

Electrochemical Series Exercise 2

Answer all questions based on the table below:

Half-cell reaction	E° /V
$W^{2+}(aq) + 2e^- \rightleftharpoons W(s)$	-2.38
$X^{3+}(aq) + 3e^- \rightleftharpoons X(s)$	-1.66
$Y^{2+}(aq) + 2e^- \rightleftharpoons Y(s)$	+0.34
$Z^+(aq) + e^- \rightleftharpoons Z(s)$	+0.80
$Fe^{2+}(aq) + 2e^- \rightleftharpoons Fe(s)$	-0.44
$O_2(g) + 2H_2O(l) + 4e^- \rightleftharpoons 4OH^-(aq)$	+0.40

1. State the strongest reducing agent. W, X, Y, Z
2. State the strongest oxidizing agent. W^{2+} , X^{3+} , Y^{2+} , Z^+
3. Is Fe^{2+} stronger oxidizing agent than X^{3+} ? Yes, No
4. Which species causes iron to rust faster? W^{2+} , X^{3+} , Y^{2+}
5. Which species will prevent iron from rusting? X, Y, Z
6. Can X^{3+} oxidise W? Yes, No
7. Can X reduces Y^{2+} ?
8. What is the emf of the cell between electrochemical cell of Fe/W
9. What is the emf of the cell between electrochemical cell of X/Z?
10. Which of the species is stable toward oxidation in air and water? W, X, Y, Z