 ISBN 978-1-935005-66-7

Category 1 – Matter and Energy

5-5: A

PHYSICAL PROPERTIES CR

matter: anything that has mass and takes up space; physical properties determine how matter is classified, changed, and used

Physical Property	Description
mass	amount of matter in an object
magnetism	ability to be pulled to magnets; a few metals are magnetic, such as iron/steel; other matter is not
solubility in water	ability of mat… salt are so…
conductivity (of heat or electricity)	ability to c… conduct w… *such as a…*
physical state	solid: low… liquid: me… gas: high…
relative density (to water)	density is… in water v… water's or…

Example: Classify subst…

Substance (A, B, C)	Put magnet near it	Connect wires 1 and 2 to the …
A. white grains, 1 crystal	**A.** no response	**A.** … crystal: no light
B. dark powder, 1 rod	**B.** moves to magnet	**B.** … rod: light turns on
C. brown transparent liquid	**C.** no response	**C.** Insert wires in beaker of liquid: no light

	State	Water Soluble	Relative Density	Magnetic	Conductive
A.	solid	yes	higher	no	no
B.	solid	no	higher	yes	yes
C.	liquid	no	lower	no	no

5-5: B,C

MIXTURES, SOLUTIONS, AND PHYSICAL CHANGES

mixture: two or more substances [solid(s), liquid(s), and/or gas(es)] blended together that can be physically separated

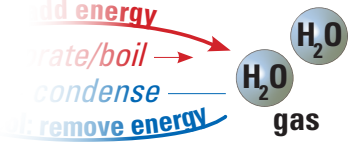
solution: type of mixture made when one substance dissolves in another; has same (uniform) physical properties throughout

Example: Solutions exhibit new physical properties that differ from the properties of the original substances: salt is no longer solid or white when dissolved in water; saltwater has a higher density and boiling point and different conductivity than water.

…Separate	Solution?
…tering	no
…oration	yes
…difference	no
…gnet	no
…llation*	yes

…way from a liquid solution.

…e state of matter.



Examples: How can water form when ice is put in an empty cup?
- When ice absorbs heat, it will melt to form water in the cup.
- Also, when air makes contact with the cup's cold surface, the water vapor in it cools and liquid drops of condensation form.

What happens when a mirror is held above soup on a hot stove?
- The liquid soup absorbs heat and some water evaporates.
- Mirror "fogs" when water vapor hits it, cools, and condenses.

CR Symbol indicates section aligns to Texas College and Career Readiness Standards.

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