This paper describes a knot invariant known as the enhanced linking number. First, the new invariant is defined in terms of the Conway polynomial. The paper then shows how to extract a recursive relation from the definition that will allow us to compute the enhanced linking numbers without first computing the Conway polynomial. The following section completely classifies all two component links, introducing a standard diagram for this type of links, and shows how to apply the recursive relation to this class of links. Finally, the paper provides examples to show that the enhanced linking number is not a complete invariant, because it fails to distinguish some pairs of links which are known to be non-equivalent.