	KEY KEY		Class:		
Teacher:	, , ,		Class:		*
		Lntropy	11 · · · · · · · · · · · · · · · · · ·		
YOYO: Looki	ng at the gif of the dog sledd	ling, make a prediction,	which process is	spontaneous	, which is
ion-spontane	ous. Write at least 2 comple	te sentences explaining	your reasoning.		
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	7.5. 61.		1	S. Commission	
	A. 4		4		-
7-33.6	to the contract of the second	761		0	
		No. 19 1	_		
		,	Tenner out	and the second	11.00
	2.4	4-14		. 6	
		1 17 4 P	S S (4)	w. A	
pontaneous l	Reactions vs. Non-Spontaneo	ous Reactions			
-	ntaneous reaction	is one that is	able to proceed	without need	ling an
		nia waa atiam)			
• tVVV	e source of energy (exother)	needs an int	out of energy. (er	dothermic re	eaction)
- VWV	- (VI IVI LUV)	1.00ab an mi			•
pontaneous 1	reactions happen when				*
•	ess priergy (lower enthalpy): exother	mic reactions are	favored	
• Greate				- 11	104
	Life Committee	ent hopy	e in entropy (S)	Ser II	In a mate
intropy		randomnes		9	reg 7
	by is the measure of	AUMMALLAN		1	a Sala
<u>ais</u>	sorder or			and the second	
	ndom ness in a				
	re greater			: 4.4	
entrop	y is favored.		10 ° 6	a saig	All .
спиор	y 25 22 02 02 02 0	Solid			
ntropy Incre	ases	D. qui	as a second	Gas	a fina
• When t					
Wilm	ber of molecules	increases	What happened he	re!? \	that's this mess?
during	a reaction.		9	_	httpps:
0	$NaCl_{(s)} \rightarrow Na^+_{(aq)} + Cl^{(aq)}$			9 = 0	(R)
 With an 	n increase in		Entropy!	1 8 8 8	171
	emperature	1 from a lientid or a	1		
	a gas is for	med from a liquid or a	l Ha		9
solid.	0		2000 II CO	11	11
ntropy Regei	nts Questions		How did this happe	on? Let me	guess
1 Cirron f	the balanced equation repre	senting a phase			0
change	e: Vendo		Entropy!	Entropy.	
CoH(C)	+ energy - C ₆ H ₄ Cl _{2(g)}		h	e	1 11
Which	statement describes this cha	nge?	The state of the s	H = 1	
a.	It is endothermic, and entrol	oy decreases.	- In		\J
(b)	Tti dethormic and entrol	ov increases.		BIRDS	and and
E.,	It is exothermic, and entropy	decreases.	This is who we d	Lont teach our	children
ø.	It is exothermic, and entropy	ncreases	about entropy	until much later	
,		as concloud = end	1	is a second	
Jnit 9: Kinetics	s & Equilibrium Gener	Ju) a) y lucin	as control		
		a Arandan V	/,		
	>>	y decreases. y increases y a) Y lackard = end gy a) Y lackard = end gy a) T and an M	a construction of a	war weed by a farm of	Selection 2
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Name:	ICE /	Official Class		
Teach	er:	Period:	Class:	
	The entropy of a sample of H_2O increases as the a. gas to a liquid ψ b. gas to a solid ψ	(c.)	liquid to a gas 🦯	1 entropy 1
	Which 1-mole sample has the least entropy? (a. Br _{2(s)} at 266 K (b. Br _{2(l)} at 266 K	-1	Br ₂₍₁₎ at 332 K Br _{2(g)} at 332 K	least most

- 4. A thermometer is in a beaker of water. Which statement best explains why the thermometer reading initially increases when LiBr(s) is dissolved in the water?
 - a. The entropy of the LiBr(aq) is greater than the entropy of the water.
 - b. The entropy of the LiBr(aq) is less than the entropy of the water.
 - c. The dissolving of the LiBr(s) in water is an endothermic process.
 - d. The dissolving of the LiBr(s) in water is an exothermic process.

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- 5. In terms of energy and entropy, systems in nature tend to undergo changes toward
 - a. higher energy and higher entropy

- b. higher energy and lower entropy
- c. lower energy and higher entropy
 d. lower energy and lower entropy

More Entropy Practice

Reaction	Change in Entropy	Reasoning
$Ag^{+}(aq) + Cl^{-}(aq) \rightarrow AgCl(s)$	√	solid for med
$H_2O_{(1)} \rightarrow 2 H_{2(g)} + O_{2(g)}$	^	gas formed
$CO_{(g)} + 3 H_{2(g)} \rightarrow CH_{4(g)} + H_2O_{(g)}$	1	4 mol stuffin reactions & 2 mol Stu
$2 \text{ NaHCO}_{3(s)} \rightarrow \text{Na}_2\text{CO}_{3(s)} + \text{H}_2\text{O}_{(g)} + \text{CO}_{2(g)}$	I	gas farmed more stuff
$CO_{(g)} + H_2O_{(g)} \rightarrow CO_{2(g)} + H_{2(g)}$	no change	sametteachside - still 6 91
$CaCO_{3(s)} \rightarrow CaO_{(s)} + CO_{2(g)}$	1	gas formed
$2NH_{3(g)} + CO_{2(g)} \rightarrow NH_2CONH_{2(aq)} + H_2O_{(1)}$	1	gas > liquid
$H_2O_{(1)} \rightarrow H_2O_{(8)}$	1	liqued -> solid.