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ACTIVITIES OF THE KINDERGARTEN

Probably in no other place is there such an emphasis on the development of the whole child than there is in the kindergarten. We tried to plan our work in the seven kindergartens in Manzanar in accordance with certain basic aims and principles for children of any kindergarten age and too keeping in mind our particular social situation and the needs peculiar to it. Beside the learning of certain basic skills, attitudes, and habits, of children working and playing together, we have tried to offer varied opportunities and to set situations leading toward individual experimentation, creative self-expression and help in understanding and seeing new possibilities and relationships in the materials at hand. Trying out this way with new toys, with interesting handcraft mediums, such as ~~with new toys, with interesting handcraft mediums, such as~~ clay, paper, paper mache, finger painting, cutting and pasting, all of these have been a great aid in growth of English for the children.

Each of the seven kindergartens have a daily schedule, and the length of time devoted to each activity varied with the group. The time allotted to conversation, and other phases of the program such as dramatization, singing, reciting finger plays, creating original stories, has been proportionately great in all of the groups. In one class, interest seemed greater on stories, rather than singing, and another group enjoyed music so that the interest as well as the social growth and past experience of the group was taken into consideration.

Like any other children, physical activity is needed considerably, so we have tried to provide it through group games, walking board, and steps, ladders, rhythmic games and free outdoor games. Rest, too, has been an integral part of the program, and the children have alternate quiet and active periods.

Throughout the program we've tried to further self-expression in all its forms, whether in singing, handwork, story-telling or even devising new ways of giving out the milk or even to carrying a chair properly. There is nothing more satisfying to the children than to know they were recognized for an idea originating with them. There is probably not time during the day when talking does not go on, except for the rest period. It takes place between the teacher and the children, but for the most part between the children.

There has been some dramatization too of stories read in class. One group started with pantomime of animals and the class had to guess which one it was. Rhythm too is part of their everyday experience. Because of the lack of ability to play the piano, the teachers used records and singing games for the most part in rhythm work, also nursery rhymes and rhythmic games which included fundamental movements of walking, skipping, running, and hopping.

All of the classes had a library and a story period. It's been quite a distinctive part of each room. Not only are there picture books for the younger children, but books with pictures following action of the story. The children often make up their own as they go along. One class even has a song book on the library table and because of the pictures and repetition of group singing, though the children don't read, they recognize that it's a song book and sing the proper song with the picture. A definite library time was scheduled for each class, but the children feel free to look at the books any time. While sitting around reading together, much conversation results, often a little group or individual have started to sing a song they know, which illustrates a story or picture at which they are looking.

The children too enjoy originating stories, and they usually beam with pleasure if one of their group has told one.

Finger plays have been a wonderful device here for many reasons. In some classes it helped to oil group machinery because it amused them and it was something everyone could do. Some of the children who spoke practically no English, but who enjoy the finger dramatization so much have acquired new vocabulary through it. It's also been a good attention holder. Each group has also learned a repertoire of songs, have had listening, and participating experiences with records and also creative singing.

One class had a high school student bring her violin and play it for them. Not only did they appreciate beautiful sound but they learned that nature gave us the violin itself.

Most of the science information in the kindergarten comes through actual experience and some through the spoken work. About once a week a child brings either a butterfly, or some flowers or something else he is curious about. The classes too have taken excursions and have been alert to new findings and observations at that time.

Several of the kindergartens have small gardens outside of their rooms and correlated that with some study on farm life, making friezes on farm animals, learning importance of farmer and the contribution he makes toward our daily living. The other classes have centered their attention on home life, trying to help the children adjust in their present type of living and too for a different type outside.

The following have been some of the more specific activities of the kindergarten classes:

Art: Finger painting (a small amount)
 Cut out friezes
 Crayon friezes
 Painting
 Clay
 Crayon coloring
 Cutting and pasting

Construction paper work, diaramas
Sewing (sewing dolls)
Sand-play

Arithmetic

Learning nursery rhymes with numbers
Recognizing numbers on nursery rhymes
Using numerical terms in stories and songs, such as
near, far, back, front, large, small, down, up, few, many
etc.
Counting children for milk, for games, for rhythm, and to carry
out activities.
Playing number games.
Counting beads on a string, counting peg boards, boys and
girls.

Music

Repertoire of songs.
Children's own songs.
Listening to records
Rhythmic response to records.
Appreciation of songs.
Rhythmic singing games.

Language and Reading

Social manners.
Conversation, formal and informal
Finger plays
Original composition
Singing songs
Singing games
Reading words under pictures around room
Seeing the alphabet on the wall
Dramatization

.....Kindergarten teachers.....

Lily Odahara	23-15
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Adelaine Asai	1-14
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FIRST GRADE ACTIVITIES PROGRAM

AS I have observed it, the following are the most noticeable problems peculiar to Manzanar and the ones, given enough time, the school can do much to help solve.

- A. Language Difficulties. (First in importance at home and at school.)
- B. Some unfavorable phases of cooperative living.
 - a. The community mess hall and some unfavorable results.
 - 1. Breakdown in manners and common courtesies.
 - 2. Breakdown in parental control.
 - 3. Loss of the symbolism of the family table.
 - 4. Loss of family discussions that center around the table: eg. discussions of events, people, foods, ordering of foods, etc.
 - 5. Bringing together of the family members for companionship.
 - 6. The home beoming merely a sleeping place.
 - 7. Use of public baths and latrines.
 - 8. Loss of responsibilities on the part of both parents and children.
 - 9. Lack of appreciation for the efforts of others.
- C. Feeling of insecurity on the part of parents reflected in the attitudes for the children.
- D. Straining on the family, community and national loyalties and those attitudes essential to democratic participation in the group life which have been accentuated by the events of the past year.
- E. Crowded housing and poor sleeping conditions for the children.

Aims: To help solve the problems above by:

- a. Preparing for outside life which is rapidly becoming more cooperative in the home, business, community and national life.
- b. Learning to work and play together by producing as similar situations as possible to those which the child may meet in the outside world.
- c. Establishing desirable attitudes and habits for future citizenship.
- d. To lead children into newer and larger experiences than they have formerly met.
- e. Plan units of work with a large enough variety to hold the child's interest, with enough social and group contacts and not too difficult.

With the above in mind I have taken Home Life as a Unit realizing that this can be enlarged to take in almost any other phase of life.

Language: Because of the language and speech difficulties an unusual amount of time has been given to discussions. I had previously had a Manzanar Unit in which we discussed former homes, where each child came from, his family, how many members in the family, the parents work, individual responsibilities, the kind of house lived in, how large, what kind of rooms, materials made of, whether in the city or country, father's business, school attended if any.

We also talked of the trip to Manzanar, all about the new homes, how they differed from the old, the new work of parents and what the children might do to help or what responsibilities might be substituted for the old. This was not repeated in the new unit but led up to it quite naturally.

We planned what we would do if Uncle Sam gave us the whole barrack for our family and how we would turn this into just the kind of house we would like. Doors were cut through the rooms, real glass put in the windows, linoleum and rugs on the floor and we would make our own furniture. We decided upon a family of five and two pets. We voted on their names. Each child was to do something toward the home and we, like Alice in Wonderland, would grow small enough to live in it.

Reading: The children have made up and read many stories from charts and the blackboard. I read many stories about the home and about building houses to them and many new words of common usage were introduced and learned.

Arts: We drew plans and pictures of the house, of the furniture in different rooms, pictures of their old house, of the furniture in different rooms, pictures of their old house, of the present Manzanar houses. We drew our wall paper and discussed simple principles of design.

Handicrafts: Made a four roomed house out of two orange crates. Made scrap books with pictures of other homes and of various rooms. Made story books with covers of home pictures. Made curtains, pictures, braided rugs from raffia, cloth and stockings.

Arithmetic: There has been much opportunity for counting of rooms, windows, furniture, walls, etc. We used such terms as less than, smaller than, larger than, and made some use of inches and feet. Blocks have been used for floor plans, houses, garage, and have been counted individually and in groups.

Writing: Stories copied from charts into their story books.

Dramatization: There are unlimited opportunities for dramatizing all types of familiar activities; entertaining visitors, doing all kinds of household work, etc. Much more of this is to be done.

Health: Stressed importance of fresh air, good food, plenty of sleep, etc. to good living.

Science: Have done nothing to date with this.

Games: Have correlated a few with the Unit.

For the balance of the year we will continue phases of Home Life that are incomplete and continue the work in our Garden and Foods and discussion on the part that they play in the home.

We have planted our garden but previously discussed what we wished to plant, the different kinds of vegetables, a little of their care. We measured the size of our garden, counted the rows and how many inches the seeds should be planted in the ground.

Each child had a part in digging and in planting the seeds and certain definite responsibilities have been assigned to certain children.

We have visited the Victory Gardens and one of the boy's father gave us a talk on planting, care of the soil and fertilizing.

This will lead up to further discussion on foods and possibly there will be sometime to study some phases of transportation of foods.

I have endeavored especially to keep in the children's minds what real homes are like and to offset, as far as possible, those influences in Manzanar that I believe are definitely detrimental to a high standard of living. I have also tried to instill an attitude of high standard of work and behaviour toward each other as well as to teach the children respect and consideration for all efforts on the part of others. They are learning to work with each other and independently of each and they have shown much improvement in little courtesies to one another.

