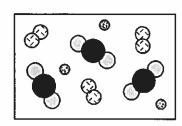
Mich could be the chemical formula of an element? A) AB B) ab C) Ab D) Element A and element B become chemically bonded together to form substance C. Substance C must A) a solution B) an element C) a mixture D) Mich of the following statements describes a characteristic of all compounds? A) Compounds can be decomposed by chemical means. B) Compounds contain two elements, only. C) Compounds contain two elements, only. Mich of the following is an example of a compound? A) Na B) O2 C) CO2 D) The particle diagram below represents a sample of matter. Which best describes the composition of the sample? A) a single element B) a mixture of compounds The particle diagram below represents a sample of matter.	Name:							
B) odor Which of the following can not be decomposed into simpler substances? A) mixtures B) solutions C) compounds D) Mich could be the chemical formula of an element? A) AB B) ab C) Ab D) Element A and element B become chemically bonded together to form substance C. Substance C must A) a solution B) an element C) a mixture D) Which of the following statements describes a characteristic of all compounds? A) Compounds can be decomposed by physical means. C) Compounds contain two elements, only. D) Compounds contain one element, only. Mich of the following is an example of a compound? A) Na B) O2 C) CO2 D) The particle diagram below represents a sample of matter. Which best describes the composition of the sample? A) a single element B) a mixture of compounds D) a single compound Which best describes the composition of the sample? Which best describes the composition of the sample? Which best describes the composition of the sample? Which best describes the composition of the sample? Which best describes the composition of the sample? Which best describes the composition of the sample?	1)	latter is defined as anything that occupies spa	ce and has					
			•					
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## A Element A and element B become chemically bonded together to form substance C. Substance C must A) a solution B) an element C) a mixture D) ## A) a solution B) an element C) a mixture D) ## A) Compounds can be decomposed by chemical means. ## B) Compounds contain two elements, only. ## D) Compounds contain one element, only. ## D) Compounds contain one element, only. ## A) Na B) O2 C) CO2 D) ## The particle diagram below represents a sample of matter. ## Which best describes the composition of the sample? ## A) a single element B) a mixture of compounds ## D) a single compound ## The particle diagram below represents a sample of matter. ## D) a single compound ## D) A	3)			46	D)			
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A) a single element B) a mixture of compounds D) a single compound The particle diagram below represents a sample of matter. Which best describes the composition of the sample?		hich best describes the composition of the s	ample?					
Which best describes the composition of the sample?		a single element	C)					
	8)	The particle diagram below represents a sample of matter.						
B) a single compound D) a mixture of elements		a mixture of compounds	C)	•				

The particle diagram below represents a sample of matter. 9)



Which	best describes	the cor	mposition	of the	sample?
AATIIOII	DUSK GUSUNDUS	1110 001	HUUSHUUH	OI UIC	Samble:

- A) a mixture of elements and compounds
- B) a single compound
- ___ 10) in an equation, what symbol would indicate a mixture?

B) (aq)

C) (I)

D) (s)

- A true solution is best described as a 11)
 - A) heterogeneous mixture
 - B) heterogeneous compound

C) homogeneous mixture

C) a mixture of elements

D) a mixture of compounds

- D) homogeneous compound
- __ 12) What process is used to separate a mixture of liquids based on a difference in boiling point?
 - A) chromatography

C) titration

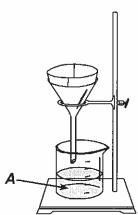
B) distillation

- D) filtration
- What process is used to separate the components of a mixture based on differences in solubility? _13)
 - distillation

C) filtration

B) titration

D) chromatography



_ 14)

What separation procedure uses the laboratory apparatus shown above?

distillation A)

C) titration

B) chromatography

- D) filtration
- Which of the following is a chemical property of copper? 15)
 - A) It reacts in moist air to produce green copper carbonate.
 - B) It has a shiny metallic luster.
 - C) It is a good conductor of heat and electricity.
 - D) It melts when heated to 1083DC.
- Which substance can not be decomposed by a chemical change? 16)
 - A) copper

C) mercury (II) oxide

B) water

- D) potassium chlorate
- 17) When a substance was dissolved in water, the temperature of the water increased. This process is described as
- A) exothermic, with the absorption of energy

- C) endothermic, with the release of energy
- B) endothermic, with the absorption of energy
- D) exothermic, with the release of energy

