

THE PROPERTIES OF MATTER

Warm-Up

a/ Is crumpling a piece of paper an example of a physical change or a chemical change

b/ How do you know.

DO NOT touch the 7th grade projects... Nelson

PHYSICAL AND CHEMICAL PROPERTIES

- A. PROPERTIES ARE USED TO IDENTIFY SUBSTANCES.**

- B. TWO KINDS OF PROPERTIES:**
 - 1. PHYSICAL PROPERTIES**
 - 2. CHEMICAL PROPERTIES**

C. PHYSICAL PROPERTIES

- 1. CAN BE OBSERVED AND MEASURED.**
- 2. CHANGING PHYSICAL PROPERTY DOESN'T CHANGE THE SUBSTANCE.**
- 3. USED TO IDENTIFY SUBSTANCES WITHOUT DESTROYING THEM.**

4. EXAMPLES OF PHYSICAL PROPERTIES INCLUDE:

a/ STATE OF MATTER (s, l, g)

b/ COLOR

c/ DENSITY

d/ SHAPE AND SIZE

.....MANY MORE!

D. PHYSICAL CHANGE:

**A CHANGE IN THE SIZE,
SHAPE, COLOR, STATE OF
MATTER (s,l,g), ...OF A
SUBSTANCE.**

E. MIXTURES CAN BE SEPERATED BY PHYSICAL MEANS:

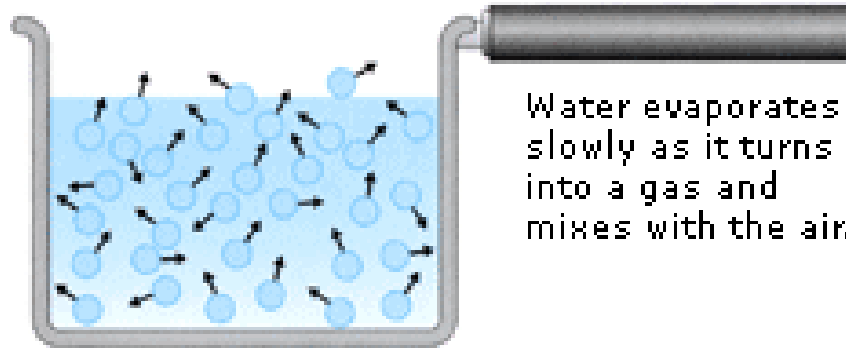
1. STRAINING / FILTERING (SIZE)



