

End of Term 3 Review Questions - Chemistry & Environmental Science



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ملفات اكتب للمعلم اكتب للطالب ا اختبارات الكترونية ا اختبارات ا حلول ا عروض بوربوينت ا أوراق عمل
منهج انجليزي ا ملخصات وتقارير ا مذكرات وبنوك ا الامتحان النهائي ا للمدرس

المزيد من مادة
علوم:

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التواصل الاجتماعي بحسب الصف التاسع المتقدم



صفحة المناهج
الإماراتية على
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الرياضيات

اللغة الانجليزية

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التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف التاسع المتقدم والمادة علوم في الفصل الثالث

أسئلة مراجعة شاملة للاختبار النهائي

1

مراجعة الوجدتان 2 و 14 المادة والتغيرات وخصائص المواع

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مراجعة وفق هيكل الامتحان

3

مراجعة نهائية أسئلة وتدريبات

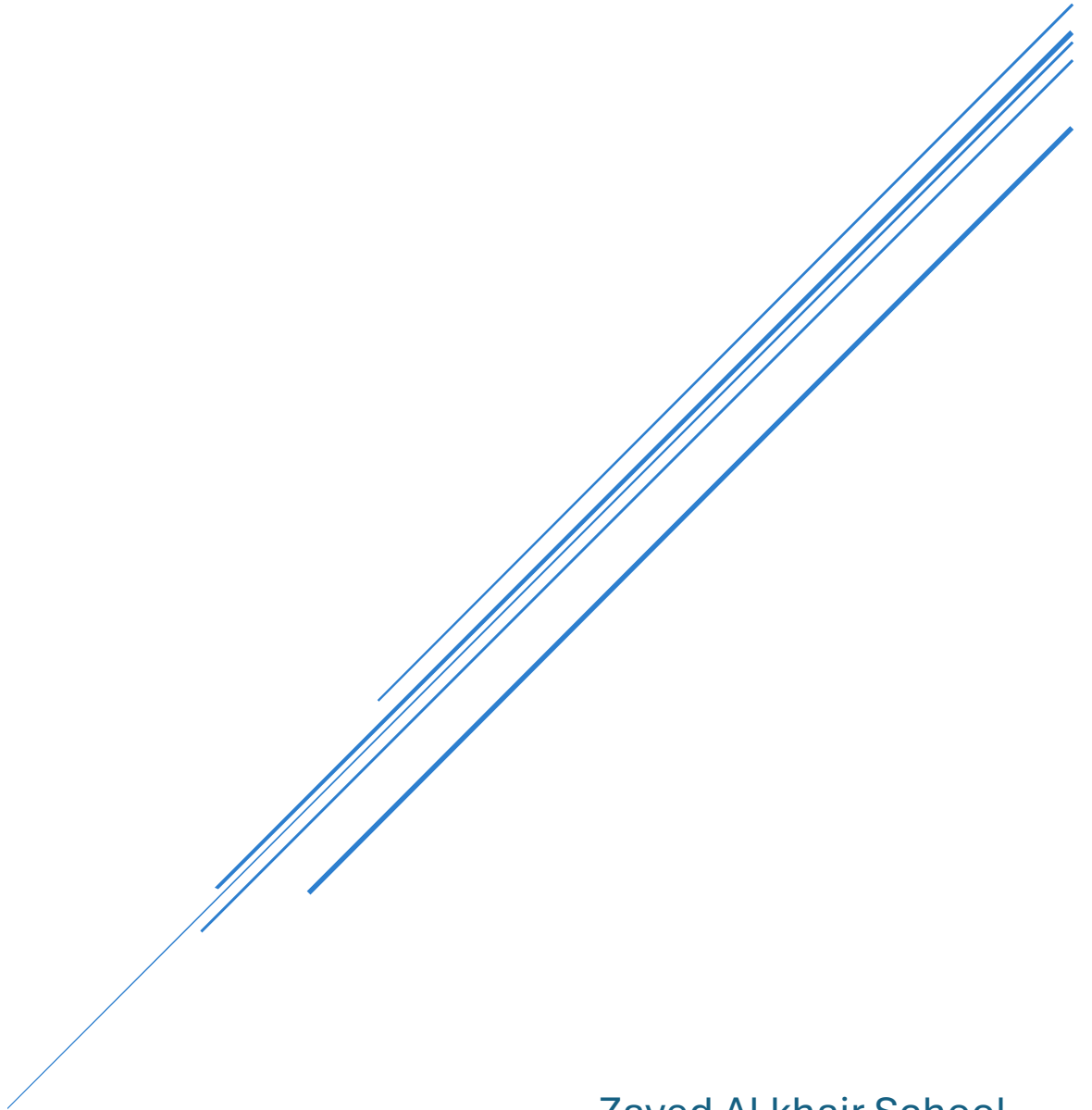
4

الحصة الأولى الحمل وبداية تطور الجنين من الدرس الثاني مراحل نمو الإنسان قبل الولادة الوحدة الأولى تكاثر الإنسان وتطوره

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End of Term 3 Review (EOT3) – Questions

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Zayed Al khair School
Science 9G

Chemistry & Environmental Science Review Questions

Science Worksheet: Matter, Energy, and the Environment

Part 1: Multiple Choice Questions

1. States of Matter: Volume, Shape, and Forces

1. Which state of matter has a definite volume but takes the shape of its container?
 - A. Solid
 - B. Liquid
 - C. Gas
 - D. Plasma
2. In which state are intermolecular forces the strongest, holding particles in fixed positions?
 - A. Gas
 - B. Liquid
 - C. Solid
 - D. Vapor
3. Gas particles are characterized by having:
 - A. Strong attractive forces
 - B. Large distances between particles
 - C. Fixed volumes
 - D. Vibrational motion only
4. Which state of matter is the most compressible?
 - A. Solid
 - B. Liquid
 - C. Gas
 - D. Ice
5. The distance between particles is smallest in a:
 - A. Gas
 - B. Liquid