.....Ruth E. Beckwith.

UNIVERSITY OF CALIFORNIA, BERKELEY

SUMMER SESSION, 1939

Preliminary Preparation of Unit of Work
for the
First Grade

THE HOME

Mary Evans

After a consideration of the interests of the children at this age level and of the educative possibilities of this particular environment, this series of related experiences were selected as being interesting, challenging, and worth while for this group at this time.

I. Initiation of the Unit

In planning how best to develop a genuine interest in the home, and an appreciation of its importance, coupled with an understanding on the child's part of his potentialities as a member of the family group, the first step will be an analysis of the home backgrounds of the individuals in the group. Upon the findings of this investigation will depend much of the procedure used in carrying out the unit.

Interest in the unit on the children's part will be stimulated by the introduction of selected pictures, books, playhouse toys, blocks, and large construction materials such as packing boxes, lumber, tools, etc.

There will probably develop a discussion of the various homes from which the individuals in the group come--what methods of transportation were used in getting to school, what types of dwellings the homes include, and what each child has in his particular home that he would like to tell the group about. I hope then to lead the children to an examination of the classroom as their school home, with an exploration of the school plant, so that they may become orientated in their new environment, and may see the many possibilities for interesting group and individual activities the school offers.

II. Development of the Unit

The work will probably center around the construction of a large playhouse. Most of the various topics stated below will probably be considered at some time during the study, but almost certainly not in the same sequence.

A. Developing and Conserving Human Resources

1. Appreciation and interdependence of members of the family groups
2. Study and practice of health rules in connection with playing house
3. Observation of safety rules in handling of tools and equipment
4. Appreciation of the importance of cleanliness to health

5. Hygienic preparation of foods for consumption
6. Planning of balanced diets for playhouse family
7. Care of younger children
8. Study of proper clothes for various occasions
9. The part modern inventions play in making housekeeping easier and more hygienic
10. Effect of improper care on plants; lack of sunshine; over or under supply of water; etc., with parallels drawn in the case of people.
11. Importance of adequate recreation facilities being provided for all members of the family

B. Developing, Conserving, and Intelligently Utilizing Non-Human Resources

1. Proper care of tools and equipment
2. Study of care of foods, clothes, household equipment, supplies and commodities, so as to avoid unnecessary waste
3. Learning to use materials to best advantage; care in measuring and cutting of lumber or other materials to avoid waste
4. Learning to find uses for discarded materials
5. Appreciation of the value of system and order in home or classroom

C. Producing, Distributing, and Consuming Goods and Services

1. Study of goods which family can produce for itself
2. Appreciation of father as wage-earner. Analysis of ways the fathers of children in class earn family livings
3. Study of workers upon whom family is dependent; the grocer, milkman, plumber, electrician, builders, postman, etc.
4. Appreciation of family sharing in household pleasures and problems
5. Special contributions of the mother to family well-being
6. How the children may contribute to the well-being of the home

D. Communicating

1. Use of telephone
2. Writing of orders for lumber, nails, etc.

E. Transporting

1. Use of playhouse family car for pleasure excursions, marketing, and taking children to and from school in dramatic play
2. Observance of traffic regulations and safety rules for pedestrians, motorists, and children at play

F. Recreation and Playing

1. Study of forms of recreation in which entire family can join, as well as types especially adapted to adults and to various age groups. Understanding of obligation of parents to provide adequate play space for children

- G. Expressing and Satisfying Spiritual and Aesthetic Needs
 - 1. Through the use of music, easel and frieze painting, illustration of stories, decoration of house, school room; development of original stories, verse, songs, dramatizations
- H. Organizing and Governing
 - 1. Class choosing of monitors to care for tools, playhouse, cupboards, etc. Planning of use of playhouse so that each child can get his full share of pleasure from it.
 - 2. Organization of committees to carry out work
 - 3. Study of family as an organized unit
- I. Providing for Education
 - 1. Appreciation of the importance of careful training in childhood to the present and future well-being of the individual and the family
 - 2. Development of skills in reporting, measuring, handling of tools, observing, etc.

III. Experiences in Which the Children and the Teacher May Engage

- A. Orientation
 - 1. Relating personal experiences through reports, accounts of happenings at home and elsewhere, presentation of problems for group discussion, etc.
 - 2. Taking such possible excursions as a neighborhood walk to discover various types of dwellings, to see a dwelling under construction, to a lumber yard to see the raw materials for house construction, to a market, or to near-by places of recreation
 - 3. Examining exhibits and collecting pictures of various types of houses, of room furnishings, of pictures contrasting old-fashioned and modern household equipment, food, clothes, etc.
- B. Study and Research
 - 1. Planning of daily work period, and of tasks to be performed therein. Planning of parties, entertainments and dramatic play. Planning of house, house furnishings, room decorations, etc.
 - 2. Exploring and observing through carefully planned excursions and through the observations and records made of them
 - 3. Check of materials and equipment to see that the most beneficial and economical use is being made of them. Observation of water or electric meters to see how the consumption of these commodities is checked and must be paid for
 - 4. Making surveys of household equipment used in various homes represented in the class, of types of work done by fathers for family support, etc.
- C. Pre-Reading Experiences
 - 1. Building of a rich background of experiences

2. Labeling
 3. Making of scrapbooks, picture charts, picture books, etc.
 4. Story telling and reading on part of teacher or pupils
 5. Use of library and science corners
 6. If a group of children in the class is found to be ready for and to need reading experiences, simple chart development and reading will be provided
- D. Organizing Information
1. Through making booklets
 2. Through collecting and organizing pictures
 3. Through collecting samples of materials
- E. Making Maps, Charts
1. Drawing house plans
 2. Make charts showing furniture for various rooms, food and clothing charts, etc.
- F. Reporting
1. Daily reporting of work accomplished
 2. Recounting of experiences encountered on excursions
- G. Evaluation
1. Daily examination of work accomplished, with class discussion and suggestions for improvement where improvement is needed and commendation of work well done
- H. Experimentation
1. Plants and animals
Growth of seeds under various conditions to determine effect of food, sun, care upon plant development
Construction and care of terrarium to study small creatures found in home gardens
 2. Physical
Keeping of height and weight records
 3. Creative
Through the graphic arts--pencil, paints, crayons, finger painting, clay
Through music--singing, simple instrumentation, original songs, interpretation of music through dancing, use of music to enhance dramatic play, listening, and observation of musical sounds in the environment.
Through the language arts--creative verse, verse choir, oral recounting of stories, experiences, dramatic play, looking at books, and hearing them read, and through stories
- I. Building and Constructing
1. Large wood construction, clay, paints, cloth
- J. Appreciation
1. Of poetry and literature, music, art, and nature
- K. Health and Physical Development
1. Rhythms, folk and interpretative dancing

2. Games, stunts, and mimetics
3. Keeping of growth chart. Daily rest period. Posture improving exercises
4. Observation and regulation of ventilation and lighting

IV. Anticipated Outcomes of the Unit

A. Basic Understandings

1. Better understanding of the interdependence of the members of the family group
2. Growth in appreciation of the work of each member of the family group
3. Appreciation of the dependence of the family upon the community, community workers, and upon the world of nature about them.

B. Basic Knowledge

1. Importance of proper food, clothing, and shelter to family well-being
2. Understanding of duties of members of a family
3. How goods and services are obtained for the family

C. Habits

1. Learning to cooperate in the sharing of tools and equipment
2. Development of a sense of orderliness and system
3. Sharing of ideas and experiences
4. Development of courtesy in treatment of others
5. Development of reflective thinking, effective planning, and of attentiveness

D. Skills

1. Correct use of tools and equipment
2. Development of criteria for judging work; application of such criteria in the improvement of classwork in all fields--painting, construction, language arts, music, etc.
3. Correct use of graphic art materials
4. Correct use of musical instruments in the classroom
5. Development of skill in the careful planning of constructional and art work, and in the carrying out of plans
6. Caring for the school room and its equipment (keeping cupboards orderly, making flower arrangements, putting away equipment, etc.)
7. Numbers: counting, measuring, estimating

E. Attitudes

1. Development of interest in class activities
2. Development of initiative
3. Development of a feeling of responsibility toward the class and toward the family group
4. Development of respect for the rights and opinions of others
5. Development of a feeling of helpfulness one toward another

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CURRICULUM FOR THE SECOND GRADE

Emphasis in the second grade is placed on Social Studies. It is through this medium that we develop in the child an understanding of his own environment and teach him correct living habits. To give the child these experiences we have studied the community of Menzies. We have visited the fire station, police station, post office, library, schools, stores, warehouses, hospital, record house, administration, motor pool, and gardens.

With this as our focal point we have built up the following habits and skills.

