

Name : _____

Chemical and Physical Properties and Changes

A. State whether the following is a physical or chemical property and the type.

<u>Description</u>	<u>Physical/Chemical</u>	<u>Type</u>
1. Nitrogen gas has a choking smell	_____	_____
2. Helium is less dense than air, so a helium balloon floats	_____	_____
3. A wax candle burns in oxygen	_____	_____
4. An apple rots due to fungi	_____	_____
5. Mercury metal is a liquid	_____	_____

B. Read each scenario. Decide whether a physical or chemical change has occurred and give evidence for your decision. The first one has been done for you to use as an example.

	Physical or Chemical Change?	Evidence
A student removes a loaf of hot bread from the oven. The student cuts a slice off the loaf and spreads butter on it.	Physical Change	He just made a mechanical mixture and made buttered toast. All the ingredients are still the same, meaning it is a physical change.
You take out your best silver spoons and notice they are very dull and have black spots		
A straight piece of wire is coiled to form a spring.		
Food color is dropped into water to give it color.		
In the fireworks show, the fireworks explode, giving off heat and light.		
Chewing food to break it down into smaller particles represents a _____ change, but the changing of starch into sugars by enzymes in the digestive system represents a _____ change.		

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Answers

A. State whether the following is a physical or chemical property and the type.

<u>Description</u>	<u>Physical/Chemical</u>	<u>Type</u>
1. Nitrogen gas has a choking smell	Physical	Odor
2. Helium is less dense than air, so a helium balloon floats	Physical	Density
3. A wax candle burns in oxygen	Chemical	Combustibility
4. An apple rots due to fungi	Physical	Reaction
5. Mercury metal is a liquid	Chemical	State

B. Read each scenario. Decide whether a physical or chemical change has occurred and give evidence for your decision. The first one has been done for you to use as an example.

	Physical or Chemical Change?	Evidence
A student removes a loaf of hot bread from the oven. The student cuts a slice off the loaf and spreads butter on it.	Physical Change	He just made a mechanical mixture and made buttered toast. All the ingredients are still the same, meaning it is a physical change.
You take out your best silver spoons and notice they are very dull and have black spots	Chemical Change	Identity of substance change. Silver oxide is produced.
A straight piece of wire is coiled to form a spring.	Physical Change	No change in substance's identity. No unexpected color and temperature change or gas is given out.
Food color is dropped into water to give it color.	Physical Change	No change in substance's identity. No unexpected color and temperature change or gas is given out.
In the fireworks show, the fireworks explode, giving off heat and light.	Chemical Change	Identity of the substance changes. Fireworks combust to give off new products, gases, and heat.
Chewing food to break it down into smaller particles represents a _____ change, but the changing of starch into sugars by enzymes in the digestive system represents a _____ change.	Physical then chemical	Chewing breaks down matter into small particles of the same substance. Enzymes change starch into sugar which is a new substance.