 - C. Solid
 - D. Vacuum

2. Kinetic Theory of Particles

1. According to the kinetic theory, all matter is made of:
 - A. Stationary atoms

- B. Constantly moving particles
 - C. Large, solid spheres
 - D. Liquid droplets
2. As the temperature of a substance increases, the average kinetic energy of its particles:
- A. Decreases
 - B. Stays the same
 - C. Increases
 - D. Becomes zero
3. "Absolute zero" is the temperature at which:
- A. Water freezes
 - B. All particle motion stops
 - C. Particles move at the speed of light
 - D. Gas turns into a liquid
4. Which of the following describes gas particle motion?
- A. Circular orbits
 - B. Slow and steady sliding
 - C. Rapid, random, and straight-line
 - D. Vibration in fixed spots
5. Pressure in a gas container is caused by:
- A. Gravity pulling particles down
 - B. Particles sticking to the walls
 - C. Collisions of particles with the walls
 - D. Particles expanding in size

3. KMT and Behavior of Matter

1. Why do gases expand to fill their entire container?
- A. Their particles are very large
 - B. They have high attractive forces
 - C. Their particles move rapidly with negligible attraction
 - D. Gravity does not affect gas particles
2. Why are solids incompressible?
- A. Particles are already packed closely together
 - B. Particles are moving too fast to be squeezed
 - C. Intermolecular forces are non-existent
 - D. Solids have no volume

3. Liquids are able to "flow" because their particles:
 - A. Are far apart like a gas
 - B. Can slide past one another
 - C. Are locked in a rigid lattice
 - D. Transform into gas during motion
4. Thermal expansion occurs when heating a substance because:
 - A. Particles grow in size
 - B. Particles move faster and push further apart
 - C. New particles are created
 - D. Intermolecular forces become stronger
5. Which statement best explains diffusion in gases?
 - A. Particles are stationary
 - B. Particles move randomly into areas of empty space
 - C. Particles are forced together by pressure
 - D. Particles only move downward

