



Chemical Changes – How To Use this Unit

The activities in this unit are intended to be used sequentially. However, activities can be omitted or their order can be changed at a teacher's discretion.

Activity 1 – Combustion Reactions

Open the activity by clicking the *Start Activity* link. This animation provides a linear, visual representation of a combustion reaction between methane and oxygen. The "Players" button will show all elements involved in the reaction. The "Stage1", "Stage2" and "Stage3" buttons will step through the reaction and describe what is happening at each stage. (note – some Stage descriptions contain a play button that will start the animation.)

Activity 2 – Formation Reactions

Open the link by clicking the *Start Activity* button. This activity provides linear animation of two types of formation reactions, Covalent Bonds and Ionic Bonds. Each type can be stepped through using the "Stage" buttons in the upper right of the screen. (note – some Stage descriptions contain a play button that will start the animation.)

Activity 3 – Electromagnetic Calculator

Open the link by clicking the *Start Activity* button. To calculate whether a bond is ionic or covalent, simply enter the Electronegativity of each atom. Clicking the calculate button will output the electromagnetic difference and provide the type of bond.