



Final Revision

3rd Prep.

Mr. Science

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Unit 1 revision

1) Choose the correct answer:-

- 1- On heating copper hydroxide we obtain :
(Copper carbonate and water – copper oxide and water – copper and hydrogen – copper oxide and hydrogen)
- 2- In thermal decomposition reactions, the compound is decomposed into:
(Its simple components – its primary elements – other compounds – all the previous)
- 3- When dilute hydrochloric acid is added to calcium carbonate..... gas is evolved.
a. CO₂ b) H₂ c) O₂ d) CO
- 4- A process that involves the splitting of compounds into simpler compounds by the effect of heat is called.....
a. simple substitution b) thermal decomposition
c) electrolysis d) direct combination
- 5- The blue colour of copper sulphate disappears and is formed by heating.
a. black ppt b) red colour c) yellow ppt d) black colour
- 6- The following elements can replace hydrogen in dilute acids except..... element.
a. Magnesium b) zinc c) copper d) sodium
- 7- The oxidizing agent is the compound which..... during the chemical reaction.
a. loses hydrogen b) gains oxygen c) loses oxygen
- 8- The percentage of hydrogen increases during reactions.
a) neutralization b) oxidation c) reduction d) substitution
- 9- In the reaction between sodium and chlorine to form sodium chloride, the oxidizing agent is.....
a) sodium b) chlorine c) sodium chloride d) both sodium and chlorine

2) Writ the scientific term :

- 1- The breaking up of the molecules of the reactants and the forming of new molecules.
- 2- A chemical process where the atom gains one or more electrons.
- 3- It is the substance which loses an electron or more during a chemical reaction.
- 4- A reaction where an element substitutes another one.
- 5- A process of splitting compounds into simpler compounds by the effect of heat.
- 6- The arrangement of metallic elements according to decreasing chemical activity.
- 7- A process in which an element displaces another element in one of its salt solutions.
- 8- It is the double exchange between the radicals of two compounds to give two other new compounds.
- 9- A reaction between acid and alkali to give salt and water.
- 10- A chemical substance which helps to increase the speed of the reaction
- 11- The chemical process which leads to the increase of oxygen or decrease of hydrogen
- 12- Two processes take place at the same time during the chemical reaction
- 13- A substance which gains one or more electrons during a chemical reaction.
- 14- The chemical process in which the atom of the substance gains one electron or more during the chemical reaction.

3) Write the balanced chemical equations for the following:

- 1- The reaction between hydrochloric acid and sodium hydroxide.
.....
- 2- Adding silver nitrate solution to sodium chloride solution.
.....
- 3- The effect of heat on red mercury oxide.
.....
- 4- The reaction of zinc with diluted hydrochloric acid.
.....
- 5- The effect of heat on sodium nitrates.
.....
- 6- The reaction of water with sodium.
.....
- 7- The reaction between hydrochloric acid and calcium hydroxide.
.....
- 8- Insertion of a magnesium ribbon in a solution of copper sulphate.
.....
- 9- The reaction of Aluminium with diluted hydrochloric acid.
.....
- 10- Reduction of hot copper oxide by hydrogen.
.....



4) Compare between:

- 1- Heating of metal oxide and metal hydroxide.
.....
- 2- Oxidation and reduction.
.....
- 3- Simple substitution and double substitution reactions.
.....

5) Identify the process of oxidization, reduction, oxidizing factor and reducing factor in each of the following reactions:

- 1- $2\text{Li} + \text{Pb}^{+2} \longrightarrow \text{Li}^{+1} + \text{Pb}$
- 2- $2\text{Cr}^{+3} + 3\text{Zn} \longrightarrow 2\text{Cr} + 3\text{Zn}^{+2}$
- 3- $\text{CH}_4 + 2 \text{O}_2 \longrightarrow \text{CO}_2 + 2 \text{H}_2\text{O}$
- 4- $\text{H}_2 + \text{CuO} \longrightarrow \text{Cu} + \text{H}_2\text{O}$

6) Complete the following statements:

