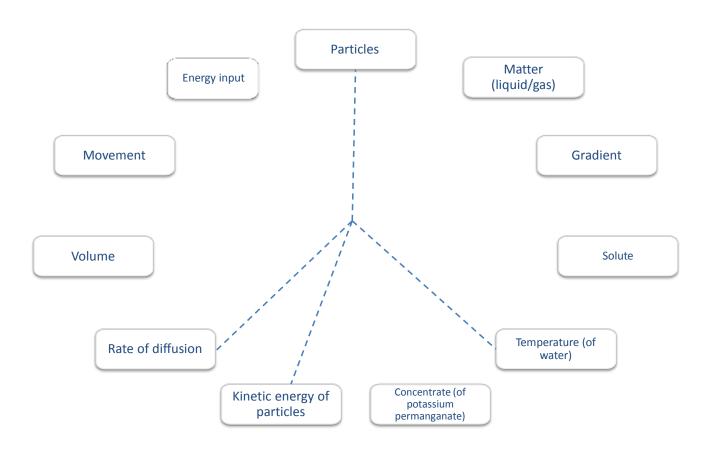
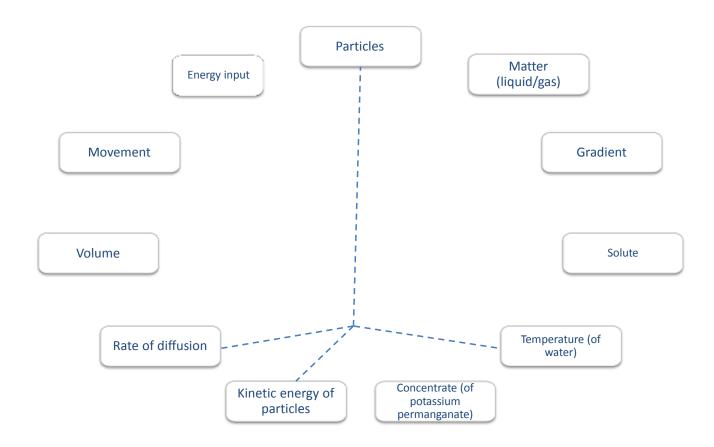
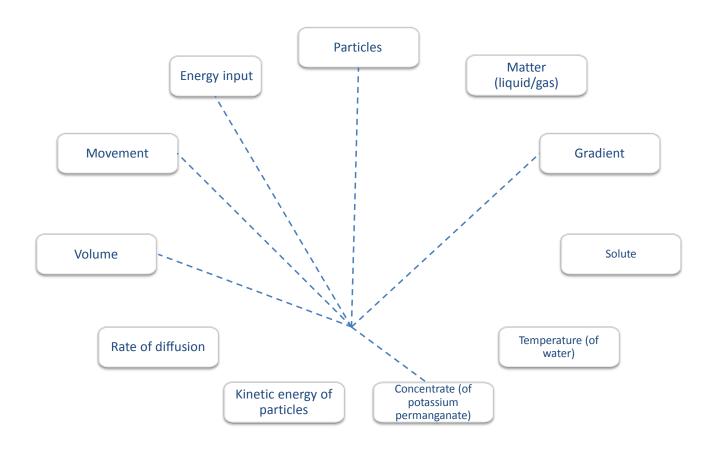
**<u>Diffusion conception 1:</u>** The rate of diffusion is higher in gases as particles in a gas can move faster.



<u>Diffusion conception 2</u>: An increase in temperature leads to an increase in the particles' kinetic energy. The higher the particles' kinetic energy the faster the rate of diffusion.



<u>Diffusion conceptions 3</u>: Diffusion is the movement of particles from a volume of high concentration to lower concentration, down a gradient without further energy input.



|   | Critical aspects  |             |                   |                   |  |
|---|---|-------------|-------------------|-------------------|--|
| What is to be<br>discerned  | Initial concentration<br>(of potassium<br>permanganate) | Temperature | Volume (of water) | Rate of diffusion | Volume (of<br>potassium<br>permanganate) |
| Increasing<br>temperature increases<br>rate of diffusion                                | <u>-</u>  | V           | i                 | V                 | i  |
| Increase in volume (of water) lowers rate of diffusion                                  | i   | i           | V                 | V                 | V  |
| Increased initial concentration (of potassium permanganate) increases rate of diffusion | v   | i           | i                 | V                 | v  |