

Chapter 2 PRACTICE TEST: Energy and Physical and Chemical Changes

Name: KEY Grp: _____

- Fill in the blanks for the following definitions. (12 marks)
 - Energy is the ability to do work or produce a change.
 - Radiant energy is contained in and transported by electromagnetic waves.
 - Chemical energy is stored in the bonds of molecules/compounds.
 - Mechanical energy results from the mass of an object, the speed / position of an object and its relationship to its surroundings.
 - Precipitation reactions produce the formation of a precipitate/solid following the mixture of two solutions.
 - When compounds are broken down it is a decomposition reaction.
 - When compounds are formed from elements it is a synthesis reaction.
- Classify each of the following changes as a chemical or a physical change. (8 marks)
 - A spray of ice is sent up by skates from a frozen pond. Physical
 - Magnesium produces a flammable gas when placed in an acid. Chemical
 - Calcium carbonate is ground into a fine powder. Physical
 - Marshmallows are toasted over an open fire until golden brown. Chemical
 - Aluminum metal is produced from its molten ore (aluminum oxide). chemical
 - Dry ice (frozen carbon dioxide) at a concert sublimates. physical
 - Glue melts and dissolves in water from the steam of a wallpaper remover. physical
 - A battery powered flashlight is turned on during a blackout. chemical
- For the following changes determine if energy is absorbed or released. (6 marks)
 - Vaporization of alcohol absorbed
 - Deposition of iodine released
 - Solidification of molten iron released
 - Fusion (melting) of wax absorbed
 - During dissolution of acid the solution's temperature increases absorbed
 - During dissolution of salt the solution's temperature decreases released
- During an experiment, a glass rod, a piece of tin, some copper powder and some rubbing alcohol were each heated separately. They following changes were observed:
 - The glass rod became flexible.
 - The piece of tin became liquid.
 - The copper powder turned black.
 - The rubbing alcohol caught on fire

Which of these changes are physical? (2 marks)

- a) 1 and 2
 b) 1 and 3
 c) 2 and 3
 d) 3 and 4