- 1- Oxidization is a chemical process where the atom an electron or more.
- 2.....factor is the substance which gains one electron or more during a reaction.
- 3- Duringreactions, the compound breaks up by heat into its simple components.
- 4is the reaction between an acid and an alkali to form salt and water.
- 5is the substance which gives oxygen and takes away hydrogen.
- 6- At the beginning of the reaction, the concentration of reactants is.....%
- 7- The change in the concentration of reactants and resultants in a time unit is
- 8- The increase in concentration of reactants makes the chemical reaction.....
- 9- The reaction of contributing compounds is
- 10- Sodium chloride powder reacts than a cube of sodium chloride
- 11- A substance which increases the chemical reaction without changing in the reaction.....
- 12- $\text{NaCl} + \text{AgNO}_3 \longrightarrow \dots\dots\dots + \dots\dots\dots$
- 13- $\text{Cu}(\text{OH})_2 \longrightarrow \dots\dots\dots + \dots\dots\dots$
- 14- $2\text{NaNO}_3 \longrightarrow \dots\dots\dots + \dots\dots\dots$
- 15- $2\text{HgO} \longrightarrow \dots\dots\dots + \dots\dots\dots$
- 16- The size of the solute molecules in the real solution is.....than that in the colloidal solution.
- 17- In the..... solution, the solute molecules can be distinguished by the naked eye.
- 18- It is possible to dissolve more solute in the..... solution.
- 19- In the stomach, there is.....that help in the digestion of proteins
- 20- Solution can be classified in terms of homogeny into and
- 21- The break up of existed bonds in the molecules of reactants and the forming of new bonds is called.....
- 22- The speed of chemical reactions due to the increase of temperature.
- 24- Oxidation and reduction are two processes.
- 25- The components of the solution can be separated by refining or filtration.
- 26- Most metal sulphates undergo thermal decomposition to giveand.....
- 27- The chemical activity series is the arrangement of metallic elements in a..... order according to their
- 28- Chemical reaction is the process in which bonds in reactants areand bonds in are formed.
- 29- Oxidation and reduction are two processes.
- 30- The substance that gives oxygen and removes hydrogen is called.....
- 31- In the following reaction: ($2\text{Mg} + \text{CO}_2 \xrightarrow{\Delta} 2\text{MgO} + \text{C}$) the oxidizing agent is

7) Put a (✓) or (✗) in front of the following statements and correct the wrongwords:

- 1- The increase in the concentration of the reactants increases the number of collisions between molecules so that the speed of reaction decreases. ()
- 2- Most metal carbonates decompose by heating into metal oxide and carbon dioxide. ()
- 3- The reactions of ionic compounds are slower than coordinate compounds. ()
- 6- Metallic elements are arranged in an ascending order according to their chemical activity in the C.A.S. ()
- 7- No reaction takes place between copper and zinc sulphate. ()
- 8- Anhydrous copper sulphate decomposes by heat to give copper oxide and sulphur dioxide. ()
- 9- Reduction means gaining of hydrogen . ()

8) Give reasons :

- 1- The fridge is used to preserve food.
.....
- 2- Using molecule nickel in hydrating oil instead of pieces of nickel.
.....
- 3- Magnesium can replace copper in its salt solutions, while opposite cannot happen.
.....
- 4- Copper does not react with diluted hydrochloric acid.
.....
- 5- When a magnesium strip burns in air a white powder is formed.
.....

9) Mention the name of the gas in each of the following:

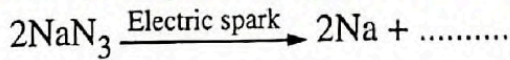
- 1) Turns lime water milky.....
- 2) Is obtained by the reaction between dilute hydrochloric acid and magnesium metal.....
- 3) Increase the glowing of lighted splint.....

Is produced from the thermal decomposition of sodium nitrate.....