4. Property Comparison (Review)

1. Which state has the highest density generally?
 - A. Gas
 - B. Liquid
 - C. Solid
 - D. Plasma
2. Surface tension is a property specifically associated with:
 - A. Solids
 - B. Liquids
 - C. Gases
 - D. Vacuums
3. Which state lacks both a definite shape and a definite volume?
 - A. Solid
 - B. Liquid
 - C. Gas
 - D. Crystal
4. Particles in a liquid have _____ kinetic energy than those in a solid at the same temperature.
 - A. More
 - B. Less

- C. The same
 - D. Zero
5. Intermolecular distances are greatest in:
- A. Steam
 - B. Tap water
 - C. An iron bar
 - D. Mercury

5. Heating and Cooling Curves

1. During a phase change (like melting), the temperature of a substance:
 - A. Increases rapidly
 - B. Decreases
 - C. Remains constant
 - D. Fluctuates
2. On a heating curve, a flat horizontal line (plateau) represents:
 - A. A change in kinetic energy
 - B. A change in potential energy (phase change)
 - C. The substance cooling down
 - D. The substance being destroyed
3. The heat of fusion refers to the energy required to change a:
 - A. Liquid to a gas
 - B. Solid to a liquid
 - C. Gas to a solid
 - D. Liquid to a solid
4. Which part of a heating curve shows an increase in average kinetic energy?
 - A. The plateaus
 - B. The sloped lines
 - C. The end of the graph only
 - D. None of the above
5. Condensation is a process that _____ energy.
 - A. Absorbs
 - B. Releases
 - C. Destroys
 - D. Ignores

6. Floating and Sinking

1. An object will sink in water if its density is:
 - A. Less than 1.0 g/mL
 - B. Equal to 1.0 g/mL
 - C. Greater than 1.0 g/mL
 - D. Exactly 0.5 g/mL
2. Archimedes' Principle states that the buoyant force is equal to:
 - A. The weight of the object
 - B. The weight of the fluid displaced
 - C. The volume of the object
 - D. The density of the fluid
3. Why does a heavy steel ship float?
 - A. Steel is less dense than water
 - B. The ship's shape displaces a weight of water equal to its own weight
 - C. Air has no mass
 - D. The ocean has no bottom
4. If an object is "neutrally buoyant," it will:
 - A. Sink to the bottom
 - B. Pop out of the water
 - C. Hover at its current depth
 - D. Melt
5. Buoyant force always acts in which direction?
 - A. Downward
 - B. Sideways
 - C. Upward
 - D. Toward the center of the object

7. Pressure Calculations (Pascals)

1. The formula for pressure is:
 - A. $P = \text{Force} \times \text{Area}$
 - B. $P = \text{Force} / \text{Area}$
 - C. $P = \text{Mass} / \text{Volume}$
 - D. $P = \text{Area} / \text{Force}$
2. What is the SI unit for pressure?
 - A. Newton
 - B. Joule

- C. Pascal
 - D. Watt
3. If you stand on one foot instead of two, the pressure on the floor:
- A. Increases
 - B. Decreases
 - C. Stays the same
 - D. Becomes zero
4. A force of 100 N is applied to an area of 2 m^2 . What is the pressure?
- A. 200 Pa
 - B. 50 Pa
 - C. 0.02 Pa
 - D. 102 Pa
5. 1 Pascal is equivalent to:
- A. 1 kg/m^3
 - B. 1 N/m^2
 - C. 1 J/s
 - D. $1 \text{ N}\cdot\text{m}$

8. Applications of Principles

1. Which principle explains how a hydraulic car lift works?
- A. Archimedes' Principle
 - B. Bernoulli's Principle
 - C. Pascal's Principle
 - D. Newton's Third Law
2. A submarine changes its depth by controlling its buoyancy, an application of:
- A. Pascal's Principle
 - B. Archimedes' Principle
 - C. Bernoulli's Principle
 - D. Charles's Law
3. The curve of a soccer ball in flight is best explained by:
- A. Pascal's Principle
 - B. Archimedes' Principle
 - C. Bernoulli's Principle
 - D. The Law of Conservation of Mass

