

Learning Target: I can explain the effect of temperature, solute size (surface area), and agitation on the rate of dissolving.



### Factors Affecting Rates of Dissolving Activity

1. In Kool-Aid sugar is the \_\_\_\_\_ and water is the \_\_\_\_\_. As you add water to a solution it becomes \_\_\_\_\_. As you remove water from a solution it becomes \_\_\_\_\_.
2. Salt is able to conduct \_\_\_\_\_. If you add more salt ( $\text{NaCl}$ ) to a solution the conductivity of the solution \_\_\_\_\_.
3. If you want a sugar crystal to dissolve faster you should \_\_\_\_\_ the surface area, \_\_\_\_\_ the temperature, and \_\_\_\_\_ stirring/agitation of the sugar crystal.
4. Which one dissolves faster, table salt or rock salt? \_\_\_\_\_ Why? \_\_\_\_\_

5.

| Solution | Mass of $\text{NaCl}$ (g) | Volume of Water (mL) |
|----------|---------------------------|----------------------|
| A        | 10.0                      | 150.0                |
| B        | 10.0                      | 175.0                |
| C        | 10.0                      | 200.0                |
| D        | 10.0                      | 225.00               |

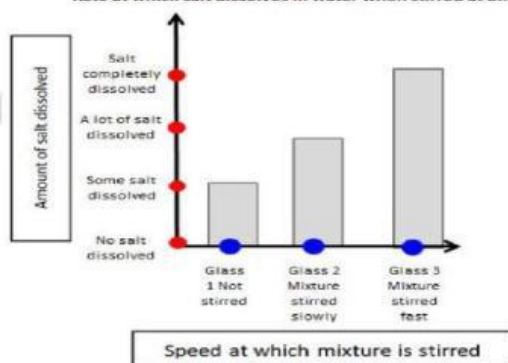
Which solution above has the lowest salt concentration? \_\_\_\_\_ Highest salt concentration? \_\_\_\_\_

### 6. Dissolving Data for Three Antacid Tablets

| Beaker | Original Temperature of Water ( $^{\circ}\text{C}$ ) | Time for Tablet to Dissolve (s) |
|--------|------------------------------------------------------|---------------------------------|
| 1      | 20.                                                  | 40.                             |
| 2      | 30.                                                  | 25                              |
| 3      | 40.                                                  | 10.                             |

- Which beaker of water will dissolve the tablet the fastest? \_\_\_\_\_ Why? \_\_\_\_\_
- Which beaker of water will dissolve the tablet the slowest? \_\_\_\_\_ Why? \_\_\_\_\_

### 7. Rate at which salt dissolves in water when stirred at different speeds



- Which glass will dissolve the mixture the fastest? \_\_\_\_\_ Why? \_\_\_\_\_
  - Which glass will dissolve the mixture the slowest? \_\_\_\_\_ Why? \_\_\_\_\_
8. What three factors affect the rate of dissolving of solutions? \_\_\_\_\_

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