

## Redox Couples: Answers

- ① A metal coating develops on the zinc strip. It consists of copper, which is produced by reduction of the copper ions present in the solution.
- ②  $\text{Zn(s)} + \text{Cu}^{2+}(\text{aq}) \rightarrow \text{Zn}^{2+}(\text{aq}) + \text{Cu(s)}$
- ③ No change is detected. The reverse reaction of ② cannot be observed. The equilibrium lies to the product side ( $\text{Zn}^{2+} + \text{Cu}$ ).
- ④ It can be concluded from the position of the equilibrium that  $\text{Cu}^{2+}$  is the stronger oxidising agent than  $\text{Zn}^{2+}$  and Zn is the stronger reducing agent than Cu.

⑤

	Zn	Pb	Cu	Ag
$\text{Zn}^{2+}$	-	-	-	-
$\text{Pb}^{2+}$	+	-	-	-
$\text{Cu}^{2+}$	+	+	-	-
$\text{Ag}^{+}$	+	+	+	-

„+“: reaction; „-“: no reaction.

- ⑥ Ag /  $\text{Ag}^{+}$   
Cu /  $\text{Cu}^{2+}$   
Pb /  $\text{Pb}^{2+}$   
Zn /  $\text{Zn}^{2+}$