Science second semester Study Pack - Answers

Biology Vocabulary

Photosynthesis- a process where carbon dioxide, water, and salts, are converted into carbohydrates by plants using sunlight and chlorophyll;

Roots- organ of plant that typically lies below surface

Xylem- transports water, minerals, and foods to other parts of plants

Leaf- flattened green part from the stem, where photosynthesis takes place

Epidermis- provides protection for plant

Palisade Mesophyll- tissue made of many chloroplasts

Spongy mesophyll- lower layer of tissue with fewer chloroplasts

Stomata- microscopic openings in leaves, site of exchange of gases

Guard cells- control excessive water loss

Agriculture- the practice of farming or growing crops or raising animals;

Pests- a destructive insect or animal that attacks crops;

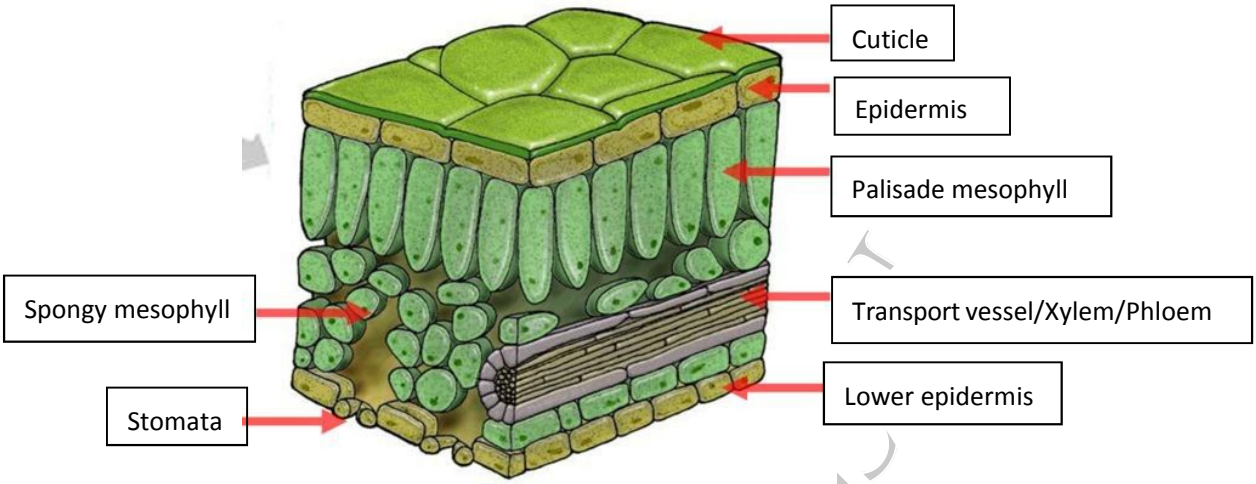
Pesticide- a substance used for destroying pests;

Fertilizer- a substance added to the soil to increase fertility;

Selective breeding- choosing parents with particular characteristics to breed together and produce offspring with more desirable characteristics

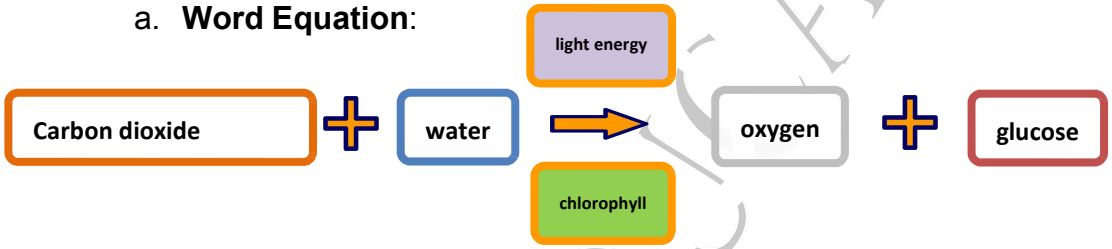
Genetically Modified Organism(GMO)- food produced from plants or animals whose DNA has been altered through genetic engineering

1. Using the vocabulary words above, label the parts of the leaf

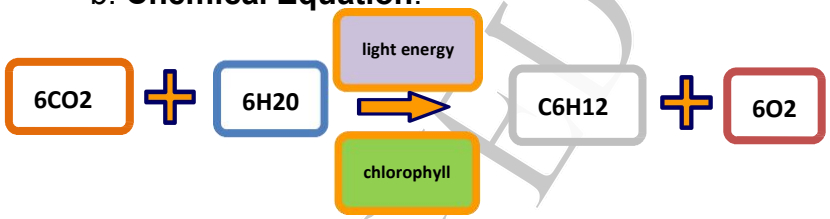


2. Write the **Word Equation** and **Chemical Equation** for photosynthesis.

a. **Word Equation**:



b. **Chemical Equation**:



3. Discuss some the benefits of using pesticides and fertilizers on crops:

Pesticides	Fertilizers
• Greater yield • Cost effective • Effective & Rapid	• Plants grow faster • PLants are bigger • Greater yield

4. What possible negative effects might there be from using pesticides and fertilizers on crops?

Pesticides	Fertilizers
• Can kill useful animals • Chemical pollution • Toxic to farmers	• Dehydrates plants • Increases the salt content • Root burn

5. What are the 4 main mineral salts needed for healthy functioning of a plant?

• Phosphorus • Iron	• Magnesium • Nitrogen

Electricity Vocabulary

Electricity- the flow or presence of electric charge

Electric charge- the charge (positive or negative) which created when electrons are gained

Potential difference/Voltage- the difference between the electrical potential (possibility) between two points.

Electric current- a flow of negative charges (Electrons) from one place to another

Direct current (DC)- an electric current which travels only in one direction

Alternating current (AC)- an electric current which alternates (changes) directions periodically (every once in a while).

Circuit- an arrangement of electrical components

Series circuit- a circuit in which the current flows in one direction with one continuous current

Parallel circuit- a circuit with branches where currents split along different, parallel, paths.

Valence electrons- are just electrons that are not attached to any one particular molecule.

Units of Measurement

Hertz (Hz)- a unit of measurement for frequency

Amperes(Amps)- a unit of measurement (A) for electric current.

Voltage (Volts)- the push that moves the electrons from one point to another.

Without voltage, there is no electricity because there is no flow of electrons.

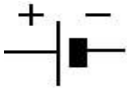
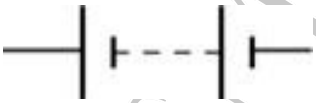
1. In your own words, what is electricity?

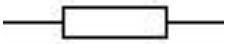
_____

_____

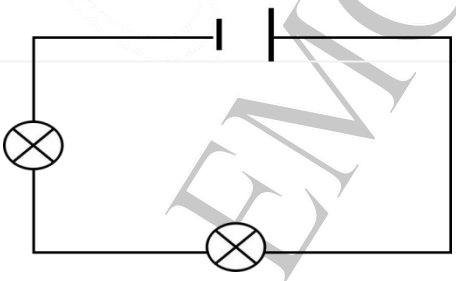
_____

2. **Use your notes from class to fill in the following Diagram**

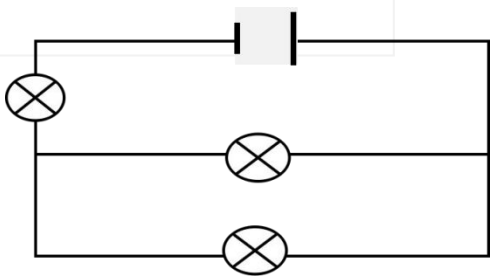
Symbol	Symbol Name	Purpose
	Cell	Generates a constant voltage
	Two-Cell Battery	Twice as much voltage
	Switch	A switch(open/closed), can either stop the electric flow or allow it to continuosly flow

	Fuse	Disconnects the flow of electricity when it reaches a certain amount
	Resistor	Reduces the flow of electric current
	Variable Resister	Resistor which can change the amount of resistance
	Bulb	Generates light
	Buzzer	Produces a buzzing sound
	Motor	Converts electrical energy to mechanical energy
	Voltmeter	Measures voltage
	Ammeter	Measures electric current

3. Identify the Circuits and label the parts of the diagram:



Series Circuit



Parallel Circuit

4. Give three examples of Magnetic and Non-Magnetic Elements

Magnetic	Non-Magnetic
Iron	Zinc
Nickel	Aluminium
Cobalt	Magnesium

Acids and Alkalis

Vocabulary for new lesson Acids & Alkali

Acid - PH less than 7.
Alkali - (Base) PH greater than 7.
Neutral - PH of 7.
pH - Tells how acidic or alkaline a substance is.
Litmus - To test whether a solution is acidic or basic. Blue litmus paper turns red under acidic conditions and red litmus paper turns blue under basic or alkaline conditions.
Universal Indicator - Used to show the acidity of alkalinity of solutions.
Solution - A liquid mixture.
Corrosive - Causing damage to metal or other materials through a chemical process.
Irritant - A substance that causes slight inflammation or other discomfort to the body.

Use Pages 82-86 to answer the following questions

5. Complete the following sentences

   All solutions in water are either **Acidic**, **Alkaline**, or **Neutral**. We can tell them apart by using special **Indicators**, which change colour depending on the type of solution. Often the indicator is one colour in an **Acid** and a different colour in an alkali.

6. Strong acids which can cause damage to metal or other materials are called **Corrosive.**
7. What do we call the scale that measures how acidic or alkaline a solution is? **PH Scale**
8. Give one reason that we might want to know the acidity or alkalinity of a solution.
   Tells us the taste as acids are sour and alkali solutions are bitter