4. Hydraulic brakes in a car transmit pressure through a fluid, which is:
 - A. Archimedes' Principle
 - B. Bernoulli's Principle
 - C. Pascal's Principle
 - D. Boyle's Law
5. A hot air balloon rises because of:
 - A. Pascal's Principle
 - B. Archimedes' Principle
 - C. Bernoulli's Principle
 - D. The Doppler Effect

9. Bernoulli's Principle

1. Bernoulli's Principle states that as the speed of a moving fluid increases:
 - A. Its internal pressure increases
 - B. Its internal pressure decreases
 - C. Its temperature decreases
 - D. Its mass increases
2. An airplane wing is designed so that air moves faster over the top, creating:
 - A. High pressure on top
 - B. Low pressure on top
 - C. A vacuum behind the wing
 - D. Extra weight
3. Why does a shower curtain pull toward you when the water is running?
 - A. Static electricity
 - B. High pressure inside the shower
 - C. Low pressure created by the moving water/air
 - D. Gravity
4. If you blow air between two empty soda cans, they will:
 - A. Move apart
 - /B. Move toward each other
 - C. Stay still
 - D. Melt
5. In a hurricane, roofs are often lifted off houses because:
 - A. The air inside the house is moving faster
 - B. The fast-moving wind outside creates low pressure above the roof

- C. The wind pushes the roof up from the ground
- D. Gravity reverses

10. Extensive and Intensive Properties

1. An intensive property is one that:
 - A. Depends on the amount of matter present
 - B. Does NOT depend on the amount of matter present
 - C. Changes when you cut a sample in half
 - D. Is always measured in grams
2. Which of the following is an extensive property?
 - A. Density
 - B. Boiling Point
 - C. Mass
 - D. Color
3. Density is considered an intensive property because:
 - A. It changes with the size of the sample
 - B. It stays the same regardless of sample size
 - C. It is a chemical property
 - D. It only applies to liquids
4. Which of these is an extensive property?
 - A. Volume
 - B. Luster
 - C. Temperature
 - D. Hardness
5. Melting point is a(n) _____ property.
 - A. Extensive
 - B. Intensive
 - C. Biological
 - D. Variable

11. Chemical Properties

1. A chemical property is defined as the:
 - A. Ability of a substance to change into a new substance
 - B. Description of a substance's appearance
 - C. Measurement of a substance's mass
 - D. State of matter at room temperature

2. Which of the following is a chemical property?
 - A. Density
 - B. Flammability
 - C. Melting point
 - D. Solubility
3. Reactivity with acid is a:
 - A. Physical property
 - B. Chemical property
 - C. Intensive physical property
 - D. Extensive physical property
4. The ability of iron to rust is a:
 - A. Physical change
 - B. Physical property
 - C. Chemical property
 - D. Periodic property
5. Which of these describes a chemical property?
 - A. Water is clear
 - /B. Copper conducts electricity
 - C. Silver tarnishes in air
 - D. Gold is heavy

12. Chemical Change

1. During a chemical change, what always happens?
 - A. The substance changes state
 - B. A new substance is formed
 - C. The substance disappears
 - D. The temperature stays the same
2. Which of the following is a chemical change?
 - A. Tearing paper
 - B. Freezing water
 - C. Burning wood
 - D. Crushing a can
3. Digestion of food in the stomach is a:
 - A. Physical change
 - B. Chemical change

- C. Nuclear change
 - D. Reversible change
4. Which process is a chemical change?
- A. Boiling water
 - B. Dissolving sugar
 - C. Cooking an egg
 - D. Melting wax
5. A chemical change is also known as a:
- A. Physical reaction
 - B. Chemical reaction
 - C. Phase shift
 - D. Mixture

13. Indicators of Chemical Change

1. Which of the following is NOT usually a sign of a chemical change?
- A. Change in color
 - B. Formation of a gas (bubbles)
 - C. The substance melting
 - D. Release of light
2. What is a "precipitate"?
- A. A gas that turns into a liquid
 - /B. A solid that forms from two liquids during a reaction
 - C. Rain or snow
 - D. A fast-moving particle
3. If a beaker becomes very hot during a reaction without being heated, this indicates:
- A. An endothermic physical change
 - B. An exothermic chemical change
 - C. A mistake in measurement
 - D. The Law of Conservation of Mass
4. Seeing bubbles when mixing vinegar and baking soda indicates:
- A. The liquid is boiling
 - B. A chemical change is producing a gas
 - C. A physical change is occurring
 - D. Air is being trapped

