a) Carbon (C), Hydrogen (H), Oxygen, (O), Nitrogen (N)

b) Phosphorus (P) or Sulpher (S)

c) 20

d) Keratin, Collagen or myosin

e) Enzymes, hormones or antibodies

f) Meat, fish, chicken, lentils, nuts or dairy

a) The study of interactions betweens organisms and organsims and their environment

b) A sequence of organisms which transfer energy from one to the next

c) Soil related

d) Calculating the number of organisms present

e) An organism which feeds off both plants and animals

f) The struggle for a scarce resource in which one one animal will obtain all of

g) Converting atmospheric nitrogen into a usable form

a) DNA and protein

b) Female

c) 2 X chromosomes and 0 Y chromosomes

d) There are 3 extra chromosomes present or there are three copies of one chromosome presnt

e) Gene mutation or point mutation

f) Cancer research, stem cell research, skin grafts or plan breeding

a) Mitochondria are not seen under a microscope because they are too small

b) Red blood cell

c)

i. Name: Glycolysis

Location: Cytosol

ii. Krebs Cycle

iii. 2

d) During anaerobic conditions or when no oxygen is present

a) False

b) True

c) False

d) False

e) True

f) True

g) True

a) There is a higher rate of lipid digestion with both lipase and bile salts than there is with just lipase or digestion with just lipase is slower

b) Fatty acids and glycerol

c) Duodenum

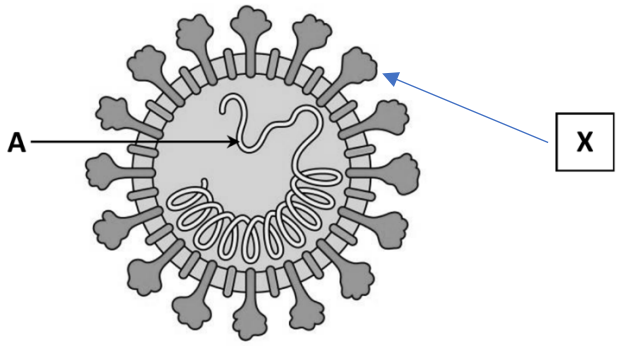
d) 7-9

e) Increases surface area or emulsifies

f) Lacteal

a) DNA, RNA or nucleic acid

b)



c) Cannot replicate by themselves or needs a host in order to reproduce

d) G

i. Vaccination: administration of a non-disease-causing dose of a pathogen

ii. Function: stimulation of the production of antibodies to kill pathogen, stimulates active immunity or stimulates memory cells

e) Any harmful virus e.g Influenza or measles

f) Vaccine production, genetic engineering or treating bacterial infections

a) Eukaryotic: Contains a nucleus and membrane bound organelles

Prokaryotic: Does not contain a nucleus or membrane bound organelles

b)

i. B

ii. Cell wall present, cells joined to eachother or shape of the cell

iii. Nucleus

iv. Stain: Methylene blue or iodine

Benefit: Cells are easier to see

v. 0.005cm

vi. Use high power lens, use objective lens or use fine focus lens

a)

i. An organism which makes its own food

ii. Building of small molecules into large molecules, requires an energy input or glucose built up from CO_2 and H_2O

b)

i. Elodea or pondweed

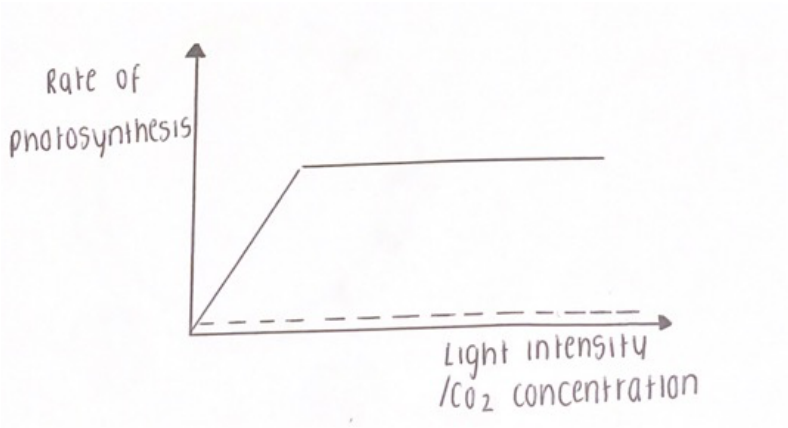
ii. Aquatic plant or bubbles can be seen

iii. Only one variable can be used at a time in order to identify reasoning behind any changes observed during the experiment or to ensure a fair test

iv. Water-bath

v. Count the number of bubbles produced per minute

vi.



a)

i. Meristem, root tip or shoot tip

ii. Phloem, Xylem or by diffusion

b)

i. Root, shoot or seed

ii. investigation

iii. Use a ruler to meaure the length or the tissue

iv. More root growth in low concentrations of IAA or more shoot growth in high concentrations of IAA

v. Wear gloves, lab coat or a mask