Reactions can be classified as three types:

A reactions used to provide energy
B reactions used to make new materials
C important reactions in biological systems

Are the following examples of A, B or C?

a Limestone is roasted with clay to make cement.

b Glucose is oxidised in cells to produce carbon dioxide.

c Waste straw is burned in a power station.

Tick the useful reactions, and put a cross by the ones that are not useful.

- photosynthesis
- rotting food
- corrosion
- combustion
- respiration
- digestion

Rearrange the letters to make another name for burning.

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Rearrange the letters to write the name of what is released when a fuel burns.

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Underline two hydrocarbons in the list.

- air
- hydrogen
- candle wax
- petrol

Complete the following sentences. Use the words below to fill the gaps.

dioxide    energy    monoxide    oxygen    soot    water

When natural gas burns, it joins with ......................... gas from the air and releases ......................... . If there is plenty of air, carbon ......................... and ......................... are formed.
6 Tim and Sue are choosing a good fuel for the open fire in the living room.

Choose three properties of a good fuel.

A burns with a yellow, sooty flame
B gives out a lot of energy
C burns very quickly
D catches alight easily
E is not expensive

The three properties are: __________  __________  __________

7 The list gives four metals in order of decreasing reactivity.

Tin is added to lead nitrate. Complete the word equation.

tin + lead nitrate → ________________ nitrate + ________________

8 Diagram A shows a mixture of hydrogen and oxygen. Diagram B shows how the atoms are rearranged in a reaction to produce water.

Complete diagram B to show the correct number of water molecules.

9 For each of these statements underline the right word, true or false.

a There is always a change in mass when a chemical reaction takes place. true/false

b Energy is always given out when a chemical reaction takes place. true/false

c If 10 g of salt are dissolved in 100 g of water, the solution weighs 110 g. true/false

d If a piece of wood is burned and all the products are collected, the sum of the masses of the products is the same as the mass of the piece of wood. true/false