

● Commonwealth of Kentucky ●
EDUCATIONAL BULLETIN

**PROBLEMS IN THE
ORGANIZATION AND SUPERVISION
OF INSTRUCTION**

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JAMES H. RICHMOND
Superintendent of Public Instruction

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FOREWORD

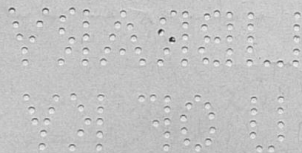
The new school year begins July 1, and many schools will open soon after that date. Superintendents will hold pre-term conferences with teachers and principals at which time the problems of organizing learning will be taken up and the program planned for the year. In order to assist superintendents in their programs of organization this Bulletin is devoted to problems relating to the Organization and Supervision of Instruction.

The materials in Part I were prepared by the members of the professional staff of the State Department of Education.

The materials in Part II relate to the development of teaching units in the elementary grades and will be helpful to the teacher in improving instruction. These materials were prepared by Miss Ethleen Daniels, Miss Frances K. Martin and Miss Helen Strickland, of the University of Kentucky training school faculty.

It is my hope that these materials may be useful to the superintendents and their professional staffs in organizing an enriched program of instruction for the children of the Commonwealth.

JAMES H. RICHMOND,
Superintendent of Public Instruction.



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PART I
ORGANIZATION AND SUPERVISION

EDUCATIONAL MEETINGS

GORDIE YOUNG, Assistant Superintendent of Public Instruction

I. LEADERSHIP OF THE SUPERINTENDENT

Each school superintendent of this Commonwealth is in a strategic position of leadership at all times. A question always appropriate for a person who is in a position of leadership to ask himself is: "Am I fulfilling my leadership responsibilities the best I can?"

A short time ago Col. Leonard P. Ayers had an article in *Forbes* on "What Makes Men Leaders." In that article he says: "After much careful observation I have come to the conclusion, that despite all the apparent contradictions of observable evidence, there are four characteristics that are shared in common by almost all real leaders." These are listed and discussed in the following order.

1. *Knowledge of the field in which they work.*—This quality serves as a foundation for the other qualities.

2. *Courage.*—This quality makes one willing to take a chance.

3. *Activity.*—This quality is partly dependent upon the person's store of courage. He is continually doing something. If he is right only part of the time, he is able to get a great deal accomplished.

4. *Ability to influence the actions of others.*—This quality makes one tactful and able to communicate thoughts to others.

Educational meetings conducted throughout the year provide one means of putting into practice these characteristics of a leader. Such meetings may be made to furnish great potential possibilities, all important to the work of teachers. Properly planned, they will *influence the action of others*. They may be made to supply some additional *knowledge* of a teacher's field. Much *activity* should be provided for all. All this should develop the *courage* of many if not all those attending.

Every school system should have some clearly defined educational objectives, understood by the teachers and administrator, toward which educational effort of the district is being directed in order to make vivid to every teacher the importance of bending every effort toward the realization of these goals. Through a carefully planned series of teachers' meetings, teachers can be made conscious of these educational objectives and the best method of attaining them.

It is hoped that the following outline will furnish suggestions for making the most out of teachers' meetings.



II. PURPOSES OF EDUCATIONAL MEETINGS

1. To acquaint the teachers with the state educational program.
2. To develop unified standards and objectives.
3. To acquaint teachers with the county program for the year.
4. To demonstrate new methods, procedures, and organizations.
5. To help in the understanding and solution of problems that the group has in common.
6. For professional stimulation and growth—to give the teacher a new vision—"inner urge"—to attain that new vision.

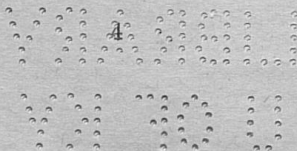
III. TYPES OF MEETINGS

1. General meetings, for all the teachers of the system.
2. Group meetings on the basis of common problems and interests.
3. Sectional meetings, these meetings may sometimes include school boards and even the patrons.
4. Demonstration-teaching meetings.
5. The combination of any two or more of the above.

Note.—Exhibits and contests should be considered a part of the program of educational meetings of the year. They should contribute to the realization of some of the educational objectives within the county. If they cannot, their usefulness is doubtful.

IV. PLANNING EDUCATIONAL MEETINGS

1. *Who should do it?*
 - a) A county educational committee should determine:
 - (1) The educational objectives for the year.
 - (2) The approximate number and type of meetings, contests, exhibits, etc.
 - b) This committee should be composed of the superintendent, principals, a small number of selected teachers, the county farm agent and health officer, etc.
 - c) A small executive committee, with the superintendent as chairman, should be selected to fix the dates and work out the details of the meetings.
2. *Administrative features.*
 - a) Advertise the meetings well. Keep the objectives of the meeting before the teachers.
 - b) Devote a part of the time of each meeting to the interest of various groups and provide much teacher participation.
 - c) The demonstrations, experiences, and messages should be those that will contribute to the needs of the group for which they are planned.
 - d) Begin and close the meeting, and each part of the program, on scheduled time.



- e) Avoid, as far as possible, distractions, interruptions, etc. Do not undertake too much at a meeting. Give the speaker or demonstrator a reasonable amount of time for his message and try to hold him to that time.
- f) Through circulars, conferences, and previous planning, get the teachers in a state of readiness for the meetings.
- g) Plan a method of followup to see if your meetings are accomplishing what they are planned to accomplish.
- h) Every meeting should contribute something in the way of:
 - (1) Professional growth.
 - (2) Improved teaching ability.
 - (3) Better knowledge of the school system.
 - (4) A greater loyalty to the schools.
 - (5) General culture.

V. SOME EDUCATIONAL MEANS THAT MAY BE USED IN TEACHERS' MEETINGS

1. Instruction and discussion as to how to use course of study, library, supplemental readers, and other helps.
2. Study group of educational problems.
3. A directed study of professional literature, professional or educational changes, etc.

THE ORGANIZATION OF THE INSTRUCTION PROGRAM FOR THE YEAR

O. J. JONES, Public School Supervisor

The attention of each teacher should be called to page twenty-one of the Teachers Manual and Course of Study. This page gives a suggested daily schedule for the one-teacher school with eight grades for the school year 1935-36. This page should be studied carefully by each teacher and special attention should be given to the subjects that are to be taught in the one-teacher schools this year.

This suggested daily schedule must be adjusted to suit any conditions existing that are out of the ordinary. For a two-or-more-teacher school the schedule will be adjusted accordingly and for a one-teacher school, where the upper grades are given school service in another building, the length of each recitation period should be lengthened so as to distribute the work over the entire school day. Each teacher should have the schedule very definitely in mind before school begins so that she will know what books the children for each grade are supposed to have. In the one-teacher schools, for instance, geography will be taught this year instead of health education and agriculture. No teacher should make the mistake of having a child buy the agriculture book and later be compelled to tell the child the book will not be used this year.

After a teacher has thoroughly studied the schedule on page twenty-one she should then turn to the discussion of the individual subjects, beginning with reading, on page twenty-six. The teacher should become thoroughly familiar with the aims of each course that she proposes to teach. It is recommended especially for the beginning teacher that she familiarize herself with the suggestions in the Teachers Manual for each subject, otherwise she may find she is putting undue stress on some subject and neglecting others. At the same time she may find very helpful suggestions that will greatly aid her in keeping up interest in the subjects she is attempting to teach.

The State Course of Study should be used like a road map to guide the tourist on his trip. Before school begins the teacher should determine just what tour she is going to make with her children. She should then use the Course of Study to determine the best road and the most interesting points to be covered. If she will use the Course of Study as it should be used she will be certain to visit the most interesting points along the route, and will not stay so long at any one place that she will be compelled to hurry the class past other interesting points. Of course, she will want to take some side trips from the main highway, but if she is following her road map she will be able to determine just how many of these side trips she can take and at the same time lead the children over the principal routes by the time school closes.

The beginning teacher who fails to stay rather close to a definite plan that was determined before she started school in the fall may find that she has not covered as much ground and has not been able to point out as many interesting things to her pupils as the teacher who has been rather careful in following a definite outline, or course of study. It is no uncommon thing to find a teacher nearing the end of the school term who is rudely awakened by the fact that she has led her pupils over much more territory than the average teacher. It is also very common to find a teacher who comes to the close of the school term with her pupils fully two months behind the pupils in some neighboring district.

The individual who has been over the road many times may run the risk of leaving her guide book or course of study neglected during the school term and yet be able to reach most of the points of interest along the route, but the beginning teacher is certainly running the danger of some very rough detours unless she has daily access to her road map, or course of study.

FUNCTIONS OF THE ELEMENTARY SCHOOL

By MARK GODMAN, Public School Supervisor

The most satisfactory way to define either elementary or secondary education is to do it on the basis of functions. What are the functions of the elementary school?

1. To give common training necessary for all children regardless of their wealth, social position, sex or possible vocational future.

2. By means of this common training to better integrate the future citizens of our democratic society.

The limitations of this article will permit only a brief discussion of these two functions. What do we mean by giving a common training necessary for all? The two big ideas here are "necessary" and "all." We know from our daily observation of people and what they are doing and how they live, that there is a common body of knowledge and information which all must have if they are to live successfully in society. This common training involves such features as accuracy in spelling the common words used in everyday affairs, knowledge and understanding of necessary punctuation, ability to write legibly and to read intelligently and also ability to express oneself effectively in speech. This common training necessary for all naturally involves the gaining of a command of the four fundamental operations of arithmetic and at least some features of simple interest and percentage. Furthermore, it means the understanding of the fundamental laws of health and a conscious observance of proper health habits. It also means an understanding of the essential facts of history, government and geography. A command of these things is necessary regardless of one's position in life, sex or occupation. A command of these fundamentals constitutes the base upon which the whole structure of education is built. It is just as necessary that the modern child gain control of necessary elementary school subject matter as it was necessary for his parents to acquire this training.

The second function of the elementary school, as pointed out above, is through this common training to better integrate the future citizens of our democratic society. The main idea here is "integration." Interpreted literally integration means "binding together." The great purpose of the lower school is to unify. If our democratic social order is to perpetuate itself, it is imperative that our people have an amount of like-mindedness, unity in thought, habits, ideals and standards, as will insure a feeling of social unity. To insure this, it is not only necessary that all possess a command of a certain body of subject matter, but they must also possess certain ideals regarding which they think alike and feel alike—ideals such as patriotism, tolerance, unselfishness, loyalty and honesty. One might multiply reasons why this function of the elementary school is vitally important. The increasing complexity of modern life, the heterogeneity of our population and the increasing diversity of industrial occupations, as well as ways of living, all demand that the school which is attended by all should make it its business to see that all boys and girls, regardless of their abilities, master the essential and necessary subject matter of the elementary school and at the same time establish ideals that are necessary for them if they are to function as worthwhile and useful citizens. In order that the child may become such a citizen, the elementary school must, through its common integrating training, provide him with every opportunity to discover and develop his talents and aptitudes, form the habit of clear thinking, understand desirable social relationships and appreciate and desire the higher activities of life.