5. An unexpected change in odor usually suggests a:
- A. Physical change
 - B. Chemical change
 - C. Change in mass
 - D. Change in volume

14. Law of Conservation of Mass

1. The Law of Conservation of Mass states that in a chemical reaction, mass is:
 - A. Created
 - B. Destroyed
 - C. Neither created nor destroyed
 - D. Lost to space
2. If 10g of reactant A reacts with 10g of reactant B, the total mass of the products will be:
 - A. 10g
 - B. 5g
 - C. 20g
 - D. 100g
3. In a closed system, the mass of the products _____ the mass of the reactants.
 - A. Is greater than
 - B. Is less than
 - C. Is equal to
 - D. Is unrelated to
4. Who is credited with formulating the Law of Conservation of Mass?
 - A. Isaac Newton
 - B. Antoine Lavoisier
 - C. Albert Einstein
 - D. John Dalton
5. What happens to atoms during a chemical reaction?
 - A. They are destroyed
 - B. They are turned into different elements
 - C. They are rearranged to form new substances
 - D. They are created from energy

15. Applying Conservation of Mass

1. If 50g of ice melts into liquid water, the mass of the water will be:
A. 40g
B. 50g
C. 60g
D. 0g
2. A piece of wood burns in an open fireplace. The remaining ash weighs less than the wood because:
A. Mass was destroyed
B. Some mass was converted into gases like CO_2 and escaped
C. The wood became less dense
D. Ash has no mass
3. 32g of Sulfur reacts with Oxygen to produce 64g of Sulfur Dioxide. How much Oxygen was used?
A. 64g
B. 32g
C. 96g
D. 16g
4. If a reaction takes place in a sealed flask, the reading on a balance will:
A. Decrease
B. Increase
C. Stay the same
D. Drop to zero
5. 4g of Hydrogen reacts with 32g of Oxygen. The mass of water produced is:
A. 36g
B. 28g
C. 8g
D. 128g

16. Mixtures: Homogeneous and Heterogeneous

1. A mixture that is uniform throughout and looks like a single substance is:
A. Heterogeneous
B. Homogeneous
C. A compound
D. An element

2. Which of the following is a heterogeneous mixture?
 - A. Salt water
 - B. Air
 - C. Chocolate chip cookie dough
 - D. Brass
3. A particulate diagram showing two different types of particles mixed evenly represents:
 - A. A heterogeneous mixture
 - B. A homogeneous mixture
 - C. A pure substance
 - D. A chemical reaction
4. Trail mix is an example of a:
 - A. Homogeneous mixture
 - B. Heterogeneous mixture
 - C. Solution
 - D. Pure substance
5. Another name for a homogeneous mixture is a:
 - A. Solvent
 - B. Solution
 - C. Suspension
 - D. Solder

17. Pure Substances: Elements and Compounds

1. A substance made of only one type of atom is a(n):
 - A. Mixture
 - B. Compound
 - C. Element
 - D. Solution
2. A compound is defined as two or more elements that are:
 - A. Physically mixed
 - B. Chemically bonded
 - C. Placed in the same container
 - D. Both liquids
3. Which of the following is a compound?
 - A. Gold (Au)
 - B. Oxygen (O₂)

C. Water (H₂O)

D. Iron (Fe)

4. Distilled water is classified as a:
 - A. Homogeneous mixture
 - B. Pure substance (Compound)
 - C. Pure substance (Element)
 - D. Heterogeneous mixture
5. In a particulate diagram, a compound would be shown as:
 - A. Single, identical circles
 - B. Different types of circles chemically joined together
 - C. Clusters of identical circles
 - D. Circles of different sizes floating apart

