ACC Science 8- "Changes" Quiz: Chemical, Physical, Phase Changes

Mark (A) on your scantron for a physical change. Mark (B) for a chemical change:

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151.	Mixing lemonade powder into water	156. Melting butter
152.	Burning a piece of paper	157. Freezing chocolate covered bananas
153.	Cutting a piece of paper	158. Fireworks exploding
154.	Glass breaking	159. A rusting car
	Cooking an egg	160. Rotting banana peel
		Phase Change Diagram
*Use th	ne following multiple choice options for the	
	A. Evaporation C. Melting	
	B. Freezing D. Condensation	
	to LIQUID	
	When a substance transforms from a solid to a liquid,	Heat Energy
	When a substance transforms from a solid to a liquid ,	•
102.	-	
100	A. More organized	B. Randomized
163.	A substance transforms from a solid to a liquid when e	
	A. Released	B. Absorbed
	LIQUID	
	When a substance transforms from a gas to a liquid, the	•
165.	When a substance transforms from a gas to a liquid, the	ne molecules become
	A. More organized	B. Randomized
166.	A substance transforms from a gas to a liquid when en	ergy is
	A. Released	B. Absorbed
LIQUIE) to GAS	
167.	When a substance transforms from a liquid to a gas, the	ne transition phase is called *
	When a substance transforms from a liquid to a gas, the	•
	A. More organized	B. Randomized
169.	A substance transforms from a liquid to a gas when en	
	A. Released	B. Absorbed
	to SOLID	
-	When a substance transforms from a liquid to a solid,	the transition phase is called *
	When a substance transforms from a liquid to a solid ,	•
1/1.	A. More organized	B. Randomized
172	A substance transforms from a liquid to a solid when e	
1/2.	A. Released	B. Absorbed
470		B. Absorbed
1/3.	Salt causes ice to melt because	
	A. The salt releases heat when it chemically reacts w	
	B. Adding salt decreases the freezing point of water	·
	C. The salt added absorbs water	
174.	On a molecular level, what happens when salt is combi	
		ith Cl- ions, to form new compounds that have different
	physical properties than the original compounds	ha an
		he water molecules, making it harder for them to become re-
	arranged into crystals	process in boot and one ray provided by the addition of NoCl
		crease in heat and energy provided by the addition of NaCl
	moloculos	
175	molecules	
175.	When you cook pasta, you add salt to the water becau	
175.	When you cook pasta, you add salt to the water becau A. Because it lowers the boiling point of the water s	o I can add the pasta sooner.
175.	When you cook pasta, you add salt to the water becau A. Because it lowers the boiling point of the water s	

C. Only because it tastes good. There is no effect on the way it cooks.

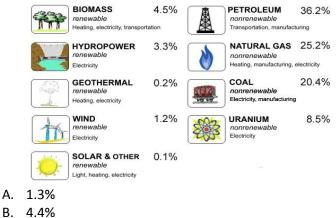
Science 8- "Changes" Quiz: Chemical, Physical, Phase Changes

Mark (A) on your scantron for a physical change. Mark (B) for a chemical change:

151. Mixing lemonade powder into water 156. Melting butter 152. Burning a piece of paper 157. Freezing chocolate covered bananas 153. Cutting a piece of paper 158. Fireworks exploding 154. Glass breaking 159. A rusting car 155. Cooking an egg 160. Rotting banana peel Phase Change Diagram Temperature Heat Energy *Use the following multiple choice options for the following questions: (161, 164, 167, 170) A. Evaporation C. Melting D. Condensation B. Freezing SOLID to LIQUID 161. When a substance transforms from a solid to a liquid, the transition phase is called * 162. When a substance transforms from a solid to a liquid, the molecules become A. More organized B. Randomized 163. A substance transforms from a **solid to a liquid** when energy is A. Released B. Absorbed **GAS to LIQUID** 164. When a substance transforms from a gas to a liquid, the transition phase is called * 165. When a substance transforms from a gas to a liquid, the molecules become A. More organized B. Randomized 166. A substance transforms from a **gas to a liquid** when energy is A. Released B. Absorbed LIQUID to GAS 167. When a substance transforms from a liquid to a gas, the transition phase is called * 168. When a substance transforms from a liquid to a gas, the molecules become A. More organized B. Randomized 169. A substance transforms from a liquid to a gas when energy is A. Released B. Absorbed **LIQUID to SOLID** 170. When a substance transforms from a liquid to a solid, the transition phase is called * 171. When a substance transforms from a liquid to a solid, the molecules become A. More organized B. Randomized 172. A substance transforms from a liquid to a solid when energy is A. Released B. Absorbed 173. Salt causes ice to melt because A. The salt releases heat when it chemically reacts with water B. Adding salt decreases the freezing point of water C. The salt added absorbs water

