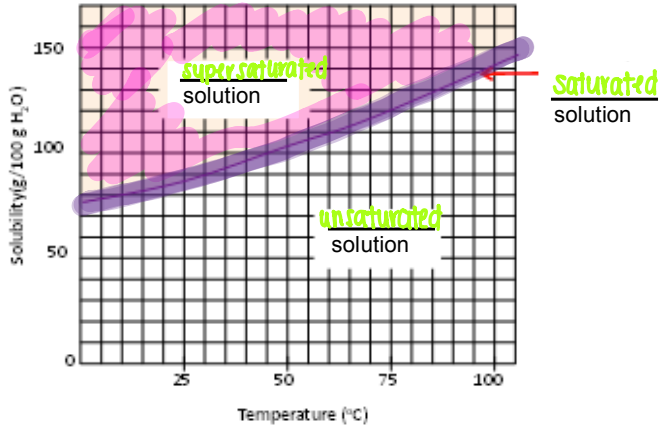


Solubility of Sodium Acetate

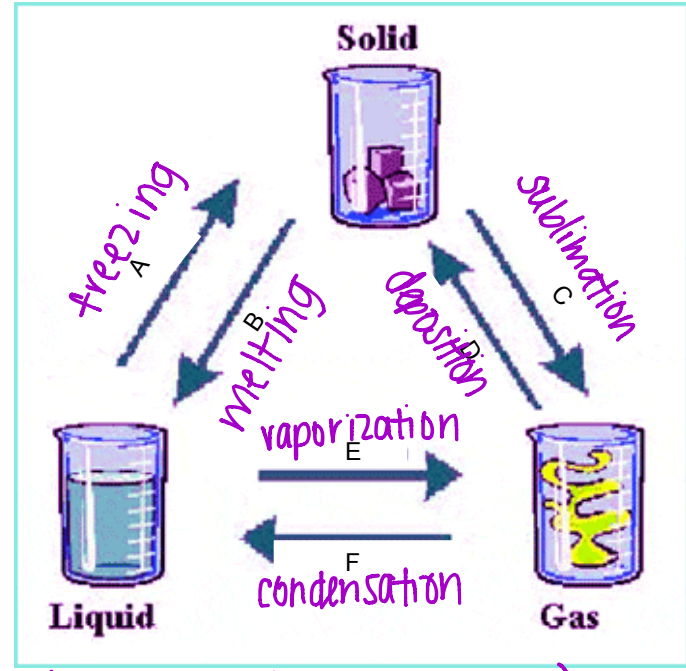


- Determine the kind of solution:
 - the shaded pink graph area *supersaturated*
 - the white graph area *unsaturated*
 - the purple line *saturated*
- How many grams of sodium acetate is dissolved at 75 degrees Celsius? *120 grams*

3. Fill in the chart. *→ dense and positive*

Scientist	Discovery/ Belief	How?
Aristotle	<i>fire, water, air, earth</i>	<i>Popular: sawdust</i>
Chadwick	<i>neutrons</i>	<i>chocolate chip cookie</i>
Thompson	<i>electron: cathode</i>	<i>gold foil: apple</i>
Rutherford	<i>nucleus + proton</i>	<i>radioactivity - uranium</i>
Curie	<i>atom</i>	
Democritus	<i>e- are in orbits</i>	<i>2-8-8-18</i>
Bohr	<i>valence electrons</i>	<i>right, top, left, bottom</i>
Lewis	<i>CONDENSING</i>	

4. For each letter, determine which appropriate term should be placed in the diagram for physical change.



Ke - same (temp is same)
PE - ↑ / ↓



Physical Changes



A physical change is when an object changes from one type of matter to another without creating a new substance or changing chemically. When you change the physical properties you have a physical change.

Physical Properties

mass
volume
weight
length
width
texture
color
shape
smell
temperature
hardness
state of matter



Examples of Physical Changes

Tearing, folding, cutting, bending, breaking,
freezing, warming, cooling, boiling,
dissolving, separating,
changing color, evaporation



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Chemical Changes



Chemical changes break up and reform molecules to create a new substance. The new substance will have different properties from the original substance and is not reversible.