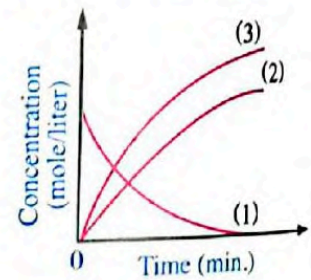
للحصول على الإجابة تابع فيديوهات المراجعة على قناة
مستر ساينس على اليوتيوب بدايو من 16- 4- 2023



The opposite graph represents the rate of rapid decomposition of the substance of sodium azid (which is present inside the air bag) :

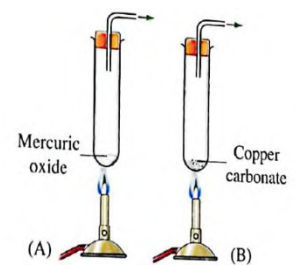


1. Complete the equation.
2. From the graph, write the name of the compound or the element which is indicated by each number.



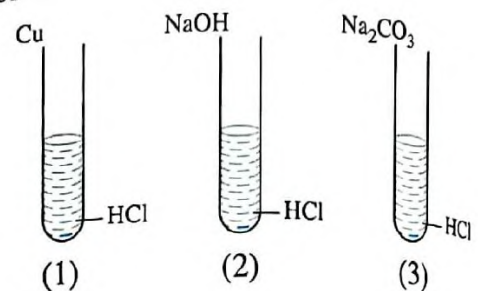
Compare between the colour in test tube A and B

.....



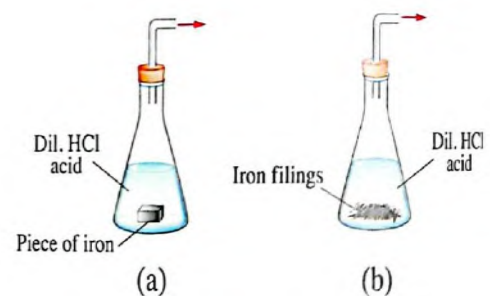
Study the opposite figure, then answer :

- a. In which tube the gas evolved.
- b. Mention the type of the reaction in tube 2.

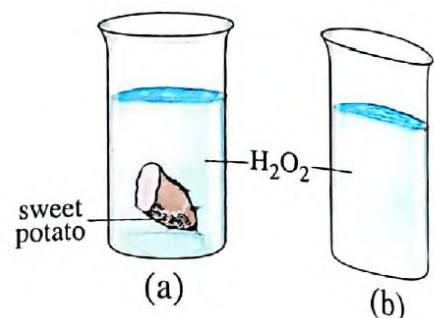


From the opposite figures, Answer :

1. Which reaction is faster (a) or (b).
2. What happens if iron is replaced by copper ?



The two opposite figures illustrate two beakers which contain equal amount of hydrogen peroxide, one beaker contains a piece of sweet potato :
 What is the gas produced from Hydrogen peroxide dissociation ?



Unit 2 revision

1) Choose the correct answer:-

1-Direct current can be produced form:

(Electrochemical cells – electric generators – electric power stations)

2-is the measuring unit of the electric charges (coulomb – ampere – volt)

3- The.....is used to measure the electromotive force of a battery.

(Voltmeter – Ammeter – Rheostat)

5- The sliding Rheostat is used to change andin the electric circuit.

(The current intensity and potential difference – the resistance and potential difference – current intensity and resistance).

6- The Ammeter is used to measure in the electric circuit.

(The potential difference – the current intensity – the resistance)

7- The unit of measuring the electric resistance is (Ampere – Volt – Ohm)

8- The unit of measuring the current intensity is.....(Ampere – Volt – Ohm)

9- The direct current is used in (Lighting – electric paint – operating refrigerators)

11-One of the properties of the alternating current is

(Has constant value – change direction – used in electric paint)

2) Writ the scientific term :

1- The flow of electric charges in a conductor. ()

2- The electric current of fixed intensity and direction ()

3- The obstruction the electric current during its flow in the conductor. ()

4- The flow of electric negative charges in a conducting element (metal wire). ()

5- The amount of electric charges that flow through a conductor in a certain time. ()

6- The flow of electric charges in a conductor.

