Activity Sheet 1.5a: Elements cards activity

Elements cards

Cut up your elements sheets to make a pack of 32 cards representing the better known elements.

1. Sort your pack into elements that (at ‘standard state’ or in ‘room conditions’, ie 25°C and one atmosphere pressure) are:
   a. solids
   b. liquids
   c. gases
   and list them.

2. Then re-sort the pack into
   a. metals
   b. non-metals
   and list them.
3. Pick out the cards that make these compounds; (you may have to do some research)
   a. water
   b. salt (table salt)
   c. steel
   d. chalk
   e. baking soda
   f. hydrochloric acid
   g. plaster for walls (gypsum)
   h. petrol
   i. wood
   j. proteins for human foods
      and note them down.

4.

   a. How many of the 32 cards did you use to make the materials in Q3?
   b. Which element cards did you use most often?
   c. Sort out the cards NOT used in Q3. Can you suggest some uses for these elements, or for compounds that contain these atoms?
Answers for Activity Sheet 5a:

1.
   a. Solids: Li, C, Na, Mg, Al, Si, P, S, K, Ca, Ti, Cr, Fe, Co, Ni, Cu, Zn, Ag, Sn, I, Au, Pb, U
   b. Liquids: Br
   c. Gases: H, He, N, O, F, Ne, Cl, Ar

2.
   a. Li, Na, Mg, Al, K, Ca, Ti, Cr, Fe. Co, Ni, Cu, Zn, Ag, Sn, Au, Pb, U
   b. H, He, C, N, O, F, Ne, Si, P, S, Cl, Ar, Br, I

3.
   a. H, O
   b. Na, Cl
   c. Fe, C
   d. Ca, C, O
   e. Na, H, C, O
   f. H, Cl
   g. Ca, S, O
   h. C, H
   i. C, H, O
   j. C, H, O, N
4.

a. 9 of the 32 cards

b. C, H, O – 6 times each

c. There are many alternative answers: here are some examples

He  balloon gas
Li  low-sodium salt substitute
F   non-stick plastic coatings
Ne  display lighting tubes
Mg  indigestion tablets, Milk of Magnesia
Al  used to make aeroplanes
Si  sand and semiconductor materials
Ar  used to fill light bulbs
K   nitrate compound in gunpowder
Ti  very strong metal
Cr  used in stainless steel
Co  used in cooling glass
Ni  used for rechargeable batteries
Cu  electrical wiring
Zn  zinc oxide is an antiseptic
Br  used in sedatives
Ag  jewellery, antiseptic
Sn  coating steel in tin cans
I   essential for a healthy diet
Au  precious metal, jewellery, medicine, dentistry, glass-making, and a conductor in electronics
Pb  used in anti-corrosion paint
U   nuclear fuel