1. Overcome self-consciousness through dramatic play and freedom of expression.
2. Develop democratic habits through group participation.
3. Purposeful reading has developed a good mental attitude toward the subject, and has shown the need for definite reading skills.
4. Because of their desire to express themselves in writing, the children have sensed the need of learning the correct use of the writing tools and skills, letter formation, neatness, simple punctuation and capitalization, etc.
5. Correct spelling skills has been emphasized as desirable in connection with all written work. Phonic drill, use of dictionary, word vocabulary, etc. have all been accomplished through this medium.
6. Numbers as a tool have been developed through their construction work and play activities. We have taught money value, concept of relative measures such as inches and feet, quarts and pints, smaller and larger, wider and narrower, etc. There has also been taught the units of time. As a more specific skill we have taught addition and subtraction combinations through life situations.
7. To develop initiative and freedom of expression, there has been art work correlated with their other classroom activities. There has also been dramatic play, creative stories, poems, and songs.

...Marjorie Cramer 5-15-2
Iva Backhoff 32-15
Alice E. Atwood 31-15

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Second grade was planning a garden but seemed to have little knowledge of foods. So we decided to study foods along with our gardening.

The subject of food is of special interest to the primary child because he can understand it and feels the need of it.

The main aims were: To help the children to attain a background of knowledge concerning the kinds and sources of foods which build the body and the necessity of food to the body. To provide growth in group participation, in use of materials, through actual experience in activity work and discussion period.

To attain these aims we covered the skills through the following activities: For arithmetic we:

1. Learned measurements and number combinations by drawing garden plans, measuring rows for the garden and buying seeds. Made a seed chart.
2. Planned, made and evaluated trips to the Victory Gardens.
3. Wrote letters to the gardener, and letters of invitation to our program.
4. We wrote stories, poems, and songs for their garden books.
5. Made up riddles and informal talks on vegetables, health and fruits.
6. Served on committees for taking care of the garden, art work, and reading.
7. We improved our skills and interest in reading by gathering information, answering questions on gardening.
8. For art, we made a frieze of cut-outs of vegetables and fruits.
9. Made food charts with pictures which the children brought. Made and kept a health rule chart.
10. Made water color paintings of fruits and vegetables.
11. Made a garden.

As a culminating activity we planned a program covering our unit on foods and shared it with two rooms. This proved to be one of our most interesting and worthwhile activities.

The study of foods afforded a lead to the study of the farm. Now the children are asking questions, reading, and gathering material for building a farm in the room.

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CURRICULUM- Third Grade 3-15

.....Arlin Hooper

Social Studies is given much emphasis in the third grade. Environmental factors were basic in the type of units chosen. The beginning of year--we studied primitive life in this valley, the Piute Indians. We learned not only how they lived, where they lived, things they used, things they made, things they made, tribal customs, but how difficult it was for the early people to exist. The outgrowth of this unit was an introduction to the unit on transportation from the earliest mode of travel into this valley to the most modern air travel. Through information reading and research plus activities the children have gained a vivid conception of the development, growth and necessity of shortening distance in our country. This unit has not only created a historical interest in the different modes of travel but also extended our geographical horizon. Integrated with social studies is functional reading, good daily English usage, creative writing and art. We must do research reading in order to learn all about our unit this involves reporting to the class either through oral or written English or expression through art mediums such as drawing, painting, modeling, and wood work. Much dramatic play is another form of expression.

In reading, each child at his own level we have worked toward.

1. Increase in command of sight words.
2. Greater confidence in his power to read.
3. Development of desirable attitude toward books.
4. Ability to read and interpret paragraph units.
5. Realization that through reading he can get information independently.
6. To see parts of story in proper relationship.
7. Read orally for expression, clearness and proper enunciation.
8. Ability to enjoy reading as a leisure activity.
9. Development of good taste in reading.

In Arithmetic, we have covered addition, subtraction, multiplication, telling time, Roman numerals, and written problems. We have learned how functional Arithmetic is in everyday living.

Spelling, language arts, and handwriting are closely correlated. We again find these functional for self-expression. The class is divided into three groups each group level working and covering certain portions of the "Golden State Speller" (2) and "The Stand Speller Grade 3". We have learned correct pronunciation, meaning and spelling of each word.

In music we have learned many rote songs about our unit, daily living, health and country. We are working

toward an appreciation of good music, by listening to recordings of classics, great singers, and operatic selections. We are working for sweeter tonal and rhythmic qualities in singing. We have begun reading songs, learning the technical parts of music--notes, note values, keys, signatures, rests, and measures.

....Arlin Hooper

Copy

CURRICULUM- THIRD GRADE

- A. Reading
 - 1. Each child reads books suitable to his level of development in this skill. Usually the child begins with a relatively easy book, so that he gets a feeling of power and capability in reading a book.
 - 2. Vocabulary is acquired through flash cards and word analysis (rhyming beginning with same letter).
 - 3. Reading comprehension is checked daily through various exercises.
 - a. Questions about stories.
 - b. Word analysis
 - c. Drawing pictures
 - 4. Library reading time is provided daily.
- B. Social Studies
 - 1. Centers of interest - Pueblo Indians and Food
 - a. Activities provide opportunities for developing skills in using one's hands, as in weaving.
 - b. Activities provide opportunity for learning attitudes and habits of getting along with others.
 - c. Activities give each child a chance to succeed in his task. Planning and evaluation make success possible.
- C. Art
 - 1. Various media available-clay, water color, crayola.
 - 2. Sometimes a set problem is given; often there is free expression.
 - 3. Evaluation is an aid to better pictures; group projects stimulate individual work.
- C. English
 - 1. Emphasis placed on oral English
 - a. Discussion
 - b. Opening exercises.
 - 2. Written stories are usually correlated with social studies.
 - 3. The school newspaper
- E. Science
 - Incidentally through specimens and objects that children bring.
- F. Arithmetic
 - 1. Learning to tell time.
 - 2. Addition and subtraction.
 - 3. Addition by endings and column addition.
 - 4. Story problem.
- G. Physical Education
 - 1. Various games of low organization
 - 2. Simple folk dances.
 - 3. Rhythms with percussion accompaniment.

H. Spelling

1. Correlation with social studies and usual third grade list.
2. Emphasis on use of words.

I. Handwriting.

1. Improvement in cursive writing - letter formation.
2. Emphasis on writing well in all subjects.

J. Music

1. Emphasis on note reading
2. Enjoyment of rote songs, some correlated with social studies.
3. Listening to phonograph, appreciation.

...Florine Harding 32-15

Copy

THIRD GRADE CURRICULUM

- I. Spelling
Words from basic book, supplementary book, words used frequently in written work and reading.
- II. Reading:
Basic reader, plus supplementary readers and library books. Written material on Social Studies.
- III. Language:
Friendly letter forms, short stories, unfinished sentences, use of punctuation marks, use of capitals.
- IV. Arithmetic:
Addition, subtraction, multiplication, and some short division with problems pertaining to each phase.
- V. Art:
Integrated with Social Studies, by using easel, paints, crayons, and colored chalk.
- VI. Social Studies:
Study of a Primitive people (Indians), their lines, customs, habits, and conditions under which they lived. Construction of certain phases of Indian Life.
Study of Transportation (The airplane).
The reason for, need of, and speed of airplanes of the past, present, and future. Construction of airplanes, terminal, repair shop, hanger, etc.

...Gladys Sandridge 5-15

copy

FOURTH GRADE CURRICULUM

SOCIAL STUDIES:

Mexican unit which emphasized ceramics, weaving, wood carving, pipe stem people of the country, experience booklets, murals, and classbook.

During transportation study, we were interested in types of trains as to purpose, needs, and evolution. The pupils made models, turntable, movies, timeline, used hectographed booklet, used question charts, made glossary, took an imaginary trip, and made reports. Experience stories were written and an imaginary trip was taken from California. Timetable and timebelts were evaluated leading to relocation interests.

Boats were carved, pictures were painted and information was gathered on rafts, dugouts, keleks, koofahs, Egyptian galley, Phoenician galley, Roman warships, Viking ships, Crusaders, ship of explorers, pirate ships, clippers, steamships, and ships of steel. The booklets, movies, murals, and models were shown at the Education Week Exhibit.

This led to an interest in training ships from an adjacent airport. Many air experiments were performed showing the gases in the air, air pressure, and uses of air. Balloon were made and launched to show air currents and that hot air rises. The furnace was built by the pupils. Air toys, pin wheels, sling-shot gliders, weather vanes, parachute jumpers, and kites were made. Culmination was in the form of a picnic where the air toys were used. Airport model was built and used in dramatic play.

In working with "Our California Home", interests were centered around topography, geological and climatic zones, mission period, foods, irrigation, and water conservation, highways and waterways, and growth of cities. The pupils raised victory gardens, flower gardens, used irrigation and made dam and power house. Pictorial, topographic, climatic, highways, waterways, and location of cities maps were made.

Language:

Language arts evaluated around unit and included experience stories, creative writing, oral reports, reading for information, dramatic play and planning and discussion periods. When the need arose for better oral or written English construction, a drill lesson was given. Groups wrote to Eastern pupils, relocated friends, and Red Cross groups. Puppets were made and shows given. Marionettes were made and play on unit was written. Groups were invited to see the finished product.

ART

Art was correlated with units. Complimentary and analogous colors, tints, and shades were emphasized, and alphabet was made from squared paper to use in poster work. Pictures were prepared and colored to illustrate these principles. Also original work was done.

MUSIC...Music was correlated with the units. A booklet of Stephen Foster's songs and other old favorites was made. Many records were enjoyed.