18)	Energy of position or stored en	ergy is also called				
	activation enery chemical energy		C) D)	potential energy kinetic energy		
			,			
19)	••	d into heat energy, the total amour	nt of e		eases	
	A) remains the same	B) increases		,		•
20)		e amount of energy absorbed or re				
	A) torr	B) gram	C)	joule	D)	degree
21)	What is the specific heat capac	city of H ₂ O(I)?				
	A) 1.0 J/gdK	B) 2,259 J/g	C)	4.2 J/gdK	D)	333.6 J/g
22)	How many joules are equivalen	nt to 35 kilojoules?				
	A) 35,000 joules			0.35 joule		
	B) 3,500 joules		D)	0.035 joule		
23)	As ice cools from 273 K to 263	K, the average kinetic energy of its	s mole	ecules will		
	A) decrease	B) remain the sam	1e	C) incre	ase	
24)	What Kelvin temperature is equ	ual to -33DC?				
	A) -33 K	B) 306 K	C)	240 K	D)	33 K
25)	The particle diagrams below re	epresent elements at STP.				
			٥	0		
			਼ √			
			00	۱۳٬۳۸۱		
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		ο [∞] 8 θ		
			0 0			
		A B	C	D		
	Which particle diagram best re	presents a substance in the solid	l state	?		
	A) A	B) <i>B</i>	C)	С	D)	D
26)	In an equation, which symbol v	vould indicate a gas?				
	A) NH ₃ (aq)	B) NH ₃ (i)	C)	NH ₃ (g)	D)	NH3(s)
27)	Which set of properties does a	substance such as CO ₂ (g) have	?			
	A) no definite shape but defin	_		no definite shape and no o	efinit	e volume
	B) definite shape and definite		D)	definite shape but no defin		
28)	In which sample are the partic	les arranged in a regular geometri	ic nati	ern?		
	A) N ₂ (g)	B) NaCl(aq)		HCI(I)	D)	l ₂ (s)
			·	.,		
29)	At what point do a liquid and a	solid exist at equilibrium?	0)	an allain an an aim A		
	A) sublimation point B) boiling point		D)	melting point vaporization point		
	,		•		. 111	<i>1</i> 1
30)		to change a given mass of ice to v			alled	the heat of
	A) formation B) condensation			crystallization fusion		
04)	·	a into war along the force of affice - 11 -				
31)	In substances that sublime, the A) strong and the vapor pressure.	e intermolecular forces of attractio	on are C)		ıre ie	hiah
	B) strong and the vapor pres		D)	weak and the vapor pressi		

32) The boiling point of water at standard pressure is A) 0 K B) 273 K C) 373 K D) 100. K 33) Which phase change is endothermic? liquid to gas C) gas to solid gas to liquid D) liquid to solid The graph below represents the uniform cooling of water at 1 atmosphere, starting with water as a gas above its boiling 34) Temperature (°C) Time What segments of the cooling curve represent the fixed points on a thermometer? A) AB and CD B) CD and EF C) BC and DE D) AB and EF The graph below represents the relationship between the temperature and time for a substance that was heated 35) uniformly starting at t_0 . The substance was in the solid phase at t_0 . Increasing Femperature 2 0 3 4 Increasing Time During what time interval does the heat absorbed by the substance represent the heat of fusion of the substance? A) t_0 to t_1 B) t₃ to t₄ C) t₁ to t₂ D) t2 to t3 The graph below represents the uniform cooling of a substance starting as a gas at 160DC. 36) € 160 140 Temperature (50 100 150 200 250 300 350 400 450 500 550 600 650 Heat Emitted (kilojoules) At which temperature does a phase change occur for this substance? A) 40DC B) 140DC C) 0DC D) 80DC

37)

38)

A) Hg₂Cl₄

NO

What is the chemical formula for mercury (I) chloride?

What is the chemical formula for nitrogen (I) oxide?

