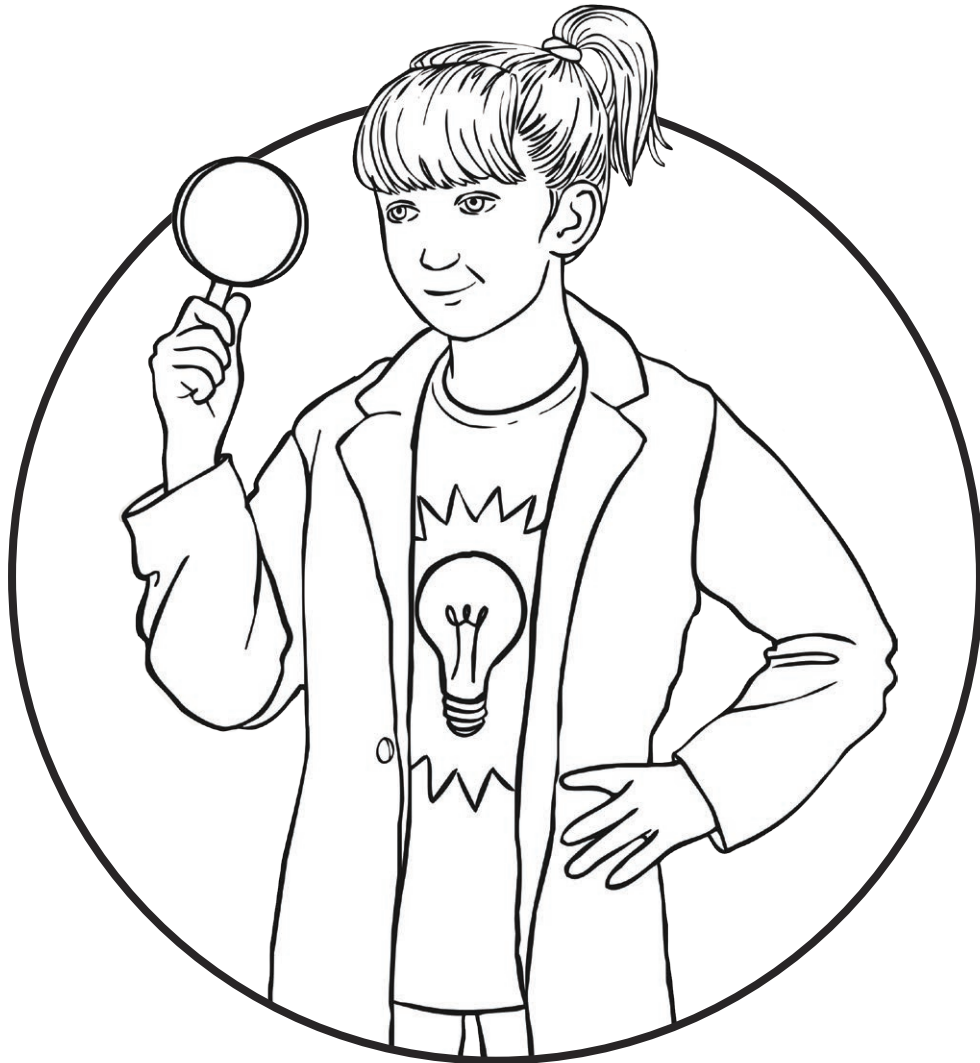


Dissolving Investigation Booklet



Soluble or Insoluble

— Does it Dissolve?

Will the materials in the table below dissolve in water? Test the materials and complete the table.

Material	Prediction	Does it Dissolve?
sand		
chalk		
flour		
rice		
coffee granules		
sugar		
salt		
gravy		

What does soluble mean?

What does insoluble mean?

Classify the materials you tested into the correct category:

Soluble	Insoluble

Saturation

Add one spoonful of sugar to some water and stir.

Add one spoonful of salt to some water and stir.

Continue adding spoonfuls of sugar/salt until no more will dissolve.

Record your results below.

How many spoonfuls dissolved in the water?

spoonfuls of sugar dissolved in the water

spoonfuls of salt dissolved in the water

When the water dissolved the sugar it made _____.

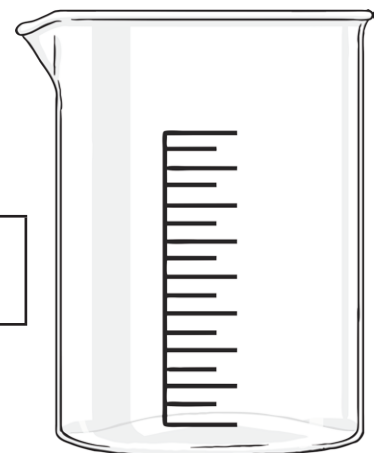
When the water dissolved the salt it made _____.

When water cannot dissolve any more sugar or salt we say that it is _____.