In order that children may have opportunities to attend elementary schools in which these ends are at least partially realized, it is necessary that certain standards should be attained in their organization and administration. In this connection attention is called to pages 17-18 of the Report of the Kentucky Educational Commission. Here one will find an excellent summary of the standards and ideals which should be attained in the organization and administration of elementary schools. They are as follows:

1. For each child an intelligent, alert, and vigorous teacher trained specifically for elementary school work.
2. An effective organization for professional supervision, both by the state and the local administrative unit.
3. A school environment for every elementary pupil that is safe, sanitary, and educationally effective.
4. Attendance laws and an organization for the enforcement of compulsory attendance which will insure that every child is enrolled in some school and that he attends every day that he and the school will profit more from his presence than from his absence.
5. Courses of study set up in terms of the purposes of the elementary school and in terms of pupil and teacher activities and prepared in such a way that they serve as usable tools.
6. Increased economy and educational efficiency through the most rapid consolidation of schools practicable.
7. The limitation of the elementary school period to the first six grades as rapidly as this becomes feasible.
8. A plan of state support that will provide for the child a defensible minimum educational program in terms of the teacher, buildings and equipment, materials of instruction, administration and supervision, and length of school term.
9. The provision for each elementary school of the state of an intelligent and professionally-trained administrator."

RESPONSIBILITY OF THE ELEMENTARY TEACHER FOR THE SUCCESS OF HER PUPILS IN HIGH SCHOOL

O. J. JONES, Public School Supervisor

It is no uncommon thing to hear a second grade teacher say that pupils from the first grade came to her room poorly prepared. The same is true of the fourth grade teacher, and of the eighth grade teacher. It is especially true of the ninth grade teacher, who often blames the poor record of her students on the poor work done in the grades. We even hear college professors say that freshmen come to college English classes who should be studying fifth grade English.

When we hear such expressions come from teachers who are supposed to be informed along the lines of professional attitudes, we are inclined to think that such teachers have missed the real spirit of articles and lectures on professional ethics. Regardless of the sympathy we may feel for a person who is willing to knock other members of her profession under such conditions, one is inclined to be more lenient with her than with the teacher who frankly says she has no interest in her pupils after they leave her room.

The real teacher will have an abiding interest in her pupils as long as she lives, and will follow the career of each individual pupil with the longings of a parent. Each elementary teacher should know

that the future success of her pupils in the upper grades is determined, to a great extent, by the efficiency of her work and she should follow the progress of her former pupils with even more interest than she follows the progress of the pupils who are immediately under her care. This is true because of the fact that the success of a teacher's work, in the long run, will be measured by the success of her pupils as they pass through the more advanced grades.

We once heard a real teacher bemoan the fact that two of her former pupils had been sentenced to prison for some minor offense. She wanted to know what she had failed to do that caused these boys to go astray. The elementary teacher should have some such feeling when she learns that one of her former pupils has failed to make good in some of the advanced grades.

Many a pupil has made a poor showing in the upper grades merely because he did not learn to read in the lower grades. Some day we may know enough about the teaching profession to very definitely measure a teacher's ability as a teacher of reading, so that she may be definitely informed just where she is failing. Until such time the elementary teacher should study her former pupils very carefully and know wherein they are failing.

A definite record kept by an elementary teacher over a period of a few years should enable her to get an estimate of her strong and weak points as a teacher. If she finds her former pupils failing in mathematics in the upper grades she should look to her laurels as a mathematics teacher in the lower grades. If she finds that her former pupils are failing in English in the upper grades she should then check her methods in the teaching of reading. The same would apply to other subjects. "By their fruits ye shall know them" applies in the teaching profession as surely as it does in the botanical or social world.

SUGGESTIONS TO TEACHERS ON SCHOOL HOUSEKEEPING

J. W. BROOKER, Director of the Division of School Buildings
and Grounds

The school teacher is not responsible for the school building or classroom in which she teaches nor for the type of school furniture and other equipment in the classroom in which she teaches. The school teacher is responsible for the general appearance of the classroom, the general arrangement of the furniture in the classroom and the condition of the reference works and other instructional equipment with which she is provided. The purpose of this brief article is to furnish suggestions to school teachers, particularly those teaching in the smaller rural schools on ways and means of preserving attractive, sanitary and healthful surroundings for the school children under their care.

1. *Seating arrangement*

a. School children should be seated so as to receive light from the left or in case of classrooms lighted from more than one side

so that light will be received from the left and rear or from the left and right. Under no circumstances should pupils be seated in such a manner as to face toward the window, an outside door, transom, or other kind of light.

b. School children should be seated in desks suited to their size. In a room that is unilaterally lighted the smaller children should be seated next to the windows and the larger ones on the other side of the room.

c. Desks should not be placed against the wall at the side or back of the classroom. Aisles between rows of desks should be wide enough to furnish adequate, clear passageway. Unusually wide aisles between desks should be avoided. An eighteen-inch aisle along the window and a sixteen- or eighteen-inch aisle between rows of desks with six feet at the teacher's end of the classroom, eighteen inches between the rear of the room and the rear row of desks and a three-foot aisle along the side wall of the classroom are minimum requirements which should be observed. If combination desks are used they should be close enough together in the row so that when the pupil sits erect his desk is within about two inches of his body. This arrangement encourages correct posture and avoids scooting under or lounging over the desk. After the desks are properly placed they should be fastened down preferably to strips with three or four desks in a group.

d. There should be no stage or platform in the school room. If there is a platform in the classroom it should be removed. Under no condition should the teacher's desk be elevated on the platform.

2. Sanitation

a. School children should be encouraged to keep the classroom looking tidy. Paper and litter should be removed from the floor by the children periodically throughout the day. The school room should be swept only after school hours when vacated by the children.

b. The children should be held responsible for the condition of their desks. Each desk should be kept clean and in order. Books and other material should not be kept on top of the desk when it is not in use. Under no circumstances should a child be permitted to store lunch baskets, half-eaten apples, candy or other articles of food in his desk. A screened lunch cupboard which can be easily made should be furnished for the storage of lunch boxes.

c. The common drinking cup should not be tolerated. Pupils should be required to have individual drinking cups.

d. An inexpensive floor mat should be provided so that children may clean the mud from their shoes before entering the classroom.

e. The blackboard and chalk trough should be cleaned daily. Each pupil should be required to clean off his work from the blackboard as soon as he has finished. The chalk trough should be cleaned out after school hours when the floor is being swept. The maps, globes, library books and other instructional equipment should be dusted daily.

f. Toilets should be inspected daily by the teacher and should be cleaned daily at the time the classroom is swept.

g. Cloakrooms and small storage rooms should receive the same attention as the classroom. There is a tendency on the part of teachers to neglect these small rooms because they are not seen by the general public.

3. *Stoves*

a. Ashes should be removed from the stove daily. This should be done after school hours. If ashes are permitted to pile up under the grate of the stove the grate bars will be burned out quickly and needless expense incurred.

b. A container should be furnished for coal, wood or other fuel. It should never be piled out upon the floor.

c. A cheap home-made jacket can be provided for plain open stoves. Such a jacket will cause the air of the classroom to re-circulate, thus providing a more even temperature throughout the room.

d. Unless a humidifier is provided with the stove, a small bucket of water should be placed upon the stove to improve the humidity of the room.

4. *Window shades*

a. The teacher should supervise the handling of the window shades, even though it requires the sacrifice of a little time from her regular routine of work. Under no conditions should the shades be drawn when the sun is not shining.

b. The window shade should be regulated to get the maximum amount of light from the top of the window. One foot of space at the top of the window gives more light on the far side of the room than is received from the entire lower half of the window.

c. Broken shades and shades that will not work properly should be repaired immediately.

d. The purpose of a window shade is to prevent the direct rays of sunlight from shining upon the desk tops and in the face of the pupils, consequently, window shades should be drawn only when it is necessary to afford this protection to the children.

e. All windows should be left unshaded outside of class hours. This will permit the sunlight to enter and disinfect the room when school is not in session.

5. *General*

a. Broken window panes, broken locks, leaky roofs and the like should be reported to the trustees and the superintendent of schools by the teacher and she should insist that they be immediately repaired.

b. Windows should be washed regularly. It is suggested that they be washed every two months on the outside and on the inside every month.

c. Modest mural decoration is desirable. Walls should not be cluttered up with a great number of cheap pictures and decora-

tion. A few carefully selected pictures add to the attractiveness of the room. Correct work produced by the school children may be exhibited periodically but should be left on display for a short time only.

THE TEACHER'S PART IN ADMINISTERING THE ATTENDANCE PROGRAM

MOSS WALTON, Director of Census and Attendance

Teachers frequently fail to realize that they have a definite responsibility for securing good attendance. School administrators have, in many ways, attempted to set clearly before them their specific responsibilities in regard to this matter. There are still teachers who consider their duties ended when they have taught the pupils who attended their classes. They resent having to keep a record and make a report of attendance.

The teacher should be more *interested* in good attendance than any other person in the school organization. She is directly responsible for the work of instruction and if one child fails, or if many children fail, the responsibility for the failure must be assumed by her. The absence of a child from school necessitates the making up of work. This consumes a great amount of the teacher's time as well as the time of the pupils who have been absent, thus resulting in the slowing up of the program of the entire class.

An important duty of the teacher is to keep an attendance record which will show the date of entrance, each day tardy, each day absent, and the cause of the absence. Prompt investigation of absences by the teacher is necessary to the success of an attendance program. The aid of the attendance officer should not be sought until the teacher has done all possible to secure the desired results. It is essential that the teacher give the attendance officer complete information on each case in order that he may render the most effective service.

Indirectly, the teacher's attitude toward the pupils is a great factor in determining the regularity of attendance. She cannot conceive her task to be that of a drill master and insist that her responsibility ceases when the children committed to her care have mastered certain facts. If she does this, the school will probably be hated and will become a thing to be evaded by the child upon the slightest pretext. The proper attitude on the part of the teacher toward her work will doubtless secure the opposite affect and result in better attendance.

If the teacher enjoys her work, likes children, and makes a study of her problem cases, there is probably no individual in the school system who has a better opportunity to discover the real causes of irregular attendance and to assist in removing these causes. The school administrator can study the causes of absence in the large but he can only assist in eradicating them by making such changes in school policies as have been found to affect attendance. He cannot

devote his time to the study of individual cases. This will have to be done by the teacher with the attendance officer always ready to give assistance when it is necessary.

The following represents, in summary form, a few of the main duties of the teacher in connection with a successful attendance program.

1. The teacher shall cooperate in every possible way with the attendance officer, superintendent, the principal, the child, and the home.
2. All pupils of compulsory school age not in attendance shall be reported to the attendance officer.
3. All pupils not included on the census of her district but enrolled in school shall be reported.
4. The teacher shall report to the attendance officer the withdrawal from school of any pupil during the term and give the reason for the withdrawal.
5. A very important duty of the teacher is to report to the attendance officer the transfer of pupils and make a vigorous effort to determine the new address of the pupil.
6. The teacher shall keep all attendance data and have same available at the school at all times.
7. The teacher shall fill out accurately and promptly the monthly attendance report forms.

The above are by no means all of the duties which it is necessary for the teacher to perform in connection with administering the attendance program but they are indicative of the type of cooperation which is essential to its success.

THE PROMOTION OF BOOK SERVICE AND LIBRARY SERVICE BY THE ELEMENTARY SCHOOL TEACHER

By RUTH L. THEOBALD, Supervisor of Public School Libraries

Books are both powerful and flexible agents in this matter of education. We cannot picture modern teaching without the wide use of printed material. Through reading the individual, at any stage of life, finds himself enabled to carry on the business of learning; and books adapt themselves equally well to organized program and independent study.

