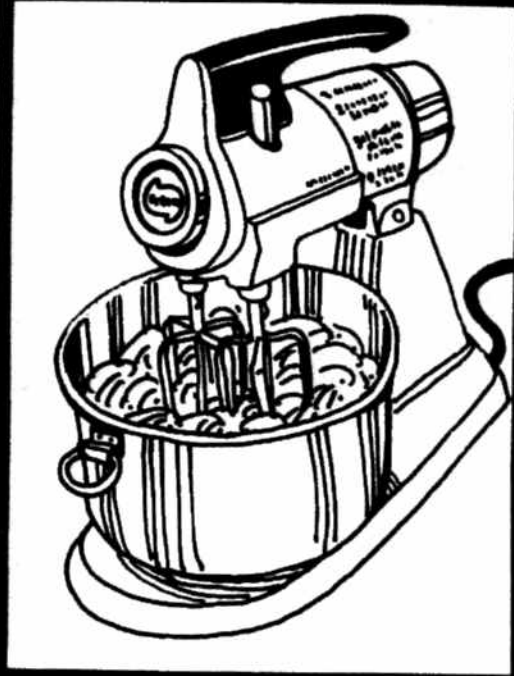
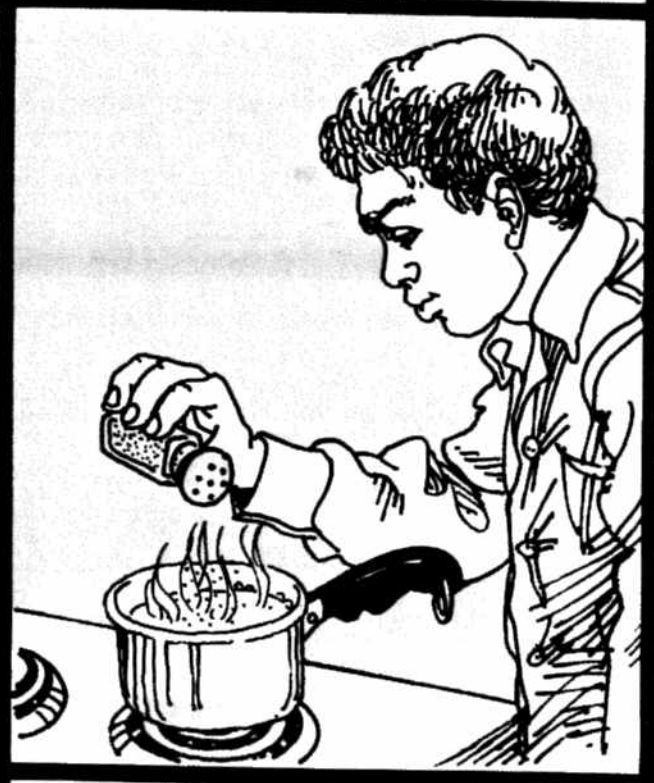
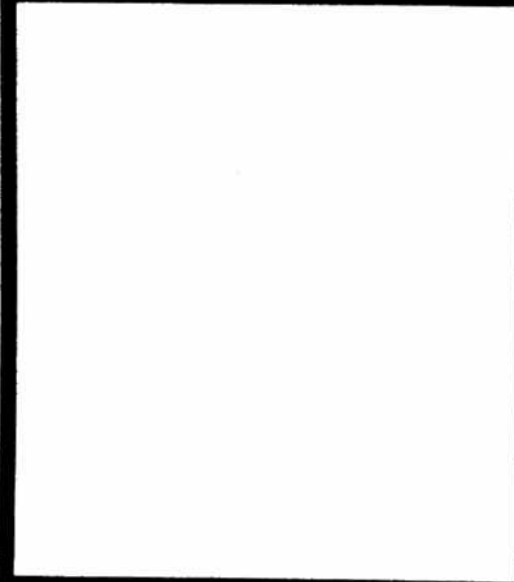


HOW CAN WE MAKE SOLID SOLUTES DISSOLVE FASTER?

7c



ways of making solutes dissolve faster: { stirring
breaking up pieces
heating

AIM | How can we make solid 7 | solutes dissolve faster?

What do you do after you add sugar to a drink? You stir. But why? You stir because you know that mixing makes sugar dissolve faster.

Stirring makes any solute dissolve faster.

Now here's another question. Which will dissolve faster, a lump of sugar or small grains of sugar? You know from experience that the smaller the pieces the faster it will dissolve.