Signs of a Chemical Change

Energy is absorbed or released
A chemical reaction occurred
A change in color
Light is released
Heat is released
Gas is released (bubbles)
Has an unusual smell
Change in texture
Becoming more or less acidic
Change in temperature



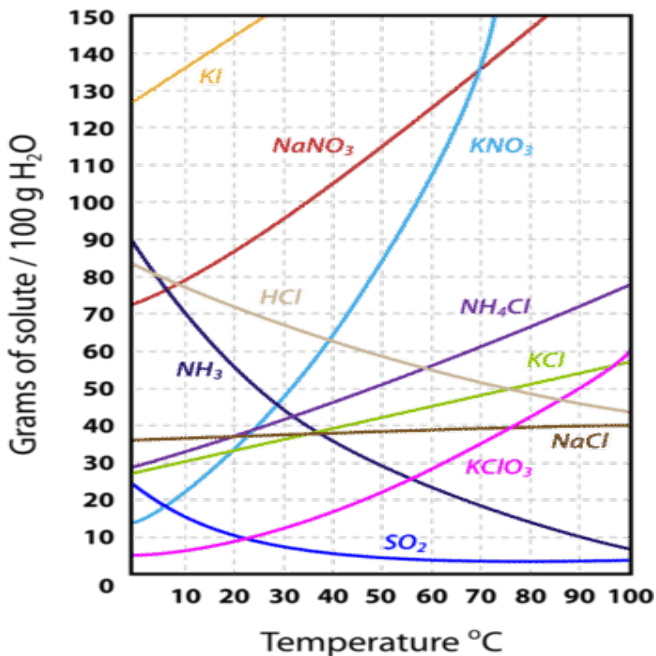
Examples of Chemical Changes

frying an egg, fireworks,
a banana turning brown,
a nail rusting,
baking a cake,
lighting a match



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Solubility Curves

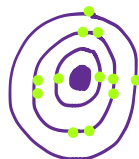


5. Which three solutions decrease in solubility when temperature increases? **SO₂, NH₃, HCl**

6. Which solution dissolves about 80 grams of solute at 10 degrees Celsius? **HCl or NaNO₃**

7. Determine if the solution is supersaturated, saturated, or unsaturated: 20 grams of KClO₃ is dissolved at 70 degrees C.
unsaturated

8. Draw a Bohr Diagram for Magnesium. **P-12**



e-12
n-12

9. Draw a Lewis dot diagram for Chlorine.



P-17
e-17
n-18

10. Balancing Equations **reactants, products**
coefficients, subscripts

11. O⁻³ **anion**



Find **P=8**
E=11
N=8

12. Na⁺² **cation**



Find **P=11**
E=9
N=12

luster, ductility, malleability, conductivity, reactive

gas, unreactive, solid, brittle

13. List all of the group names on the Periodic Table.

- Metals**
 - (1) **alkali metals** *most*
 - (2) **alkaline Earth metals** *"runner up"*
 - (3-12) **transition metals** *building, color*
 - Lanthanides** *magnets*
 - Actinides** *radioactive, nuclear fuel*

nonmetals

- (13-16) **nonmetals**
- 15: **pnictogen**
- 16: **chalcogen**

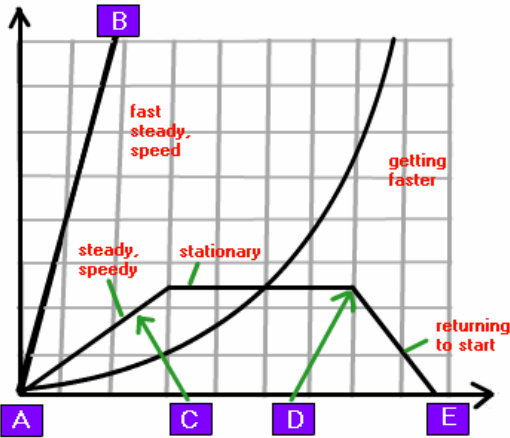
(17) **halogen** *salts, reactive*

(18) **noble gas** *stable*

metalloids

- 13: **boron family**
- 14: **carbon family**

Create sentences that can explain each part of line or line/letter:



14.

15. Class Levers ^{what's in between?} Example Purpose MA

• First	fulcrum	seesaw scissors	direction	= to 1
• Second	output	wheel barrow	size of force	greater than 1
• Third	input	rake tweezers broom	distance	less than 1

16. Questions??????