Within the last decade the adoption of newer methods of teaching in the elementary school, as seen in the widespread use of the activity program and other similar programs, has become clearly evident. The problems presented by the teacher of today require the use of many books instead of one, as formerly, and the consultation of a number of authorities on any given subject rather than acceptance of the viewpoint presented by a single textbook.

Not only are books a necessity in the preparation for classroom work, but they are indispensable aids in the teaching of reading. As soon as children learn the mechanics of reading, they should be given the opportunity to read a variety of attractive and interesting books, suited to their ability and stage of development, which not only serve

to perfect the ability to read with ease, but play their part in sustaining an interest in reading.

The elementary school teacher of today, therefore, exerts every effort to place in the hands of pupils as wide a variety of reading material as possible, utilizing every source of book supply, and so arranging the teaching program that every pupil will have regular and not too greatly restricted access to books and printed materials. Suggestions as to ways in which the elementary school teacher can promote the use of books and the development of an elementary school library are given in the following pages.

Supplementary Reading Material

Supplementary readers and supplementary texts, duplicated for use by classes or groups, cannot be considered library material. The former are necessities in classroom teaching and are the first step away from the use of a single textbook and toward the provision of library material. Library books are for the most part single titles, intended primarily for use by individuals, but suited also to the needs of the group. The purchase of several copies of a book widely used in the school library does not affect the definition of supplementary material given above.

School Library Service Defined

Some confusion exists at the present time with regard to the term "school library service". Schools are generally considered by administrators as enjoying library service when it is book service that is being afforded. Collections of books in the classroom or placed in other locations in the school building, lending service by outside agencies, and ~~other agencies, and~~ ^{traveling} book service. School library service in actuality demands first of all a librarian, and then requires definite activities on the part of the librarian. The technical organization of books, periodicals, etc., into a usable and easily handled whole; the keeping of records which afford accurate and up-to-date information concerning book supply and book use in the school; at least some teaching of the use of books and libraries on the part of the librarian; assistance rendered teachers and pupils in finding information in books and periodicals; reading guidance for pupils; assistance in finding books for recreational reading by teachers and pupils,—all are a recognized part of the librarian's daily work, and should be preceded by definite specialized training.

Book Service to Schools

If book service alone can be supplied to the elementary school—this usually takes the form of classroom libraries—the teacher can promote this service in the following ways:

1. Use of the public library, if one is available in the community. Consult the librarian regarding the borrowing of books for classroom reading.
2. Securing the loan of a traveling library from the State Library Commission. These library collections consist of 50 books each, and the borrower is asked to pay the nominal sum of \$2.10 in part payment of transportation charges.

3. Regular use of the county superintendent's collection of books where such collections of children's books are maintained and loaned to county schools.
4. Use of the proper book selection tools, if the teacher selects books for purchase. (The Supervisor of Public School Libraries, State Department of Education, will be glad to assist teachers with book selection problems.)
5. Promoting a library corner in the classroom, consisting of:
 - (a) Book shelves
 - (b) Reading tables, not too high
 - (c) Chairs of suitable size
 - (d) Books
 - (e) Periodicals.
 Furniture for the library corner is often made by the children themselves.
6. Teaching the use and care of books. Elementary school children should learn the proper care of books in the lower grades and in addition as much as possible about the parts of a book, i. e., index, table of contents, etc. Instruction in the use of the dictionary and encyclopedia usually follow that in the care and make-up of books.
7. Use of reading charts, bulletin board displays, talks about books, etc., to promote reading.
8. Observance of Book Week (Division of School Library Service, State Department of Education, can furnish suggestions.)
9. Encouraging children to find their own information in books.
10. Presenting library programs in Parent-Teacher meetings and meetings of similar organizations.

Library Service to Schools

If the elementary school is fortunate in having an organized library, with a librarian in charge, the elementary school teacher can promote library service by:

1. Arranging for the class at least one scheduled visit per week to the school library, with the exception of kindergarten classes. Special appointments are more desirable here than scheduled visits.
2. Making frequent personal visits to the library. The teacher's attitude will stimulate interest on the part of pupils.
3. Sending the librarian early notice of materials needed.
4. Acquainting the librarian with lesson plans.
5. Knowing the library book collection as fully as possible.
6. Establishing and using a library corner in the classroom. See Book Service to Schools, item 5, for details as to equipment. (Books for the classroom collection may be borrowed from the library collection, and changed frequently, or whenever needed by another teacher.)
7. Appointing a library representative in the classroom, who can cooperate with the school librarian in various ways.
8. Assisting the school librarian in stimulating the use of the public library by pupils.
9. Suggesting books for purchase by the library, where a cooperative arrangement of this type exists between teachers and librarian.

The elementary school children of Kentucky, on the whole, have never had access to even a moderate supply of good reading material. This is a condition to be deplored. Those of us who have witnessed the happy results of the wide reading of well-selected books on the part of children believe that profound changes in individuals and social groups can be brought about through the ability to read with

ease and the cultivation of good reading habits. So much depends in the future upon the reading that will be done by the rank and file of our citizenry. Shall we not therefore bend every effort to secure a larger supply of good books for the boys and girls of Kentucky, and promote reading in schoolrooms and libraries—whether school libraries or public libraries? For we are immediately concerned with that portion of the educational process which is being carried on within the four walls of our classroom; but education is as wide and deep as life itself, and we must look to the future when we make the lesson plans of today.

SCHOOL QUESTION BOX

L. N. TAYLOR, State School Agent

The School

Q.—How many uneducated adults are there in Kentucky?

A.—None. We are all educated in one way or another.

Q.—How are people educated?

A.—Education comes thru experience.

Q.—Then why have schools?

A.—To stage desirable experiences to supplement those out of school.

The Curriculum

Q.—What kind of experiences should the school provide?

A.—Such as may develop good habits, right attitudes, happy relations with others, an understanding of things about us, and ability to do well the things that need to be done.

Q.—Why is history taught in school?

A.—So children may understand what people have done, and why. So children may appreciate those who have served others. So children may have their lives enriched by human understanding, appreciation and good will.

Q.—Why is geography taught?

A.—Geography is another course in human understanding. It is designed to make us acquainted with our neighbors and friendly in our sympathy with them.

Q.—Why are children taught to read and to write?

A.—That their lives may be fuller of usefulness and happiness.

Q.—Why are children taught spelling?

A.—Spelling is part of writing, just as are punctuation and the use of capital letters.

Q.—Should a child be taught the animals and plants and industries of his neighborhood?

A.—He certainly should.

Q.—Why?

A.—That life with these things may be more interesting and more effective.

Q.—Should children in school be taught rules of health and safety?

A.—Yes. As a matter of safety they should be taught to walk at the extreme left of the highway so as to face the traffic on their side of the road.

The Library

Q.—Should a library be provided for elementary schools?

A.—It should be. It is as essential as for other schools.

Q.—What kind of books are needed for an elementary library?

A.—Books for general interest reading should have first place.

Q.—What qualities should these books have?

A.—They should be *easy* reading for the grades permitted to use them. They should be *interesting*, making reading pleasurable and desired. They should be *wholesome*, developing friendliness, good-will. They should be *instructive*, widening the child's world of interest. The story should *maintain interest* from the first page to the last.

Q.—Why prefer general interest reading?

A.—The child following his interests develops love for books, reads for comprehension, forms reading habit for life, and teaches himself.

Q.—Should the elementary school library consist of these books alone?

A.—No. There should be reference books, textbooks and other books.

Q.—Should the elementary school library consist of nothing but books?

A.—There should be books, little magazines, pictures, writing and drawing equipment, *materials* for study (plants, things of life, animate and inanimate neighbors), and low-power microscopes and other *means* for study.

Q.—Would this not make the library a work shop?

A.—The school is a work shop for building human understanding, habit, character, good-will and skill.

Q.—Is it not the purpose of the school to impart knowledge?

A.—Only such knowledge as helps the pupils to *be* better and *do* better.

The School Term

Q.—What is the length of the school term in most districts?

A.—It varies from seven to ten months. It is nine months for all children in a majority of the school districts of the state.

Q.—What school term does the law require?

A.—At least seven months for elementary children and eight months for high school children.

Q.—Should the term be shorter for elementary children?

A.—No, it should be the same for children of all grades.

Q.—Why should it not be shorter for children in the elementary grades?

A.—It takes a little child as long to do his year's work and get promotion as it takes his older cousin, and his father pays the same tax. We must quit short-changing the little ones.

Good and Poor Schools

Q.—Is the amount of money spent a true measure of the effectiveness of the schools of a district?

A.—No.

Q.—What is a reliable measure for comparing schools and districts?

A.—Probably the best measure that is easily applied is the percentage of the pupils that *should* attend that do attend and get promotion to a higher grade.

Q.—Why is this a reliable measure?

A.—It measures the actual results by standard results.

Q.—What does a low percentage of promotions show?

A.—Poor results, ineffective expenditure of the school funds, retardation, waste of childhood years of school life.

Graduation

Q.—Should the county school superintendent give diplomas to elementary graduates?

A.—He should give certificates of promotion to high school.

Q.—Should he give the same form of certificate to all, even tho they finish in different schools?

A.—Yes, and the same form of diploma to all his county high school graduates, even though they finish in different schools.

Q.—Who should purchase and pay for these certificates and diplomas?

A.—Not the pupils, not the school, but the board of education.

Q.—Should they present all the certificates or all the diplomas in a county school commencement or in local school commencements?

A.—All together in one county commencement.

Q.—Do all counties do it this way?

A.—No. Some do, and it seems to be the best way.

School Districts

Q.—How many school districts have we?

A.—There are 303 school districts in Kentucky.

Q.—How are they classified?

A.—120 county districts and 183 independent districts. 42 of the latter are temporary independent districts.

Q.—What is the future of a temporary independent district?

A.—It is expected to become a part of the county district.

Q.—When?

A.—When the State Board of Education believes it does not contribute more to the general program of education independently than it could as a part of the county system.

Q.—May an independent district join the county system by agreement?

A.—Yes, by agreement of the two boards of education.

Q.—Why do they?

A.—To improve the school service with a coordinated administration and at lower cost, reducing the school district tax.

Q.—Have many independent districts merged with their counties by agreement?

A.—Yes. In recent years all the independent districts in twenty counties have joined their county systems by agreement, and many other independent districts, large and small, have been admitted into the county systems.

Q.—May new independent school districts be established?

A.—No. The policy in legislation looks to cooperation rather than separation.

Boards of Education

Q.—How many boards of education have we?

A.—303 *district* boards of education, four *teachers college* boards, one *university* board and a *state board*—309 public boards of education supposed to be cooperating in our state system of education.

Q.—Do all these boards spend state funds?

A.—Yes.

Q.—How do they get these funds?

A.—The state legislature appropriates directly to the college and university boards and to the state board, and a pupil per capita for the district boards of education. And each district supplements its per capita with a district tax. Some district boards levy an extra tax on a part of their district to give extra benefits to the school in that part of the district, and call it a *subdistrict tax*.

Q.—Is the trend toward support of schools more from *state, district, or subdistrict* sources?

A.—Public education is made a *state* function by our constitution. The trend of thought is toward state support of the state's program.

Q.—Why?

A.—Support by the state is the one effective means of carrying on the state's school program, it coordinates and equalizes the service, and it is the most democratic in its wide basis of cooperation and in giving its benefits to all alike.

Q.—Is *district* taxation for schools desirable?

A.—It is necessary so long as the state per capita is inadequate, and our laws require the levy of a district tax each year.

Q.—Is *subdistrict* taxation desirable?

A.—It has less to justify it since it establishes discrimination within the district.

Q.—It is justified at all?

A.—When the state support is inadequate and the district levies its maximum rate and the people need more school revenues, they may vote an additional rate. But it really ought to be district-wide.

TEXT BOOKS

OFFICIAL BASAL ADOPTION—1935—1940

H. W. Peters, Director of Textbooks

ELEMENTARY

Grade 1

		N.C.P. Dealer	R.P. Pupil
DRAWING:			
Augsburg Drawing Book, Revised, Book 1.....	(a)	\$0.1535	\$0.18
Augsburg Publishing Co.	(b)	.15	.18
F. O. B. Kentucky (a)			
F. O. B. Morristown, Tenn. (b)			

MUSIC:¹

Music Hour Series—McConathy, Miessner, Birge and Bray:			
Kindergarten and First Grade (For teachers only).....		2.25	2.58
Silver, Burdett and Co.			
F. O. B. Chicago, Ill.			

PENMANSHIP:

Graves Progressive Handwriting, Regular Series,			
Book 1 .....		.075	.09
W. S. Benson and Co.			
F. O. B. Louisville, Ky.			

READING:

The Friendly Hour Series—Leavell, Breckinridge, Brown- ing and Follis:			
Primer—Ben and Alice .....		.36	.42
Book One—Playmates .....		.39	.45
or			
Primer and Book One (Combined) .....		.54	.63
American Book Co.			
F. O. B. Cincinnati, Ohio			

Grade 2

DRAWING:			
Augsburg Drawing Book, Revised, Book 2.....	(a)	.1535	.18
Augsburg Publishing Co.	(b)	.15	.18
F. O. B. Kentucky (a)			
F. O. B. Morristown, Tenn. (b)			

MUSIC:

Music Hour Series—McConathy, Miessner, Birge and Bray:			
First Book .....		.51	.58
or			
Lower Grades (Grs. 2-4) .....		.57	.66
Silver, Burdett and Co.			
F. O. B. Chicago, Ill.			

PENMANSHIP:

Graves Progressive Handwriting, Regular Series, Book 2..		.075	.09
W. S. Benson and Co.			
F. O. B. Louisville, Ky.			

¹ Music not required. This is basal text if one is used,

	N. C. P. Dealer	R. P. Pupil
READING:		
The Friendly Hour Series—Leavell, Breckinridge, Browning and Follis:		
Book Two—Indoors and Out .....	.42	.49
American Book Co. F. O. B. Cincinnati, Ohio		

SPELLING:		
The Child-Centered Speller—Jesse E. Adams.....	(a) .2050	.25
or	(b) .20	.24
Book I (Grs. 2-4)	(a) .3210	.37
	(b) .313	.36
Augsburg Publishing Co. F. O. B. Louisville (a) F. O. B. Morristown, Tenn. (b)		

Grade 3

ARITHMETIC:		
Strayer-Upton Arithmetics:		
Book One .....	.36	.42
or		
Lower Grades (Grs. 3-4) .....	.51	.59
American Book Co. F. O. B. Cincinnati, Ohio.		

DRAWING:		
Augsburg Drawing Book Revised, Book 3	(a) .1535	.18
Augsburg Publishing Co.	(b) .15	.18
F. O. B. Kentucky (a) F. O. B. Morristown, Tenn. (b)		

ENGLISH:		
Essential Language Habits, New Edition in Color— Charters, Cowan and Betz:		
Book One, Part I .....	.39	.45
or		
Book One (Grs. 3-4) .....	.57	.66
Silver, Burdett and Co. F. O. B. Chicago		

GEOGRAPHY:²		
Geography for Beginners, Book One—Shepherd.....	.57	.65
Rand McNally and Co. F. O. B. Chicago, Ill.		

HEALTH AND PHYSICAL EDUCATION:		
Health and Growth Series—Charters, Smiley, Strang:		
Good Habits .....	.45	.52
or		
Keeping Healthy (Grs. 3-4) .....	.66	.76
The Macmillan Co. F. O. B. Chicago, Ill.		

HISTORY:²		
American History for Little Folks—Blaisdell	(a) .60	.75
Little, Brown and Co., Inc.	(b) .56¼	.75
F. O. B. Louisville, Ky. (a) F. O. B. Boston, Mass. (b)		

² History and Geography not required. These are basal texts if texts are used.

	N.C.P. Dealer	R.P. Pupil
MUSIC:		
Music Hour Series—McConathy, Miessner, Birge and Bray:		
Second Book .....	.57	.66
or		
Lower Grades (Grs. 2-4) .....	.57	.66
Silver, Burdett and Co. F. O. B. Chicago, Ill.		
PENMANSHIP:		
Graves Progressive Handwriting, Regular Series, Book 3....	.075	.09
W. S. Benson and Co. F. O. B. Louisville, Ky.		
READING:		
The Friendly Hour Series—Leavell, Breckinridge, Browning and Follis:		
Book Three—Friends to Know .....	.45	.52
American Book Co. F. O. B. Cincinnati, Ohio		
SPELLING:		
The Child-Centered Speller—Jesse E. Adams.....	(a) .2050	.25
	(b) .20	.24
Book I (Grs. 2-4)	(a) .3210	.37
	(b) .313	.36
Augsburg Publishing Co. F. O. B. Louisville, Ky. (a) F. O. B. Morristown, Tenn. (b)		
Grade 4		
ARITHMETIC:		
Strayer-Upton Arithmetics:		
Book Two .....	.36	.42
or		
Lower Grades (Grs. 3-4) .....	.51	.59
American Book Co. F. O. B. Cincinnati, Ohio.		
DRAWING:		
Augsburg Drawing Book, Revised, Book 4	(a) .1535	.18
	(b) .15	.18
Augsburg Publishing Co. F. O. B. Kentucky (a) F. O. B. Morristown, Tenn. (b)		
ENGLISH:		
Essential Language Habits, New Edition in Color— Charters, Cowan and Betz:		
Book One, Part II .....	.39	.45
or		
Book One (Grs. 3-4) .....	.57	.66
Silver, Burdett and Co. F. O. B. Chicago, Ill.		
GEOGRAPHY:		
Journeys in Distant Lands—Barrows and Parker (Regular Edition) .....	.72	.83
Silver, Burdett and Co. F. O. B. Chicago, Ill.		

R.P. Pupil		N.C.P. Dealer	R.P. Pupil
	HEALTH AND PHYSICAL EDUCATION:		
	Health and Growth Series—Charters, Smiley, Strang:		
	Living Healthfully .....	.45	.52
.66	or		
	Keeping Healthy (Grs. 3-4) .....	.66	.76
.66	The Macmillan Co. F. O. B. Chicago, Ill.		
	HISTORY:³		
	Makers of the New World—Sherwood .....	.60	.69
.09	The Bobbs-Merrill Co. F. O. B. Louisville, Ky.		
	MUSIC:		
	Music Hour Series—McConathy, Miessner, Birge and Bray:		
	Third Book .....	.60	.69
.52	or		
	Lower Grades (Grs. 2-4) .....	.57	.66
	Silver Burdett and Co. F. O. B. Chicago, Ill.		
	PENMANSHIP:		
.25	Graves Progressive Handwriting, Regular Series, Book 4....		
.24	W. S. Benson and Co.		
.37	F. O. B. Louisville, Ky.		
.36			
	READING:		
	The Friendly Hour Series—Leavell, Breckinridge, Browning and Follis:		
	Trails of Adventure, Book Four .....	.51	.59
.42	American Book Co. F. O. B. Cincinnati, Ohio.		
	SPELLING:		
.59	The Child-Centered Speller—Jesse E. Adams	(a) .2050	.25
		(b) .20	.24
	Book I (Grs. 2-4)	(a) .3210	.37
		(b) .313	.36
	Augsburg Publishing Co. F. O. B. Louisville, Ky. (a) F. O. B. Morristown, Tenn. (b)		
.18			
.18			
	Grade 5		
	ARITHMETIC:		
	Strayer-Upton Arithmetics:		
	Book Three .....	.36	.42
.45	or		
	Middle Grades (Grs. 5-6) .....	.54	.63
.66	American Book Co. F. O. B. Cincinnati, Ohio.		
	DRAWING:		
	Augsburg Drawing Book, Revised, Book 5	(a) .1685	.19
		(b) .1650	.19
.83	Augsburg Publishing Co. F. O. B. Kentucky (a) F. O. B. Morristown, Tenn. (b)		

³ History not required. This basal text if one is used.

	N.C.P. Dealer	R.P. Pupil
ENGLISH:		
Daily Life Language Series—Lyman and Johnson:		
Book Two, Part I	(a) .441	.49
	(b) .42	.49
Book Two (Grs. 5-6)	(a) .657	.73
Ginn and Co.	(b) .63	.73
F. O. B. Louisville (a)		
F. O. B. Columbus, Ohio (b)		
GEOGRAPHY:		
United States and Canada—Barrows and Parker, with Ky. Supplement, Regular Edition	1.08	1.24
Silver, Burdett & Co. F. O. B. Chicago, Ill.		
HEALTH AND PHYSICAL EDUCATION:		
Health and Growth Series—Charters, Smiley, Strang:		
Wise Health Choices .....	.54	.62
or		
The Body's Needs (Grs. 5-6) .....	.69	.79
The Macmillan Co. F. O. B. Chicago, Ill.		
HISTORY (American):		
Leaders in Making America—Gordy .....	.90	1.04
Chas. Scribner's Sons F. O. B. Chicago, Ill.		
MUSIC:		
Music Education Series:		
Two-Part Music	(a) .621	.69
or	(b) .60	.69
Intermediate Music (Grs. 5-6)	(a) .648	.72
Ginn and Co.	(b) .63	.72
F. O. B. Louisville, Ky. (a)		
F. O. B. Columbus, O. (b)		
PENMANSHIP:		
Graves Progressive Handwriting, Regular Series, Book 5....	.075	.09
W. S. Benson and Co. F. O. B. Louisville, Ky.		
READING:		
Child-Story Readers—Freeman-Storm-Johnson-French:		
(Regular standard edition, printed in four colors, with colored end sheets.)		
Fifth Reader .....	.63	.72
Lyons and Carnahan F. O. B. Chicago, Ill.		
SPELLING:		
The Child-Centered Speller—Jesse E. Adams.....	(a) .2050	.25
or	(b) .20	.24
Book II (Grs. 5-8)	(a) .3210	.37
Augsburg Publishing Co.	(b) .313	.36
F. O. B. Louisville, Ky. (a)		
F. O. B. Morristown, Tenn. (b)		

