

Physical & Chemical Changes Demos

Physical change - a change that alters the form, state of matter, or appearance of a material but doesn't make the material into another substance

Chemical change - a change in matter that produces a new substance with new properties often indicated by: gas formation (bubbles), temperature change, a precipitate is formed, light given off, and/or a color change occurs.

Part 1

1. Observe your teacher making the changes that are described below.
2. Identify the change as either a physical change or chemical change. Circle or highlight your choice.
3. Circle/highlight the indicator(s) if you chose chemical change or the reason(s) you chose physical change.


Event	Type of Change	If chemical, circle the indicators.	If physical, circle reason.
1. Vinegar and milk	Physical Change or Chemical Change	-gas formed -precipitate formed -light produced -color change -temperature change(hot/cold) -new substance formed	-change of state -solution made -change size -mixture made -change shape
2. Alka Seltzer and water	Physical Change or Chemical Change	-gas formed -precipitate formed -light produced -color change -temperature change(hot/cold) -new substance formed	-change of state -solution made -change size -mixture made -change shape
3. Salt and water	Physical Change or Chemical Change	-gas formed -precipitate formed -light produced -color change -temperature change(hot/cold) -new substance formed	-change of state -solution made -change size -mixture made -change shape
4. Sharpening the pencils	Physical Change or Chemical Change	-gas formed -precipitate formed -light produced -color change -temperature change(hot/cold) -new substance formed	-change of state -solution made -change size -mixture made -change shape
5. Apple and air	Physical Change or Chemical Change	-gas formed -precipitate formed -light produced -color change -temperature change(hot/cold) -new substance formed	-change of state -solution made -change size -mixture made -change shape
6. Glow sticks	Physical Change or Chemical Change	-gas formed -precipitate formed -light produced -color change -temperature change(hot/cold) -new substance formed	-change of state -solution made -change size -mixture made -change shape
7. Lemonade mix and water	Physical Change or Chemical Change	-gas formed -precipitate formed -light produced -color change -temperature change(hot/cold) -new substance formed	-change of state -solution made -change size -mixture made -change shape
8. Ice melting	Physical Change or Chemical Change	-gas formed -precipitate formed -light produced -color change -temperature change(hot/cold) -new substance formed	-change of state -solution made -change size -mixture made -change shape
9. Popcorn before and after popping	Physical Change or Chemical Change	-gas formed -precipitate formed -light produced -color change -temperature change(hot/cold) -new substance formed	-change of state -solution made -change size -mixture made -change shape

Part 2: Read pages 64-72 and complete the blue parts 1-7. Then check the answers to these using the document on the documents tab on my website.

Part 3: Classify the following PROPERTIES as either chemical or physical by placing a P or a C in the blank to the left of the description. Refer to your textbook or notes if needed.


P 1. The mass of a paperclip is 2 grams.

P 2. Copper wire has electrical conductivity.

C 3. Wood in the fireplace is combustible. 


C 4. Pyrite reacts with an acid to form hydrogen gas.

P 5. Paperclips are attracted to the magnet.

P 6. The melting point of ice is 0° 

C 7. Metals react with oxygen to form iron oxide, or rust.

C 8. Vinegar reacts with baking soda to make carbon dioxide.

P 9. Diamonds are the hardest substance on the Moh's Hardness Scale. 

P 10. The boiling point of water is 100°C .

P 11. Brass instruments are very shiny.

P 12. The density of gold is 19.8 g/cm^3 .

P 13. The melting point of aluminum is 660°C .



Part 4: Classify the following CHANGES as either chemical or physical by placing a P or a C in the blank to the left of the description. Refer to your textbook or notes if needed.

C 1. When baking soda is added to vinegar, bubbling occurs as carbon dioxide forms.

P 2. Water evaporates from the ocean on a hot summer day.

C 3. The yolk of an egg, which contains sulfur, causes tarnish to form on silver.

P 4. Ice on a lake melts.

C 5. Charcoal in a fire turns to ash after several hours.

C 6. The engines of the space shuttle combine gases to make water vapor to release the energy needed to take off.

C 7. Roller-skates, left out in the rain for several weeks, become rusty.

P 8. A piece of cloth is cut up into tiny bits.

P 9. Butter left out on a warm day melts.

C 10. Dynamite explodes.

C 11. Food left out on the counter spoils.

P 12. Jello hardens in the refrigerator.

P 13. Falling raindrops become snow.

P 14. An onion is sliced.

P 15. In a car accident, the airbag inflates.

P 16. Paper is cut into confetti.

C 17. The lunch you ate at lunch is being digested.

P 18. A mirror breaks into small pieces.