



Voltaic Cells – 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 – Cell Definition

Open the activity by clicking the *Start Activity* link. This activity is intended to be used by the teacher (at least initially) as a discussion facilitator on what is happening in a typical voltaic cell. The four buttons in the upper left corner of the screen allow the teacher and students to see the movement of anions, cations and electron flow occurring when the cell is "switched on" – which can be done by clicking the open/close switch.

Activity 2 – Build the Equation

This activity is intended as a practice exercise to allow students to build equations from half reactions.

Open the activity by clicking the *Start Activity* button. Pick an anode and a cathode for the voltaic cell. When a metal is chosen, the half reactions appear at the bottom of the screen. Have students fill in the blank white boxes with the appropriate information. When they are done, they can check their answers with the "show answer" button in the bottom left had corner.

The cell can still be turned on and off, and the flow of anions, cations and electrons can be viewed using the four buttons in the upper right (as per Activity 1)

Activity 3 – Calculate the Potential

This activity works exactly as the previous activity, however it contains the additional step of allowing students to calculate the reduction potential of the voltaic cell.