Year 12 Science: Oxidation and reduction: electrons, colours and equations

Name: _____ Date: _____

Try these without your notes first, then check the answer key.

Practice

1. Find the oxidation number of Cr in $Cr_2O_7^{2-}$.

2. Find the oxidation number of N in NO_3^- and in NO_2, and say whether N is oxidised or reduced when NO_3^- becomes NO_2.

3. Balance the half equation for hydrogen peroxide acting as a reductant: $H_2O_2 \rightarrow O_2$.

4. Acidified hydrogen peroxide is added to colourless potassium iodide solution. Write the overall equation and describe what you see.

5. A copper wire is put in colourless silver nitrate solution. Write the overall equation, name the oxidant, and describe two observations.

Fix the mistake

6. Correct this statement: "The oxidant is the substance that gets oxidised."

7. Correct this statement: "$MnO_4^- + 8H^+ + 5Fe^{2+} + 5e^- \rightarrow Mn^{2+} + 5Fe^{3+} + 4H_2O + 5e^-$"

8. Correct this statement: "Observation: Mn^{2+} ions are formed."

9. Correct this statement: "Mn has an oxidation number of 7+ in MnO_4^-."