B) Hg₂Cl

B) N₂O₄

C) Hg₂Cl₂

C) N₂O

HgCl₂

D) NO₂

39)	A) Fe ₃ O	B) FeO ₃	C)	Fe ₂ O ₃	Đ)	Fe ₃ O ₂		
40)	What is the formula for lead (II) o							
	A) PbO	B) Pb ₂ O	C)	Pb ₂ O ₃	D)	PbO ₂		
41)	What is the correct formula for so		•					
	A) NaO ₂	B) SO ₂	C)	Na ₂ O	D)	S ₂ O		
42)	The correct name of the compou	and with the formula PbO ₂ is						
	A) lead (III) oxide B) lead (II) oxide		C) D)	lead (I) oxide lead (IV) oxide				
43)	What is the name of the compou	and whose formula is N ₂ O ₅ ?						
	A) nitrogen (III) oxide B) nitrogen (IV) oxide		C) D)	nitrogen (V) oxide nitrogen (II) oxide				
44)	What is the correct chemical form							
	A) Na ₂ SO ₃	B) NaSO ₄	C)	NaSO ₃	D)	Na ₂ SO ₄		
45)	What is the formula for sodium of							
	A) NaC ₂ H ₃ O ₂	B) NaCIO	C)	Na ₂ C ₂ O ₄	D)	Na ₂ O		
46)	What is the formula for sodium t							
	A) Na ₂ SO ₄	B) Na ₂ S ₂ O ₃	C)	Na ₂ S ₂ O ₄	Đ)	Na ₂ SO ₃		
47)	What is the chemical formula for	• • • • • • • • • • • • • • • • • • • •						
	A) Cu(ClO ₃) ₂	B) Cu ₂ Cl	C)	CuCl ₂	D)	Cu ₂ ClO ₃		
48)	Which of the following is an emp							
	A) Al ₂ Cl ₆	B) C ₂ H ₄	C)	C ₂ H ₂	D)	K ₂ O		
49)	How many carbon atoms are rep	presented by 3Mg(HCO ₃) ₂ ?						
	A) 6	B) 2	C)	3	D)	18		
50)	Experimental evidence indicates	that the nucleus of an atom						
	A) contains a small percentage of the mass of the atom B) has a negative charge							
	C) contains most of the mass	of the atom						
	D) has no charge							
51)	In an experiment, alpha particles were used to bombard gold foil. As a result of this experiment, the conclusion was made that the nucleus of an atom is							
	A) larger than the atom and ne		C)	smaller than the atom and p	osit	ively charged		
	B) larger than the atom and po	sitively charged	D)	smaller than the atom and r	nega	tively charged		
52)	After bombarding a gold foil she	et with alpha particles, scientists	conc	cluded that atoms consist ma				
	A) empty space	B) neutrons	C)	electrons	D)	protons		
53)	Which symbol represents a prot							
	A) ¹ ₁ H	B) ⁰ ₁ H	C)	0 H	D)	0 ^H		
E4\	Mining mouting has the foods:	?						
54)	Which particle has the <i>least</i> mas A) an electron	ss? B) a neutron	CI	a deuteron	D)	a proton		

55)	Which of the following statement	s <i>best</i> describes an electron?				
		a proton and a negative charge.				
	•	a proton and a positive charge.				
	•	proton and a positive charge.				
	D) It has a greater mass than a	proton and a negative charge.				
56)	What particle is electrically neutra	al?				
	A) proton	B) electron	C)	neutron	D)	positron
C7\	NAS-A		ĺ		•	•
57)	What are the nucleons in an ator	n?	0)			
	A) protons and electrons B) protons and neutrons		C) D)	neutrons and positrons neutrons and electrons		
	b) proteins and negations		υ,	nearons and electrons		
58)	How many protons are in the nuc	*				
	A) 9	B) 2	C)	5	D)	4
59)	All atoms of an element have the	same				
	A) atomic number		C)	atomic mass		
	B) number of nucleons		D)	number of neutrons		
60)	The atomic number of an atom is	s always equal to the total numb	er of			
	A) protons in the nucleus	amays equal to the total humb	C)	neutrons in the nucleus		
	B) neutrons plus protons in the	atom	D)	protons plus electrons in the	he ato	m
04)			•			
61)	As the number of neutrons in the	·	the n	•		
	A) decreases	B) increases		C) rema	ains tr	ne same
62)	What is the total number of proto-	ns in an atom of ³⁶ CI?				
	A) 36	B) 18	C)	17	D)	35
63)	The nucleus of an atom consists	of 9 protons and 6 poutrons. Th	no tot	al sumbor of algetrone proc	ant in .	a noutral atom of
00)	this element is	or o protons and o neations. In	16 (0)	ai number of elections prese	5111 111 1	a neutral atom of
	A) 2	B) 14	C)	8	D)	6
04\		·			·	
64)	An ion with 5 protons, 6 neutrons				Ο,	•
	A) 5	B) 8	C)	11	D)	ь
65)	What is the symbol for an atom c	ontaining 20 protons and 22 ne	utron	s?		
	A) 40 Ca	B) 42 ₂₀ Ca	C)	40 22 ^{Ti}	D)	42 ₇₁
	, 20	, 20	,	22	,	22
66)	Which pair of atoms contain the s	same number of neutrons?				
			0)	3 4	ъ.	1 . 3
	A) $\frac{3}{1}$ H and $\frac{3}{2}$ He	B) $\frac{2}{1}$ H and $\frac{4}{2}$ He	C)	$_{1}^{3}$ H and $_{2}^{4}$ He	D)	$\frac{1}{1}$ H and $\frac{3}{2}$ He
67)	What is the mass number of an a	•				
	A) 20	B) 58	C)	39	D)	19
68)	An atom of carbon-14 contains					
	A) 6 protons, 8 neutrons, and 8	electrons	C)	6 protons, 8 neutrons, and	6 elec	ctrons
	B) 6 protons, 6 neutrons, and 8	electrons	D)	8 protons, 6 neutrons, and	6 elec	ctrons
69)	How many protons and neutrons	is the nucleus of the atom belo	w cor	nposed of?		
			501	······································		
	127 53 ^I					
	A) 53 protons and 74 electrons		CI	53 neutrons and 127 proto	ne	
	B) 53 protons and 127 neutrons	3	D)			
			,			

70)	The atomic mass of an element is defined as the weighted average mass of that elemen	t's
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A) least abundant isotope

C) naturally occurring isotopes

B) radioactive isotopes

D) most abundant isotope