

Y7 Particles and Mixtures Homework Grids

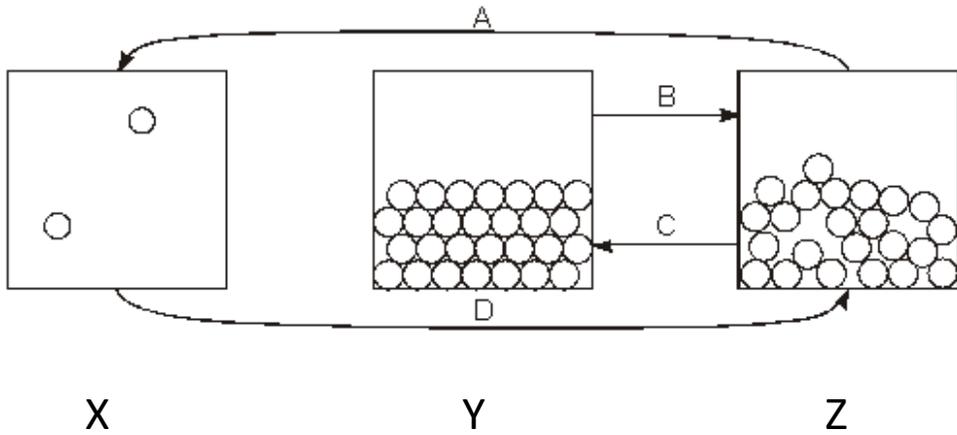
Name: _____

Science Teacher: _____

	Comment
Grid 1.1	
Grid 1.2	
Grid 1.3	
Grid 1.4	
Grid 1.5	
Grid 1.6	
Grid 1.7	
Grid 1.8	

Grid 1.1: Use KO 13 - 18

Due: _____



The diagram to the left shows particle arrangements the three states.

Which arrangement shows a

Solid

Liquid

Gas

Each arrow, A, B, C and D, represents a change of state.

Change of state A is called

Change of state B is called

Change of state C is called

Change of state D is called

Can you give at least 3 examples of

Solid

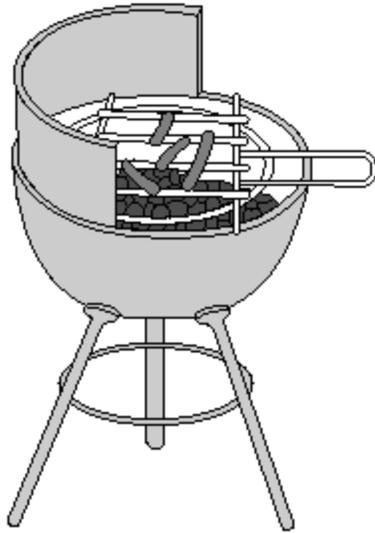
Liquid

Gas

Grid 1.2: Use KO 13 - 18

Due: _____

Susie cooked sausages on a barbecue.



Susie uses charcoal as the fuel for the barbecue.

Which gas is needed for fuels to burn?

Draw a circle around the correct answer

- Water
- Oxygen
- Carbon Dioxide
- Nitrogen

Fat and water in the sausages changed state.

Draw **one** line from each statement to the correct change of state.

Draw only **two** lines.

liquid to gas

fat melted

gas to liquid

liquid to solid

water evaporated

solid to liquid

solid to gas

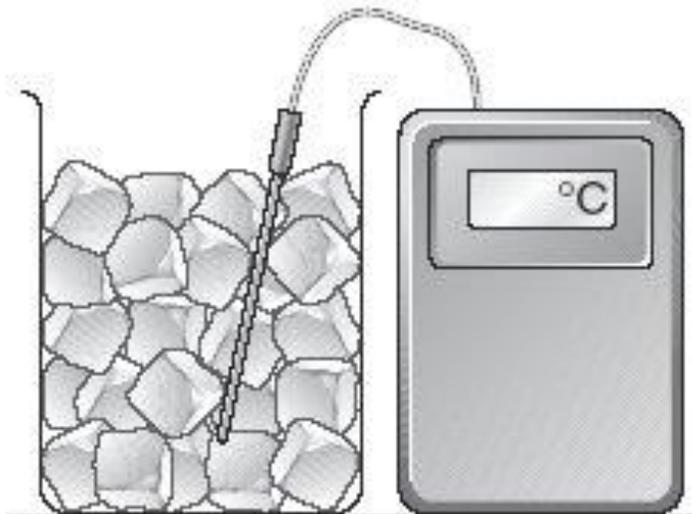
Grid 1.3: Use KO 13 – 18

Due: _____

Kate made some ice cubes from pure water. She used a sensor to measure the temperature of the ice.

What temperature will the sensor show when the ice is melting?

