

AKAKI ADVENTIST SCHOOL
CHEMISTRY WORK SHEET FOR GRADE **12**
UNIT FIVE

SOME ELEMENTS IN CHEMISTRY AND INDUSTRY

Minerals, Ores, Occurrence of Elements, The Recycling of Elements in Nature (Carbon cycle, Nitrogen cycle and Phosphorus cycle), Metallurgy, Extraction, Properties and Uses of Some Selected Metals, Some Important Compounds of Selected Non-metals
(NH_3 , H_2SO_4 , HNO_3 , $(\text{NH}_4)_2\text{HPO}_4$ or DAP)

CHOOSE THE BEST ANSWER FROM THE GIVEN ALTEERNATIVES

1. The first most abundant metal on the earth's crust is?
A. Silicon B. Iron **C. Aluminum** D. Sodium
2. Nitrogen fixing bacteria converts?
A. Ammonia to nitrate
B. Nitrate to free nitrogen
C. Free nitrogen to nitrate
D. Free nitrogen to ammonia
3. Which of the following metal is extracted by thermal reduction method?
A Mg B. Al **C. Cu** D. Na
4. Which of the following is the most important ingredient in **the** production of DAP fertilizer?
A. Ammonia and phosphoric acid
B. Nitric acid, urea and phosphoric acid
C. Ammonia, phosphoric acid and urea
D. Ammonia, Sulphuric acid and urea
5. Which of the following is use of H_2SO_4 ?
A. As electrolyte in lead storage battery
B. To make explosive
C. Used in plastic and detergent production
D. All
6. Which of the following element exists as Free State?
A. Cr **B. Pt** C. Mn D. Fe
7. The second most abundant element in the earth's crust is
A. Oxygen **B. Silicon** C. Aluminum D. Iron
8. Why metals are soft and malleable? because
A. they are very shiny
B. they experience electro static force of attraction
C. the presence of mobile electron
D. metal cations are able to slip over each other fairly and easily.

9. Which of the following metal is extracted by chemical reduction method?
A. Fe B. Al C. Mg D. Cu
10. Which of the following metal has the highest electrical and thermal conductivity of any of the other metals?
A. Ni B. Co C. Ag D. Cu
11. Which of the following is not true about HNO_3 ? It is
A. used as reducing agent
B. Used as an acid
C. Used as an oxidizing agent
D. Used to make explosive materials
12. The advantage of DAP over UREA is that
A. It is double fertilizer C. It is organic fertilizer
B. it is cheap fertilizer D. It is found in rocks
13. In down's cell, during extraction of sodium by electrolysis of molten solution of NaCl, what is the use of adding CaCl_2 to the molten solution of NaCl?
A. To increase the ionization of NaCl
B. To increase the melting point of NaCl
C. To lower the melting point of NaCl
D. To increase electrical conductivity
14. Which of the following is commonly known by the name galena?
A. ZnS B. PbS C. FeS_2 D. HgS.
15. The process of converting nitrogenous compounds to free nitrogen is called
A. Nitrification B. Nitrogen synthesis
C. Nitrogen fixation D. De nitrification
16. Concentration process that involves treating ore of metals in suitable solvent (polar or non-polar solvent) that dissolves the ore is called
A. Leaching B. Amalgamation
C. Froth floatation D. Purification of metals
17. Which of the following elements does not occurs in Free State?
A. Ca B. Cu C. Pt D. Au
18. Which of the following is not correctly paired with its process of production?
A. $\text{NH}_3 \rightarrow$ Haber process C. $\text{H}_2\text{SO}_4 \rightarrow$ Contact process
B. $\text{HNO}_3 \rightarrow$ Ostwald process D. None
19. Alkali metals and Alkaline earth metals are usually extracted by
A. Reduction of their ores with Coke
B. Electrolysis of their molten chloride
C. Roasting of their ores
D. Reduction of their ores with CO

