Biology Notes

# Topic Molecules, Transports And Health

## 1A Chemistry For Biologists

### 1 The Chemistry Of Life

#### Ionic And Covalent Bonding

The chemical bonds within and between molecules affect the properties of the compounds they form.

Ionic Bonding. One atom, or part of the molecules, gains one or more electrons and becomes and anion(a negative ion). The other atom, or part of the molecule, loses one or more electrons and becomes a cation(a positive ion).

e.g. sodium atom and chlorine atom becomes sodium ion(+) and chloride ion(-).

Covalent Bonding. Covalent bonds are very strong and the molecules formed are usually neutral.

## 1B Mammalian Transport Systems

### 1 The Principles of Circulation

#### The Need For Transport

### 2 The Roles Of The Blood

#### The Components of The Blood and Their Main Functions

##### Plasma

Over 50% of your blood volume is plasma, and it carries all of your blood cells and everything else that needs transporting around your body. It can be seen as the matrix of the blood, in which all other substances float.

##### Erythrocytes(Red Blood Cells)

Erythrocytes contain haemoglobin, a red pigment that carries oxygen and gives them their colour. Made in the bone marrow. Do not contain a nucleus and have a limited life of about 120 days.

##### Leucocytes(White Blood Cells)

Much Larger than erythrocytes, but can also squeeze through tiny blood vessels because they can change their shape.

##### Platelets

#### Transport Of Oxygen

#### Transport Of Carbon Dioxide

##### The Bour Effect

#### Fetal Haemoglobin

#### The Clotting of The Blood

##### Forming a Clot

##### The Blood Clotting Process

## 2A Membranes and Transport