ARITHMETIC...All correlation possible was made. Workbooks were used where more drill was needed. Individual needs are given special attention. Long division, addition, subtraction, multiplication, thought problems, and all measurements were emphasized.

SPELLING...Every chance was taken for correlation. Unit workbook was used and special help given. Groups were divided as to ability.

READING...Reading was intergraded with all other skills and social studies. Room and general library were used. Books were shared with the group.

SCIENCE; Trips were made to study trees, flowers, birds, rocks, and insects. A collection of woods, flowers, leaves, bird charts, and insects was made. Birds and mice were bought and kept for pets. An aquarium was set up. Fish pond was made.

PHYSICAL EDUCATION AND HEALTH...

Games, relays, folk dances, and rhythms were learned and used. Competitive sports were used to develop better social living.

Edith Cox
Elna Harrison
Marth Shoaf

Rasmus
Dales
Bailey
Ione Ingalls

copy
SOCIAL STUDIES V

Aim: To help the child understand the world in which he lives so he may adjust himself, contribute to its welfare, participate in its improvement.

Curriculum:

1. Expansion of the United States from a small beginning of thirteen colonies to forty-eight states.
2. Comparison of then and today by means of following people on relocation.
3. Frontiers of today- not physical but in science, literature, music, art, architecture, etc.
4. Study of U.S. through air-routes.
5. California
6. Industries of the United States -- growth.

Expressions and interpretations:

1. Construction
2. Dramatic Play
3. Reports
4. Exchange notebook and letters for Red Cross.
5. table displays
6. Dioramas
7. Stories, posters, pictures.

READING - GRADE V

- I. In relation to Social Studies (Work-type reading) we have stressed:
 - A. Use of books:
 - location of material, contents and index
 - Bibliography
 - Interpretation of maps, charts, pictures
 - Use of author's name.
 - Familiarity with organization of book.
 - Use of dictionary.
 - B. Ability to understand and interpret content.
 - C. Skim for an important fact, find a topic sentence, Etc.
 - D. Drawing conclusions.
- II. The main points we have stressed include:
 - A. Reading for a specific purpose
 - B. Vocabulary development.
 - C. comprehension and Enjoyment
- III. Because the group with which we worked had a definite foreign element we have noticed the following weak points and have showed how we tried to overcome them under the sub-heads.
 - A. Insufficient vocabulary.
 1. Have used free conversation discussed everything at every available opportunity.
 2. Have taught new words as contact has been made.
 3. Used choral reading for repetition of expressions found

- III. A 3. in books. Intend to use plays later.
- B. Word readers
1. Use of easy materials, discussed possible content content of stories, supplied troublesome words, emphasized meanings.
 2. Talked a great deal about content.
 3. Worked with phrases and eye spans.
 4. Read aloud to the children.
- C. Poor pronunciation, enunciation, attack on words.
1. Have tried to set a good example.
 2. Drilled on words difficult to pronounce like "th"
 3. Given training to small groups on use of ear and lips.
 4. Dictionary exercises
Division of words into syllables.
Noticing vowel markings, accented syllables and correct pronunciation.
- D. Colorless voices:
1. Have tried to set a good example.
 2. Have tried to make our room a happy place where we sing and laugh often.
 3. Have much free dramatization.

IV. Recreatory Reading also encouraged.

ARITHMETIC

Aim: To develop fundamental phases of character, i.e., honesty persistence, self-reliance, accuracy.

Curriculum:

- I. Use of four fundamental processes in integers.
- II. Add and Subtract and multiplication of fractions.
- III. Long division
- IV Two-step problems.
- V. Vocabulary
- VI. Reading of decimal numbers--simple addition, subtraction, multiplication and division of decimals.

SPELLING V

Stanford Speller

Care words from other subjects.

Dictionary Work.

Spelling Bees where wholesome competition and good sportsmanship are practiced.

PHYSICAL EDUCATION....

To teach games they will enjoy playing anytime. To teach fair play and good sportsmanship. Outdoor games for boys, Outdoor games for girls--outdoor games for all. Because of local conditions we have found it necessary and proper to teach interesting indoor games also.

We have encouraged inter-school sports where a wholesome school spirit, good attitude and sportsmanship are practiced.

MUSIC...

We have taught fundamental note reading, time problems and note values. We have used music sheets prepared by Mrs. Nielsen to find the Key of songs. We have done much singing and listening for pleasure and appreciation. Our music work has been correlated with our Social Study Unit work.

ENGLISH V

Oral and Written Expression

1. Use of effective tools..
2. Writing stories.
3. Evaluation
4. Creative writing--letter writing
5. Newspaper articles
6. Broadcasting
7. Choric reading
8. Dramatization
9. Oral Library Book Reports

ART--INTEGRATED AND CORRELATED.

1. Design--balance
2. Color scheme --
color wheel -----monochromatic
Analogous
Complementary
3. Poster making
4. Beauty in nature and everyday things.
(choice of clothing, etc.
House furnishings.)
5. Picture study

NATURE STUDY--ELEMENTARY SCIENCE

To help children appreciate flowers, birds, trees, plant, insect, and animals life found in this community, in the state and in this section of our country--Field trips to find specimens and listen to bird songs and calls also noticing animal tracks, clouds, directions from which wind is blowing, etc.

FIFTH GRADE

DANIEL BOONE AND THE WESTWARD MOVEMENT

--Francis Cahill

Introduction

The unit, "Daniel Boone and the Westward Movement", is particularly valuable and interesting to children at a Fifth Grade Level. In this age group we find strong needs for "large muscle" activities, which may be amply satisfied by the rich dramatic play and construction possibilities which are offered. The growing individual spirit of adventure and appreciation of adventure in life and literature is brought to the surface and exercised through frequent rich contacts with the hardy, colorful founders of our nation, the American pioneers.

Basic Considerations

In "Daniel Boone" we find an area of experience full of opportunities for evoking and satisfying child needs. The time and people considered are provocative of immediate and natural curiosity. The vital lives of the people present endless dramatic play possibilities. In vitalizing this play, i.e., being pioneers, it becomes necessary to use weapons, tools, utensils, clothing, shelter, etc. of the people concerned. Construction and dramatic play will naturally bring to light needs for growth and needs to know which will result in research and discussion involving much sharing of ideas, information and materials. The lives of our pioneers may serve as a constant source of inspiration and vehicle for bringing out the true worth and necessity of fine principles in living the full life.

The field of reading on American backgrounds is a rich and broad one. The gateway to this field should be opened by the expanding interest of the children who study "Pioneers." More specifically, they should develop a finer appreciation of our American way of life through direct knowledge of its difficult origin. They should enjoy wider knowledge geographically (Pioneer trails and land problems) historically, arithmetically (through contact with construction problems, evaluating costs of materials, living, etc.) and in the field of language (though increased vocabulary and consequent greater freedom in oral and written expression.)

The numerous source materials, the variety of pioneer activities, the casual introduction to many national and world problems all open a wide vista of possibilities for selecting and following through special interests. The names of other pioneers conjure up speculation as to their lives and times. We could follow them along other trails, e.g., the Oregon and the Santa Fe. Transportation problems might lead us into a more complete study of inventions and the industrial revolution. Following the pioneer to California would lead us to inquire into California backgrounds, bringing in Old California and Old Mexico. Inquiries into the "why's" of pioneer activities might elicit information and broader interests in colonial and old world backgrounds.

The experiences included in this area are representative of a true life situation, which, well guided, offers a place for every child. Social adjustment becomes less a problem as interest grows. Since construction, household living, play, dance, song, art and literary interests are all offered frequent and full opportunities for satisfaction are found; there is little chance of the child's not "find-

ing himself". The play and construction possibilities principally should serve as release valves for emotional tension and a means of directing excess energies into proper channels. The wealth of reading materials which is available should assure satisfaction at all levels of achievement.

Large type construction, (e.g., a fort) will of necessity bring in all children for help in planning and evaluating even if not in actual building. Construction for play, play for enjoyment, planning for more effective, satisfying play, certainly are activities at a child's level. Properly directed they should challenge and make active each member of the group. When situations are so varied, each child should have a chance to contribute constructively to group living, thus fostering a feeling of tolerance and appreciation of the values of different fields of ability, (e.g., the immature girl may make a lovely costume, the reserved boy may proudly exhibit a well executed flint-lock rifle). Wherever there is much large scale group activity, there is a recognition of the need for sharing and respecting others's rights. Living, successful play should bring the children closer and minimize the need for constant evaluation and pulling upward.

Since our pioneers had to start at the root of living, they had to experience and work out the needs for self-preservation and successful group living. During the period under consideration, the picture of man carrying out basic drives toward food, clothing, shelter and security is not confused by the accoutrements of modern civilization. The growth of society is clearly etched out. Out hunter-trapper-explorer goes back to the colonies to gather together his family and possessions and bring them back with him into the wilderness. They are unsafe in small groups, so other families band together for additional protection. Protection from the elements and the Indians's advances the concept of shelter. The common needs of the group help in the development of an ideal community set-up, the beginnings of practice of a rugged democracy which before had been theory. Successful community living always brings out the need for schools and churches. The conservation of materials takes an important place pioneer life, since difficulties in transportation and communication made imperative an effective system of planning for emergencies, e.g., Indian attacks. This line of growth in pioneer living is easy to trace since it occurred again and again in mushroom communities.

