Mixed question types

1 Explain why X reacts w/ ...

- Explain why K reacts w/ dilute acids.
- ∵ K reacts w/ water.
  Range of metal reacting w/ acid > water
  ∴ K reacts w/ dilute acids

2 Explain which metal is more reactive

- Explain which is more reactive, K or Ag.
- K
  To produce metal oxide, K doesn't require heat while Ag needs strong heating.

3 Arrange reactivities

- According to the following table, arrange reactivities of W, X, Y, Z ascendingly.

	W	X	Y	Z
$+CuSO_4$ (aq)	colourless gas bubbles	reddish brown solid deposits	no O.C.	no O.C.
heating	W_2O no O.C.	XO no O.C.	Y_2O silvery solid deposits	ZO no O.C.

- Y, Z, X, W
- (X, Y, Z) < W
  W reacts w/ water, others do not
- (Y, Z) < X
  X is a stronger reducing agent than Cu, others are not
- Y < Z
  Y_2O decomposes and gives Y upon heating, ZO does not

4 Distinguishing oxides

- Distinguish CuO, Al_2O_3, PbO and Ag_2O experimentally.
- Heat directly → the one w/ silvery solid depositing is Ag_2O.
  Ag_2O has low thermal stability → decomposes under heat, others do not
- Heat w/ H_2 → the one w/ reddish brown solid depositing is CuO
  Cu is a weaker reducing agent than H_2 → ✓ ra
  Pb, Al is stronger reducing agents than H_2 → X ra
- Heat w/ CO → the one w/ silvery solid depositing is PbO.
  Pb is a weaker reducing agent than CO → ✓ ra
  Al is a stronger reducing agent than CO → X ra
- Al can only be extracted by electrolysis of molten Al_2O_3.