Now let's tackle another question. Which will dissolve sugar faster, cold water or hot water?

From your experience you know that solutes dissolve faster in hot water.

There are three ways to make solids dissolve faster:

- (a) Stir the mixture.
- (b) Break the solute into smaller pieces.
- (c) Heat the mixture.

(You probably know these ways from experience. But you probably have not thought about it in this way.)

Doing any one of these things makes a solute dissolve faster. Doing two or all three dissolves the solute *much* faster.

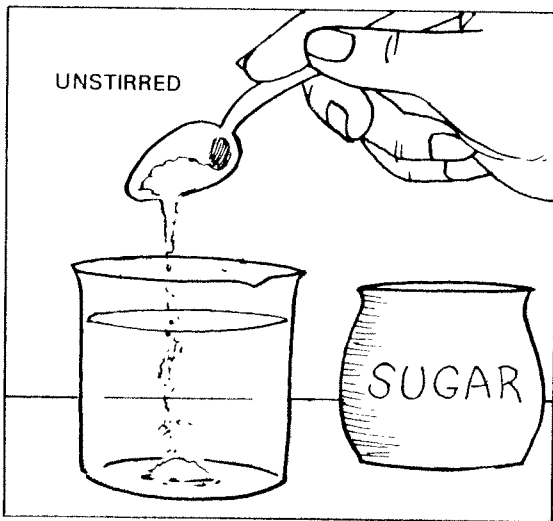


Figure A

Pour some granulated sugar into a glass of warm water. Do not stir.

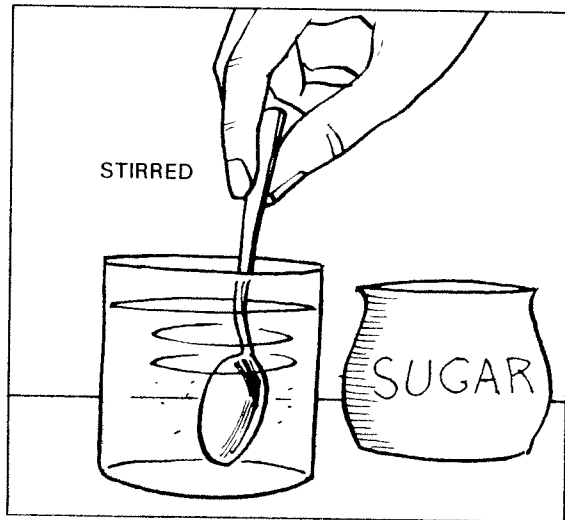


Figure B

Pour the same amount of granulated sugar into another glass of warm water. Then stir.

Notice how fast the sugar dissolves in each glass.

1. Stirring makes a solute dissolve _____ faster, slower _____.

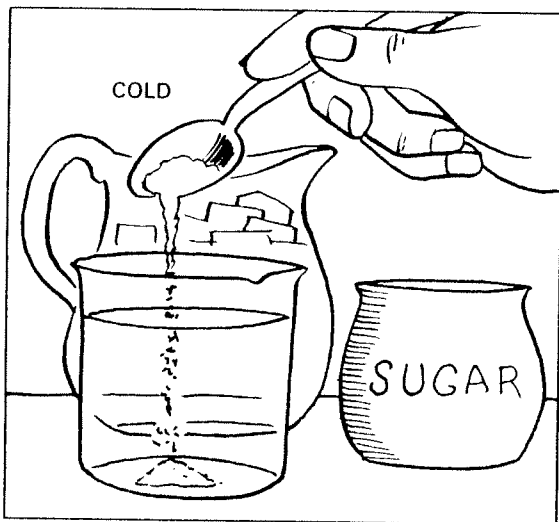


Figure C

Pour some granulated sugar into cold water. Do not stir.

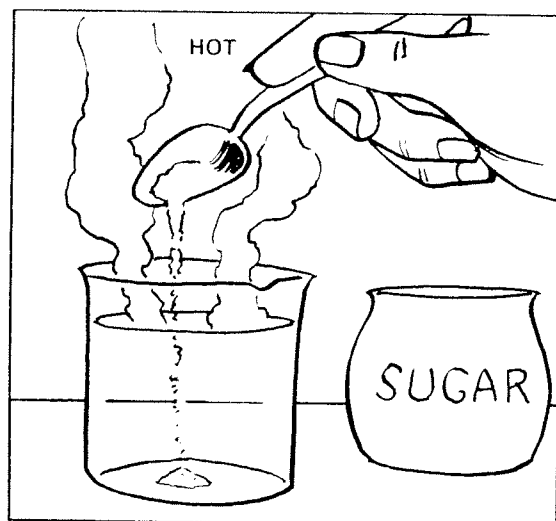


Figure D

Pour some granulated sugar into hot water. Do not stir.