Certainly frequent contact with these worthwhile pioneer experiences should develop in the children a keener insight into the whys and whats of man's basic needs and an appreciation of the well grounded values which have been engrained in our American way of life through the efforts of our pioneers. These experiences should be practical to the extent that they would utilize more social concern in their own group living.

Materials for a pioneer experience are for the most part readily available, since many people have realized the value of this area and have aided in building up a rich set of available books, pictures, mimeographed information, slides, moving pictures, visual aids, etc. The six week period will, of course, limit experiences, but, since most of the children will have had little experience with the colorful characters involved, they should be an important six weeks, rich in group living experiences, history and artistic expression.

Ways of Approaching.

This series of activities might well under way through any of several possible methods. A fourth grade life study of Indians could very naturally serve as a bridge. (e.g., How did our American Indians receive incoming settlers? Who were the settlers? Why did they move into Indian lands? What hardships did they have to face? etc.) Any other life study might lead us to inquire into the origins of our way of life. A study of transportation might well crystalize interest in the old covered wagons and the people who used them. An environment full of articles used by pioneers, interesting books and pictures, is a rarely unsuccessful method of approach, since children's natural curiosity and desire to manipulate begin activity spontaneously. More infrequently we might have the child leader make a suggestion to the group which will begin a strong interest for all, or a flintlock rifle or covered wagon might be brought in which would evoke immediate desires to know more about pioneers. A classroom teacher knows the maturation and interest levels of his or here children and should be able to judge whether or not a story or suggestion concerning pioneers has sufficient interest forming potentialities. Of these possibilities, the arranged environment to arouse curiosity and discussion, aided by stories to stimulate immediate desires to play, seems to be used most widely and successfully.

Anticipatory Sequence.

Initiation

Environmental stimuli:

1. Pictures:
 - a. Pioneer clothing and weapons
 - b. Implements and tools
 - c. Furniture
2. Objects used by pioneers:
 - a. Utensils and other objects-

Trencher	Broom
Pewter spoon	Hearth Brush
Candle molds	Three-legged stool
Spoon mold	Blowing horns
 - b. Weapons:

Shot pouches	Flintlock rifle
powder horns	Rifle balls
Knives	
3. Deer hide- Wildcat skin
4. Buckskin jacket
5. Books. (See bibliography)

After the children have seated themselves on the first day, the following conversation might ensue:

- T.-"I noticed several of you looking around the room when you came in. You may continue looking around for a while if you wish."
P.-"Oh boy! Pioneers!"
P.-"What's this horn?"
P.-"Why don't some of the horns have plugs?"
P.-"How does this gun work?"
P.-"Is it very old?"
P.-"What kind of a skin is this?"

P.-"Did the pioneers eat out of these wooden bowls?"

P.-"We use wooden spoons like this one for salads."

P.-"I'd like to have a knife like that one."

P.-"This looks like a long top. What is it?"

P.-"Those are all pioneer things. I know. My brother studied about them."

T.-"Shall we all take our seats? I believe we've had plenty of time to see everything."

When all are seated:

T.-"Did you see anything in the room which particularly interested you?"

P.-"I liked the gun."

P.-"I'd like to have on of these horns."

P. "May we make some of these things?"

P.-"Are we going to play pioneers?"

T.-"If you're going to play pioneers, don't you think you need to know a little more about them? I have a story about pioneers which I think you'd enjoy hearing."

Teacher tells story of Finlay telling Boone about Kentucky and Boone deciding to join him in exploring these new lands. Difficulties of the journeys and final founding of Boonesborough are described.

T.-"Would you like to play this story?"

P.-"Oh boy! May I be Daniel Boone?"

Subsequent Activities

Needs and desires

To play pioneers.

Experiences Involved

- Selecting characters.
- Planning some procedure.
- Playing Daniel Boone's visit from Finlay.
- Conversing about the new country Kain-tu-kee
- Deciding to organize a party.
- Deciding when men should go.
- Calling the men for a meeting.
- Further discussion of the new land across the mountains, Kain-tu-kee.
- Finding out who could go on the journey (some had to tend to crops).
- Deciding on the number of pack horses to take-two per man.
- Deciding on the number of pack horses to take-two per man.
- Deciding on the date of departure.
- Bidding goodbye.
- Making way for the Wilderness Road.
- Building of Boonesborough.
- Defending of Boonesborough.

T.-"How did you enjoy your play?"

P.-"It was fun, but some of us were silly."

T.-"If we're to play well, we should really be pioneers, shouldn't we?"

P.-"The Indians were all in

P.-"The Indians were all in Boonesborough."

P.-"We should have a real Bonnesborough and then we could play better."

Needs and Desires

Experiences Involved

To build Boonesborough.

Deciding to use boxes.
Deciding to build it outside.
Drawing plans on blackboard.
Deciding on exact location.
Deciding on position of houses and block-houses.
Deciding to have double boxes for blockhouse.
Deciding who will build.
Deciding on what people will do who are not constructing: Read. Draw.
Constructing Boonesborough.
Playing in Boonesborough.

P.-"We don't have enough guns to play with."

P.-"If you play with guns you should have shot pouches and powder horns, too."

P.-"Let's make some."

P.-"We should have knives, too. The pioneers did."

To make powder horns.

Washing horns.
Scraping horns with(1) knives;(2) razors to take down the roughness.
Filing or sawing of large end of horn to make the edges even.
Sawing off small end to make hole about 1/2" in diameter.
Rubbing horns with(1) rough,(2) smooth sand-paper.
When horns are smooth, polishing them with a paste made of pumice and water and applying with a soft rag.
Cutting a plug 1 1/4" long to fit hole.
Whittling down one-half to fit hole. The other half is larger than the hole and forms the stop.
Cutting large plug to fit hole in large end of horn.
Smoothing this plug and guling in to the hole, partially protruding.
Putting eye-screw into center of th plug.
Filing groove into the horn 3/4" away from the small end.
Tying rawhide around this groove and through the eye of the screw.

To make Blow Horns.

These are made the same as powder horns excepting that now plugs are fitted into the ends. The rawhide is tied onto two grooves, one at each end of horn.

To make Flintlock Rifles.

Drawing pattern on Ramie paper the exact size that is to be used.

Needs and Desires

Experiences Involved

Length of gun is from floor to child's chin.
Tracing pattern to the wood.
Sawing gun, then planing round the barrel
and smoothing the stock.
Filing edges and sandpapering them.
Fastening the dowel rod which is $1\frac{1}{2}$ " shorter
than the barrel, underneath the barrel
with staples.
Hammering a nail into the stock to represent
the trigger,
Painting the barrel black.
Staining the stock dark brown.

To make Hunting Knives.

Making pattern on Ramie paper the same size
and shape as desired.
Tracing pattern on wood and sawing it.
Beveling edges with a plane and file.
Sandpapering the knife.
Painting the blade black or dark gray.
Staining handle brown.

To make Shot Pouches.

Drawing patterns on unprinted newspaper. The
most commonly used patterns are triangular
and square-bottomed.
Cutting out two patterns: one for the front
and one for the back. Back piece is long-
er to allow for the flap. The two pieces
are identical except for the length.
Pinning the patterns to the material (which
has been dyed brown) and cutting them out.
Laying the shorter piece on top of the other
and sewing down the sides, leaving a
half inch for the edge.
Turning the pouch inside out so the seams
are on the inside.
Stitching straight along the bottom, $1\frac{1}{4}$ "
from edge.
Making fringe by cutting strips from the
edge up to the stitching. Also, cutting
fringe on the edge of the flap.
Cutting bottom-hole slit in center of flap
 $1/4$ " long.
Sewing a $3/4$ " piece of dowel rod to the
front piece to fit the button-hole which
has been cut out.
Cutting a long strip of osnaber, $1\frac{1}{2}$ " x $1\frac{1}{2}$ ".
Folding edges under and sewing double.
Sewing this directly in back of the flap,
thus forming the string by which the
pouch is carried.

To make clothing.

T.-"We much more like real pioneers now that we have our equipment.

Needs and Desires

Experiences Involved

How could we make our plays still better?"

P.-"We should know more about Daniel Boone and some of the other pioneers."

T.-"What type of information might we look for to help our play?"

To find out more about the pioneers.

Listing: "Information We Need".
What kind of people they were
What they did in their spare time?
Games they played
Songs they sang
How they talked
Selecting books.
Reading for information.
Sharing information.
Using information in play.
Using dates and stories timeline.

T P.-"We should learn some of the pioneer songs. Then we'd have things to do around the campfire on the rail.

To learn pioneer songs.

Looking at words.
Listening to song twice.
Third time trying to sing.
Picking out and working on difficult parts.
Using songs in play.

P.-"When we camped last night we didn't have any place to stay. What did the pioneers do when it rained?"

P.-"I read that they used lean-to's or half-faced camps."

P.-"Why don't we make one? It'd be easy to build."

To build a half-faced camp.

