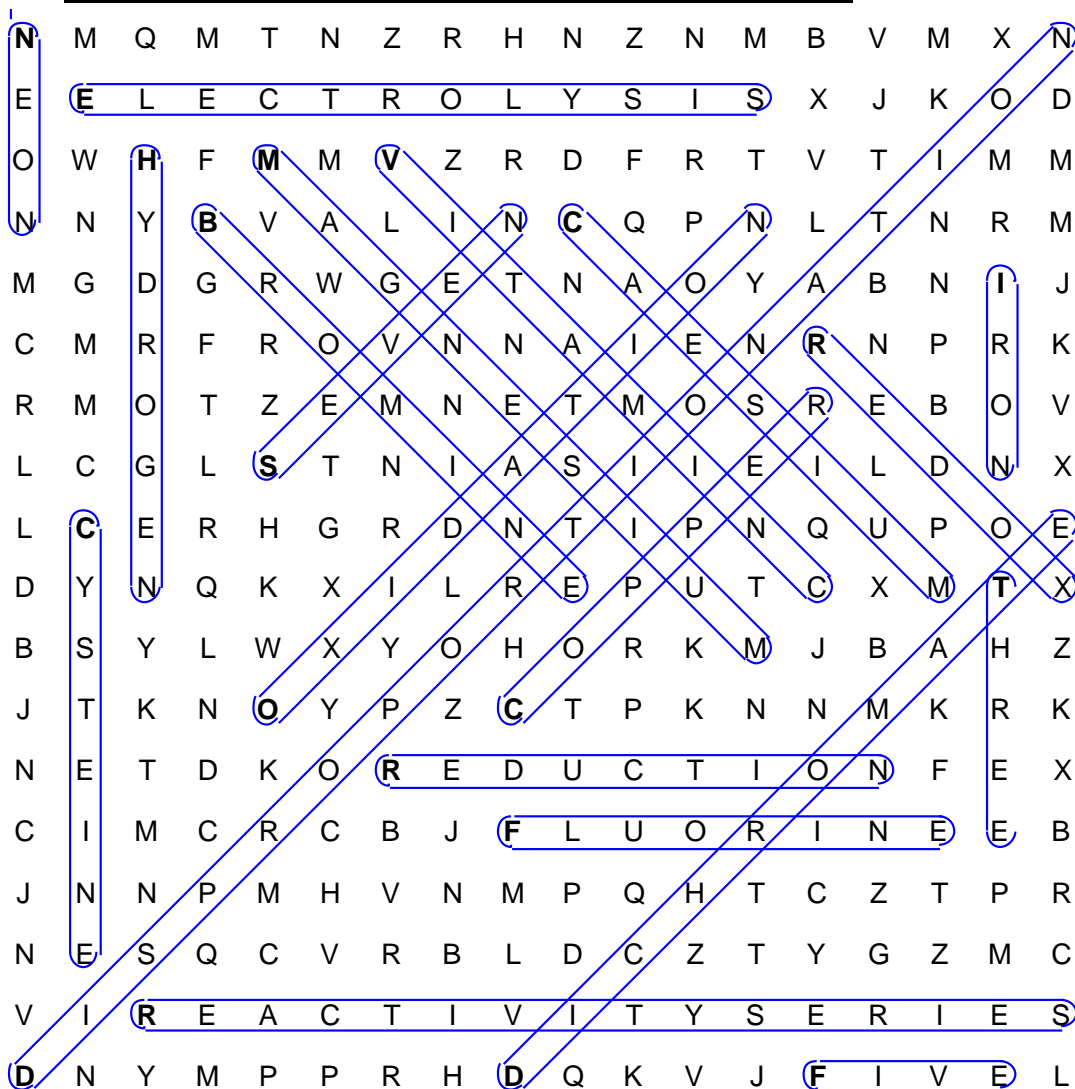


Nanyang Girls' High School – Redox – Word Search – Answers



Answers:

- 1) $2\text{Fe(s)} + 3\text{Cl}_2\text{(g)} \rightarrow 2\text{FeCl}_3\text{(s)}$ During this chemical reaction, the *oxidation* state of iron has increased.
- 2) *Fluorine* is the strongest oxidising agent in the Periodic Table.
- 3) *Vitamin C* is a natural antioxidant found in fresh fruit and vegetables.
- 4) $\text{Fe}_2\text{O}_3\text{(s)} + 2\text{Al(s)} \rightarrow \text{Al}_2\text{O}_3\text{(s)} + 2\text{Fe(s)}$ During this chemical reaction, the *iron* has been reduced.
- 5) The *reactivity series* allows chemists to predict which metal can displace another metal from its compound.
- 6) The equations: $\text{Al}^{3+}\text{(l)} + 3\text{e}^- \rightarrow \text{Al(l)}$ and $2\text{O}^{2-}\text{(l)} - 4\text{e}^- \rightarrow \text{O}_2\text{(g)}$ represent the *electrolysis* of aluminium oxide.
- 7) The metallic element *magnesium* can reduce aluminium, but cannot reduce calcium.
- 8) $2\text{AgNO}_3\text{(aq)} + \text{Cu(s)} \rightarrow \text{Cu(NO}_3)_2\text{(aq)} + 2\text{Ag(s)}$ During this chemical reaction, the *copper* has been oxidised.
- 9) In HNO_2 , the oxidation state of the nitrogen is (+) *three*.
- 10) With the exception of francium, *caesium* is the strongest reducing agent in the Periodic Table.
- 11) During a *disproportionation* reaction, the same chemical element is both oxidised and reduced.
- 12) In KIO_4 , the oxidation state of the iodine is (+) *seven*.
- 13) When straight hair is given a permanent wave, the amino acid *cysteine* is firstly reduced, and then oxidised.
- 14) During a *redox* reaction, one chemical element is oxidised while another chemical element is reduced.
- 15) $5\text{Fe}^{2+}\text{(aq)} + \text{MnO}_4^-\text{(aq)} + 8\text{H}^+\text{(aq)} \rightarrow 5\text{Fe}^{3+}\text{(aq)} + \text{Mn}^{2+}\text{(aq)} + 4\text{H}_2\text{O(l)}$ During this chemical reaction, the oxidation state of the manganese has (*decreased*) by *five*.
- 16) *Reduction* is the gain of electrons.
- 17) $\text{Cl}_2\text{(aq)} + 2\text{NaBr(aq)} \rightarrow \text{Br}_2\text{(aq)} + 2\text{NaCl(aq)}$ During this chemical reaction, the *bromine* has been oxidised.
- 18) In the following list of compounds, only *hydrogen* has an oxidation state of +1: MgF_2 , H_2O , AlCl_3 , CO_2 , CuSO_4 .
- 19) The element *neon* takes its name from the Greek word for *new* and cannot be oxidised or reduced.
- 20) When acidified, the *dichromate(VI)* ion (formula $\text{Cr}_2\text{O}_7^{2-}$) is a versatile oxidising agent.