174. How much of the US energy use is supplied by renewable forms of energy?

U.S. Energy Consumption by Source, 2011



- Β.
- C. 9.3%
- D. 12.8%
- 175. Which type of energy is expected make up the largest portion of the US energy supply in the year 2035?

Figure 7. Energy consumption by fuel, 1980-2035

Primary energy consumption (quadrillion Btu per year)

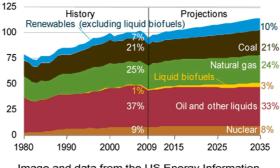
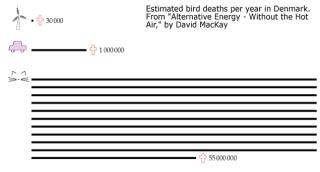


Image and data from the US Energy Information Agency, Annual Energy Outlook, 2011

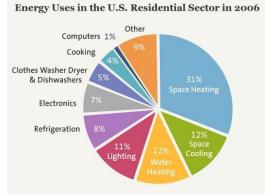
- A. renewable energy
- B. coal
- C. natural gas
- D. oil and other liquid fuels
- E. nuclear energy
- 176. True/False. Every year, wind turbines kill more birds than domestic cats do.



177. Which nation uses the most gasoline per person?

Country	Gallons of gasoline used
	per person, per year
United States	428
Canada	316
Saudi Arabia	185
Japan	119
United Kingdom	105
Germany	93
Netherlands	85
Russian	61
Federation	01

- A. Canada
- Β. Germany
- C. Netherlands
- D. Saudi Arabia
- **United States** Ε.
- 178. The biggest use of energy in the typical US home is:

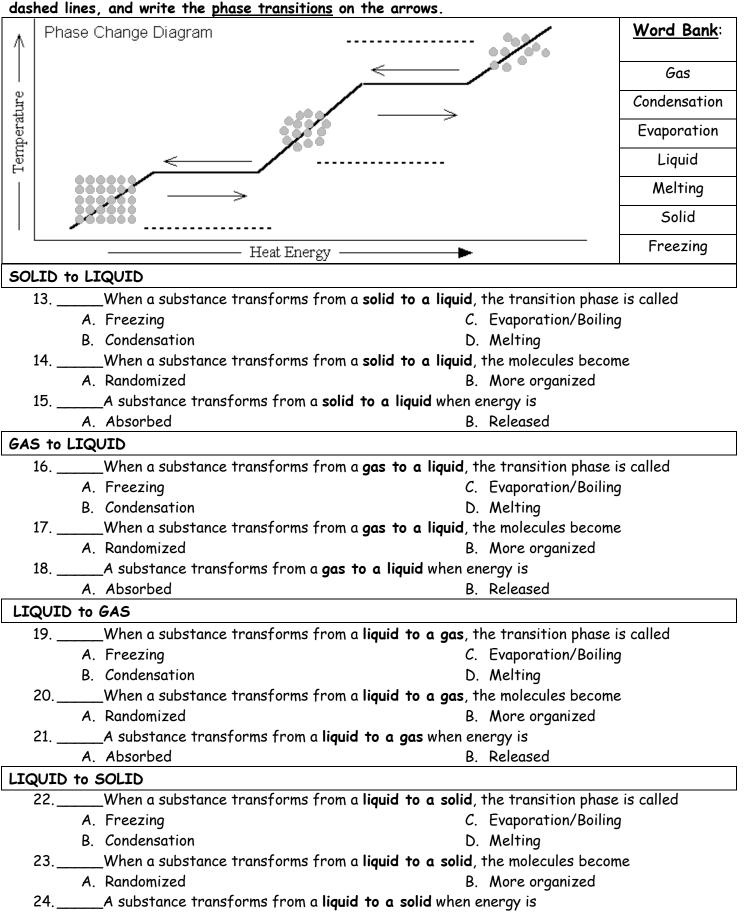


- A. Home electronics
- Water heating (for hot showers or laundry) B.
- Space heating (heating the house itself) C.
- D. Lighting
- E. Cooking