7- The resistance of a conductor that allows the passing of an electric current of 1 Ampere through it when the potential difference between its two ends is 1 Volt.

8- The intensity of the electric current flowing in an electric circuit when an electric charge of 1 Coulomb passes within the conductor's cross section in 1 second.

9- The device used to measure the intensity of the electric current passing in a conductor.

10- The electric state of a conductor that shows the transference of electricity from and to it.

11- The measurement unit of the electromotive force of the electric cell.

12- The measuring unit of the absorbed radiation.

13- The natural conversion of the atoms of some elements in nature as an attempt to reach a more stable composition.

14- The flow of electric negative charges in a conducting material (metal wire).

15- A device used to measure the electric current intensity.

16- The work done to transfer unit of electric charge between two ends of a conductor.

- 17- The opposition to the flow of electric current in the conductor.
- 18- The potential difference across the two poles of the battery when the circuit is opened -19
- 19- The electric current of constant intensity and direction.
- 20- A type of connection of electric cells used to obtain high e.m.f.
- 21- The process of conversion of atoms of some elements to reach more stability.

3) Problems:

- 1- Calculate the potential difference of the two ends of a vacuum cleaner whose resistance is 22 Ohm and the current intensity passing through it is 10 Ampere.
- 2- You have three similar cells, the electromotive force of each is 1.5 volt, explain by using a diagram how you can connect them to obtain an e.m.f of:
- 1) 1.5 volts 2) 3 volts 3) 4.5 volts
- 3- You have 4 similar electric cells. The potential difference of each one is 1.5 Volt. Illustrate by drawing how you connect them to get batteries of emf of:
- A- 6 Volt. B- 4.5 Volt. C- 3 Volt in two ways. D- 1.5 Volt.
- 4- You have four electric cells each of e.m.f 1.2 volt. Show by drawing the method of connecting them to obtain each of the following:
- A) 1.2 volt B) 4.8 volt c) 2.4 volt
- 5- If the potential difference between the terminals of a conductor is 6 volts, and the electric current of intensity 0.5 ampere is passed through it. Calculate the intensity of the electric current passing through this conductor if it is connected with a voltage source of 12 volts.
- 6- Calculate the quantity of electricity that pass through a conductor of resistance 1000 ohms for 30 minutes, given the potential difference between its two terminals is 220 volts.
- 7- Calculate the potential difference between two points if the work done to transfer a charge of 600 coulomb is 6600 joule.

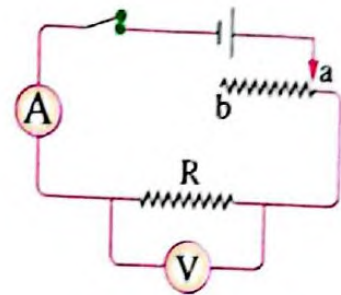
4) Complete the following statements:

- 1 is measured by using the Voltmeter and has a measuring unit known as.....
- 2- The.....is used to measure the electromotive force of a battery in units known as.....
- 3- While connecting charged conductors, the electric current passes from the conductor have..... potential to the conductor have.....potential.
- 4 - The electric current generated from a dynamo is due to converting energy to energy.
- 5- Cell produce current while the dynamo produces current.
- 6- There are two types of electric current.....and.....
- 7- The current intensity due to the flow of 2700 coulomb in 300 second through a cross-section of a conductor equals
- 8- In the electric circuits, the ammeter is connected in , while the voltmeter is
- 9- $\text{Volt} = \frac{\text{joule}}{\text{.....} \times \text{second}}$
- 10- There are two types of electric current which are and
- 11- The.....electric current can be transported only to short distance.
- 12- There are two methods of connecting electric cells which are and.....
- 13-,..... and cesium are natural radioactive elements.
- 14- Nuclear energy is used in medicine in and of some diseases.

