

Temperature and solubility



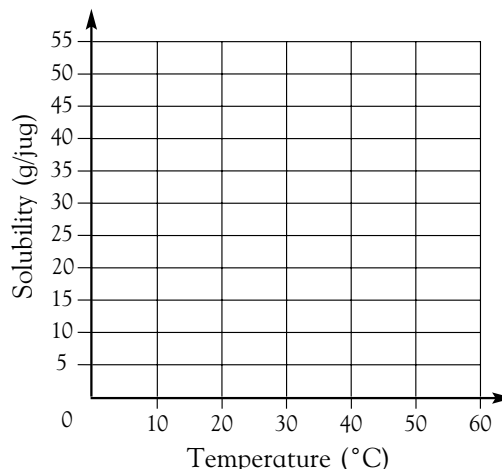
Background knowledge

It is easier to dissolve soluble substances in warm water than in cold water. However, heat increases the solubility of some substances more than of others.

Science activity

Make a line graph to plot the data from the table. Be sure to connect all the points after they are plotted. The data shows the solubility of table salt and of Epsom salts as temperature increases.

Temperature (°C)	Amount dissolved per jug (in grams)	
	Salt	Epsom salts
20	10	20
30	12	30
40	14	40
50	16	50
60	18	55



1 Do you see a relationship between temperature and the solubility of table salt? Explain.

.....

2 Is this relationship the same for Epsom salts? Explain.

.....

3 Describe any differences temperature has on the solubility of Epsom salts as compared to table salt.

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Science investigation

⚠ **Take extra care - ask an adult to supervise you.**

You can make rock candy by dissolving a lot of sugar (2 cups) in a cup of boiling water. Let the solution cool and pour it into plastic cups, filling each half way. Tie 12 cm of plain dental floss in the center of a pencil. Place the pencil over a cup and let the floss drop into the solution. Repeat for the other cups. Observe what happens over two weeks. Draw diagrams and explain your observations.

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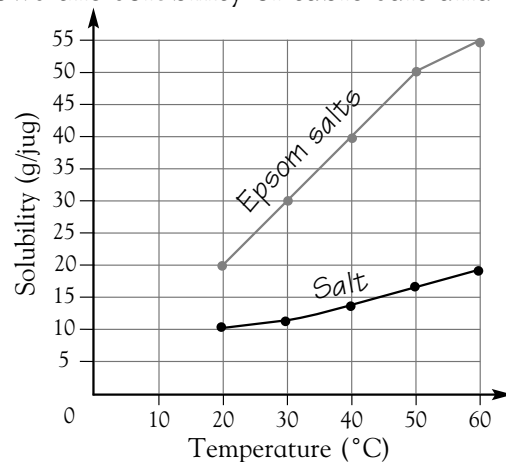
Background knowledge

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Science activity

Use a line graph to plot the data on the graph. Make sure to connect all the points after they are plotted. The data shows the solubility of table salt and of Epsom salts as temperature increases.

Temperature (°C)	Amount dissolved per jug (in grams)	
	Salt	Epsom salts
20	10	20
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1 Do you see a relationship between temperature and the solubility of table salt? Explain.

Yes, as the temperature increases, the salt becomes more soluble.

2 Is this relationship the same for Epsom salts? Explain.

Yes, the relationship is the same for Epsom salts.

3 Describe any differences temperature has on the solubility of Epsom salts as compared to table salt.

The solubility of Epsom salt is more greatly affected by temperature.

Science investigation

⚠ Rock candy is made from a supersaturated sugar solution. Document candy formation in daily observations and diagrams. Food coloring can be used to color the candy. Some heat packs are supersaturated solutions that release heat when crystallizing.