R.P. Pupil	Grade 6	N.C.P. Dealer	R.P. Pupil
	ARITHMETIC:		
	Strayer-Upton Arithmetics:		
.49	Book Four .....	.36	.42
.49	or		
.73	Middle Grades (Grs. 5-6) .....	.54	.63
.73	American Book Co. F. O. B. Cincinnati, Ohio.		
	DRAWING:		
	Augsburg Drawing Book, Revised, Book 6	(a) .1685	.19
	Augsburg Publishing Co.	(b) .1650	.19
1.24	F. O. B. Kentucky (a) F. O. B. Morristown, Tenn. (b)		
	ENGLISH:		
	Daily Life Language Series—Lyman and Johnson:		
	Book Two, Part II	(a) .441	.49
	or	(b) .42	.49
.62	Book Two (Grs. 5-6)	(a) .657	.73
	Ginn and Co.	(b) .63	.73
.79	F. O. B. Louisville, Ky. (a) F. O. B. Columbus, Ohio (b)		
	GEOGRAPHY:		
1.04	Europe and Asia—Barrows-Parker and Parker (Reg. Ed.)....	1.08	1.24
	Silver, Burdett and Co. F. O. B. Chicago, Ill.		
	HEALTH AND PHYSICAL EDUCATION:		
	Health and Growth Series—Charters, Smiley, Strang:		
	Health Problems .....	.60	.69
.69	or		
.69	The Body's Needs (Grs. 5-6) .....	.69	.79
.72	The Macmillan Co.		
.72	F. O. B. Chicago, Ill.		
	HISTORY:		
	(European Background)		
.09	Our Country's Beginnings—Sherwood .....	.72	.83
	The Bobbs-Merrill Co. F. O. B. Louisville, Ky.		
	(Kentucky History)		
	Kentucky, The Pioneer State of the West—Cherry.....	.80	.92
	D. C. Heath & Co. F. O. B. Chicago, Ill.		
	MUSIC:		
.72	Music Education Series:		
	Intermediate Music	(a) .648	.72
	or	(b) .63	.72
	Intermediate Music (Grs. 5-6)	(a) .648	.72
	Ginn and Co.	(b) .63	.72
.25	F. O. B. Louisville, Ky. (a)		
.24	F. O. B. Columbus, Ohio (b)		
.37	PENMANSHIP:		
.36	Graves Progressive Handwriting, Regular Series, Book 6....	.075	.09
	W. S. Benson and Co. F. O. B. Louisville, Ky.		

	N.C.P. Dealer	R.P. Pupil
READING:		
Child Story Readers—Freeman-Storm-Johnson-French: (Regular Standard Edition, printed in four colors, with colored end sheets.)		
Sixth Reader .....	.63	.72
Lyons and Carnahan F. O. B. Chicago, Ill.		
SPELLING:		
The Child-Centered Speller—Jesse E. Adams.....	(a) .2050	.25
or	(b) .20	.24
Book II (Grs. 5-8)	(a) .3210	.37
Augsburg Publishing Co. F. O. B. Louisville, Ky. (a)	(b) .313	.36
F. O. B. Morristown, Tenn. (b)		
Grade 7		
ARITHMETIC:		
Strayer-Upton Arithmetics:		
Book 5 .....	.39	.45
or		
Higher Grades (Grs. 7-8) .....	.57	.66
American Book Co. F. O. B. Cincinnati, Ohio. or		
GENERAL MATHEMATICS:		
Strayer-Upton Junior Mathematics:		
Book One (Gr. 7) .....	.57	.66
American Book Co. F. O. B. Cincinnati, O.		
CIVICS:		
Our Government—Smith-Davis and McClure—(Grs. 7-8), Revised, with Kentucky Supplement .....	.75	.86
Laidlaw Bros., Inc. F. O. B. Chicago, Ill.		
DRAWING:		
Augsburg Drawing Book, Revised, Book 7	(a) .1685	.19
Augsburg Publishing Co.	(b) .1650	.19
F. O. B. Kentucky (a)		
F. O. B. Morristown, Tenn. (b)		
ENGLISH:		
Daily Life Language Series—Lyman and Johnson:		
Book Three, Part I	(a) .504	.56
or	(b) .48	.56
Book Three (Grs. 7-8)	(a) .747	.83
Ginn and Co.	(b) .72	.83
F. O. B. Louisville, Ky. (a)		
F. O. B. Columbus, O. (b)		
GEOGRAPHY:		
Southern Lands—Barrows-Parker and Parker, Regular Edition		
Silver, Burdett and Co.	1.14	1.31
F. O. B. Chicago, Ill.		
HEALTH AND PHYSICAL EDUCATION:		
Health and Growth Series—Charters, Smiley-Strang:		
Adventures in Health .....	.60	.69
or		
Health Through Science (Grs. 7-8) .....	.72	.83
The Macmillan Co. F. O. B. Chicago, Ill.		

R.P. Pupil		N.C.P. Dealer	R.P. Pupil
	HISTORY (American History):		
	America—Our Country, Complete—Burnham and Jack....	(a) 1.27	1.46
	The John C. Winston Co.	(b) 1.20	1.38
.72	F. O. B. Louisville, Ky. (a)		
	F. O. B. Chicago, Ill. (b)		
	MUSIC:		
	Music Education Series:		
.25	Three-Part Music	(a) 1.026	1.14
.24	or	(b) .99	1.14
.37	Junior Music (Grs. 7-8)	(a) 1.116	1.24
.36	Ginn and Co.	(b) 1.08	1.24
	F. O. B. Louisville, Ky. (a)		
	F. O. B. Columbus, O. (b)		
	PENMANSHIP:⁴		
	Graves Progressive Handwriting, Regular Series, Book 7....	.075	.09
.45	W. S. Benson and Co.		
	F. O. B. Louisville, Ky.		
	READING:		
.66	Elson Readers, Book VII .....	.72	.83
	Scott, Foresman and Co.		
	F. O. B. Louisville or Chicago.		
	or		
	LITERATURE:		
.66	Junior Literature—Leonard and Moffett:		
	Book I (Gr. 7) .....	.93	1.07
	The Macmillan Co.		
	F. O. B. Chicago, Ill.		
	SCIENCE (Elementary):		
.86	Useful Science, Book One—Weed and Rexford.....	(a) .87	1.00
	John C. Winston Co.	(b) .81	.93
	F. O. B. Louisville, Ky. (a)		
	F. O. B. Chicago, Ill. (b)		
	SPELLING:		
.19	The Child-Centered Speller—Jesse E. Adams.....	(a) .2050	.25
.19	or	(b) .20	.24
	Book II (Grs. 5-8)	(a) .3210	.37
	Augsburg Publishing Co.	(b) .313	.36
	F. O. B. Louisville, Ky. (a)		
	F. O. B. Morristown, Tenn. (b)		
.56			
.56			
.83			
.83			
	Grade 8		
	AGRICULTURE:⁵		
	Elementary Agriculture—Waters	(a) .783	.87
	Ginn and Co.	(b) .75	.87
	F. O. B. Louisville, Ky. (a)		
	F. O. B. Columbus, O. (b)		
1.31	ARITHMETIC:		
	Strayer-Upton Arithmetics:		
	Book Six .....	.39	.45
	or		
.69	Higher Grades (Grs. 7-8) .....	.57	.66
	American Book Co.		
.83	F. O. B. Cincinnati, Ohio.		

⁴ Penmanship not required. This is basal text if one is used.

⁵ Agriculture not required. This is basal text if one is used.

	N.C.P. Dealer	R.P. Pupil
or		
GENERAL MATHEMATICS:		
Strayer-Upton Junior Mathematics:		
Book Two (Gr. 8)60	.69
American Book Co. F. O. B. Cincinnati, O.		
CIVICS:		
Our Government—Smith-Davis and McClure—(Grs. 7-8), Revised, with Kentucky Supplement		
	.75	.86
Laidlaw Bros., Inc. F. O. B. Chicago, Ill.		
DRAWING:		
Augsburg Drawing Book, Revised, Book 8		
	(a) .1685	.19
	(b) .1650	.19
Augsburg Publishing Co. F. O. B. Kentucky (a) F. O. B. Morristown, Tenn (b)		
ENGLISH:		
Daily Life Language Series—Lyman and Johnson:		
Book Three, Part II		
	(a) .504	.56
	(b) .48	.56
or		
Book Three (Grs. 7-8)		
	(a) .747	.83
	(b) .72	.83
Ginn and Co. F. O. B. Louisville, Ky. (a) F. O. B. Columbus, O. (b)		
HEALTH AND PHYSICAL EDUCATION:		
Health and Growth Series—Charters-Smiley-Strang:		
Health Knowledge		
	.60	.69
or		
Health Through Science (Grs. 7-8)		
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PART II.

THE ORGANIZATION AND DEVELOPMENT OF TEACHING UNITS

CHOOSING UNITS OF WORK

There are certain standards or criteria which may guide the teacher in selecting units of work for children. These standards should hold good not only in choosing a unit but also in judging the value of the unit while it is in progress. The list of criteria which follows is not meant to be complete but is suggestive and should be added to by individual teachers.

1. *Does the activity take into account the previous experiences of children?* If the teacher is to do a good job she must know a great deal about the previous experiences of children both in school and out of school. This is necessary in order to prevent overlapping and to make for a more continuous development of experiences. In order for one builder to take up the work of another he must have thorough knowledge of the plans, materials, and progress of the builder that has gone before. This principle of continuity applies not only to a knowledge of the past experiences of children but also to future possible experiences and this brings us to our next criterion.

2. *Will the unit of work offer leads into larger or more worthwhile activities?* Any activity in order to be of the maximum value to children should leave him with ideas and suggestions for broader and richer experiences. A unit of work on Pioneer Life in Kentucky might lead into a study of Westward expansion, Industrial Development of Kentucky or Discovery and Exploration. The study of coal might lead to a study of other industries dependent on coal or to a study of transportation.

3. *Will the unit of work grow out of interests and tendencies already present within the children?* Teaching which takes this criterion into account is much more economical from the standpoint of time and effort and makes for a more scientific development of the child's powers. Scale drawing is learned much more quickly in connection with the planning and building of a log cabin, and because it is taught in relation to something the child is actually doing and is concerned about, the knowledge is much more apt to be retained. We realize, too, that all these considerations are secondary when we see how much satisfaction and pleasure children get out of school when work is based on this criterion.

4. *Will the unit of work take into account and use the environment?* This does not mean that only near-by industries would be studied but that interest in industries in the community would be used to develop interests in other industries. It does not mean that

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the child would stop when he had found out about pioneer life in Kentucky but that he would use this knowledge in studying about pioneer life in other parts of the country. With modern developments in communication and transportation it is the teacher's responsibility to see that the child's environment is continually broadened and enriched.

5. *Will the unit of work offer opportunity for the development of needed skills and the acquiring of valuable information.* Units of work which closely approximate life situations will necessitate skill in the use of reading, writing, spelling, language and number. The use of these tools in real life situations is bound to result in the acquiring of valuable information.

The units of work in this book have been developed with these criteria in mind.—Helen Strickland.

PIONEER LIFE IN KENTUCKY

(Grade IV)

HELEN STRICKLAND

Initial Interests

- I. Children visit memorials and other places of interest in the state.
- II. Visit of child to Harrodsburg.
- III. Material relating to Daniel Boone bi-centennial celebration.
- IV. News articles.
 - a. Indian mounds.
 - b. Celebration of historical events.
- V. Kentucky Progress Magazine.

Procedure

- I. Building up a web of interest around one or all of the above possible interests.
 - A. Boone bi-centennial number of Kentucky Progress brought to class.
 1. Study of pictures of life of Boone.
 2. Discussion of why state is celebrating Boone's birthday.
 3. Questions listed for further study.
 - a. When did Boone first come to Kentucky?
 - b. Why did Boone come to Kentucky?
 - c. Were there any white men in Kentucky before Boone came?
 - B. News articles brought to class.
 1. Excavation of Indian mounds.
 - a. Questions arising.
 - (1) What Indian tribes lived in Kentucky?

- (2) Did these Indians fight the early settlers?
- (3) How did the first settlers get the land from the Indians?

2. More about Boone bi-centennial.

C. Dedication of pioneer memorial at Harrodsburg.

1. Articles brought from New York Times and local papers.
2. Children visit dedication.
3. Questions listed.
 - a. Why should the Harrodsburg memorial be so important nationally?
 - b. Why would congress furnish money for a monument in Kentucky?
 - c. Why would Roosevelt come here to speak?
 - d. Who is Clark?

D. Children visit memorials such as Harrodsburg, Lincoln Shrine, My Old Kentucky Home, Boonesboro, and bring back pictures and reports to the class.

1. Class discusses methods for showing places in Kentucky which members of group have visited.
 - a. Make exhibit case of Indian relics and fossils.
 - b. Place pictures and maps on bulletin board.
 - c. Make large picture map of Kentucky showing important places.
2. Plans made for carrying out above suggestions.
 - a. Committee appointed to take care of bulletin board and exhibit case.
 - b. Make outline map of Kentucky on large piece of cardboard. Have the art teacher help us with our illustrations.

E. Work on pictures.

1. Committee color map.
2. Remainder work on pictures.
3. Questions raised during attempts to make illustrations.
 - a. What kind of clothes did the pioneers wear?
 - b. Was the head of the coon left on the cap?
 - c. What kind of skins were used for the clothing?
 - d. What were the pioneer homes like?

II. Pioneer clothes.

- A. Discussion as to how we may find out how pioneers dressed.
1. Ask parents.
 2. Ask other people who know.
 3. Look at pictures.
 4. Read in books.

B. Plan to read books to find how pioneers dressed.

1. Discussion as to how we use books to answer questions.
 - a. Use table of contents.
 - b. Use index.
Choosing words which would help in using index.
 - c. Skimming material.
2. Reading books to answer questions.
3. Discussion of findings.
 - a. Skins worn by men.
Skins tanned by women and made into jackets.
 - b. Wool from sheep.
 - c. Flax grown and made into cloth.
4. Questions arising from discussion.
 - a. How did the pioneer women make clothes from skins?
 - b. How did the pioneers make clothes from wool?
 - c. Could we make clothes from skins?

C. Wool.

1. Reading to answer questions about wool.
2. Discussion of findings.
 - a. Wool sheared.
 - b. Carded.
 - c. Spun.
 - d. Woven.
 - e. Dyed.
3. Discussion as to possibilities of our making wool cloth in the classroom.
 - a. How to find the wool.
 - (1) Ask farmer who keeps sheep.
 - (2) Get sheep skin from packing house.
 - b. How to card the wool.
 - (1) Make carders.
 - (2) Secure carders from some child's home used by grandparents.
 - c. How to spin.
 - (1) Make spinning wheel.
 - (2) Get wheel from child's home.
 - (3) Borrow from antique shop.
 - d. How to weave.
Make loom.
 - e. How to dye or color material.
Use berries, vegetables and flowers.

- D. Discussion of how much effort and time was required to make woolen cloth in pioneer days.
- E. Discussion as to how we get woolen cloth today.
 - 1. Speed and efficiency of machine production.
 - 2. Simliarity of processes.
 - 3. Pictures of machinery used today.
 - 4. Number of people necessary to make cloth in pioneer days as compared with number today.
- F. Discussion of other materials used by the pioneers for clothing.
 - 1. Recall that flax was used by pioneer women for waists.
 - 2. Reading to compare and contrast preparation of flax with that of wool.
- G. Making exhibits including spinning wheel, loom, carders, pictures, and children's drawings to show how woolen cloth is made today and in pioneer times.
- H. Skins.
 - 1. Reading to find out how pioneers tanned skins.
 - 2. Plan to use sheep skin which was sheared and to buy calf skin from meat packer.
 - 3. Reading directions about how to tan skins.
 - 4. Scraping and tanning skins.
 - 5. Writing stories and drawing pictures about pioneer people tanning skins.

III. Pioneer homes.

- A. Reading to find out what pioneer homes were like.
 - 1. Questions listed.
 - a. How did they build their houses?
 - b. What materials did they use?
 - c. What were their houses like on the inside?
 - d. What kind of furniture did they have?
 - 2. Discussion of what the pioneers had to build with.
 - a. Tools brought across the mountains.
 - b. Trees in the forests.
- B. Discussion of findings.
 - 1. Houses built of logs, notched to fit together.
 - 2. Forts built for protection.
- C. Studying pictures to show forts and cabins.
 - 1. Making stools for pioneer homes.
- D. Discussion as to possibility of building pioneer cabin.

IV. Log Cabin.

A. Discussion of problems involved.

1. Planning.

- a. House must be planned before it can be built.
- b. Necessary to know how much lumber needed.
- c. How much will it cost?
- e. Where will we get our lumber?
- f. Where will we build it?
- g. What size will it be?

2. Discussion of size.

- a. Reading and picture study to find size of pioneer cabins.
- b. Studying space allotted to cabin to see what size cabin will fit.
- c. Measuring off spaces to see how many children can get into different spaces.
- d. Discussion of size of logs which children could handle conveniently.
- e. Cabin 8 feet long and 10 feet wide serves purpose.

3. Discussion of size of logs and cost.

- a. Logs should be small enough to handle and notch easily but must be large enough to insure strength.
- b. In order to know the cost must know the number of logs and to know the number must know the size.
- c. Suggestion that a lumberman might help to decide size and kind of logs.

4. Trip to lumber yard by committee.

- a. Talk with lumberman.
 - (1) Pine logs decay quickly.
 - (2) Locust posts too hard to cut.
 - (3) Poplar best wood and easiest cut.
 - (4) Discussion regarding scarcity of lumber, waste, need of conservation.
- b. Committees report to class.
 - (1) What was found out about different kinds of trees.
 - (2) Suggestions that class use poplar logs 6 inches in diameter.
- c. Discussion of what our next problem will be.
 - (1) Number of logs needed.

B. Working out number of logs needed for side.

1. Question raised as to how problem can best be solved.
2. Suggestion that picture could be drawn using 6-inch logs until 6 feet were covered.
3. Explanation by teacher of how drawing to scale might be used.
4. Drawing picture on board of side using scale of 6 inches for one foot.
5. Counting logs and listing fact that 12 logs 10 feet long would be needed for each side.
6. Discussion of what next problem will be.
To find logs needed for front.

C. Working out number of logs needed for front.

1. Review drawing to scale.
2. Listing new problems involved.
Width and height of door.
3. Discussion of how problems about door may be solved.
 - a. Draw picture of front and see how wide door may be. Problem of proper proportion discussed.
 - b. Decision to make door 2 feet wide.
 - c. Drawing door and computing length and number of logs for door.
 - (1) 2 logs 8 feet for above and below door.
 - (2) 20 logs 3 feet for sides of door.

D. Logs needed for back.

1. Decision to cut out fireplace after logs are built up to proper height.
2. Chimney to be built outside of house so logs to be built all the way up in the back.
3. Drawing picture and computing number of logs—12 logs 8 feet long.
4. Using picture to decide how high roof will be.
Use 2 feet elevation.
5. Recognition that your logs all the way around will be needed for elevation.

E. Studying pictures of log cabins and pioneer books to find out what kind of roof and floor should be used.

1. Use rough board floor rather than logs in order to cut down cost.
Inside of cabin will be 6' x 8' if 6 inches allowed on end and 6 inches for notch.
2. Try to find hand-split shingles for roof.

F. Transferring scale drawings to paper, using scale of 1 inch for 1 foot.

- G. Making blue print from drawings.
- H. Computing total number of logs needed.
- I. Work on fireplace.
1. Study books and pictures to find out how to build fireplace.
 2. Call on expert from engineering department to help draw up plans.
 3. Get rock from quarry.
 4. If necessary secure outside labor to help finish chimney.
- J. Computing final cost.
- Logs
Shingles
Flooring
Labor for fireplace.
- K. Other problems which must be settled before actual work begins.
1. Tools needed.
 - a. Tools used by pioneers.
 - (1) Broadaxe
 - (2) Saw
 - (3) Searake
 - (4) Hammer
 - (5) Jack Knife
 - (6) Pod-auger.
 - b. Tools we should bring.
 - (1) Saws
 - (2) Axes
 - (3) Hatchets.
 2. Exact location.
 - a. Appoint committee to work with school supervisor.
 3. Where we will begin and how.
 - a. Foundation
Rocks necessary.
 - b. When will we put the floor down?
 - c. Where to lay the first logs.
 4. How to make corners square.
 - a. Corners of court in which cabin is being built are square.
Make sides of cabin parallel with sides of court.
 - b. Suggestion that pioneers had no building to make their cabins parallel with.
 - c. Recall buildings children have seen built.
 - (1) Strings and squares used.
 - d. Explanation of use of square and strings to make corners square.

5. How to notch logs.
 - a. Reference found showing that one-half of width of logs was notched.
 - b. One-half of 6 to 3.
 - c. One-half of 3 is $1\frac{1}{2}$ inches on each side of log.
6. How will we divide up the work?
Divide into groups with foreman for each group.

L. Listing questions asked and further activities suggested.

1. Who were some of the first people to come to Kentucky?
2. When did the first people come?
3. Were the pilgrims here before the pioneers?
4. Were the pilgrims pioneers?
5. Make articles to go in pioneer home.
6. Make play about Daniel Boone.

V. Reading to answer questions about events in the lives of early Kentuckians.

A. Boone.

1. Discussion of findings about Boone.
 - a. Listing major events in Boone's life.
 - (1) Birth in Pennsylvania, 1734.
 - (2) Move to North Carolina, 1750.
 - (3) Exploration of Kentucky.
Capture by the Indians, and other adventures.
 - (4) Bringing settlers to Kentucky.
 - (5) Building Wilderness Road.
2. Discussion of difficulties encountered by pioneers.
 - a. Appalachian Mountain Range to be crossed.
 - b. Cumberland Gap, the only opening in the mountains.
 - c. Danger from the Indians.
 - d. Few possibilities of receiving supplies from beyond the mountains.
3. Plan to make time line to show life of Boone and other events.
 - a. Making chart to use for time line from 1492 to 1935.
4. Discussion of how to choose events to be shown on time line.
 - a. Events which have influenced our state or our country.
 - b. Daniel Boone's birth or death not as important as his first trip into Kentucky or his first settlement.
5. Listing events which could be used on the time line.