5) Give reasons:

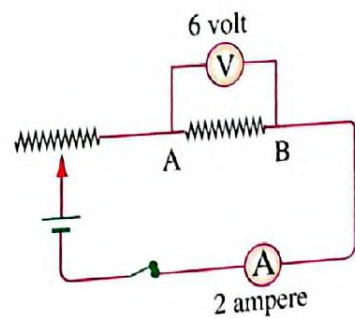
- 1- It is better to use the alternating current rather than the direct current.
.....
- 2- The voltmeter is connected to both poles of the battery in the electric circuit
.....
- 3-The areas chosen for storing radioactive wastes should be stable.
.....
- 4- Radiation has genetic effects.
.....
- 5- After the Chernobyl accident, radioactive isotopes were found in the food products.
.....
- 6- Magnesium can replace copper in its salt solutions, while opposite cannot happen.
.....
- 7- Some elements are called radioactive elements.
.....
- 8- The voltmeter is connected across the two poles of a battery.
.....
- 9- Rheostat is used in some electric circuits.
.....
- 10- Voltmeter is connected between the two ends of a conductor.
.....
- 11- It is better to use alternating current rather than direct current.

1. In the opposite closed electric circuit, when the slider of rheostat move from (a) to (b) the reading of voltmeter

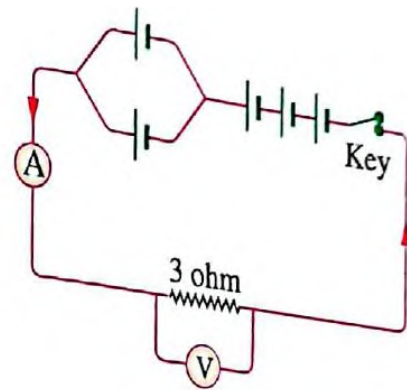


From the opposite circuit, complete the following :

1. The type of resistance A B is
2. The value of the resistance A B = ohms.



In the following electric circuit in the figure :
 If the potential difference between resistance ends equals the total (e.m.f.) of all cells,
 if the (e.m.f.) of each cell equals 1.5 volt
 and the resistance 3 ohms. Find the electric current intensity passes in Ammeter.



Units 3&4 revision

1) Choose the correct answer:-

- 1- The.....hormone releases the needed energy from the food stuffs:
a) Growth b) estrogen c) thyroxin
- 2- The.....hormone releases the needed energy from the food stuffs
a) growth b) estrogen c) thyroxin
- 3- The hormone responsible for producing secondary sexual male characteristics is the hormone.
a) Progesterone b) testosterone c) adrenalin
- 4- The hormone which stimulates the storage of glucose sugar in liver is the:
a) Insulin b) estrogen c) thyroxin d) parathormone
- 5- The two factors of the hereditary trait are similar in the.....individual:
a) Pure b) hybrid c) recessive d) Pure and recessive
- 6- Mendel conducted his experiments in pea plant by using pairs of traits.
a) 5 b) 7 c) 9 d) 11
- 7- The two factors of a hereditary trait are similar in the individual.
a) pure b) hybrid c) recessive d) a and c
- 8- Which one of these traits is recessive in humans
a) curly hair b) wide eyes c) free ear lobe d) straight hair
- 9- put the model of DNA molecule.
a) Ohm b) Mendel c) Watson d) Johansson
- 10- is the part of DNA in the cell nucleus.
a) Gene b) Gamete c) Cytoplasm d) no correct answer
- 11- DNA molecule consists of.....strands.
a) two b) three c) four d) five
- 12- The hormone which regulates the level of calcium in the blood is thehormone.
a) calcitonin b) thyroxin c) progesterone d) adrenalin
- 13- The.....hormone liberates the needed energy from the food stuff.
a) growth b) estrogen c) thyroxin d) testosterone
- 14- Glucagon hormone is secreted by
a) pituitary gland b) thyroid gland c) adrenal gland d) pancreas

2) Explain the following:

