## Mistakes

- Structure of heart
- Right side
- Pathway of blood through heart
- Structure of heart
- Path of air into lungs
- Function of lungs

# Chemistry

## Polymers

- Polymers have large molecules
- Atoms are joined by strong covalent bonds in long chains
- The number of atoms in each chain can vary
- example
- poly( ethene)
- In diagrams and n shows the number of repeating units
- Bonds of all and show connection to the next repeating

## Properties of polymers

- Stronger intermolecular forces then small molecules
- Higher melting point than small molecules
- Solid at room temperature

## Giant covalent structures

- Structures with huge number of atom joined by covalent bond
- Atoms are arranged in giant lattices making them very strong

## Properties

- Composition it is made up of many covalent bonds
- Melting and boiling points are very high because Bond are very strong and needs a lot of energy
- They you really do not conduct electricity
- Exception case is that graphite has free electrons that can conduct electricity
- Insoluble in water because covalent bonds are too strong to break

## Examples

**Graphite**

- Each carbon bonds to three other carbon
- Structure is that it has layer of carbon atoms

## Properties and uses

- It can conduct electricity due to free electrons
- it has high melting and boiling point
- It is used in pencils, lubricants and electrodes

## Diamond:

- Each carbon bonds to four other carbons
- Properties and uses
- It is very hard
- It has very high melting point
- It does not conduct electricity because it has no free electrons
- It is used in cutting tools and drills

## Silicon dioxide

- Silicon dioxide is also called silica and it is found in sand

- similar structure to Diamond but made up of silicon and oxygen atoms

The properties are

- It is hard
- It has high melting point
- it is insoluble