B. Reading to find out about other Kentucky pioneers.

1. James Harrod.
 - a. Discussion of his importance in founding Harrodsburg.

- b. His experiences with the Indians.
 - c. Suggestion that class take trip to Harrodsburg.
 - 2. Simon Kenton.
 - 3. Benjamin Logan.
 - a. Saving Burr Harrison at Harrodstown.
 - b. Trip over mountains to secure powder for fort, 300 miles in 10 days.
 - 4. Story of Bryan Station and how the women brought the water.
- C. Reading to find out about customs and kinds of work not already studied.
- 1. A wedding.
 - 2. Sports.
 - a. Marksmanship.
 - b. Wrestling.
 - c. Running.
 - 3. Broom making.
 - 4. Soap making.
 - 5. Syrup making.
- D. Planning trip to Harrodsburg.
- 1. Listing problems and questions.
 - a. How will we go?
 - b. When will we go?
 - c. What should we look for?
 - d. How much will it cost?
 - 2. Deciding how we will go.
 - a. Parents furnish cars.
 - b. Charter bus.
 - c. Train.
 - 3. Reading to find out more about Harrodsburg.
 - a. Clark, Ann McGinty and James Harrod blockhouses.
 - b. Cabins of Pioneer Woman, Mark Magohan, Bryan Station, and William Pogue.
 - 4. Listing questions and problems for study on the trip.
 - a. How are the cabins chinked?
 - b. Are we notching our logs like the ones at Harrodsburg?
 - c. How can we make pioneer dishes?
 - d. How can we make the roof of our cabin?
 - e. Find out more about how pioneers made bullets.
 - 5. Writing letter to Harrodsburg to know about admission charges.

E. Follow-up.

1. Discussion of trip.
 - a. Organization of what we saw into topics for discussion.
 - b. Selection of topics by individuals.
 - c. Telling about each topic.
2. Discussion of how we may keep a record of our trip.
 - a. Stories in notebooks.
 - b. Class magazine.
3. Discussion as to how we may make a magazine.
 - a. Write stories.
 - b. Have stories mimeographed.
 - c. Suggestion that other pioneer stories might be included.
4. Writing stories and making them into a pioneer magazine.

F. Emphasizing again the fact that pioneers had to make everything they had at home.

G. Making brooms and soap like the pioneers made them. B. 23, 24.

H. Making other articles needed for interior of log cabin.

1. Bed.
2. Stools.
3. Wooden dishes.
4. Quilt.
5. Candles.

VI. Listing questions raised.

- A. Why did the people from the seaboard wish to come to Kentucky?
- B. Were the Pilgrims pioneers?
- C. Was the life of the pioneers on the seaboard like the life of the pioneers in Kentucky?
- D. How early did people begin to make settlements on the seaboard?
- E. Were the pilgrims the first people to make settlements on the seaboard?

VII. Suggestion that group study about the Pilgrims and the people on the seaboard leading into a study of the colonies on the seaboard.

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A STUDY OF COAL

By ETHLEEN DANIEL

Initial Interest

1. Several discussions of the work of the T. V. A. and how the income of the people in the Tennessee Valley may be increased.
 - a) T. V. A. plans to make by-products of coal rather than sell coal in its natural form.
 - b) What by-products could be made?
2. Discussion of news articles relative to strikes in coal regions.
 - a) Will there be a national strike?
 - b) Where are the strike sections?
 - c) Where are the important coal regions?
 - d) Why are the people striking?
3. A study of coal may grow out of a unit on iron and steel or other industries.

I. *Location of coal regions*

A. Discuss ways of finding answers to questions in number 2 (Initial Interest).

1. Read in books.
 - a. Geography text.
 - b. Science books, use card catalogue in library.
 - c. Encyclopedias, use index.
 - d. Pamphlets, order material from U. S. Bureau of Mines or State Department.
 - e. Other books, see bibliography.
2. Talk with other people, with parents, a former miner or owner.
3. Read newspapers and magazines, local and state paper, Kentucky Progress Magazine.
4. Study maps and charts found in books and magazines.
5. Visit library.
 - a. Select committee to do this or the entire group may look for information.
 - b. Committee select books to bring to room for further use. Secure help of librarian.
 - c. Use card catalog and indices.

B. Discuss best method of finding materials in books.

1. Know what question you are answering.

2. Use indices and table of contents.
 - a. The indices are in the back of the books.
 - b. The tables of contents are in the front of the books.
 - c. Skim material to find if it answers your questions.
- C. Reading period follows in which questions are to be answered. Note pictures of mines, graphs, in addition to information from reading.
- D. A discussion of the findings followed.
 1. Coal is found in different sections of the United States.
 2. There are different kinds of coal.
 - a. Anthracite—Small amount in Pennsylvania. It is hard coal.
 - b. Bituminous—Found in large amounts in Appalachian Mountains. It is soft coal.
 - c. Lignite—Wyoming.
 - d. Peat.
 3. Examine maps in books, locate regions on large map.
 - a. Suggest making a map of the United States and locating the coal fields on it.
 - (1) Let a committee accept responsibility for the map.
 - (2) The map is to show the location of the coal and the kind of coal.
 - (a) Plan symbols for kinds of coal.
 - (b) Look in books for further information if needed.
 4. Questions may be raised as to quantity of coal mined.
 - a. Plan to show how much coal is produced and consumed in different states.
 - b. Examine books to see what bar graphs are like.
 - c. Plan to show how much coal is mined in various countries in millions of tons by sketches of coal ranging from large to small.
 - d. Plan to show how many men work in mines by sketches of miners, one miner representing so many thousands, etc.
 - e. Plan to show how introduction of machinery has resulted in unemployment. Let one miner represent a larger number and the amount of work they might do, one miner and new machinery show how much more coal can be mined.
 - f. Discuss further how machines helped cause depression. (Recall discussions on cotton goods, steel goods, shoes, canned goods, flour mills, clothing, and specialized labor.)

- (1) Machines invented which can work faster than men.
- (2) Man and machines produce more goods than can be consumed.
- (3) Men laid off.
- (4) Purchasing power of men laid off destroyed.
- (5) Prices lowered.
- (6) Wages of men lowered and their purchasing power lowered.
- (7) Prices lowered further.
- (8) More men laid off adding to unemployment.

E. From the above discussions and readings new questions arise.

1. How is the top of the mine held up?
2. Is all the coal the same that is bought?
3. How do they get it out of the ground?
4. How far under the ground is the coal?
5. Are all mines alike?

II. *Process of coal mining*

A. Reading and discussions of findings after examining pictures, books and talking with a former miner.

1. Three kinds of coal mining:

- a. Shaft mining, land about level in which shaft is used to get to coal.
- b. Tunnel mining, used in hilly regions.
- c. Open mining, where coal is near surface of ground and may be mined with steam shovel.
 - (1) Machinery takes place of many workmen.

2. Shaft mine and tunnel mine are similar inside.

- a. Pictures of cross sections of mines are examined.
- b. Suggestion is made that the class make a mine similar to the one shown in one of the pictures in order to clarify ideas.
- c. A reading period is planned in order to learn more about what a shaft mine is like and difference in the two.
- d. Discussion of findings.

3. Shaft mine.

- a. The coal is many feet below the ground surface.
 - (1) Why is the coal so deep under the ground?
(Decide to list questions regarding age of earth and how coal is formed to be answered later.)
 - (2) How is it reached?
- b. The coal is reached by digging a shaft to the level of the coal. Elevators are used in the shaft for conveyance.

- (1) Question asked regarding fresh air in mine.
 - (2) Reading to answer question.
 - (3) Discuss findings.
- c. Ventilation in coal mine.
- (1) Every coal mine should have two shafts in order that the mine may be properly ventilated.
 - (2) Downcast shaft (fresh air rushes in).
 - (3) Upcase shaft (stale air drawn out by a fan placed at the top of the shaft). A vacuum results and fresh air rushes in.
 - (4) Examine pictures of shafts.
- d. From the shaft many tunnels run through the seam of coal. They are made by digging the coal and they give access to more coal.
- (1) Pick and shovel method.
 - (2) Blasting.
 - (3) Cutting machine (an endless chain with projecting knives). Amount cut compared with the amount formerly cut by pick and shovel method.
- e. A mine may have more than one seam. A seam is a layer of coal that is continuous.
- (1) There are different layers of soil.
 - (2) Question may arise how can miners see.
 - (3) Read to learn how miners see.
 - (4) Examine pictures.
- f. The miners usually see by the use of lights carried on caps which they wear.
- (1) The lights may be carbide or battery ones.
 - (2) Some mines are lighted by electricity.
 - (3) Battery lights carried by miners.
 - (4) Electric wiring in mine.
 - (5) Secure cap from miner by writing some well-known company in the state.
- g. The coal is cut by electric machines, then "shot" with powder or dynamite to loosen it so that the men may load it.
- (1) Electric machines displace men.
 - (2) How does coal stay up?
 - (3) Look at pictures and read further for information.
- h. Timbering in a mine.
- (1) Lumber is used to support roof.
 - (2) Corrugated steel is used.
 - (3) Pillars of coal left (very wasteful).
 - (4) Read to see how coal is removed from mine.
- i. Coal is loaded by men into cars that run on a small track. These cars are pulled by an electric motor or machine to the shaft.

- (1) Shovels displace men.
- (2) Compare former methods using mules.
- j. The coal is taken to the shaft where it is taken to the surface of the ground by an elevator and put into a "tipple" or shaft house.
- k. The coal is graded by machinery into different sizes and sometimes made into smaller sizes.
 - (1) Classification according to sizes, smallest to largest.
 - Anthracite: Rice, buckwheat, pea, chestnut, stove, egg, broken, grate, steamhead, lump.
 - Bituminous: Slack, nut, lump.
 - l. It is then loaded into railroad cars to be shipped.
- 4. Plan model of shaft mine in order to clarify ideas.
 - a. Plan size.
 - (1) Have model 4 feet wide, 5½ feet in height and 2 feet deep.
 - (2) Have 2 seams with soil arranged to show layering or kinds of earth as shale, limestone, slate, etc.
 - (3) Draw a picture of it to scale before beginning work.
 - (4) Have shaft 8" square.
 - (5) Use pulleys and make elevator in shaft work.
 - (6) Place a cross-section of the tipple house, showing chute where coal is graded.
 - b. Use clay, plaster paris, or paper in construction, or soil for layers of soil.

As coal mine is completed other questions are recalled that have been asked and listed during the above readings and discussions.

- 1. Where does all the coal go?
- 2. Is any sold to other countries?
- 3. Is it always transported by train?
- 4. Where is the most sold?

III. *Markets*

- A. Reading period to answer the questions.
- B. Discussion of findings.

- 1. Large amounts of coal used in the industrial cities like Pittsburgh and Birmingham.
 - a. Steel plants.
- 2. Some coal exported to other countries.
- 3. Suggestion made that a map be made showing markets or use the map showing coal fields and also show markets on it.
 - a. The map is to be made by a committee.

- b. It should show how the coal is transported and where it comes from and goes.
- c. The class may help the committee by reading for more information.
- d. Discussion of findings.

C. Reading and discussions led to the following questions yet unanswered.

- 1. What is all of this coal used for?
- 2. How does T. V. A. plan to use coal?
- 3. Is it used by other countries like it is in the United States?