Deciding on materials.
Deciding on location.
Selecting logs and sawing them to correct length.
Nailing the two forked logs to the floor, 43" apart and 56" from wall.
Sawing the four 58" logs at one end diagonally. This end will be nailed to floor.
Placing one of the 43" logs in the crotch of the forked logs, horizontally to the floor.
Nailing the four 58" logs to this horizontal log, 14" apart. The ends which have been cut diagonally will reach the floor. These ends are nailed to the floor securely.
Laying the four 43" logs at right angles to the logs which have just been nailed apart. These logs are tied to the framework with the hemp rope.
Nailing the 25" logs on the two sides of the framework, horizontally to the floor,

Needs are Desires

Experiences Involved

13" from the top of the shelter.
 Nailing the 34" logs parallel to the above
 logs, 14" beneath.
 Entwining foliage in and out between the
 logs in the framework. This is done even-
 ly and quite thickly.
 Tying the foliage securely to the framework
 with the fine twine.
 Playing full journey, camping overnight,
 building half-faced camp and going on to
 fort.

T.-"In our play I thought that J. made an excellent packhorse. How do you think he made it so real?"

P.-"He was serious."

P.-"He acted like he was carrying a heavy load."

P.-"He walked over different kinds of ground."

P.-"He bent way over."

T.-"Would you mind showing us again, J.?"

T.-"Would some others like to show us how they think a packhorse would really walk?"

T.-"Could we try some of the other animals the pioneers met?"

To play animals rhythmically. Finding out what animals pioneers met.
 Trying out with individual group demonstrations.
 Putting animals together in wilderness scene.

P.-"Our deer weren't very real. They didn't look light."

T.-"How would we make them better?"

P.-"We could just use our legs."

P.-"We could look at pictures."

T.-"We might be able to see some at the zoo. I'll try to make arrangement."

To visit the zoo to watch movements of animals.

Making arrangements.
 Writing notes.
 Deciding what to watch particularly.
 Going to the zoo.
 Watching animals: Deer-Cat family
 Evaluating.
 Using ideas in rhythm.

P.-"We're having more ideas and fun in our play now, but the girls in the fort still don't have enough to do."

T.-"What did pioneer housewives do?"

P.-"They made hoe-cakes and things."

P.-"They made candles."

P.-"Yes, I saw a picture of candles hung over backs of chairs."

P.-"They molded bullets sometimes."

P.-"We don't have enough dishes and things."

P.-"We should have some more trenchers and spoons."

Upon completion of utensils it is quite possible that there could be candle or hoe-cake making, according to time allowance.

Needs and Désires

Experiences Involved

- P.-"It's almost the end now. Wouldn't it be fun if some of our parents could see the things we've made?"
- P.-"We could invite them on the last day."
- P.-"We could play and show them our rhythms."
- P.-"We could play and show them our rhythms."
- P.-"That sounds like an excellent suggestion. Should we make definite plans for it?"
- P.-"Maybe we could have some pioneer food for them."

This culmination might be put together in the form of "A Day on the Trail."

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Copy

SIXTH GRADE CURRICULUM

SOCIAL STUDIES:

Development of certain basic concepts concerning geographic, historic, economic, political, and cultural aspects of the modern world. To develop desirable social attitudes. Recognition of the need for friendly relations between nations. An increased understanding of nature and natural forces.

Means of achieving these goals are through research murals, bulletin boards, scrapbooks, illustrations, notebooks, maps, oral reports, outlining, soapcarving, class discussions, woodworking, stories, and other forms of class activity. Accomplishment of these goals has been brought about through the study of South America and of transportation.

ART:

Develop appreciation of art forms, colour, line, pattern, and the recording of observations. The proper usage of available materials. Enjoyment of simple crafts. Develop certain basic techniques. Appreciation and participation in arrangement of classroom. Learning to work with others in larger art forms. Lettering.

HEALTH:

Emphasizing the importance of proper health habits in this environment. Stressing the necessity for proper health habits in studying.

ENGLISH:

Knowing and using the correct form of nouns, pronouns, verbs, adjectives, and adverbs, and paragraphing. Knowing and using basic rules of punctuation. Ability to express himself clearly in an interesting way with confidence and independence. To develop skills and power in written and oral English and to clarify the meanings of words. To develop neatness and skill in handwriting. Means of doing this have been through: book reviews, newspaper, outlines, reports, choral reading, stories, and research work. Also use of library.

SPELLING:

Ability to spell correctly words which he needs and uses in oral and written lessons. Improvement of vocabulary and learning meanings of words.

READING:

Continued growth of interest in reading. Growth of vocabulary and growth of good habits of independent reading. Develop the ability to use reading in problem solving. Increase skill in the use of dictionaries and reference books. Work-type recreational lessons should be done with speed, accuracy, and comprehension. Improved skills in oral reading.

ARITHMETIC:

Continued drill to develop speed and accuracy in the four fundamentals and problems of everyday use. Develop understanding

of fractions in the four fundamental processes and their use in problems which arise from everyday uses--also common and decimal fractions. The simple problems of areas and the four processes in denominate numbers. Also simple percentage.

...Lucile Lewis
Ellen McFarland
Mary L. Dombrowski

copy

SPECIAL SIXTH GRADE

...M. Kincaid

Because the group I have showed weaknesses in vocabulary and arithmetic reasoning, I am emphasized these points as much as possible in my entire school program.

The spelling lessons are taken from their written work in all fields, and from their vocabulary lists which in turn are taken from their class reading lessons. The class as a whole are getting word conscious both in meaning and pronunciation and often stop me in class to ask about a word that I use in speaking to them. Each child has a dictionary in his desk and is learning to use it at all times.

Reading lessons are from "Our World and Science" by class vote. The entire class is science conscious. The work goes by units as outlined in text and picked by class vote. We have finished astronomy and are beginning "Story of Rocks".

Our unit, "Today", covers, as far as possible, modern life today with such subdivisions as printing, transportation, communication (including television), sanitation and public health, steel and its uses, science and inventions in the home.

Our grammar uses the unit as a basis of work. We are learning outlines for our notebook as well as general theme writing and sentence structure.

I also require one book report every two weeks from each child, though one girl has already reported on twelve books. I also emphasize home study because I believe that they need to learn how to study at home and the responsibility of their studying there.

~~copy~~

SPECIAL CLASS CURRICULUM

The Special Class at the Hospital has been organized to provide instruction for the physically handicapped children of the community and those who otherwise find it difficult to adjust to a normal class situation. Since the age range is from three years to nineteen years, the curriculum of necessity is modified to fit the needs of the individual child.

In general, the class activity is carried out in two separate groups, one for the older and one for the younger children. Both groups are working out a gardening project for their Social Studies period. The older children are carrying on a more scientific study of plants, with experiments and practical gardening experience in our school garden just outside the hospital. Each of the younger children who is ambulatory has his individual garden. Since luncheon is served to these children in their classroom, it is our plan to let them make their own pottery and to give them the experience of occasionally cooking and serving vegetables from their gardens. The older girls are stencilling and hemstitching mats to be used on the tables.

In addition, to the gardening project, individual remedial work, such as, remedial reading, writing, corrective speech or lipreading--is carried on with each child to help him to overcome, or adjust to, his handicap. With the younger children much emphasis is placed on rhythms, singing, painting, eurhythmy and handcraft. The older group is given as much vocational training as possible, and occupational therapy where necessary, so that each pupil may eventually find a place in the community where he can be socially adjusted and self-supporting.

.....Eleanor P. Thomas

Sample

SPECIAL HELP FOR CHILDREN WITH SPEECH HANDICAPS

Suggestions for the Classroom Teacher

I. INTRODUCTION

Among the several handicaps which are exhibited by school children, perhaps the most common is defective speech. In the school population of Oakland there are in the neighborhood of 1,400 children whose speech is so significantly different from that of other children that it constitutes a definite handicap to their progress in school and in life. These children are found in every grade from the kindergarten through the twelfth. Among them, boys predominate in the ratio of approximately three to one. Some of them have shown peculiarity in speech since their earliest years. To others, this handicap has come after they entered school. Some have never received any systematic help to overcome their difficulties. Others are already enrolled in special speech classes.

The relation of speech disorders to retardation in school progress is obvious and not unexpected. Verbal expression plays in a predominant part in nearly all classroom situations, even after the ability to read has been acquired. No child who has a noticeable speech peculiarity can do himself justice in recitation, regardless of how thoroughly he may understand the subject matter.

Less obvious, but perhaps even more important, is the relation between speech disorders and emotional adjustment. The predominant attitude of a child towards his fellows and toward life may well be determined by a persistent speech defect. As in so many other emotional difficulties connected with physical manifestations, the vicious circle of cause and effect is difficult to break. The child commits errors of speech because he is under undue emotional pressure, and the feeling of inferiority which the commission induces reacts to increase the emotional tension.

To do something to help these children is undoubtedly a part of our responsibility as teachers. We cannot do it all, but unless we take the initiative many of these children will not receive any assistance. Moreover, we have a peculiar responsibility, because frequently difficulties of speech only appear after a child is enrolled in school, and it is difficult to escape the conclusion that school procedures are an important contributing cause. In any case, it seems quite clear that during the period from six to eighteen years the public schools have the best opportunity to help these unfortunate children to overcome their speech difficulties.

