8. Speeding up Dissolving

Would you wait for 20 minutes for your sugar to dissolve in a cup of coffee? What would have happened to the coffee in that time? What do you automatically do to speed up sugar dissolving in a drink?

If you had to wait for 20 minutes, your coffee would be cold but you normally stir your cup so that it does not take too long. In this lesson we want to look at different ways to speed up dissolving.

Effect of Stirring

Collect: 2 100cm^3 beakers Solid A
1 glass stirring rod
1 spatula

Activity:
1. Half fill both beakers with cold water.
2. Add one spatula of Solid A to each beaker, stirring one beaker but not the other.
3. Note in which beaker the solid dissolved fastest.
4. Wash the apparatus but keep it for the next experiment.

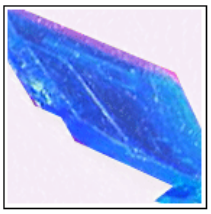
Notes: Draw a diagram and write a short description of this experiment.

Copy and Complete:-

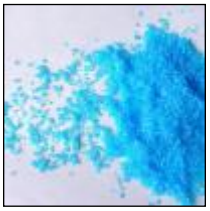
Stirring _____ dissolving.

Effect of Particle Size

Crystals



Large



Small

Collect: Apparatus from p22
Second stirring rod
Solid B (small particles)
Solid B (large particles)

Activity:
1. Half fill each beaker with cold water.
2. Put a half spatula of small crystals into one beaker and the same quantity of large crystals into the other beaker.
3. Stir both beakers the same number of times.
4. Note whether the large or the small crystals dissolved faster.
5. Wash the apparatus but keep it for the next experiment.

Notes: Draw a diagram and write a short description of this experiment.

Copy and Complete:-

The _____ the size of the particles the faster they _____ .

Effect of Temperature

Collect: Same apparatus as above Solid *C*

Activity:
1. Half fill one beaker with cold water.
2. Half fill the other with hot tap water.
3. Add one spatula of solid *C* to each beaker.
4. Give the beakers an equal number of occasional stirs and note whether the hot water or the cold water dissolves the solid faster.

Notes: Draw a labelled diagram and write a short description of the experiment.

Copy and Complete:-

The _____ the water the _____ solid *C* dissolves.