IV. *By-products*

A. Reading to answer questions, beginning with No. 2.

B. Discussion of findings, T. V. A. plans to make by-products rather than ship out coal in natural state.

- 1. Coal is used for fuel and making by-products and power.
 - a. Plan to make a graph showing the amounts of coal used for fuel and that used for by-products in industry.
- 2. Question asked, "How is coal changed to by-products?"
 - a. Reading to answer the question.
 - b. Most of them are made by distillation of the coal.
 - (1) This is heating the coal in the absence of air to a very high temperature to drive off the gases. The gases are then retrieved in separate containers. These gases may be distilled again and again, getting new products.
 - c. Coal gas is also made from coal.
 - d. Plan a chart to show by-products.
 - (1) Examine books and charts.
 - e. The class makes a list of some of the by-products:
 - Coke, ammonia, coal tar, coal gas, and water gas.
 - Coal tar.
 - (1) Tar paper, tar felt, roofing, and building paper. Road making, paint and fuel in some steel furnaces.
 - (2) Dyes.—They are more important than the vegetable dyes.
 - (a) Aniline dyes.
 - (b) Aza dyes.
 - (c) Alizarin dyes.
 - (3) Cleaning fluids.
 - (4) Solvents for oils and rubber.
 - (5) Perfumes.
 - (6) Flavors.—Methyl, salicylate, wintergreen, and others.
 - (7) Explosives.

(8) Medicine.—Aspirin, antiseptics, disinfectants, etc.

f. Chart is planned.

Leads into other units.

1. Iron and steel industry.
2. How inventions and discoveries have changed industries.

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A STUDY OF PETS

By FRANCES K. MARTIN

I. *Introduction.*

Children need the experience of caring for pets. They need the fun that playing with pets affords. They need the first-hand information that such contacts give them—information about food, sunlight, rest, physiology, habits, etc., of animals.

Pets should be welcome in the school in all grades, but sometimes during the first years in school there should be a definite study of animal life. This is an ideal unit for a rural school because all levels of maturity would be interested and gain information from it.

There is a wealth of reading material available on this subject of animal life. Such a unit also furnishes much opportunity for number work, language and writing. All of these subjects are taught as parts of the unit of Reading to find out how to take care of a canary, etc.

II. *Objectives*

- A. Through experience to enrich the children's information about animal life and life processes.
- B. To give the children healthy attitudes in the study of physiological processes.
- C. To develop responsibility, sympathy and kindness through the care of animals.
- D. To give the children real reasons for reading, arithmetic, language and writing.
- E. To provide opportunities for group sharing, planning, working and living.

III. *Approaches*

There are many possible approaches. This unit is not hard to motivate.

- A. A child brings a puppy to school, other children want to bring their pets.
- B. While playing near the school the children find a bird. They ask to keep it at the school and are encouraged to build a cage.
- C. The children read of pets which are cared for in other schools.
- D. The teacher may bring a pet to school, e. g., an alligator.
- E. In connection with a discussion of proper diet the group may decide to experiment with the feeding of white rats.

IV. *Procedure*

As there are many approaches to such a unit so there are many possible procedures. A description of one follows:

A. Initial interest.

It was a week before Easter. The children were discussing the Easter Rabbit.

Jim—"I want the Rabbit to bring me a little bunny all hatched out and not eggs."

Billy—"Bruce has a lot of rabbits. He raises them for sale. Mother rabbits don't hatch bunnies, they born them."

Jim—"I wish my daddy would buy one of Bruce's bunnies, and then I'd bring it to school."

Billy—"Where would you put it?"

Jim—"Over in that box."

Billy—"It would hop right out."

Jim—"I could make a fence around the box."

Don—"I can get you some old chicken wire fence from my daddy."

Teacher—"I'll tell you what, if you make a good safe place for a rabbit, I'll buy you one."

B. Building the cages.

(1) A planning period followed. Questions were printed by the teacher, on the blackboard, as the children asked them.

a. "What will we make our cages out of?"

b. "Where can we get a big box?"

c. "How big shall we make the cage?"

d. "Where shall we put the cage?"

e. "Why does Bruce have his cages off the ground?"

f. "Where can we find out about rabbits?"

g. "What books have true stories about rabbits?"

(2) The next day a child brought an orange crate and several children pieces of wire fencing or screening. After some discussion the orange crate was discarded as too small. One child remembered a packing box from a refrigerator, but said it was too big to bring. The problem of transporting it was given to five little boys. The next day they, with the assistance of older children, brought it on two little wagons.

(3) There was much discussion over the plans for the making of the cage. It was decided that the box should be turned so that there would be a wooden floor to keep the rabbit from digging out. It was decided also that we should send for Bruce to tell us what he knew of rabbits and cage construction.

- (4) The "rabbit boy" replied to our letter in person and told the children about the needs of the rabbits. He stayed for some time helping with the cage. We ordered a mother rabbit "so we can have some babies." The children were interested when he said that he had one which had been bred the previous week. They put a mark on the calender to show when they could expect the babies.
More questions were asked.
"Where are the baby rabbits now?"
"Will the mother lay them in eggs?"
"Does the Easter Rabbit lay eggs?"
"What will the mother rabbit use for a nest?"
- (5) Many children brought boxes of various sizes, and wire screening. Soon we had several cages ready. One child brought a barrel and suggested setting a hen. We were able to do this with the cooperation of some of the parents who loaned us the hen and gave us eggs.
- (6) The cages were painted with a coat of green house paint. This helped the looks of the yard. Composition shingles were brought by one child and several cages boasted rain-proof roofs.
- (7) The rabbit was the first animal to arrive. Other pets soon followed and visited for a day or a week. We had to plan these visits according to the capacity of our cages. We had puppies, kittens, a canary, a lamb, a real pig and guinea pigs, tadpoles, fish, an alligator, and the hen and chicks.
The animals often presented real problems. The cat stalked the rabbits. The hen's temper was uncertain, etc.
- (8) When the eight baby rabbits were born the mother rabbit refused to feed them all. She rolled all but three out of her nest. This problem was discussed by the entire school. Older children looked up literature on rabbits and came with advice.
- (9) When all the eggs did not hatch, two boys wanted to break the failures and see why they didn't hatch. They were permitted to do this—at some distance from the school—and they brought back the report that three had chickens started, but the others were "very bad."
- (10) It is important to organize "the learnings" in a unit like this in some fashion. Otherwise, many principles and relationships will be lost. This final step in the "procedure" is one which is often neglected and much "activity work" fails here. There are many ways to gather up the loose threads.

- a. A pet show. Each child brought his pet with him. He had a description of its history, habits, needs, etc. The history of the group's experiences with animals was included in the exhibit.
- b. Animal books, with illustrations, telling about the habits of the animals were written by some children.
- c. A "picture show", an illustrated account of the unit, could be used to summarize.
- d. An assembly program where the children tell the school about the animals would be effective.

V. *How the "tool subjects" were a part of this activity*

A. Reading.—An effort was made to put books on animal life on the shelves and tables so that the children might look at them. The children took great delight in finding "real" stories of animals and their habits—in contrast to the Peter Rabbit type of story. The following are some of the books they had for reference. Those starred are the easy pre-primer type of material.

Hardy—**"The Little Book"*, Wheeler Publishing Company.

Hardy—*"Wag and Puff"*, Wheeler Publishing Company.

Agnew & Coble—*"Baby Animals on the Farm"*, World Book.

Baker & Baker—**"Toots in School"*, Bobbs Merrill.

Baker & Baker—*"The Pet Pony"*, Bobbs Merrill.

Beaty—*"The Farmer at His Work"*, Woolworth Store.

Buckingham—*"Play Days"*, Ginn & Company.

Dearborn—*"Country Days"*, Macmillan.

Elson Basic Readers, Scott Forsman.

Hall—*"Grey Kitten and Her Friends"*, Hall McCreary Company.

Johnson—*"Farm Animals"*, American Education Company.

Kruegerete—*"A First Grade Bunny"*, H. Rugg, 425 W. 123rd St., New York.

Pennell and Cusach—*"Frolic and Do-Funny"*, Ginn & Company.

Pennell and Cusach—*"Friends"*, Ginn & Company.

Pennell and Cusach—*"Play with Pets"*, Ginn & Company.

Child Story Readers—*"Terry and Billy"*, Lyons & Carahan.

Work Play Books, Gates Huber.

Citizenship Readers, *"Home"*, Lippincott.

"Boys and Girls at Work and Play", White & Mawthorn.

"Pets and Playmates", Lewis, Gehres, Winston Company

"Books of Pets", Zorbes and Keliher

Webster Readers, *"Tom, Jip and Jane"*, Webster.

B. Writing and languages.

1. Letters were written to Bruce, to the other grades, to a parent thanking him for the loan of tools, etc.
2. A book on rabbits was composed by the class and copied by the children.
3. Original stories and poems were written by the children.
4. There was much discussion and the importance of clear statements was constantly felt.
5. Charts were composed by the children and dictated to the teacher.

C. Arithmetic.

1. Measuring was necessary in the making of the cages.
2. Concepts of space, weight, time and number were deepened through experience.
3. Vocabularies were enlarged.
4. There was much counting, adding and subtracting.

VI. *How the arts entered in*

A. Literature.

1. Poems on animals from the following collections were read.
100 Best Poems, Whitman Publishing Co. (Woolworth Store).
"This Singing World", Untermeyer.
2. Many stories were read and told of actual experiences in raising animals and also some nonsense and folk tales of animal life.

B. Music.

1. Songs, a few only, were selected from the following books.
 - a. Songs for a Little Child's Day. Abington Press, Chicago.
 - b. Songs of the Child's World, Ruby Gayon: John Church Co., Cincinnati.
2. Rhythms.—The children enjoyed "playing animal" and interpreting music which suggested it as rabbits, toads, fish, etc.
School Rhythms, Robinson: Clayton F. Sunning Co., 429 S. Wabash Ave., Chicago.
Music Hour in the Kindergarten and First Grade, Silver, Burdett Co.

3. Art.

- a. Crayon pictures of animals illustrated the booklets.
- b. Children were encouraged to make animals from clay or to cut them from wood with coping saws.
- c. A long frieze was painted with kalsomine paint on brown wrapping paper.



VII. *Outcomes* (Too many to list)

A. Attitudes.—Some special ones were:

1. Courage to face distasteful tasks, cleaning the cage.
2. Sticking to routine tasks.
3. Casualness about sex, reproduction, elimination and all physiological functions.
4. Enjoyment of animals.
5. Resourcefulness in using materials.

B. Skills.

1. Added skill in reading, writing, arithmetic, and conversation.
2. Skill in using tools, brace and bit, keyhole saw, etc.
3. Knowledge and appreciations.
 - a. Much information about animals, basic needs, etc.
 - b. An appreciation of the amazing provision of nature for the needs of animals.

VIII. *Leads into other activities*

1. A study on likes and differences in animal and human physiology and habits might develop.
2. A comparison of wild and tame animals and their adaptation to environment would be interesting.
3. A study of the animal life in various sections of the world could easily follow.
4. Geographical factors as they influence animal life would be interesting for the more capable group.
5. A balanced aquarium leads to the study of the relationship of animal and plant life.

IX. *Bibliography for teachers*

1. Teachers Guide to Child Development, California State Department of Education.
2. Clouser, Robinson, Neely, *Educative Experiences Through Activity Units*.
3. Comstock, A. B. *Handbook of Nature Study*. Publishing Company, Ithaca, N. Y.
4. Craig, *Pathways in Science*, Books I to IV, Ginn & Co.
5. Wells, "Pets and Their Care". *Science Guide for Elementary Schools*, California State Department of Education, Sacramento, California.