The water dissolved more _____ than _____

before it became _____.

sugar	salt	solution	saturated
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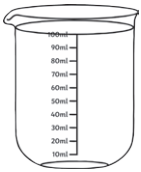


Does the Temperature of Water Affect the Speed of Dissolving?

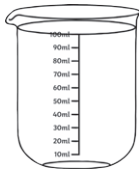
Put 3 spoonfuls of sugar in a jar of cold/warm/hot water and time how long it takes to dissolve. Carry out 3 tests, one for each temperature and time how long it takes for the sugar to dissolve.

Complete this table:

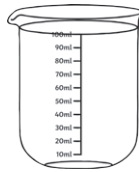
independent variable	dependent variable	controlled variables	question



cold water



warm water



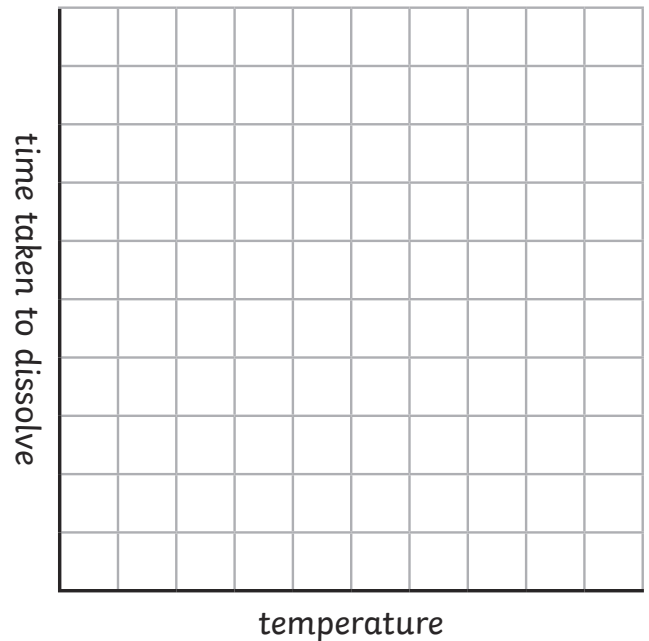
hot water

Which temperature water do you think will dissolve the sugar fastest?

Find the average time for each temperature.

cold water ___ °C	
warm water ___ °C	
hot water ___ °C	

Draw a bar chart of your results.



Conclusion

How does the temperature of the water affect the time it takes the sugar to dissolve?

Dissolving — Affecting Factors

Mark the factors that you think affect dissolving with a tick.

Materials that dissolve

Type of water

Particle size

Number of times stirred

Temperature

Type of water

Volume of water

Time

Speed of stirring

Type of container

Dissolving — True or False

In the table below write down whether you think each statement is true or false.

	Prediction	True/False
Dissolved substances cannot be seen because they become part of the water		
Substances which do not dissolve are called soluble		
Only white powders dissolve		
Some solids dissolve		
All materials dissolve		
Dissolved substances are called soluble		
Only powders dissolve		
Dissolved substances disappear		
We can get dissolved substances back		
Substances which do not dissolve are called insoluble		
The bigger the soluble particle the faster it dissolves		
The hotter the water the quicker solids dissolve		

Dissolving

Factors

Materials

Water temperature

Type of water

Number of stirs

Speed of stirs

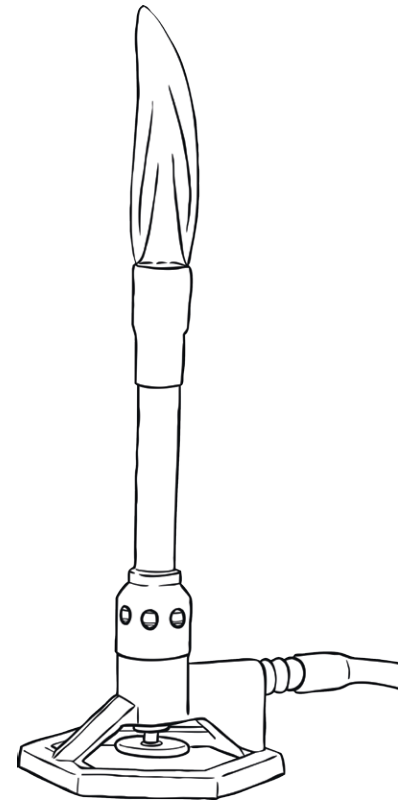
Type of container

Time stirred

Things you could measure

Time taken to
dissolve

Time taken to
dissolve



Questions you could ask.

Which materials
dissolve?

How does stirring
affect the speed of
dissolving?

How does
temperature
affect the speed
of dissolving?

Dissolving

Independent variable	Dependent variable	Controlled variables	Question

What do you think will happen?

Dissolving

Draw a bar chart of your results:

