



When a beautiful bouquet arrives from a good florist it is usually accompanied by a sachet of cut flower preservative. Since this really does seem to work, we have often wondered what was in it, or how we could buy it to use on our humbler shop purchases. Now the Guernsey Flowers Information Bureau has let us into the secret. According to them you can make your own preservative solution by dissolving half a tablespoonful of sugar to one teaspoonful of bleach in a pint of water.

Your local florist is interested in making their own preservative solution but doesn't have the time to investigate the claims made by the Guernsey Flowers Information Bureau. As a result they have approached your school for help?

Your task

Is this claim valid?

Based on a suggestion by K. Davies.



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| Time | 70 minutes (students then need to compare the flowers every week, noting any differences). |
| Group size | 2–3. |
| Equipment & materials | Eye protection. General Measuring cylinders, measuring jug, beakers, glass droppers, glass stirring rods, teaspoons, tablespoons. Sugar, bleach, water. Flowers Carnations (standard and sprays)/roses/ freesias. |
| Safety notes | See page 11. It is advisable to pre-dilute the bleach solution. |
| Curriculum links | Chemical preservatives. (Biochemical decay.) |
| Possible approaches | Could be used as a ‘fair test’ exercise. Apparently the effect of the preservative solution is most marked on flowers such as carnations (standard and sprays), which have been kept for as long as 3 weeks, and roses. (Freesias have also lasted longer in the preservative solution.) Don’t use chrysanthemums as they keep reasonably well anyway. ☛ Always keep flowers in a cool place. Reason that preservative solution works: <ol style="list-style-type: none">1 Sugar is a food.2 Bleach kills bacteria. (The flower stems have water channels. Bacteria clog up these channels – the bleach kills the bacteria.) |
| Suggested write-up | Students write a report for the florist. |
| Extension work | What sugar/bleach/water ratio is best? What is the effect of different bleach concentrations? (If this is investigated then clearly it will be necessary to make up different pre-diluted bleach solutions, including chlorine and non-chlorine bleaches.) It has also been suggested that “Andrews” is good for flowers – carbon dioxide goes up the stem and stops them going limp. Students could test if this is true. |

Your notes