SAUNDERS- Science 8 A Name_____ "Changes" Quiz- Chemical, Physical, Phase Period ____ Date _____

Mark (A) on your scantron for a physical change. Mark (B) for a chemical change:

- 151. Sprinkling sugar on your cereal
- 152. Cutting a piece of paper
- 153. Burning a piece of paper
- 154. Glass breaking
- 155. A rusting car
- 156. Melting butter
- 157. Rotting banana peel
- 158. Mixing lemonade powder into water
- 159. Fireworks exploding
- 160. Cooking an egg
- 161. Freezing chocolate covered bananas



12. Complete this phase change diagram. Write the names of the <u>phases/states of matter</u> on the dashed lines, and write the phase transitions on the arrows.

A. Absorbed SAUNDERS- ACC Science 8 Name _____ "Changes" Quiz- Chemical, Physical, Phase

B. Released

Period _____ Date ____

Check the box to indicate whether the following are chemical or physical changes:

	Physical Change	Chemical Change
1. Mixing lemonade powder into water		
2. Burning a piece of paper		
3. Cutting a piece of paper		
4. Glass breaking		
5. Cooking an egg		
6. Melting butter		
7. Freezing chocolate covered bananas		
8. Sprinkling sugar on your cereal		
9. Fireworks exploding		
10. A rusting car		
11. Rotting banana peel		

Carefully read the following multiple choice questions and choose the best answer.

- 12. _____Salt causes ice to melt because
 - A. The salt releases heat when it chemically reacts with water
 - B. The salt added absorbs water
 - C. Adding salt decreases the freezing point of water
- 13. ____On a molecular level, what happens when salt is combined with ice?
 - A. Na+ ions bond with OH- ions and H+ ions bond with Cl- ions, to form new compounds that have different physical properties than the original compounds
 - B. H₂O molecules vibrate more rapidly due to the increase in heat and energy provided by the addition of NaCl molecules
 - C. Na+ and Cl- ions from the salt get in the way of the water molecules, making it harder for them to become re-arranged into crystals

BONUS: _____When you cook pasta, you add salt to the water because:

- A. Because it lowers the boiling point of the water so I can add the pasta sooner.
- B. Because it raises the boiling point of the water, so that it will be hotter when it boils and the pasta will cook faster.
- C. Only because it tastes good. There is no effect on the way it cooks.

SAUNDERS- ACC Science 8 "Changes" Quiz- Chemical, Physical, Phase

Name _____ Period _____ Date _____

Check the box to indicate whether the following are chemical or physical changes:

	Physical Change	Chemical Change
1. Sprinkling sugar on your cereal		
2. Cutting a piece of paper		
3. Burning a piece of paper		
4. Glass breaking		
5. A rusting car		
6. Melting butter		
7. Rotting banana peel		
8. Mixing lemonade powder into water		
9. Fireworks exploding		
10. Cooking an egg		
11. Freezing chocolate covered bananas		

Carefully read the following multiple choice questions and choose the best answer.

- 12. _____Salt causes ice to melt because
 - D. The salt releases heat when it chemically reacts with water
 - E. Adding salt decreases the freezing point of water
 - F. The salt added absorbs water
- 13. _____On a molecular level, what happens when salt is combined with ice?
 - D. Na+ ions bond with OH- ions and H+ ions bond with Cl- ions, to form new compounds that have different physical properties than the original compounds
 - E. Na+ and Cl- ions from the salt get in the way of the water molecules, making it harder for them to become re-arranged into crystals
 - F. H₂O molecules vibrate more rapidly due to the increase in heat and energy provided by the addition of NaCl molecules

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- E. Because it raises the boiling point of the water, so that it will be hotter when it boils and the pasta will cook faster.
- F. Only because it tastes good. There is no effect on the way it cooks.

