Comparing Physical and Chemical Properties of Matter

Name_____

Date_____Period_____

A. Read the property or behavior given in the first column.
B. Decide whether a physical or chemical property / change is being described.
C. Explain why your answer in column B is correct.

A	B	C
Honey is sticky	Physical Property	The honey hasn't changed into anything else – honey is sticky
Honey slows down as it cools	Physical Change	It is still honey, but because of kinetic theory, cooling causes the particles to slow down so the whole liquid slows
H_2O is broken down into H_2 and O_2.	Chemical Change	Water changes to oxygen and hydrogen
Steam from the shower condenses onto a mirror	Physical Change	Water vapor condenses into liquid water
The chain on your bicycle rusts after being left outside	Chemical	Iron is changed into iron oxide
Butter melts in the microwave	Physical Change	Solid butter is changed to liquid butter
Iron boils at 2050°C	Physical Change	Solid iron changes to liquid iron
Oxygen freezes at -220°C	Physical Change	Liquid oxygen changes to solid oxygen
Burning gasoline	Chemical Change	Fuel + oxygen changed into smoke, ash, water vapor and other gasses
The density of hydrogen is .0000899 gm/cm³	Physical Property	At standard temperature and pressure
Sodium loses its luster easily	Chemical	Oxidizes with surrounding air – forms sodium oxide
The plastic in a Buzz Lightyear toy is difficult to bend	Physical Property	That plastic was selected for its behavior
Argon gas lights up when electrons pass through it	Physical Property	Still argon gas throughout the process
Photosynthesis	Chemical Change	Carbon dioxide and water changed into sugar and oxygen
A balloon expands as it gains altitude	Physical Change	The air density is changing but what is in the balloon is not
Carbon dioxide gas puts fires out	Chemical Property	Carbon dioxide is not reactive and displaces oxygen which is reactive
Oxygen is required for fuels to burn	Chemical Property	Oxygen readily bonds with many materials to decompose the material
Water expands as it becomes a solid	Physical Change	Water molecules align themselves because of their polarity
Metals conduct electricity and heat	Physical Property	It remains as the metal throughout the process
Lava hardens as it cools	Physical change	The content of the lava has not changed, just slowed down