In the Oakland Public Schools the plan of assistance involves special class work by special teachers trained in speech correction. It also involves individual attention by every class teacher to those children who are significantly handicapped in speech, regardless of whether or not they are receiving supplementary instruction

from a special speech teacher. The services of trained speech teachers are essential, but their efforts will be of relatively little value unless the same general principles which underlie their special speech instruction are observed also in the daily routine of regular class procedure. In this bulleting we have attempted to bring together briefly information concerning the kinds of speech difficulties, opinions concerning the causes for these speech peculiarities, certain suggestions concerning the practical assistance which classroom teachers may give pupils in routine situations, and certain suggestions as to ways in which the teacher can work more effectively with parents.

It is not intended as a substitute for the help of the trained speech correctionist but rather as a supplement to her program. It is a sharing of "safe ways" to help speech-handicapped students build up their self-confidence and gain an opportunity for effective happy living.

II. DESCRIPTION OF SPEECH DIFFICULTIES AND COMMON CAUSES

A. Defects of articulation.

1. Organic defects -- those that result from various types of malformation of the voice mechanism.

a. Palate.

(1) Cleft palate -- recognized by extreme nasality and inability to produce consonants and consonant combinations.

(2) Sluggish palate -- causing a nasal twang.

b. Teeth.

(1) Irregular teeth -- causing faulty consonants.

(2) Open bite.

c. Jaw.

(1) Undershot or overshot.

(2) Extreme tension of jaw.

d. Throat.

(1) Enlarged tonsils causing indistinct speech and poor voice quality.

(2) Defective vocal cords -- resulting in huskiness and defective tones.

e. Nose.

(1) Adenoids or other nasal obstruction -- causing lack of nasal resonance and nasal twang.

2. Functional.

a. Defective sounds.

(1) Lipping -- protrusion of the tongue on s, z, sh, ch, j.

(2) Lateral sounds due to emission of air over sides of tongue.

Heard usually in s, z, sh, ch, j.

b. Consonant substitutions.

W for R - Wun for run.

W for L - Wike for like.

L for R - Led for red.

D, V, or Z for TH as dis for this.

T, F, or S for Th as tin for thin, fink for think.
 B for V - Bery for very.
 T for K - Tate for take.
 D for G - Do for go.

- c. Consonant substitutions and combinations involving the above sounds.
 - Twin for train.
 - Gween for Green.
 - Bwoo for blue.
- d. Vowel substitutions -- local dialectic pronunciations.
 - Ketch for catch.
 - Agin for again.
 - Ben for been.
 - Cit for get.
- e. Delayed speech -- due to retarded mental or motor development.
- f. Foreign accent.

B. Defects caused by emotional and neuro-muscular tension.

1. Hesitation is a speech confusion resulting from excessive self-consciousness and lack of poise.
2. Cluttering is rapid, choppy speech, sometimes almost unintelligible.
3. Stammering or stuttering is a speech disorder that is characterized by the spasmodic action of the speech organs during speech production.
 There are three types:
 - a. Audible -- a temporary blocking of speech often, accompanied by muscular contortions of face and body.
 - b. Silent -- a temporary blocking of speech with no outward sign of inner struggle. This is often mistaken for unwillingness or stubbornness.
 - c. Repetition of initial sound, syllable, or entire word.

III. FACTORS WHICH CONTRIBUTE TO HESITATION, CLUTTERING, AND STAMMERING.

- A. Any condition in home or school environment which tends to create a feeling of inferiority or insecurity in the child, such as:
 1. Unfair comparisons with other children.
 2. Parental favoritism.
 3. Persistent family quarreling.
 4. Inconsistent discipline.
 5. Dominating attitude of any member of the family or adult.
 6. Presence of persistent fears.
 7. Loud or irritating voice of parents or teacher.
 8. A physical defect.
- B. Any condition or experience which creates or aggravates a feeling of inferiority or insecurity, such as:
 1. Stern or unsympathetic attitude of teacher.

2. Lack of understanding of underlying causes of such speech difficulties.
3. Unfair comparisons with other children.
4. Over-estimation or under-estimation of the child's real ability.
5. Inability to make school adjustments.
6. Insistence upon forcing a change in natural handedness.
7. Complexes developing from reading difficulties.
8. Lack of sympathetic attitude of classmates.
9. Irritating voice of the teacher.

The more severe forms of speech difficulties such as stuttering, halting, or distressed speech are considered by many to be merely the outward signs of some deep-seated emotional conflict based, often, upon unconscious memories of emotional disturbances in early childhood. They may be due to faulty home environment and to unhappy school experiences, perhaps long since forgotten. That these speech disorders are not the direct result of physical defects is proved by the fact that such disorders are often intermittent, occurring under some conditions and unnoticeable under others. A pupil may have almost normal speech at home, yet be unable to speak without great difficulty in the classroom. The emotional strain caused by a physical defect, however, may be a definite contributing factor.

Often the social life of the pupil so handicapped has been made up of succession of failures and ensuing humiliations; of a gradual loss of courage and a corresponding growth of fear. He finds himself upon his entrance into high school unable to cope with the situations that confront the average high school pupil. He is desperately in need of friendly understanding and of sympathetic help. An atmosphere of friendliness in the classroom often is the beginning of corrective treatment even where the cause of the speech difficulty is deep-seated or unknown.

The discovery of those things which hinder the wholesome social and emotional adjustment of children demands of the classroom teacher and understanding of the more common causes of the lack of adjustment and a constructive, sympathetic attitude in dealing with such pupils.

IV. WHAT THE CLASSROOM TEACHER CAN DO (Elementary and Secondary)

A. Recognition of defects:

At the beginning of the term, or in her first interviews with members of the incoming class, the teacher should be able to recognize speech defects, even slight defects, and to make a practical classification of these defects.

A child with a severe articulatory difficulty or one who stammers, clutters, or otherwise manifests emotional or nervous speech disorder needs special instruction and should be promptly reported to the principal, who in turn will assume the responsibility for sending the necessary information to the department of individual guidance.

Whatever the nature of the defect, the success of any program of speech hygiene and speech correction depends, mainly, upon the teacher's ability to recognize the difficulty, and upon her skill in guiding children to speak correctly and effectively. Since the young child learns speech sounds chiefly through imitation, the teacher's own voice is a very important factor in the development of pleasing and effective speech.

B. Attitude of teacher:

A sympathetic attitude based upon an understanding of the factors that contribute to unsatisfactory expression in speech and upon a knowledge of how the difficulty can be overcome, is absolutely essential for the success of the program. Time spent in bringing about rapport and a spirit of friendliness and understanding pays high dividends.

C. Practical suggestions for use in the classroom:

1. Encourage all efforts to speak, but make speech in the classroom voluntary, not mandatory.
2. Allow child ample time to organize and express his thoughts. Give him the privilege of finishing what he starts to say, even though he has difficulty in saying it.
3. Repeat situations and experiences which give practice in speech success and avoid situations and experiences which permit speech failure.
4. Use every opportunity for constructive praise, both before group and when alone with child.
5. Build self-confidence through other methods of expression. Assign responsibilities in classroom which require action rather than speech, especially at first:
 - a. Monitorial duties.
 - b. Keeper of room and playground equipment.
 - c. Property man for dramatic reproductions.
 - d. School traffic duty.
6. Provide for those activities which develop muscular coordination:
 - a. Rhythmics.
 - b. Playing with balls of different sizes.
 - c. Construction work -- use of hammer and saw; use of scissors and other tools; large free painting.
 - d. Self-testing activities -- stunts.
7. Give opportunities to express himself in ways that require no speech:
 - a. Plastic art -- clay modelling, drawing, painting.
 - b. Graphic art -- rhythmic writing, verse, stories.
 - c. Instrumental music.
 - d. Orchestra.
 - e. Action games -- relays, tag games.
 - f. Rhythmic activities -- folk dances.
8. Provide activities that promote easy speech:
 - a. Dramatization of short stories of courage.
 - b. Impersonation of characters which embody the characteristics of which he has the greatest need.
 - c. Singing.

- d. Singing games.
- e. Choral speaking.
- 9. Arrange for rest period when indicated.
 - a. Rest class.
 - b. Change of occupation to prevent tension.
 - c. Errands.

V. RELATION TO THE SPECIAL SPEECH TEACHER:

The need of a qualified speech correction teacher to deal with the more severe forms of speech difficulties cannot be overestimated. Whether the methods which she uses bring about the desired emotional stability and speech re-education depends, to a very great extent, upon the classroom teacher and her day to day guidance of these speech handicapped pupils. To these classroom teachers is given a rare opportunity for constructive service -- the chance to build courage and satisfaction by friendliness and understanding.

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Group Verse Speaking

This term includes verse chorus, verse choir, choral and choric speech, speech orchestra, etc. Its techniques call for team-work and participation, providing speech practice for every member of a class. Making use of rhythmic response as a basis, its introduction, regardless of level, calls in its first stages for the play spirit. This is valuable for speech development by creating ease, spontaneity, and delight.

This jingle was done by a child for fun while skipping rope, and was overheard in a city's foreign section:

"House for rent!
Inquire within!
As we move out
You move in!"