14. Complete this phase change diagram. Write the names of the <u>phases/states of matter</u> on the dashed lines, and write the <u>phase transitions</u> on the arrows.

	A Phase Change Diagram	
	Temperature	
	era	
	du	
	μ.	
		-
		eat Energy —————
15		m a solid to a liquid, the transition phase is called
	A. Evaporation/Boiling	C. Freezing
1/	B. Melting	D. Condensation
16		m a solid to a liquid , the molecules become
17	A. More organized	B. Randomized
17	A substance transforms from a so A. Released	B. Absorbed
		B. Absorbed
GAS to L	•	
18		m a gas to a liquid , the transition phase is called
	A. Evaporation/Boiling	C. Freezing
10	B. Melting	D. Condensation
19	A. More organized	m a gas to a liquid , the molecules become B. Randomized
20	A substance transforms from a ga	
20	A. Released	B. Absorbed
LIQUID		D. Absorbed
•		m a liquid to a cos , the transition phase is called
<u>۲۱</u>	A. Evaporation/Boiling	m a liquid to a gas , the transition phase is called <i>C</i> . Freezing
	B. Melting	D. Condensation
22	5	m a liquid to a gas , the molecules become
<u> </u>	A. More organized	B. Randomized
23	A substance transforms from a lig	
	A. Released	B. Absorbed
IQUID	to SOLID	
		m a liquid to a solid, the transition phase is called
- ··	A. Evaporation/Boiling	C. Freezing
	B. Melting	D. Condensation
25.	5	m a liquid to a solid, the molecules become
	A. More organized	B. Randomized
	A. More of gunized	
	A substance transforms from a liq	

14. Complete this phase change diagram. Write the names of the <u>phases/states of matter</u> on the dashed lines, and write the <u>phase transitions</u> on the arrows.

Phase Change Diagram	
emperature -	
emperatur e	
empers	
SOLID to LIQUID	
15When a substance transforms from a solid to a liquid , the transition ph	aca is called
A. Freezing C. Evaporation/Bo	
B. Condensation D. Melting	ming
16When a substance transforms from a solid to a liquid, the molecules be	come
A. Randomized B. More organized	
17A substance transforms from a solid to a liquid when energy is	*
A. Absorbed B. Released	
GAS to LIQUID	
18When a substance transforms from a gas to a liquid , the transition pho	se is called
A. Freezing C. Evaporation/Ba	
B. Condensation D. Melting	inng
19When a substance transforms from a gas to a liquid , the molecules bec	ome
A. Randomized B. More organized	
20A substance transforms from a gas to a liquid when energy is	-
A. Absorbed B. Released	
LIQUID to GAS	
21When a substance transforms from a liquid to a gas, the transition pho	ise is called
A. Freezing C. Evaporation/Ba	
B. Condensation D. Melting	
22When a substance transforms from a liquid to a gas, the molecules bec	come
A. Randomized B. More organized	
23A substance transforms from a liquid to a gas when energy is	
A. Absorbed B. Released	
A. Absorbed B. Released	nase is called
A. Absorbed B. Released LIQUID to SOLID	
A. Absorbed B. Released	oiling
A. Absorbed B. Released LIQUID to SOLID 24When a substance transforms from a liquid to a solid, the transition photon	biling
A. Absorbed B. Released LIQUID to SOLID 24When a substance transforms from a liquid to a solid, the transition photon A. Freezing C. Evaporation/Base	2
A. Absorbed B. Released LIQUID to SOLID 24. When a substance transforms from a liquid to a solid, the transition photon A. Freezing C. Evaporation/Bo B. Condensation D. Melting	ecome
A. Absorbed B. Released LIQUID to SOLID 24. When a substance transforms from a liquid to a solid, the transition photon A. Freezing C. Evaporation/Bo B. Condensation D. Melting 25. When a substance transforms from a liquid to a solid, the molecules be	ecome
A. Absorbed B. Released LIQUID to SOLID 24When a substance transforms from a liquid to a solid, the transition photon A. Freezing C. Evaporation/Ba B. Condensation D. Melting 25When a substance transforms from a liquid to a solid, the molecules be A. Randomized B. More organized	ecome