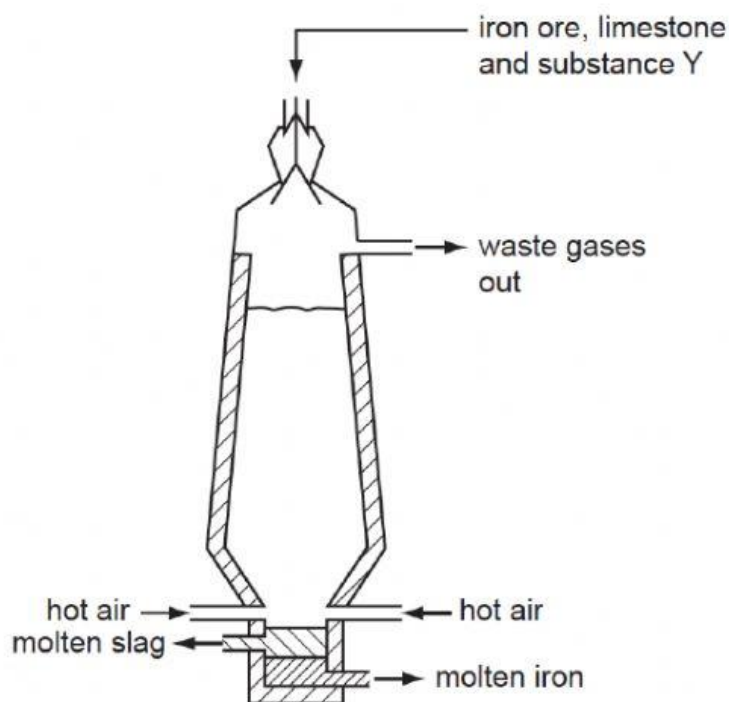


EXTRACTION OF METALS HW1

1 Which substance is added to a blast furnace to remove impurities from iron ore?

- A carbon
- B limestone
- C sand
- D slag

2 The diagram shows a blast furnace used to extract iron from iron ore.



What is Y?

- A bauxite
- B coke
- C oxygen
- D sand

3 Which reaction takes place in the blast furnace?

- A $\text{FeCr}_2\text{O}_4 + 4\text{C} \rightarrow \text{Fe} + 2\text{Cr} + 4\text{CO}$
- B $3\text{Fe} + 4\text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + 4\text{H}_2$
- C $\text{SiO}_2 + \text{CaO} \rightarrow \text{CaSiO}_3$
- D $\text{SiO}_2 + 2\text{NaOH} \rightarrow \text{Na}_2\text{SiO}_3 + \text{H}_2\text{O}$

- 4 Iron is extracted from its ore using carbon.
- Aluminium cannot be extracted from its ore using carbon.
- Which statement explains why iron is extracted using carbon?
- A Iron is less reactive than aluminium.
- B Iron is less reactive than carbon.
- C Iron is more dense than aluminium.
- D The melting point of iron is more than that of aluminium.

- 5 Fig. 7.1 shows a blast furnace for the extraction of iron from haematite, Fe_2O_3 .