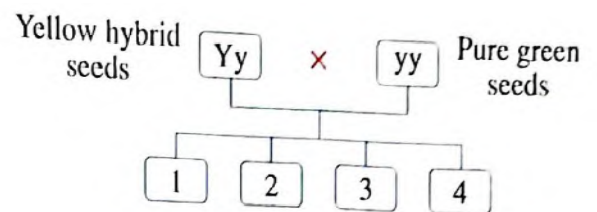
- 1- Mendel's selecting the pea plant to conduct his experiments.
.....
- 2- When a pure yellow pod pea plant is pollinated with a pure green pod pea plant, it produces plants that are all with green pods.
.....
- 3- The ability of bending the tongue is a dominant trait in the human being
.....
- 4- The model of Watson and Creek of the DNA structure
.....
- 5- How the genes perform their functions.
.....

3) Complete the following statements:

- 1- Dwarfism is a disease caused by the decrease of the secretion of..... hormone at the childhood.
- 2-The.....hormone is secreted when the rate of glucose sugar increases in the blood.
- 3- When the amount of glucose decreases in blood, pancreas secretes..... hormone
- 4- Hormones are directly secreted into the blood stream by.....
- 5- Thyroxin is athat regulates food assimilation in your body
- 6- When the secretion of the growth hormone decreases at the childhood, Man is infected by.....
- 7..... traits are not transmitted from one generation to another.
- 8- The scientist is the founder of heredity, he used the seeds of plant, because its flowers are..... and thus it can self-pollinated.
- 9- The trait that appears in all individuals of the first generation in Mendel’s experiments is trait.
- 10- Chromosome is chemically composed of a nucleic acid called.....which is combined with
- 11- The two scientists and..... were able to make a model for DNA molecule.
- 12- In DNA molecule, the nitrogenous base, Guanine pairs with.....base.
- 13- The gene mutation occurs as a result of the change in the sequence of of the gene.

4) problems

In the fig. replace the number with a suitable letter to give the produced generation?



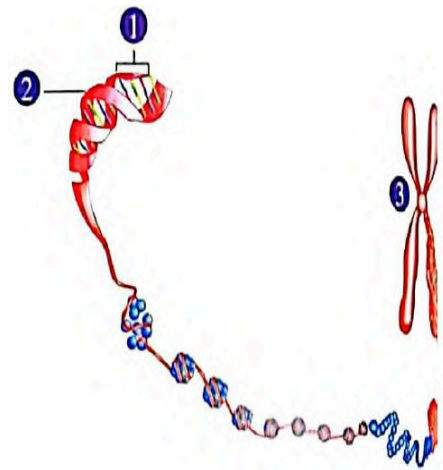
A gland existed in the digestive system of human that has a role in digestion process also it is secretes two hormones with opposite effect due to their functions.

Based on the previous determine each of the following :

1. The name of this gland is
2. The name of the first hormone is
3. The name of the second hormone is

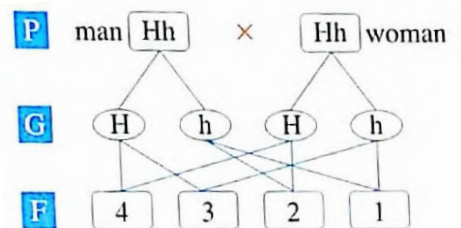
Study the figure in front of you,
then complete the following spaces :

The point number (3) represents which its chemically structure from number (2) which is and connected with protein, and it carries to the individual, while number (1) that represents which transmits the hereditary traits from parents to offspring.



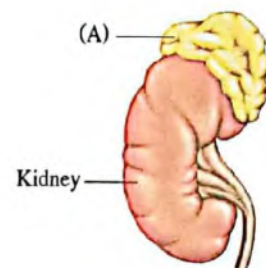
According to your studding answer the following :

1. The opposite figure represents the inheritance of one of humans traits, what is the number of the child that carries the recessive trait ?



Look at the opposite figure and answer :

1. What is the name of (A) gland ?
2. Mention the function of the hormone which the (A) gland secretes.



2. Use symbols to express the mating between man with black hair (Bb) with a woman has light colour hair (bb), showing the parents, gametes and first generation.