draw an ozone molecule -> compare, how others in the class are drawn differently?

Why? Covalent coordinate bond.

Refer to HSConline, draw first examples of the coordinate covalent bond

Focus back to original sketches of ozone,

The single & double bonds could be on either side – ie, resonance hybrid

watch 2nd video -> AP resonance, part 1 of 2 (do not need to know about formal charge)

<http://chemwiki.ucdavis.edu/Theoretical_Chemistry/Chemical_Bonding/Resonance>

for carbonate ion (many polyatomic ions are resonance structures)

<http://www.youtube.com/watch?v=EqpDd_LwPn0&feature=related>

then, visualizing bond length differences

<http://www.youtube.com/watch?v=9WpTEPAL898&feature=related>

resonance, molecular geometry & bond lenth (distance)

<http://academic.reed.edu/chemistry/roco/Resonance/geometry.html>

go back to hsconline, draw ozone resonance structures and resonance hybrid

the splitting of ozone -> the equation -> molecular oxygen and atomic oxygen (free radical) -> draw the equation and the lewis structures to show the reaction.

From hsconline -> ozone is an allotrope -> write the definition from the website

Chlorine free radical

<http://www.scienceaid.co.uk/chemistry/organic/alkanes.html>

VSPER – print MHR info for vsper, the 5 basic shapes (molecular geometry)

This video: <http://www.youtube.com/watch?v=sceYMpBrNNo>

<http://www.inchm.bris.ac.uk/schools/vsepr/lonepairs.htm>

naming haloalkanes

<http://www.ausetute.com.au/namhaloa.html>

So, why is that reaction important?

ozone is essential for life & is transported to the poles

<http://www.atmosphere.mpg.de/enid/m2.html>

however, there is “bad ozone” in the troposphere (ie, photochemical smog)

<http://www.ausetute.com.au/photsmog.html>

so, what is the “ozone hole”? bottom part summarises the “recipe for ozone loss”

<http://www.atm.ch.cam.ac.uk/tour/part3.html#1ingredients>

(Cambridge university)

Excellent overview, more simplistic representations of the chemistry of ozone depletion:

<http://www.ausetute.com.au/cfcozone.html>

Wiki, ozone powerpoint -> CFC`s and Freons