

1977

What Makes Your Garden Grow?

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Recommended Citation

Moore, Joe (1977) "What Makes Your Garden Grow?," *Iowa Science Teachers Journal*: Vol. 14 : No. 2 , Article 40.

Available at: <https://scholarworks.uni.edu/istj/vol14/iss2/40>

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Quickies

If you have an idea that facilitates science teaching, jot it down and send to Editor, *Iowa Science Teachers Journal*, Biology Department, University of Northern Iowa, 50613. Be sure to include the name of your school and position. Here are some recent contributions.

* * *

Patriotic Phenolphthalein

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Dubuque, Iowa

To illustrate the "patriotic nature" of phenolphthalein, prepare a dilute solution by dissolving 0.1 gm of phenolphthalein in 100 ml of ethyl alcohol and dilute with 50 ml of water. Mix the prepared solution in an aqueous solution of ammonia (10 ml/100 ml of water) and a red color will appear. Add the same indicator solution to a lead nitrate solution (2 g/100 ml of water) and a white color will appear. Do the same with a copper sulphate solution (2 g/100 ml of water) and you will get a blue color. What makes phenolphthalein so "patriotic"? Does it exhibit its "patriotism" in other solutions?

* * *

The Welk Effect

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Dubuque, Iowa

To get a Niagra Falls of bubbles, place about 5 gm of manganese in 100 ml graduated cylinder, fill the cylinder three-fourths full of a "Halo" type shampoo solution and add about 5 ml of hydrogen peroxide. Won'erful! Won'erful!

Suggested Reference: Boys, C. V. 1962. *Soapbubbles: their color and forces which mold them*. Thomas Crowell Co.

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What Makes Your Garden Grow?

Joe Moore, Science Consultant, Keystone Area Education Agency
Dubuque, Iowa

To illustrate crystal formation, dissolve 35 ml of sodium silicate into 150 ml of water placed in a 400 ml beaker. Growth of crystals is initiated when water-soluble compounds containing copper, cobalt, nickel, iron and aluminum are added to the solution.