18. Energy Resources in Daily Life

1. Which energy resource is most commonly used to power cars and airplanes?
 - A. Coal
 - B. Petroleum (Oil)
 - C. Solar
 - D. Nuclear
2. Natural gas is frequently used in homes for:
 - A. Insulation
 - B. Heating and cooking
 - C. Structural support
 - D. Cleaning
3. Which resource provides the majority of the world's electricity via power plants?
 - A. Wood
 - B. Fossil fuels
 - C. Batteries
 - D. Wind
4. Solar energy is a direct resource used for:
 - A. Powering calculators and streetlights
 - B. Creating plastic
 - C. Drilling for oil
 - D. Internal combustion engines

5. Batteries store energy in what form?
- A. Kinetic
 - B. Thermal
 - C. Chemical
 - D. Nuclear

19. Fossil Fuel Formation

1. Fossil fuels are formed from:
 - A. Volcanic eruptions
 - B. The remains of ancient plants and animals
 - C. Rocks melting in the mantle
 - D. Outer space debris
2. Coal specifically forms from ancient:
 - A. Marine organisms
 - B. Swamp plants and trees
 - C. Dinosaurs
 - D. Desert sand
3. Oil and natural gas typically form from:
 - A. Desert cacti
 - B. Tiny marine organisms like plankton
 - C. Mammoth bones
 - D. Hardened lava
4. The two main factors required to turn organic matter into fossil fuels are:
 - A. Sunlight and Water
 - B. Heat and Pressure
 - C. Wind and Cold
 - D. Oxygen and Nitrogen
5. How long does it take for fossil fuels to form?
 - A. 10 years
 - B. 100 years
 - C. Millions of years
 - D. Over a weekend

20. Renewable and Non-Renewable Resources

1. A resource that cannot be replaced as fast as it is consumed is:
 - A. Renewable

- B. Non-renewable
 - C. Sustainable
 - D. Infinite
2. Why is coal considered non-renewable?
- A. It is very expensive
 - B. It takes millions of years to form
 - C. It burns too fast
 - D. It is made of carbon
3. Sustainability means:
- A. Using all resources as fast as possible
 - B. Meeting current needs without compromising future generations
 - C. Never using any energy
 - D. Only using coal
4. Which of the following is a renewable resource?
- A. Natural gas
 - B. Uranium
 - C. Solar energy
 - D. Petroleum
5. Why is it important to conserve water?
- A. It is a non-renewable resource
 - B. Only a small percentage of Earth's water is fresh and accessible
 - C. Water is made of chemicals
 - D. Water cannot be recycled

21. Renewable Energy Resources (List)

1. Which energy source uses the movement of air?
- A. Solar
 - B. Wind
 - C. Geothermal
 - D. Biomass
2. Energy from the heat inside the Earth is called:
- A. Hydroelectric
 - B. Nuclear
 - C. Geothermal
 - D. Solar

3. Biomass energy comes from:
 - A. Splitting atoms
 - B. Burning organic materials like wood or crops
 - C. Ocean waves
 - D. Underground steam
4. Which of these is a renewable resource?
 - A. Propane
 - B. Coal
 - C. Hydroelectric (Water)
 - D. Oil
5. Tidal energy harvests power from:
 - A. Rain
 - B. The moon's gravitational pull on oceans
 - C. Underwater volcanoes
 - D. River currents only

22. Converting Renewable Energy to Electricity

1. **Solar panels (photovoltaics) convert sunlight directly into:**
 - A. Steam**
 - B. Electricity**
 - C. Petroleum**
 - D. Wind**
2. In a wind turbine, the kinetic energy of wind is first converted to:
 - A. Chemical energy
 - B. Mechanical energy (spinning blades)
 - C. Nuclear energy
 - D. Heat
3. Hydroelectric dams use _____ to spin turbines.
 - A. Boiling water
 - B. Falling water
 - C. Solar rays
 - D. Natural gas
4. Most renewable power plants (wind, hydro, geothermal) use a _____ to generate electricity.
 - A. Battery
 - /B. Generator

- C. Solar cell
 - D. Furnace
5. Geothermal plants use _____ from underground to spin turbines.
- A. Cold water
 - B. Steam
 - C. Oil
 - D. Lava

