

12 Nitrogen and its compounds – Part 2 —Answers

Answers

Work through these after trying the questions yourself.

12.1 $\text{N}_2 + \text{O}_2 \rightarrow 2\text{NO}$.

12.2 Natural: lightning. Man-made: the high temperature inside a car engine.

12.3 $2\text{NO} + 2\text{CO} \rightarrow \text{N}_2 + 2\text{CO}_2$.

12.4 Nitrogen (N_2) and carbon dioxide (CO_2).

12.5 NO_2 dissolves in rain to form nitric acid directly; it also catalyses the oxidation of SO_2 to SO_3 , which forms sulfuric acid.

12.6 Nitrogen's triple bond is very strong, so a great deal of energy is needed before N_2 will react with O_2 . The very high temperature inside an engine supplies that energy, so the oxides form there; ordinary air is far too cool.