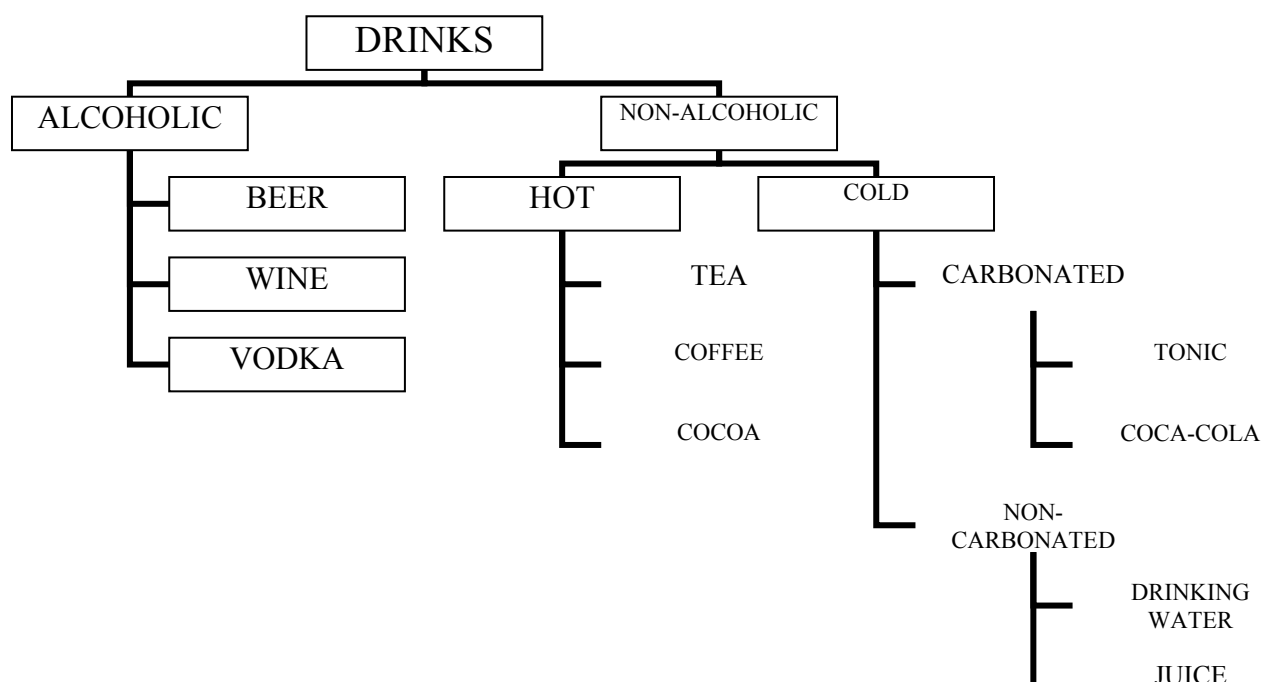


## Week 4 – Classifying in Chemistry – Key

### Exercise 2.



### Exercise 3.

1	Everything around us consists of <u>matter</u> : this paper, your body, the air you breathe, and the water you drink. <u>Matter</u> is anything that has <u>weight</u> or <u>mass</u> and takes up space.
2	All <u>matter</u> may be classified as either <u>solid</u> , <u>liquid</u> , or <u>gas</u> . <u>Solids</u> are <u>firm</u> and have a <u>definite form</u> . <u>Rubber</u> , <u>wood</u> , <u>glass</u> , <u>iron</u> , <u>cotton</u> , and <u>sand</u> are all classified as <u>solids</u> . A considerable <u>force</u> would be needed to change the <u>shape</u> or <u>volume</u> of an <u>iron</u> bar, for example, because the atoms or molecules of a <u>solid</u> are <u>densely packed</u> and have very little freedom of <u>movement</u> .
3	<u>Solids</u> may be further divided into two <u>classes</u> : <u>crystalline</u> and <u>amorphous</u> . <u>Rocks</u> , <u>wood</u> , <u>paper</u> , and <u>cotton</u> are <u>crystalline solids</u> . <u>Crystalline solids</u> are made up of atoms <u>arranged in a definite pattern</u> . When these <u>solids</u> are <u>heated</u> , the change to a liquid, known as <u>melting</u> , is sharp and clear. <u>Amorphous substances</u> include <u>rubber</u> , <u>glass</u> , and <u>sulphur</u> . In these <u>substances</u> , the <u>pattern of atoms</u> is not orderly, and when <u>heated</u> , they gradually soften.
4	<u>Liquids</u> , on the other hand, are not <u>rigid</u> . If <u>water</u> , <u>milk</u> , or <u>oil</u> is <u>poured</u> on a table, it will <u>flow</u> all over the <u>surface</u> . The atoms or molecules of <u>liquids</u> <u>attract each other</u> and thereby enable liquids to <u>flow</u> . But these atoms are <u>loosely structured</u> and do not keep their <u>shape</u> . Therefore a liquid will take the <u>shape</u> of any container in which it is <u>poured</u> . However, liquids have a <u>definite volume</u> : a quart of milk cannot fit in a pint container.
5	<u>Gases</u> , such as <u>air</u> , <u>oxygen</u> , and <u>carbon dioxide</u> , have no <u>fixed shape</u> or <u>volume</u> of their own. They <u>diffuse</u> or <u>spread out</u> to fill any <u>container</u> . The atoms or molecules of gases are <u>widely spaced</u> and move very rapidly. They either <u>compress</u> or <u>expand</u> to adapt to any area.
6	Everything we know is made of <u>matter</u> in <u>solid</u> , <u>liquid</u> or <u>gaseous</u> form.

