I Investigate

Observing the Solubility of Materials

Date:

Activity 4

Apparatus and Materials

- 4 beakers of the same size
- glass rod
- sugar
- pebbles
- food colouring powder
- peanuts
- teaspoon

Steps

1. Pour 200 ml of water into each beaker.
2. Add one teaspoon of different materials into each beaker.
3. Stir the water in each beaker for one minute.
4. Complete the table with your observation.

Materials	After stirring (Dissolved/Not dissolved)
Food colouring powder	
Pebbles	
Sugar	
Peanuts	

Questions

1. _____ and _____ dissolve in water.

2. _____ and _____ do not dissolve in water.

Date:

Activity 5

I Investigate

Observing the Solubility of Materials in Hot and Cold Water

Apparatus and Materials

- 100 ml of hot water ⚠ Caution
- 100 ml of water at room temperature
- 100 ml of cold water
- cocoa powder
- teaspoons

Steps

1. Set up the apparatus and materials as below.

cold water

water at room temperature

hot water

2. Add cocoa powder to each cup.
3. Stir the cocoa powder at the same time.
4. Record the time taken for the cocoa powder to dissolve in each cup (the fastest/fast/slow).

Condition of water	Cold	Room temperature	Hot
Time for cocoa powder to dissolve.			

Questions

1. Cocoa powder dissolved the fastest in _____ water and dissolved the slowest in _____ water.
2. Materials can dissolve more quickly in _____ water than in _____ water.

Date:

Activity 6

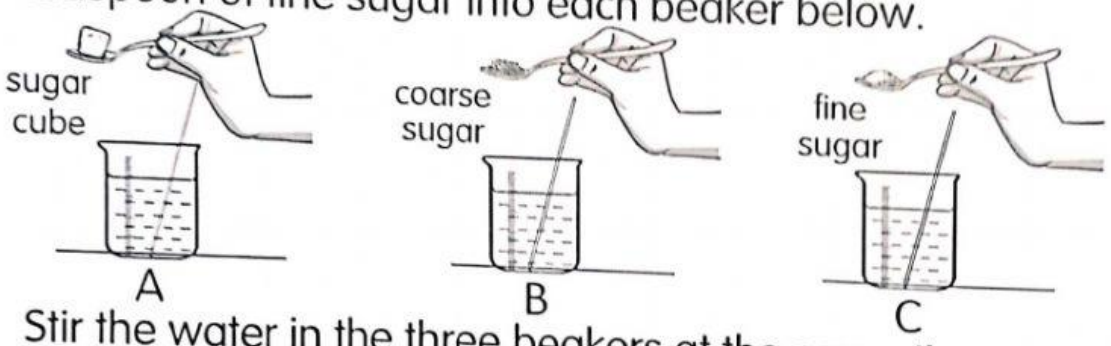
I Investigate » Observing the Solubility of Sugar Cube, Coarse Sugar, and Fine Sugar

Apparatus and Materials

- 3 beakers of the same size
- glass rods
- fine sugar
- teaspoon
- water
- sugar cube
- coarse sugar

Steps

1. Pour 200 ml of water into each beaker.
2. Put one sugar cube, one teaspoon of coarse sugar, and one teaspoon of fine sugar into each beaker below.



3. Stir the water in the three beakers at the same time.
4. Record your observation in the table below (the fastest/ fast/slow).

Type of sugar	Cube	Coarse	Fine
Time for sugar to dissolve			

Questions

1. What type of sugar dissolved the fastest in water? Why?

   _____

2. What type of sugar dissolved the slowest in water? Why?

   _____

3. _____ sized materials can dissolve more quickly.

Date:

Activity 7

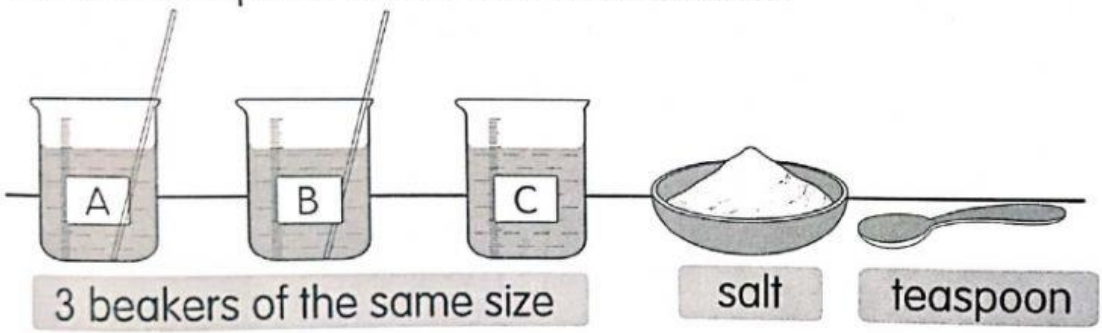
I Investigate » Observing the Solubility of Stirred Salt

Apparatus and Materials

• 3 beakers of the same size • teaspoon • glass rods • salt

Steps

1. Pour 200 ml of water into each beaker, labelled A, B and C.
2. Put one teaspoon of salt into each beaker.



3. Stir the water in beaker A quickly and stir the water in beaker B slowly. Do it at the same time.
4. Leave the water in beaker C without stirring.
5. Observe the salt in each beaker.
6. Record your observation in the table below.

Beaker	A	B	C
Time for salt to dissolve (Fastest/Fast/Slow)			

Questions

1. The salt in beaker _____ dissolved slowly because _____.
2. The salt in beaker _____ dissolved the fastest.
3. Materials can dissolve faster in water if _____ _____.

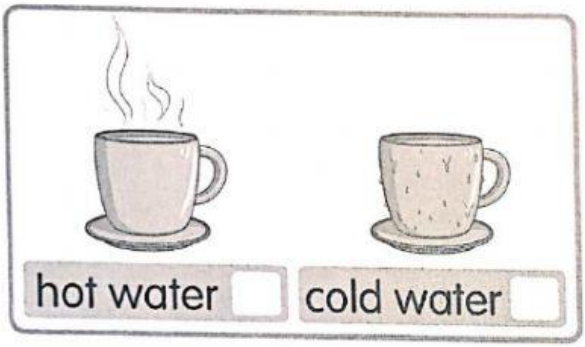
Date:

Activity 8

Which of These Dissolve More Quickly?

Tick (✓) the fastest method to make a chocolate drink. Explain how you prepare it.

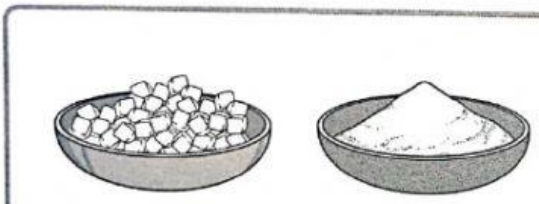
1.



hot water ☐ cold water ☐

I will use _____.

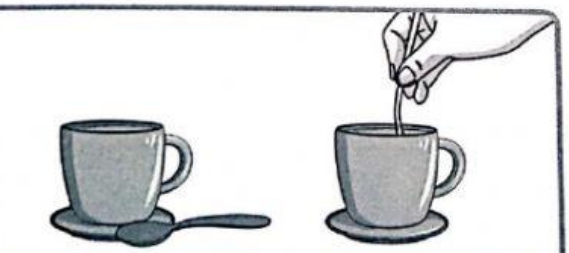
2.



sugar cubes ☐ coarse sugar ☐

I will use _____
because _____
_____.

3.



not stirred ☐ stirred ☐

Then, the chocolate drink will be _____
because _____
_____.

chocolate drink is ready