Notice how fast the sugar dissolves in each beaker.

2. A solute dissolves faster in a _____ solvent.
hot, cold
3. A solute dissolves slower in a _____ solvent.
hot, cold
4. Heat makes a solute dissolve _____.
slower, faster

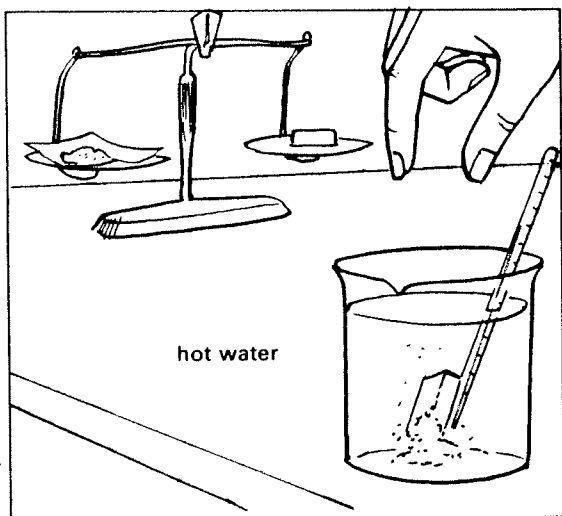


Figure E

Put a lump of sugar into a glass of hot water. Do not stir.

Notice how fast the sugar dissolves.

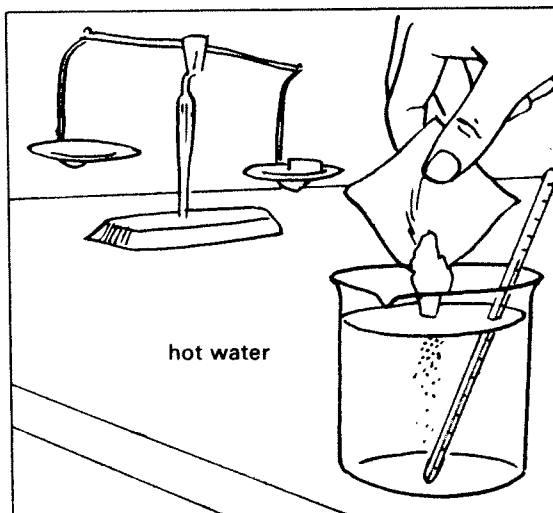


Figure F

Pour one teaspoon of granulated sugar into a glass of hot water. Do not stir.

5. Big pieces dissolve _____ than small pieces.
slower, faster
6. Small pieces dissolve _____ than large pieces.
slower, faster
7. Crushing makes solutes dissolve _____.
slower, faster

FILL IN THE BLANKS Fill in the correct answer for each of the following sentences.

-
1. The two main parts of any liquid solution are the _____ and the _____.
 2. The liquid part of a solution is called the _____.

3. The part of a solution that mixes into the liquid is called the _____.
4. Three ways we can make a solid solute dissolve faster are:
 _____, _____, and
 _____.

FILL IN Put a check (✓) in the correct box.
THE CHART

If you . . .	then the solute dissolves	
	faster.	slower.
1. make the pieces larger,		
2. make the pieces smaller,		
3. stir,		
4. do not stir,		
5. heat the solvent,		
6. do not heat the solvent,		

TRUE OR FALSE Write T on the line next to the number if the sentence is true.
 Write F if the sentence is false.

1. _____ Stirring moves things around.
2. _____ Crushing makes things larger.
3. _____ Heat lowers temperature.
4. _____ Stirring makes solutes dissolve faster.
5. _____ Small pieces of solute dissolve slower than big pieces.
6. _____ Heat makes solutes dissolve faster.

WORD
SCRAMBLE

Unscramble each of the following to form a word or term that you have read in this Aim.

1. NEAHIGT _____

2. TARSEF _____

3. RIST _____

4. SCURH _____

5. SLEDSIVO _____

REACHING OUT

You put a piece of glass in water. It does not dissolve. You then crush it into tiny pieces.

Will the pieces dissolve? _____ Explain. _____
