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## School Laboratory Supplies

Much money and much effort have gone into the improvement of science teaching in the elementary and secondary grades. One area that now needs special attention is the provision of larger budgets for supplies and equipment, for there is a great gap between the amounts that are available in most schools and the amounts that should be available.

The several groups of scientists and teachers who have been working to improve science teaching have been ingenious in developing inexpensive laboratory equipment and teaching materials. For example, materials for the first four grades of the elementary science teaching program being developed under AAAS auspices cost only about \$1 a year per pupil. Costs for the new junior and senior high school programs are substantially higher, but still modest. In contrast, one large midwestern city in a recent year budgeted 6½ cents per child for science teaching materials in the elementary grades. A large eastern city, in one of the states that rates high in its overall budget for teaching supplies, this year has less than 25 cents per pupil for elementary science teaching materials. In another large eastern city the superintendent of schools asked for 54 cents per pupil to cover all laboratory and shop supply and equipment costs (38 cents in the elementary grades, up to 94 cents for the 12th grade), but the Board of Education was unable to appropriate that much.

If these amounts seem atypical, the annual analysis in *School Management* of expenditures in the nation's public elementary and secondary schools provides a broader picture. For 1964-65 the median amount available for teaching materials of all kinds is \$14.15 per pupil. Some wealthy districts provide over \$36 per pupil, and in three northern states the median is \$20.1. But in four southern states the average is \$5.60, and in the 10 percent of the poorest districts that spend the least on school supplies it is only \$2.11 per pupil. (Strictly speaking, these figures are not on a "per pupil" basis, for there are adjustments for the greater cost of secondary over elementary education and of small over large schools, but the distortion is small.)

These greatly different amounts provide the children of different towns and cities with whatever they have of textbooks (no wonder so many outworn ones are in use!), library books, art and music supplies, shop equipment and materials for vocational education, and whatever equipment and supplies are used for teaching science.

The gap between the amount necessary to provide adequate materials for good science instruction and the amounts now budgeted can perhaps be partially closed by even more ingenuity in developing inexpensive materials. But more money is necessary. Some parent-teacher associations collect funds to supplement school budgets. The National Defense Education Act and other federal legislation provide special funds for science equipment, but the amount for each child is small; federal assistance for all purposes this year amounts to \$2.16 out of an average total cost of \$373 per pupil. Legislation now being considered in Congress would give additional help, but the major effort must be made locally, for local and state taxes will remain as the chief source of funds for science teaching, as for other school expenses. If there are school children in whose education you have a special interest, you may stimulate improvement by finding out how much is budgeted for science teaching in the schools they attend.

—DAEL WOLFLE