20. The four most abundant elements in increasing order of their natural abundance are
- Silicon, Oxygen, Iron, Aluminum
 - Oxygen, Silicon, Aluminum, Iron
 - Iron, Aluminum, Silicon, Oxygen
 - Aluminum, Iron, Silicon, Oxygen
21. What makes phosphorus cycle different from the Carbon and Nitrogen Cycle?
- Phosphorus cycle is very slow and found in rocks
 - Phosphorus cannot be found in atmosphere in the gases state
 - It is not an essential element for plant and animals
 - A and B
- 22 Which of the following element is used for galvanizing?
- Fe
 - Ca
 - Na
 - Zn
23. Which of the ff catalyst is used during preparation of H_2SO_4 by Lead chamber process?
- V_2O_5
 - NO
 - Pt
 - Fe
24. Some metals like, Al and Mg cannot be affected by strong acids or oxidizing acids, this is due to their;
- ability to conduct heat and electricity
 - ability to form protective oxide film
 - malleability
 - ductility
25. Assume the use of fossil fuels continues to increase over the next decade. What prediction are entists most likely to make for carbon dioxide (CO_2) and temperature change?
- Carbon dioxide (CO_2) will increase, causing an increase in temperature
 - Temperature will increase, causing a decrease in carbon dioxide (CO_2)
 - Carbon dioxide (CO_2) will increase and temperature will remain the same
 - Temperature will increase, and carbon dioxide (CO_2) will remain the same
26. Which of the following does not lead to heavy growth of algae in water pollution?
- Mercury
 - Phosphates
 - Nitrates
 - Nitrogen fertilizer
27. In carbon cycle, the flow of energy is
- linear
 - irreversible
 - reversible
 - None
28. Coal, natural gas and oil are forms of
- fossil fuels
 - carbon compound
 - nitrogen compounds
 - both A and B
29. During respiration, the carbon dioxide (CO_2) is
- produced
 - released in the environment
 - absorbed
 - depleted

30. The element that is a liquid at 25°C is:
A. Oxygen B. Chlorine C. Bromine D. Nitrogen
31. Which one of the following statements is incorrect about the nitrogen cycle?
A. Nitrogen is the most abundant gas in the atmosphere
B. Atmospheric nitrogen is less reactive
C. The process of releasing nitrogen gas back into the atmosphere is called nitrogen fixation
D. Lightning converts atmospheric nitrogen into nitrogen oxides
32. If a metal is to be obtained by electrolytic reduction, its oxide, hydroxide or carbonate is often treated with HCl to convert it to the chloride. The reason for doing this conversion is that:
A. Most chlorides usually melt at high temperatures to form conductive liquids
B. Most chlorides usually melt at low temperatures to form conductive liquids
C. Only aluminium chloride melts at low temperatures to form a conductive liquid
D. All of the above
33. The four most abundant elements, in increasing order of abundance, are:
A. silicon, oxygen, iron and aluminium
B. oxygen, silicon, aluminium, and iron
C. iron, aluminium, silicon, and oxygen
D. aluminium, iron, silicon, and oxygen
34. Which of the following ores contains carbonates?
A. dolomite B. epsomite C. bauxite D. cassiterite
35. What makes the phosphorus cycle different from the nitrogen and carbon cycles?
A. The phosphorus cycle is very slow
B. Phosphorus cannot be found in the atmosphere in the gaseous state
C. It is not an essential element for plants and animals
D. A and B
36. Which one of the following statements is false about zinc?
A. It is mainly extracted from galena
B. It reacts with dilute hydrochloric acid to give zinc chloride and hydrogen gas
C. It shows amphoteric property
D. It is used for coating iron to prevent the iron from corrosion
37. Which of the following statements is incorrect about silicon and its compounds?
A. It is extracted by heating silica and coke at very high temperatures
B. It is a semiconductor and extensively used by the electronics industry to produce computer chips
C. Silicone polymers are used in making lubricants
D. None of the above

THANK YOU!