THE PERIODIC TABLE (B)

1 a Give the electron structure of the Group 1 elements sodium and potassium.

sodium **2,8,1** potassium **2,8,8,1**

b Explain why sodium and potassium are both in Group 1 of the Periodic Table.

they both have one electron in their outer shell

c Explain why sodium and potassium have similar properties.

they both have one electron / the same number of electrons in their outer shell

d Write word and balanced equations for the reaction of potassium with water.

word equation **sodium + water → sodium hydroxide + hydrogen**

balanced equation **$2Na + 2H_2O \rightarrow 2NaOH + H_2$**

e Describe what you see when potassium reacts with water.

potassium melts
moves on surface of water
bubbles of gas / fizzing
burns with lilac / purple flame

f Explain why potassium is more reactive than sodium.

K loses outer shell electron more easily
because it is further from nucleus
therefore weaker attraction between nucleus and outer electron

g Explain why Group 1 elements are called the alkali metals.

they all react with water to form metal hydroxides which are alkalis