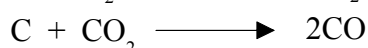
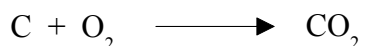


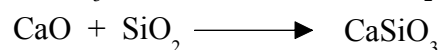
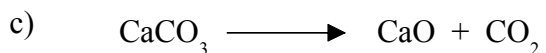
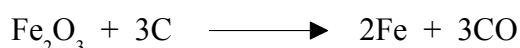
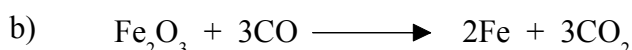
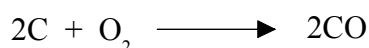
Chemguide – answers

EXTRACTION OF METALS: IRON

1. a) You could either write this as two separate equations:



or as an overall equation:



2. a) Powdered magnesium is blown through the molten iron from the furnace. It combines with sulphur to make magnesium sulphide which floats to the top as a slag.

b) Oxygen is blown through the molten iron, and at the same time calcium oxide (quicklime) is added.

The carbon forms carbon monoxide which escapes from the iron as a gas. Phosphorus and silicon react with the oxygen to make acidic oxides which react with the basic calcium oxide to make compounds such as calcium phosphate and calcium silicate, which float to the top as a slag.

3. a) about 4% carbon. It makes the cast iron very hard, but very brittle. It is also runny when molten, and doesn't shrink much on solidifying, making it ideal for casting.

b) It gets harder but more brittle.

c) Wrought iron is pure iron from which all the carbon has been removed. This makes it softer and even more easily worked than mild steel.

d) chromium and nickel

e) one of, for example: rock breaking machinery, railway points, military helmets