**SC22 Revision Mat**

Reactions of alkanes and alkenes

Name the products of complete combustion of s hydrocarbon

………………………………………………………………………………………………………..

………………………………………………………………………………………………………..

Describe how bromine water can be used to distinguish between alkanes and alkenes.

……………………………………………………………………………………………………..

………………………………………………………………………………………………………..……………………………………………………………………………………………………..

………………………………………………………………………………………………………..

Draw the structures of the reactants and products when bromine and ethane react.

.

Alkanes and alkenes

Give the names, formulae and structures of the 4 smallest alkanes

State the functional group present in alkenes

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

How is the position of the functional group shown in alkene names?

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

**SC23 Revision Mat**

Alcohols

Give the names, formulae and structures of the 4 smallest alcohols

State the functional group present in alcohols

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

List the chemical properties of alcohols

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Carboxylic acids

How are carboxylic acids produced?

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..……………………………………………………………………………………………………………………………………………………………………………………………………………..…………………

Give the names, formulae and structures of the 4 smallest alcohols

Describe how the functional group in all carboxylic acids influence their chemical properties.

……………………………………………………………………………………..………………………………………………………………………………………………………………………………………………………………………………………………………………..………………………………………………………………………………………………………..……………………………………………………………………………………………………………………………………………………………………………………………………………..…………………

Ethanol production

How are alcoholic drinks produced?

……………………………………………………………………………………

……………………………………………………………………………………

…………………………………………………………………………………………………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

What chemical reaction occurs during fermentation? Give the equation.

……………………………………………………………………………………

……………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………

……………………………………………………………………………………

………………………………………………………………………………

Describe how to make alcohol solutions more concentrated.

……………………………………………………………………………………

……………………………………………………………………………………

…………………………………………………………………………………………………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

**SC24 Revision Mat**

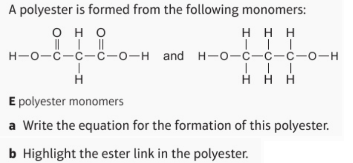
Condensation polymerisation

Define “condensation polymerisation”

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..…………………

State the two functional groups that react together to form a polyester.

……………………………………………………………………………………………………………………………………………………………………………………………..…………………………………………………………………………………………………………………………



Polymer properties and uses

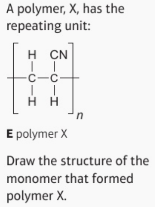
Describe how chloroethene molecules join together to make poly(chloroethene)

………………………………………………………………………………………………………..

………………………………………………………………………………………………………..

………………………………………………………………………………………………………..

………………………………………………………………………………………………………..



How are the properties of each polymer related for their uses?

Poly(ethane)……………………………………………………………………………………………………….……………………………………………………………………………………..………………………………………………………………………………………………………Poly(propene)………………………………………………………………………………………………………..………………………………………………………………………………………………………..………………………………………………………………………………… Poly(chloroethene)……………………………………………………………………… ……………………………………………………………………………………………………….……………………………………………………………………………………..………………… Poly(tetrafluoroethene)………………………………………………………………………………………………………..………………………………………………………………………………………………………..…………………………………………………………………………………(…………………………………………………..………………………….

.

.

Addition polymerisation

Define a polymer.

……………………………………………………………………………………

……………………………………………………………………………………

…………………………………………………………………………………………………………………………………………………………………………

Name the monomers that join together in:

DNA……………………………………………………………………………

……………………………………………………………………………………

Starch………………………………………………………………………………………………………………………………………………………………

Proteins…………………………………………………………………………………………………………………………………………………….………

Draw the polymerisation reaction equations to make poly(ethene) from ethene

……………………………………………………………………………………

……………………………………………………………………………………

**SC25 Revision Mat**

Tests for positive ions

Why must the test for an ion only detect that ion?

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Describe how metal ions are identified using sodium hydroxide solution.

……………………………………………………………………………………

…………………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

………………………………………………………………………………

……………………………………………………………………………………

How are ammonium ions and ammonia detected?

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Tests for positive ions

How are carbonate ions and carbon dioxide detected?

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Describe how sulfate ions are detected.

……………………………………………………………………………………

…………………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

………………………………………………………………………………

……………………………………………………………………………………

Describe the test for halide ions.

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Flame tests and photometry

Devise a plan to identify metal ions using a flame test.

……………………………………………………………………………………

……………………………………………………………………………………

…………………………………………………………………………………………………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Why might chemists analyse substances using machines instead of chemical tests?

……………………………………………………………………………………

……………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………

……………………………………………………………………………………

………………………………………………………………………………

How is information from a flame photometer used?

……………………………………………………………………………………

……………………………………………………………………………………

…………………………………………………………………………………………………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Tests for positive ions

Why must the test for an ion only detect that ion?

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Describe how metal ions are identified using sodium hydroxide solution.

……………………………………………………………………………………

…………………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

………………………………………………………………………………

……………………………………………………………………………………

How are ammonium ions and ammonia detected?

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Tests for positive ions

How are carbonate ions and carbon dioxide detected?

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Describe how sulfate ions are detected.

……………………………………………………………………………………

…………………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

………………………………………………………………………………

……………………………………………………………………………………

Describe the test for halide ions.

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Flame tests and photometry

Devise a plan to identify metal ions using a flame test.

……………………………………………………………………………………

……………………………………………………………………………………

…………………………………………………………………………………………………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Why might chemists analyse substances using machines instead of chemical tests?

……………………………………………………………………………………

……………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………

……………………………………………………………………………………

………………………………………………………………………………

How is information from a flame photometer used?

……………………………………………………………………………………

……………………………………………………………………………………

…………………………………………………………………………………………………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

**SC26 Revision Mat**

Composite materials

What is a composite material?

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Describe the difference between reinforcement and matrix.

……………………………………………………………………………………

…………………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

………………………………………………………………………………

……………………………………………………………………………………

Describe the structure of a laminate.

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Nanoparticles

Why do nanoparticulate materials have different properties from bulk materials?

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

State the uses of nanoparticles.

……………………………………………………………………………………

…………………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

………………………………………………………………………………

……………………………………………………………………………………

Describe the possible risks from nanoparticles.

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Choosing materials

Define “ceramics”

……………………………………………………………………………………

……………………………………………………………………………………

…………………………………………………………………………………………………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

Give a property of:

Ceramics……………………………………………………………………………………………………………………………………………………..…

Metals……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

Polymers…………………………………………………………………………………………………………………………………………………………