_____ °C



Kate made some more ice cubes from salt solutions. She used a different amount of salt in each ice cube. The table below shows the temperature at which the ice cubes melted.

mass of salt in each ice cube (g)	temperature ice cube melted (°C)
5	-4
10	-8
15	-11
20	-15

Look at the table on the left. As the mass of salt increased, what happened to the temperature at which the ice cube melted?

.....
.....
.....

Grid 1.4: Use KO 13 – 18

Due: _____

In very cold weather a mixture of salt and sand is spread on roads.

Why are salt **and** sand used?

Tick the correct **two** boxes



Salt makes the roads white.

Sand dissolves in water.

Salt makes water freeze.

Sand increases friction between car tyres and the road.

Salt makes ice melt.

Sand makes water freeze.

Grid 1.5: Use KO 13 – 18

Due: _____

metal	melting point, in °C
gold	1064
mercury	-37
sodium	98
iron	1540

The table shows the melting points of four metals.

Which metal in the table has the highest melting point?

.....

Which metal in the table has the lowest melting point?

.....

Gold can be a **gas** or a **liquid** or a **solid**.

Choose from these words to fill the gaps below.

When gold is heated from room temperature to 1070°C, the gold changes from a

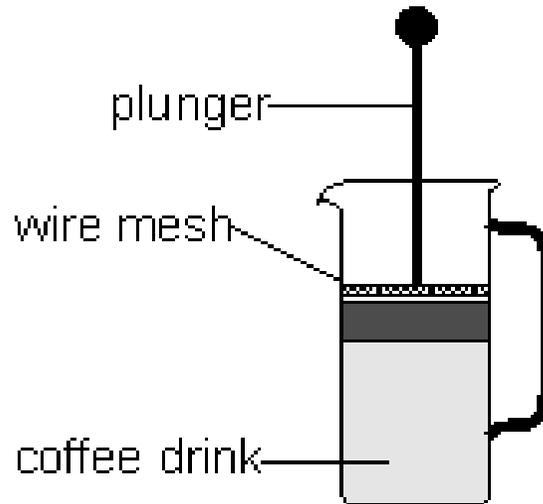
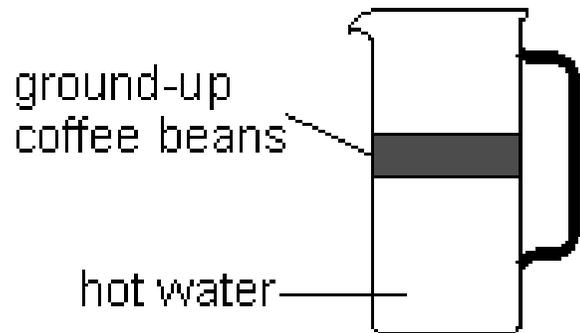
..... to a

What state (solid, liquid and gas) is Sodium metal at room temperature (25° C)?

.....

What state is iron at 1600° C?

.....



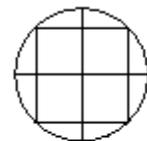
Russell put ground-up coffee beans in a coffee maker and added hot water.

He pushed the plunger down.

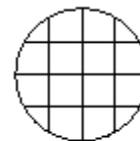
This separated the coffee drink from the ground-up coffee beans.

How could Russell see that some coffee had dissolved in the water?

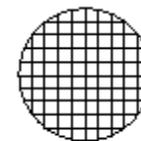
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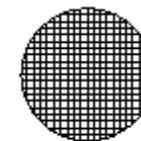
A



B



C



D

The end of the plunger is a circle of wire mesh.

Which mesh would be best to separate the coffee drink from all the ground-up coffee beans? Write the letter.

.....

Grid 1.7: Use KO 17

Due: _____

Amy's family are at the beach during the summer.
Amy and her sister have a bucket containing seawater and sand.

Seawater contains dissolved salt.

Describe what Amy can do to separate **and** collect pure water from seawater.

.....
.....

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.....
.....

Decide if the following statements are true or false

1. Water is a solvent for salt TRUE / FALSE

2. Sand sinks in water because water is more dense than sand TRUE / FALSE

3. When a solid dissolves in water, the solid is called a solute
TRUE / FALSE

Using a pencil, draw a labelled diagram to show the equipment used to separate sand from water.

Grid 1.8: Use KO 13 - 18

Due: _____

Draw a line from each of the **substances** above to the **group** that it belongs to.

Draw only **three** lines.

Draw a line from each **group** to the correct **description**.

Draw only **three** lines

substance

group

description

seawater

compound

It contains two or more types of atoms or molecules which can be physically separated.

salt

mixture

It contains only one type of atom.

oxygen

element

Two or more types of atoms are chemically joined together.