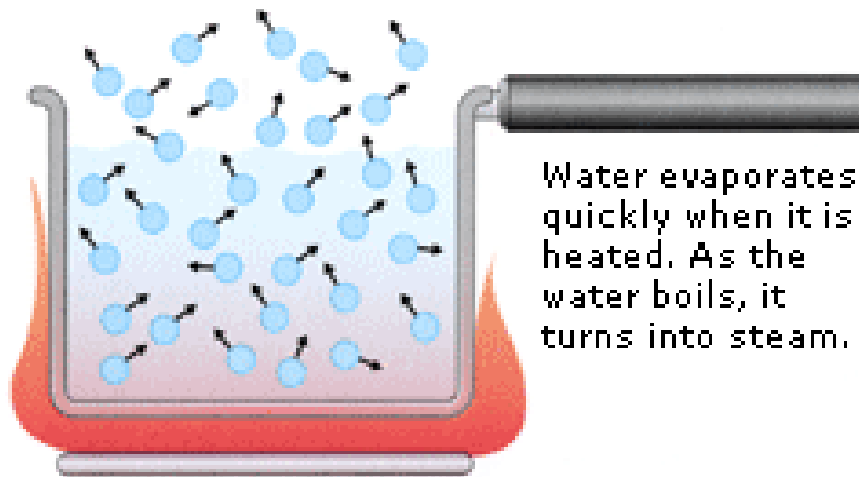
2. DISSOLVING



3. EVAPORATION

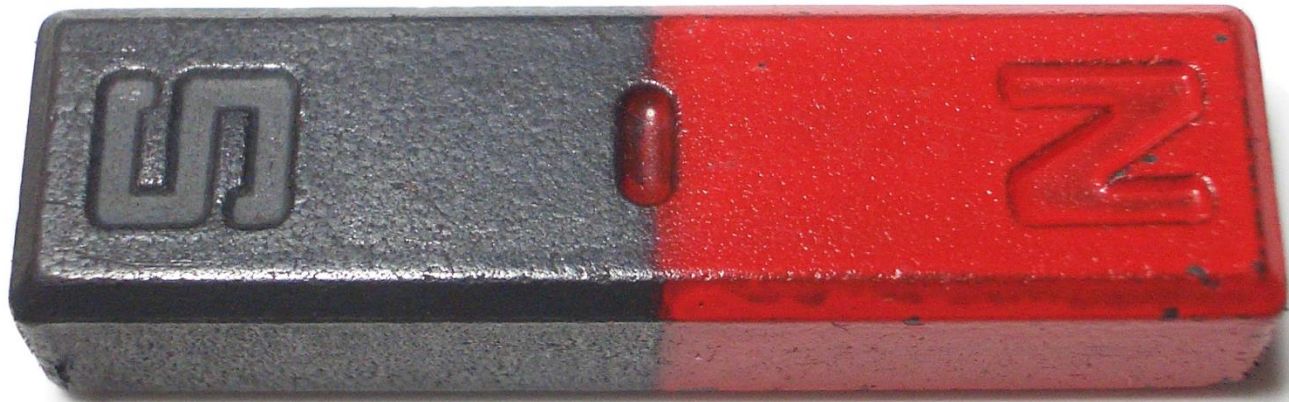


Water evaporates slowly as it turns into a gas and mixes with the air.

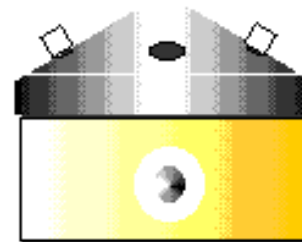
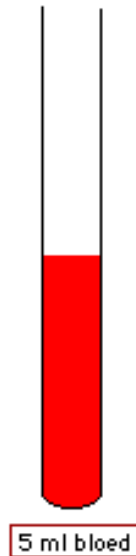


Water evaporates quickly when it is heated. As the water boils, it turns into steam.

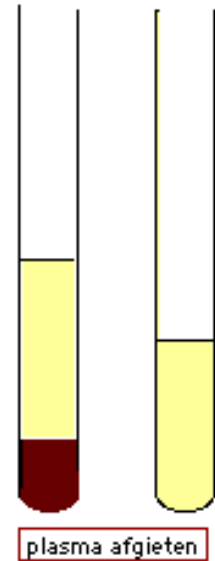
4. MAGNETISM



5. CENTRIFUGE (SPINNING)



5 minuten centrifugeren



6. FLOATING & SINKING (DENSITY)



F. CHEMICAL PROPERTIES

1. CHEMICAL CHANGE:


**A/ OLD SUBSTANCES ARE LOST
AND NEW SUBSTANCES ARE
GAINED.**

**B/ ELEMENTS/ATOMS ARE
REARRANGED.**



**C/ THERE IS EVIDENCE OF A
CHEMICAL REACTION.**

- 1. BURNING**
- 2. EXPLOSION**
- 3. FIRE**
- 4. GAS GIVEN OFF**



**2. CHEMICAL PROPERTIES:
DESCRIBE HOW A
SUBSTANCE WILL REACT
AND CHANGE IN THE
PRESENCE OF OTHER
SUBSTANCES.**

3. EXAMPLES OF CHEMICAL PROPERTIES

A/ COMBUSTIBLE-EXPLOSIVE

B/ FLAMMABLE-FIRE

C/ CORROSIVE-EATS THRU METAL (ACIDS)

D/ CAUSTIC-EATS THRU FLESH (BASES)

E/ RUST/TARNISH-OXYGEN

REACTS WITH METALS

F/ REACTIVE

G/ NON-REACTIVE- INERT

H/ TOXIC-POISONOUS

4. CHEMICAL EQUATIONS ARE USED TO DESCRIBE CHEMICAL CHANGES:



REACTANTS → PRODUCTS

OLD SUBSTANCE

NEW SUBSTANCE!

NEW PROPERTIES!