23. Renewable Resource Identification

1. Which of the following is NOT a renewable energy source?
- A. Wind
 - B. Sunlight
 - C. Coal
 - D. Biomass
2. A major advantage of renewable energy is that it:
- A. Never runs out
 - B. Is always available 24/7 everywhere
 - C. Is free to install
 - D. Produces a lot of CO₂
3. Wave energy is a form of:
- A. Geothermal energy
 - B. Hydro/Ocean energy
 - C. Solar energy
 - D. Non-renewable energy
4. Biofuels are liquids made from:
- A. Rocks
 - B. Plants/Crops
 - C. Crude oil
 - D. Salt water
5. Which renewable resource depends on the weather?
- A. Geothermal
 - B. Tidal
 - C. Solar
 - D. Biomass

24. Human Population and Carrying Capacity

1. **Carrying capacity is defined as:**
 - A. The weight a person can lift
 - B. The maximum population an environment can sustain indefinitely
 - C. The speed at which humans travel
 - D. The amount of trash in a landfill
2. As the human population increases, the demand for natural resources:
 - A. Decreases
 - B. Stays the same
 - C. Increases
 - D. Becomes zero
3. Which of the following can decrease an area's carrying capacity?
 - A. Resource depletion and habitat destruction
 - B. Improved medicine
 - C. Planting more trees
 - D. Recycling
4. What happens if a population exceeds its carrying capacity?
 - A. Resources become abundant
 - B. The population may crash due to lack of resources
 - C. Everyone becomes wealthier
 - D. The Earth grows larger
5. How has technology affected Earth's carrying capacity for humans?
 - A. It has lowered it by destroying nature
 - B. It has increased it by allowing more food production and better medicine
 - C. It has had no effect
 - D. It has removed the need for water

25. Protecting and Conserving Resources

1. **The "3 R's" of conservation stand for:**
 - A. Redo, Rethink, Relax
 - B. Reduce, Reuse, Recycle
 - C. Run, Read, Restore
 - D. Rapid, Real, Ready
2. Which action helps conserve water?
 - A. Leaving the tap running while brushing teeth
 - B. Taking shorter showers

- C. Watering the lawn at noon
 - D. Throwing plastic in the ocean
3. Using LED light bulbs is an example of:
- A. Energy efficiency
 - B. Wasting resources
 - C. Non-renewable energy
 - D. Solar power
4. Planting trees (afforestation) helps the environment by:
- A. Increasing CO₂ levels
 - B. Absorbing CO₂ and providing habitats
 - C. Using up all the soil
 - D. Stopping the wind completely
5. Why is recycling aluminum cans beneficial?
- A. It uses more energy than mining new aluminum
 - B. It saves energy and reduces the need for mining
 - C. Aluminum is a renewable resource
 - D. It makes the cans heavier
-

Part 2: Answer Key

Q#	Ans	Q#	Ans	Q#	Ans	Q#	Ans	Q#	Ans
1	B	26	C	51	A	76	B	101	B
2	C	27	B	52	B	77	C	102	C
3	B	28	B	53	B	78	B	103	B
4	C	29	C	54	C	79	B	104	C
5	C	30	C	55	C	80	B	105	B
6	B	31	B	56	B	81	C	106	B
7	C	32	C	57	C	82	B	107	B
8	B	33	A	58	B	83	C	108	B
9	C	34	B	59	C	84	B	109	B
10	C	35	B	60	B	85	B	110	B
11	C	36	C	61	C	86	B	111	C
12	A	37	B	62	B	87	B	112	A
13	B	38	C	63	B	88	B	113	B
14	B	39	C	64	B	89	A	114	B
15	B	40	B	65	B	90	C	115	C

16	C	41	B	66	C	91	B	116	B
17	B	42	B	67	C	92	B	117	C
18	C	43	C	68	C	93	B	118	A
19	C	44	B	69	B	94	B	119	B
20	A	45	B	70	C	95	C	120	B
21	C	46	B	71	B	96	B	121	B
22	B	47	C	72	B	97	B	122	B
23	B	48	B	73	B	98	B	123	A
24	B	49	A	74	C	99	C	124	B
25	B	50	B	75	A	100	B	125	B