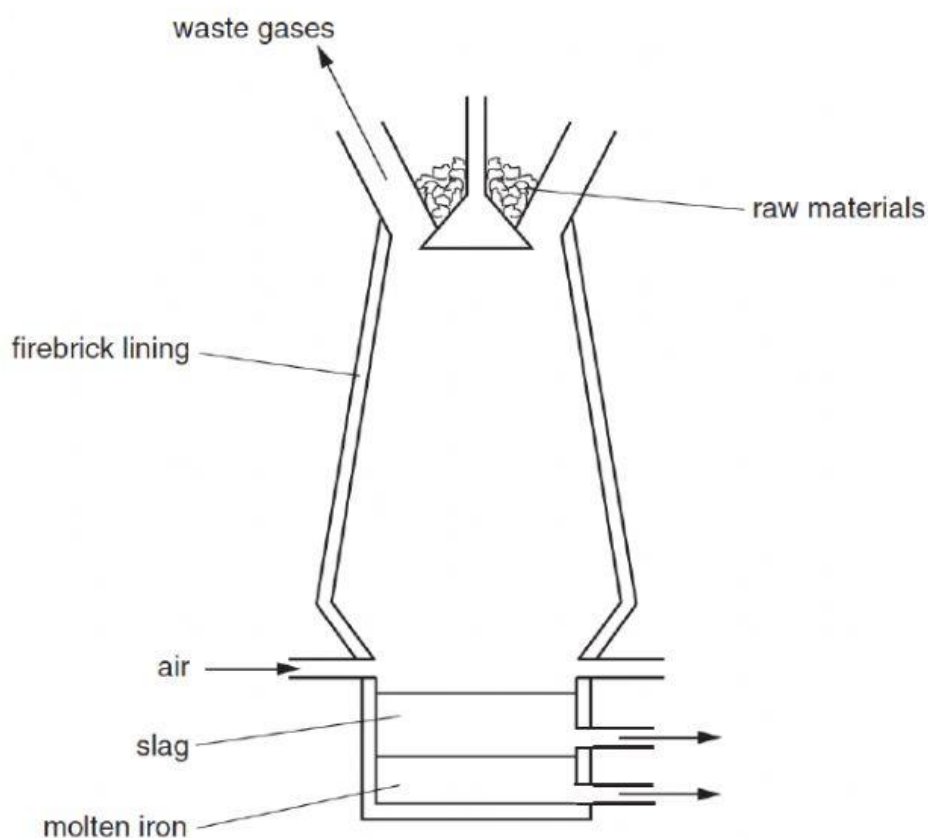
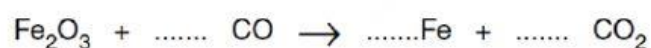


Fig. 7.1

- (a) Name the raw materials put in at the top of the blast furnace with the haematite.

..... and[2]

- (b) (i) Balance the following equation for the reduction of haematite to iron.



[1]

6

Fig. 1.1 shows the extraction of iron from iron ore using a blast furnace.

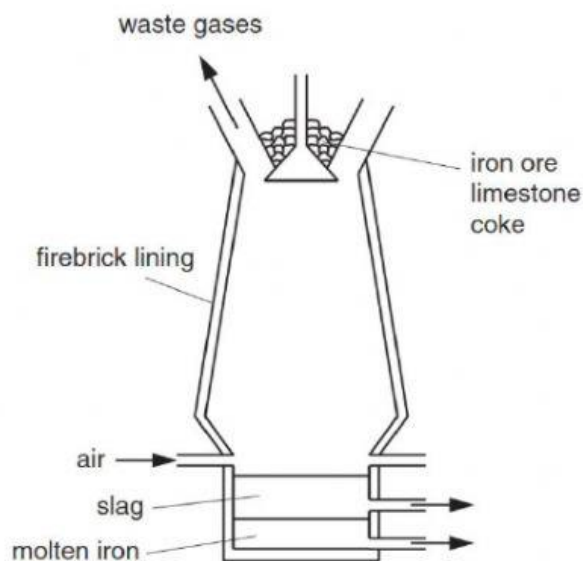


Fig. 1.1

(a) (i) State the name of an iron ore.[1]

(ii) Why is limestone added to the blast furnace?

.....[1]

(b) In the blast furnace, iron is extracted from its ore by reduction using carbon. Explain why sodium cannot be extracted from its ore by reduction using carbon.

.....[2]

(c) The cutlery in Fig. 1.2 is made from stainless steel.

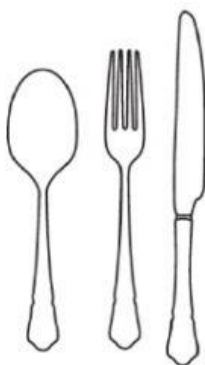


Fig. 1.2

(i) Stainless steel is an alloy. What is an *alloy*?

.....[1]

