

Persing and Wildman—*Elementary Science by Grades*. Book IV. Appleton.
Child's World Fourth Reader. Johnson.
Churchill-Grindell Song Books. Churchill-Grindell.

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SUGGESTIONS TO GENERAL SCIENCE TEACHERS IN SERVICE

ESSENTIALLY the first suggestion to general science teachers in service is: Be certain of your subject matter and be acquainted with a broad field from which to gather materials as the need arises. This is possible only as a result of excellent preparation for teaching the subject and of a genuine interest in it.

In connection with the collection of materials, there are hundreds of companies, schools, and state and national departments, related to every line of interest, which are willing to send pamphlets, samples, etc., to you if you know *what and where they are*.¹

With a subject as alive as general science should be, it is imperative that a progressive teacher not only continue enriching his background by reading new books in all fields and keeping informed as to the newest and best textbooks and manuals, but that he be a subscriber to *and reader of* the best of his field's magazines and that he also attend summer schools and extension classes to keep his "ways and means" (Sometimes called "methods") up-to-date.

After materials have been collected, it is necessary to organize them in order to get from them the maximum of aid. It is impossible to go into detail regarding methods of organization here, but any one of a number of plans on the modern "market" is usable. The main thing is to organize materials and plans around the interests of the boys and girls rather than the interests of scientists—to organize them psychologically rather than logically.

In order to teach the pupil—rather than

¹See suggested names and addresses in *How to Teach General Science*, by Frank.

the subject—the teacher must bring science home to him. Instead of teaching it as a body of organized knowledge, laden with words, definitions, or other abstractions, use concrete facts, experiments, demonstrations, and trips as your "Open, Sesame" to his interest. When a child can *see* a thing for himself, he can understand it. The essential technical terms should be reduced to language he can understand. The subject matter should be determined by his capacity, interests, and environment and should be arranged on a seasonal basis in order to facilitate his gathering of material. The social significance of science should be emphasized. Its importance in everyday life, the extraordinary influence it has had on recent human affairs, should be stressed as a means of making the subject live for him.

Where only the minimum of materials and equipment is available, it is well to know how to substitute and manufacture additional things from more ordinary matter. This will be a rare test of your ingenuity.

Always, a general science teacher should keep in mind, along with the scientific attitudes, an open-mindedness, and a desire for growth (since there must be either progress or deterioration in a teacher's work), the aims of general science teaching, the things a general science course should give the boys and girls: an appreciation of the value of science in modern industry and everyday life and enough knowledge of nature and the sciences to give him some control over his ordinary environment.

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PHYSICS IN THE RURAL HIGH SCHOOL

AFTER making a statistical study of science courses offered in the rural high schools of Virginia it has been found that physics is offered in fewer of the schools than any other science. This is due in part to the opinion that physics is less important than general science, biology, and chemistry, and does not warrant the