

Chemistry Study Guide

Questions

1.



Oxidizing material



Flammable material



Poisonous



Biohazard



Toxic effects



Compressed gas



Corrosive

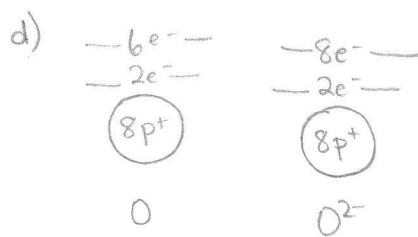
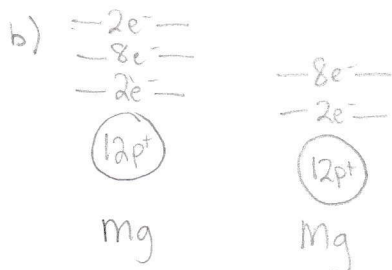
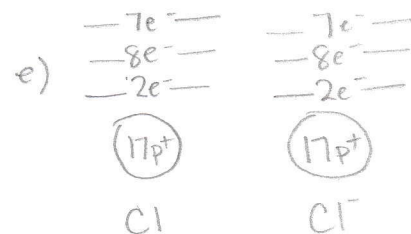
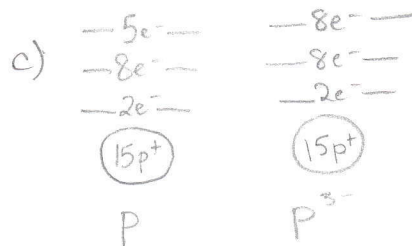
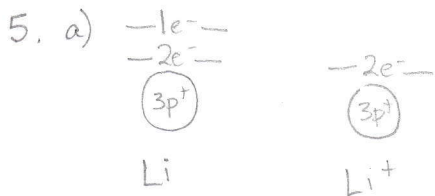
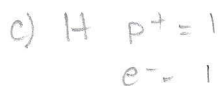
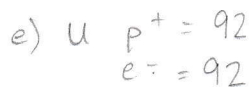
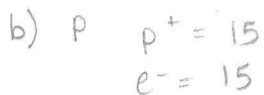
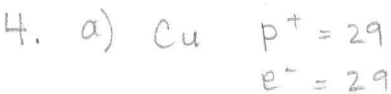


Dangerously reactive

2. MSDS

- product name
- reactivity
- first aid measures
- physical data (melting pt, boiling pt, etc.)
- manufacturer information.

3. hydrogen	H ₂	chlorine	Cl ₂
nitrogen	N ₂	iodine	I ₂
oxygen	O ₂	bromine	Br ₂
fluorine	F ₂	astatine	At ₂



6. Ionic compounds \Rightarrow metals and non metals
(also polyatomic ions)

Molecular compounds \Rightarrow non metal and non metal

7. OMIT

8. N_3P_5	molecular	trinitrogen pentaphosphide
$CaCl_2$	ionic	calcium chloride
$MgCO_3 \cdot 2H_2O$	ionic	magnesium carbonate dihydrate
$NaNO_3$	ionic	sodium nitrate
SO_2	molecular	sulfur dioxide
P_3O_3	molecular	triphosphorus trioxide

9. a) S_4Cl_9

b) NBr_3

c) CO

d) P_8H_{10}

10. a) MgF_2

b) K_2O

c) CaO

d) HgI

e) HgI_2

f) $NaClO_3$

11. a) $Fe(NO_3)_2$

b) Cu_3PO_4

c) $BeSO_4$

d) $NaCH_3COO$

e) $Na_2S \cdot 2H_2O$

f) $MgCl_2 \cdot H_2O$

g) $Ra(NO_2)_2 \cdot 7H_2O$

h) $Ca(ClO_3)_2$

12. Acids	Bases
→ pH less than 7	→ pH greater than 7
→ turns blue litmus red	→ turns red litmus blue

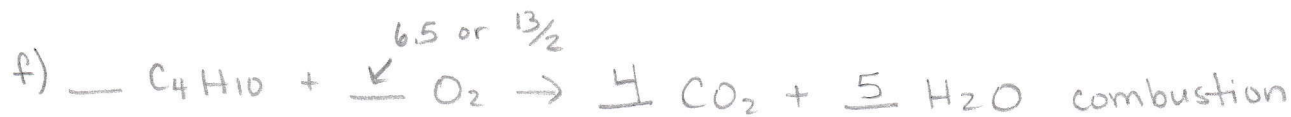
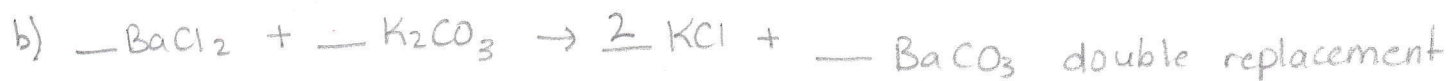
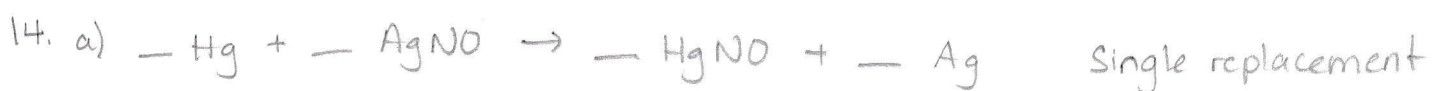
13. Rules:

