

Middle School Science

Name:

Date:

Solutions Worksheet

This worksheet accompanies slide 12 of *Solutions.ppt*

Does temperature affect solubility?

You are going to plan an experiment to find out whether the solubility of a solute changes with temperature. Your solute is sugar and your solvent is tap water.

There are a number of questions to think about before you start:

- How many different temperatures should you test?
- How much water are you going to use? (What difference might using lots of water make?)
- How will you decide when the solution has become saturated?
- How will you measure the amount of solute you have added?
- How will you make sure that the experiment is a fair test?

1. Choose what you need from the following pieces of apparatus:

100 cm³ beaker	spatula	ice
250 cm³ beaker	plastic spoon	heat-proof mat
10 cm³ measuring cylinder	glass rod	thermometer
25 cm³ measuring cylinder	tripod	gauze
50 cm³ measuring cylinder	Bunsen burner	top-pan balance

2. Set up your chosen apparatus. Draw a diagram showing the final arrangement of the apparatus in the space below. Remember to label the apparatus clearly.

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3. Carry out your experiment., then write a step-by-step method to explain what you did:

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4. Draw a table to show your results in the space below. Don't forget to include the units in the column headings.

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5. Using a sheet of graph paper, plot your results in a line graph, and draw a smooth line of best fit through the results. Do your results show a pattern? Briefly describe the pattern:

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6. Write down a sentence explaining what you think solubility means:

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7. What units do you think solubility might be measured in?

8. Show how the solute (sugar) and solvent (water) particles were arranged in the solution by drawing a diagram in the space below:

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9. What could you do to check the results of your experiment?

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