

Question # 02

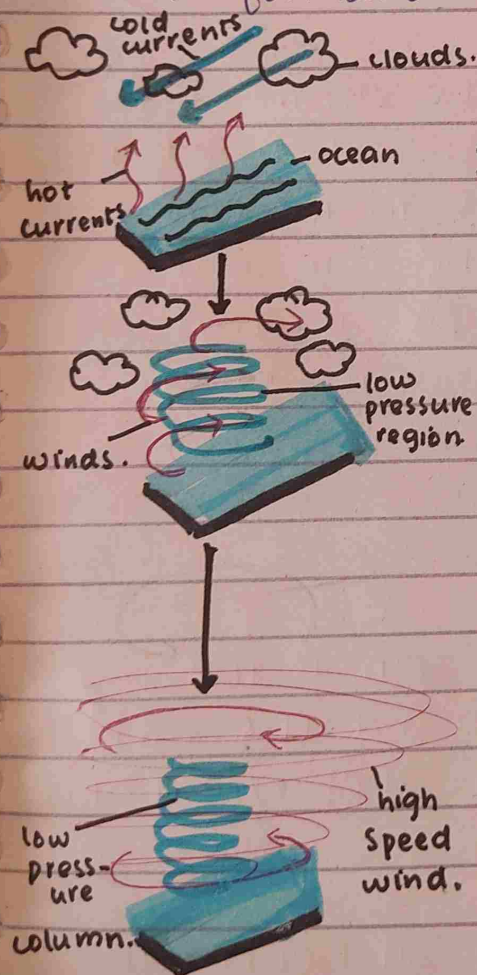
a.

Cyclones:

Cyclones are violent storms with an intense spiral and are accompanied by strong winds and heavy rains.

Causes of cyclones:

The following turns of atmospheric events result in the formation of cyclones:



1. Water evaporates from ocean surface and comes into contact with a mass of cold air, resulting in cloud formation.

2. A column of low pressure develops at the center. winds form around the ~~center~~ column.

3. As pressure in the central column, the eye, weakens, the speed of wind around it increases resulting in a formation of very low pressure surrounded by high speed winds. This weather condition is called cyclone.

Strongest & the most destructive part of a cyclone

The cyclones consists of low pressure region

surrounded by high speed winds. The outer high speed wind region is the most destructive region of a cyclone.

b. Black hole:

Black holes are the regions of space formed as a result of destruction faced by a dying star. It is the region of space where the gravity is so strong that even light cannot escape it.

Formation of a black hole:

A blackhole is formed by the death of a massive star. When a star has exhausted its internal thermonuclear resources in its core at the end of its life, the core becomes unstable & gravitationally collapses inward upon itself, and the stars outlayers are blown away.

c. Rotation of earth:

Earth's rotation or earth's spin is the rotation of planet earth around its own axis, as well as, changes in the orientation of rotation axis in space.

Earth rotates once in about 24 hours with respect to the Sun.

Revolution of earth:

The movement of the earth around Sun

in a fixed path is called a revolution.
The earth revolves from west to east i.e. anticlockwise direction.

The earth completes its one revolution in one year or precisely 365.242 days.

The revolution speed of earth is 30 km/s.

Structural parts of earth:

Crust: • comprises of continents & oceans.

• Thickness : 40-70 km in continents.

5-10 km in oceans.

• composition : Alumino-silicates.

• Temperature : upto 870°C.

Mantle:

upper mantle:

• Depth : 400 km (from Moho).

• composition : iron & magnesium silicates.

• Other name : Asthenosphere.

Transition zone:

Called as transitional zone because the minerals that make up upper mantle change in structure & form to other atomic arrangements.

Lower mantle:

• composition : ~~below 670 km~~ Mg, Fe, Si.

• Depth : Below 670 km.

Core:

Outer Core:

state : liquid.
Thickness : 2300 km.
composition : Ni-Fe alloy.

Inner core:

state : Solid.
Thickness : 1200 km.
composition : Iron mostly.

D- Ionic & Covalent bonds.

Ionic Bond

Complete transfer of electrons.

formed mostly between a metal & non-metal.

high boiling & melting points.

polar in nature.

Good conducting properties.

example:

NaCl, K_2SO_4 etc.

Covalent bond.

Sharing of electrons between combined species.

formed mostly between non-metals.

low melting & boiling points.

Can be less polar as well as non-polar in nature.

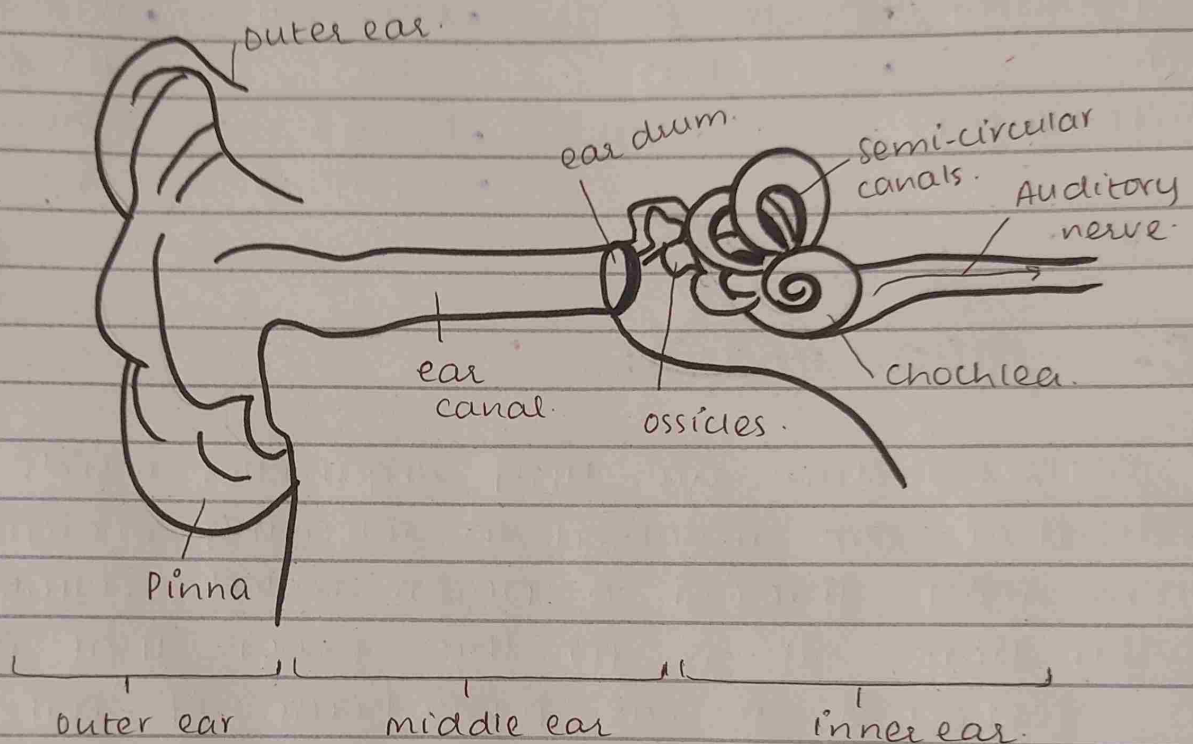
Comparatively bad conducting properties.

example:

HCl, CH_3OH etc

Question # 03

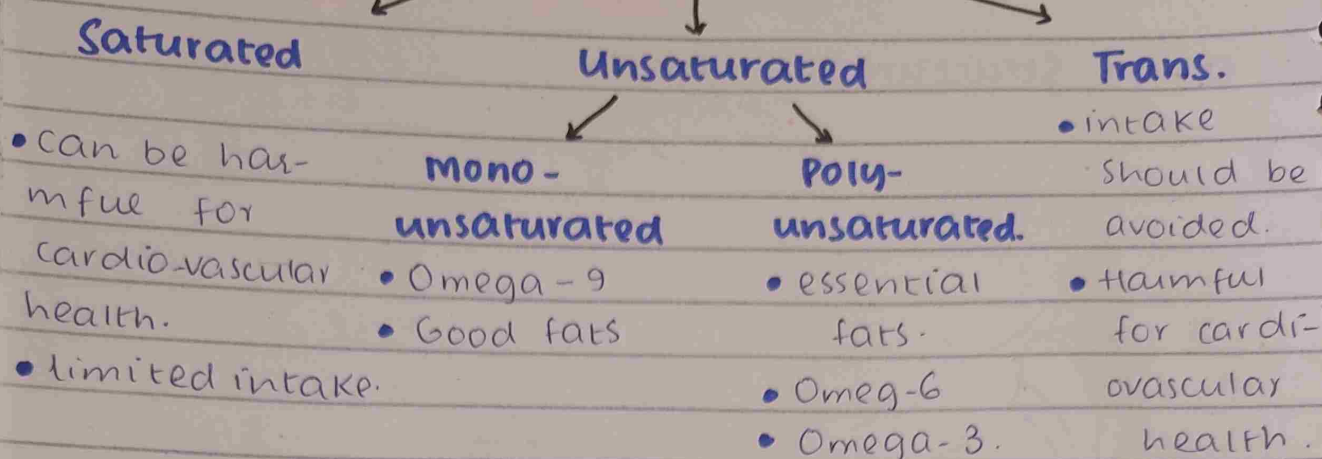
a- Structure of ear:



b- essential fats:

Essential fats are basically the fatty acids we absolutely have to get from our food, as our bodies do not make them on their own. They are: **Omega 6** and **Omega 3**. The ratio of these two is critical being 2 : 1.

Types of fats.



C- Mitochondria:

Mitochondria are tiny organelles inside cells that are involved in releasing energy from food through a process called cellular respiration. It is for this reason that it is referred to as power house of cell. Cells need a lot of energy & mitochondria is the supplier of all the energy required.

~~Question # 0~~

D. Food adulteration:

Food adulteration can be defined as a practice of adulterating food or contamination of food materials by adding a few substances called adulterants.

These are substances of poor quality added to food for economic & technical

benefits.

Food deterioration can result from adulteration of food as adulterants contaminate the food and can result in reducing the overall quality of food.

preventing food adulteration.

making policies that prohibit manufacture, sales and distributions of not only adulterated food but also contaminated food.

Raising awareness among public regarding harmful aspects of adulterants.

Spreading knowledge regarding safer, & natural techniques of food flavoring & preservation.