① I ATE something ICky

② sprITE is deliciOUS

③ my RIDE has HYDROICs

- HBr(aq) hydrogen bromide → hydrobromic acid
- HCN(aq) hydrogen cyanide → hydrocyanic acid
- $\text{CH}_3\text{COOH(aq)}$ hydrogen acetate → acetic acid
- $\text{HClO}_2\text{(aq)}$ hydrogen chlorite → chlorous acid
- $\text{HClO}_3\text{(aq)}$ hydrogen chlorate → chloric acid
- $\text{HClO}_4\text{(aq)}$ hydrogen perchlorate → perchloric acid
- HCl(aq) hydrogen chloride → hydrochloric acid.



x 2



KEY

1. The interaction of all living organisms with the non-living factors in a given area powered by a flow of energy is called
 - A. Photosynthesis
 - B. An environment
 - C. Abiotic factors
 - D. An ecosystem

2. The wise use of our renewable resources today so that both the resource and the environment will be there for future generations.
 - A. Environmental Protection
 - B. Sustainability
 - C. Conservation
 - D. Paradigm shift

3. The physical or non-living factors of the environment are called factors.
 - A. Biotic
 - B. Abiotic
 - C. Interactive
 - D. Biodiversity

4. Organisms which manufacture their own food by using energy from the sun and carbon dioxide and water are called.....
 - A. Autotrophs
 - B. Consumers
 - C. Chemoautotrophs
 - D. Producers

5. A significant change in the way humans view the world for example thinking the earth is flat then thinking it is round.
 - A. Ecology
 - B. Biodiversity
 - C. Paradigm shift
 - D. Sustainability

6. Which of the following terms describes the competition between killer whales for seals as food?
 - A. interspecific
 - B. specific
 - C. non-specific
 - D. intraspecific

7. The gradual change in the types of species that live in an area up to a stable climax community is known as.
- A. Succession
 - B. Biome
 - C. Ecotone
 - D. Biodiversity
8. In a pyramid of energy which of the following would you find at the bottom level?
- A. First order consumer
 - B. A herbivore
 - C. Producers
 - D. Decomposers
9. Which of the following organisms would you expect to have the lowest concentration of DDT in its system?
- A. plankton
 - B. sea birds
 - C. fish
 - D. small whale
10. Which of the following populations within the ocean ecosystem would you expect to have the smallest biomass?
- A. plankton
 - B. killer whale
 - C. seal
 - D. cod fish
11. The process where plants perform $\text{CO}_2 + \text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + \text{O}_2$ in the presence of sunlight is called.....
- A. photosynthesis
 - B. Cellular respiration
 - C. Transpiration
 - D. the nitrogen cycle
12. Which of the following is an important organism in the nitrogen cycle?
- A. Worms
 - B. Nitrogen-fixing bacteria
 - C. Decomposers
 - D. Detrivores
13. Which of the following statements is true of a pyramid of biomass?
- A. It shows the number of organisms at each trophic level
 - B. It shows that biomass increases from each trophic level to the next
 - C. It shows the energy lost at each trophic level
 - D. It shows that biomass decreases from each trophic level to the next

14. The process whereby toxins collect in the bodies of organisms in progressively higher concentrations towards the top of the food chain is called
- A. Biological magnification
 - B. Progressive poisoning
 - C. Bioaccumulation
 - D. Toxicification
15. Which of the following statements about nitrogen is true?
- A. Plants can use nitrogen directly from the atmosphere
 - B. Our atmosphere is made up of about 15% nitrogen
 - C. Nitrogen enters animals when they eat plants
 - D. Plants only use pure nitrogen
16. Which of the following is NOT a reason for the declining numbers of the Frog?
- A. Pollution
 - B. Increase in UV radiation
 - C. Loss of habitat
 - D. Increased Predation
17. All the energy transfer relationships within an ecosystem would be called a(n)
- A. Food web
 - B. Food Chain
 - C. Ecotone
 - D. Climate change
18. An organism that consumes both plants and animals, and has both sharp and flattened teeth.
- A. Herbivore
 - B. Carnivore
 - C. Omnivore
 - D. Meatatarian
19. The "border" area between two ecosystems where you can find organisms from both ecosystems.
- A. Population
 - B. Community
 - C. Biome
 - D. Ecotone *You do not need to know this term!*
20. When one organism will benefit while the other organism is not helped or harmed.
- A. Mutualism
 - B. Commensalism
 - C. Parasitism
 - D. Consumerism

21. What percentage of the solar radiation is used for photosynthesis?
- A. 44%
 - B. 25%
 - C. 3%
 - D. 0.023%
22. Which of the following objects would have the highest Albedo?
- A. Mud
 - B. Asphalt
 - C. Snow
 - D. Sand
23. Which of the organisms below does NOT undergo cellular respiration?
- A. Fox
 - B. Cod fish
 - C. Sunflower
 - D. They all do
24. Which ecological pyramid graph, would use the unit joule (J)?
- A. Pyramid of biomass
 - B. Pyramid of numbers
 - C. Pyramid of energy
 - D. Pyramid of biomes
25. Which of the following is the correct definition of a Ecological Niche?
- A. The most important species in an ecosystem
 - B. A "role" in an ecosystem where an organism can live and reproduce
 - C. The competition between two species
 - D. The physical environment in an ecosystem
26. A pesticide that is found in nature like nicotine or mercury.
- A. First generation
 - B. Second generation
 - C. Synthetic
 - D. Fat soluble
27. Which element below is considered to be the main organic element?
- A. Carbon
 - B. Silicon
 - C. Nitrogen
 - D. Sulfur