

Physical and Chemical Changes and Matter Questions and Answers

1. True or False? Matter is neither created nor destroyed.	1. True. Matter can not be created nor destroyed. Matter merely changes.
2. True or False? Water can only become a gas when it is boiled.	2. False. Water can also evaporate at room temperature or even when it is cold outside.
3. True or False? Freezing only happens when it is cold.	3. False. Matter freezes (or becomes a solid) at different temperatures. For example, glue and wax freeze at room temperature. Water freezes at 0 degrees celsius.
4. What is matter?	4. Anything that has mass and takes up space.
5. What is matter made of?	5. atoms
6. What is Conservation of Matter?	6. Energy and matter can never be created nor destroyed. They can only be changed.
7. What does it mean that an object is "the sum of its parts?"	7. All of the parts added together equal the object. For example, a banana equals the fruit plus the peel.
8. How is a paper changed when it is crumpled up?	8. It is a physical change. The paper is still all there.
9. How is paper changed when it is burned?	9. It is a chemical change. The paper has turned into ashes, dust, and heat. The burned paper can not become paper again.
10. Where does a water drop go when it turns into vapor?	10. It goes into the air. The water is still there, it is just in a different form or state of matter.
11. Name three ways that matter can be manipulated to make a physical change.	11. cutting, tearing, folding
12. What is a mixture?	12. It is when two or more things are mixed together, but can be separated out again.
13. What changes water into vapor/steam, or into ice?	13. Temperature changes will change the state of water. It is a physical change. But it is still water.
14. How can you separate salt from water in saltwater?	14. Boil the water and the salt will be left behind. If you have something to catch the vapor you can get the water back again also.
15. If I cut a sheet of paper so that it makes a long, long strip, do I have more paper?	15. No. It is just a physical change. You have not made more paper.
16. True or False? A chemical change is when a substance becomes a new or different substance.	16. True.
17. How can you tell if there has been a chemical change?	17. If there is a color change, bubbling or fizzing (gas release), light, smoke, or heat, you have a chemical change.
18. True or False? Rust is an example of a chemical change.	18. True. The iron has chemically changed from being just iron to being an iron and oxygen mix. (iron oxide)

19. If matter has been chemically changed, what is one thing that it can never do now?	19. Go back to what it was before the chemical change.
20. Why does a balloon inflate when it is put over a bottle where baking soda and vinegar are mixed together?	20. The baking soda and vinegar have a chemical reaction which releases a gas which inflates the balloon.
21. What chemical and physical changes occur when a birthday candle is lit?	21. Chemical: the wick is turning into ash, gas, smoke and heat. Physical: the wax is melting, becoming a liquid, then freezing, becoming a solid.
22. How can you separate a mixture of iron filings, sand, and sugar?	22. How to separate: <ul style="list-style-type: none"> a. Use a magnet to separate the iron filings. b. Stir the sand and sugar in water until sugar dissolves. c. Pour the water through paper. Sand will not pass. d. Boil the water to get the sugar.
22. Why does iron turn into rust?	23. It had a chemical change because water and oxygen reacted with the iron.
23. Which weighs more: a whole cookie or a cookie that has been broken and crumbled?	24. They are equal. Conservation of matter says that the sum of the parts equals the whole. The cookie has had a physical change.
24. Physical or Chemical Change? <ul style="list-style-type: none"> a. Dying (bleaching) your hair b. Squeezing oranges for juice c. Spoiling food d. Exploding fireworks e. Mowing the lawn 	25. Physical or Chemical Change? <ul style="list-style-type: none"> a. Dying your hair <i>chemical</i> b. Squeezing oranges <i>physical</i> c. Spoiling food <i>chemical</i> d. Exploding fireworks <i>chemical</i> e. Mowing the lawn <i>physical</i>