The chief aim of group verse speaking is the producing of corporate sound by increasing group awareness. The materials used to start the work are nonsense rhymes and jingles in which the dance (pulse) in the words is infectious. Such jingles invite bodily response in walking rhythms and their many variation, hand movements such as "finger-tipping," drumming, etc. This response coordinates the many different individual "time-clocks" (blood and breath rates) of the pupils. Having only the simplest meaning, jingles afford opportunity to enter fully into "sound effects."

Therapeutic Value of Rhythms. A teacher, when introducing group verse speaking, should be prepared with sequences of two main rhythms for class work. Swaying rhythms to quiet the neuro-muscular system, swinging ones to stimulate it, have therapeutic value. It is desirable with beginning work at any level to have the class get the words by listening. That ear training is essential in speech development is fortunately becoming more fully realized. The freeing of pupils from dependence on print and stereotyped memorizing is advisable if one aims at live natural speech. This means that the teacher understands that short numbers are the ones most pertinent for most group speaking purposes.

Although the dance in the words starts a recognition of rhythm, many other steps are needed for a class to achieve a balance of sound and sense when speaking. These include rope

include responding to (1) the music in the words ("sound effects"--tone); (2) the mood shown chiefly by the rate of utterance; (3) the movement or syllabic plan (the metric patterns and pauses); and (4) the meaning (grammatical organization and total poem structure). Except at the start, the teacher makes no attempt to impose interpretations. These are developed by group comment, individuals volunteering to speak various passages, and the choice of how a thing is to be said is made by the class.

Variety of Treatments. Different dispositions can be made of the lines to be spoken. One of the simplest is refrain treatment. Sometimes antiphonal effects are desirable. Sometimes a tonal background which acts as a counter-rhythm, such as humming, crooning, drumming, may be introduced if appropriate. Rhythmic response is to be encouraged in the first stages of all work. It is essential to achieve unity in timing, flow, and attack as in any orchestral or band rendition. Later, when a class knows how to do these things, as well as stress and phrase, acting and timing may be introduced. It is unwise to attempt actual dramatization until clear, clean, and flexible speech has been gained, otherwise blurred, smudged, or uneven utterance results because of preoccupation with motor action.

Some teachers speak of treatments as one-part, two-part, three-part. Others describe them as question and answer, individual and cumulative sequences, section work by grouping voices as light, medium, and heavy timbres, and unison speaking. Individual work has also been called line-a-child and cumulative lines-a-side work. Treatments are determined by the kind of material used, the teacher's ability to enrich or amplify its meaning by developing a treatment which is suitable, and the ability of the group.

Selection of Materials. A choice of suitable materials is one of the most important features for a satisfactory use of this procedure. Summarizing briefly, it may be pointed out that material needs (1) to have rhythmic vitality; (2) to be objective; (3) to have a common, shared, interacting "we" viewpoint; (4) to be defined in mood and strong in imagery; (5) to be contrasting or growing in detail when selected for section work; (6) to be voicing one simple theme in unison work; (7) to be never too long, especially in dramatization. For a teacher pioneering in this field without instruction there are now several standard texts to advise one. Any teacher, if creative, will gradually assemble and test materials according to the objectives, interests, and situation of each particular group.

There is a tendency in some quarters to regard group speaking as suitable only as a play way for speech training in elementary classes; others, using it on the higher levels, do so with the aim of appreciation. Some teachers, however, have the insight to grasp its primary socializing import, how it helps timid pupils to participate and how it subdues egotistic ones. Such teachers select numbers to relate to the activities or orientation in which a class may be engaged. On the primary level the teacher used a sequence of railroad verse, largely with simple refrains, in a class engaged in a transportation project. Another report told of a teacher in a junior high school making an interesting sequence of pioneer verse including numbers with refrains as in "The Oregon Trail," and a portion of "Pioneers," by Whitman. In a senior high school some successful work was done by a teacher who, selecting a series of verses on words, stimulated the English study of her class.

One poem was,

WORDS

Words, like fine flowers, have their colors too:
What do you say to crimson words and yellow;
And what to opal, emerald, pale blue?
And elvish gules?--he is a glorious fellow.
Think of the purple hung in Elsinore,
Or call it black and close your eyes to see;
Go look for amber then on Lochlyn shore
And drag a sunbeam out of Arcady.
And who of Rosamund or Rosalind
Can part the rosy-petal'd syllables?
For women's names keep murmuring like the wind
The hidden things that none for ever tells.
Last, to forego soft beauty, take the sword,
And see the blue steel redden at the word.

(Done as individual sequence by different boys and girls voices, with the first line as a chorus by girls and last line by all the boys.)

The following example of Indian nonsense jingle was used:

Old Tuscumock, medicine man,
Lived on goose and pickled clam,
Goose and clambewere all his diet,
Nothing else could keep him quiet.
He lived in a tree as high as the moon
And fed himself on a silver spoon.
All the Indians, miles around,
Squatted themselves upon the ground--
Warriors, squaws, and little papooses--
To see him feed on clams and geoses.
Naughty Indian, old Tuscumock,
Naughty Indian to spoil his stomach!

BENEFITS OF GROUP SPEAKING. Teachers who have really worked with group speaking see how its procedures compel a practical application of sound skills. Its rhythms, the tensions and releases of which both refresh and relax, compel neuro-muscular coordination. Pupils learn, if they do anything beyond the most rudimentary work, how the voicing of fine poems necessitates ease, tonal adequacy, skilled shaping of sounds, and vocal flexibility. They find mechanical effects do not result from rhythm but from lack of mental alertness and of meaning grasp shown in monopitch or sing-song. Such mechanical effects have no place in group speaking if the sense is actually "brought through" the sound. More speech improvement by pupils, in less time than is accomplished by more individual methods, is another result.

It is to be recognized, however, that the motivation for group verse speaking does not lie with technical proficiency, nor even knowledge of materials, nor treatments. Its aegis ✓ derives from the individual cooperating with the group to share, not to exhibit, speech. If a teacher has this viewpoint and plenty of play spirit, simple uses of the procedure can be at least attempted. When one remains true to such fundamental impulses, insight may then be gained and a desire, possibly, to undertake some technical training for greater proficiency.

CALIFORNIA SCOPE AND SEQUENCE STUDY

THE SCOPE OF THE CURRICULUM:

The scope of the curriculum may be defined as the comprehensiveness of human experience. The various aspects of human experiences may be looked upon as basic human needs. Basic social functions or human needs do not change; they are not variable but fundamental, continuing, and abiding.

Various methods may be following in determining scope. In the past, education has defined the scope of the curriculum in terms of special disciplines or subjects; it is conceivable that the scope might be built on the basis of social institutions; the major objectives of education might also serve in this respect.

Definition of scope in terms of the major functions of society seems to contain the greatest possibilities for the organization of experiences which will advance the concept of the social evolutionary process. Democracy has within itself the power of changing its institutions to achieve human values. The organization of the scope of the curriculum in terms of major social functions seems to recommend itself in the process of evaluation, controlling and shaping change in a more dynamic way.

In general, the following have been accepted tentatively as major social functions:

1. The protection and conservation of life and health
2. The protection and conservation of property and natural resources
3. The securing of raw materials
4. The production of commodities
5. The consumption of goods
6. The transportation and exchange of goods
7. Communication
8. Social control
9. The extension of freedom
10. Education
11. The discovery of new knowledge
12. Recreation
13. Aesthetic expression
14. Religious expression

THE SEQUENCE WITHIN THE CURRICULUM:

Sequence within the curriculum should constitute that arrangement of experiences appropriate to the level of development of the learner which will help children and youth to understand the relationships between the major social functions.

The following organization indicates the basic theme which has been tentatively accepted as the basis for the organization of suggested units of work on each level:

Kindergarten - Grade II	The child and his immediate environment.
Grades III-IV...	The basic physical, material, manipulative means by which man has learned to control his environment, as, for example, in primitive or pioneer life.
Grades V-VI...	The basic scientific, mechanical instruments by which man has learned to control his environment, as shown in such areas of experiences as: the history of records, the history of travel, the development of lighting.
Grades VII-IX...	Personal adjustment to self and to the social and physical environment. The center of interest around chronological history should be replaced by such areas of experience as: transportation, power, industries; orientation to meet problems of personal adjustment; community studies such as recreational surveys, health department, city government to help adjust youth to his larger out-of-school environment.
Grades X-XII...	Orientation to problems of personal, social, economic, and political living. The major purpose should be the interpretation of various aspects of contemporary society.
Grades XIII -XIV ...	Logical synthesis and organization around life purposes of knowledge and experience. The emergence of specialization in terms of individual vocational careers.

These basic themes will serve as centers around which units of life experience may be organized. Those units of life experience should be selected which will contribute most significantly to the development of the evolutionary concept of society. Knowledge and information will not be enough; education must provide youth with understanding of current problems upon the basis of which he may contribute to the improvement of the society in which he lives.

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STEPS IN PREPARING TO GUIDE CHILDREN THROUGH A SERIES OF ON GOING
INTERRELATED EXPERIENCES IN THE SOCIAL STUDIES--WHICH WE SOMETIMES
CALL A UNIT-OF-WORK

--Corinne A. Seeds

1. Choose an area of experience which is "sufficiently full and complex to demand a variety of responses from different children and permit each to go at it and make his contribution in a way which is characteristic of himself" and has "a sufficiently long time-span so that a series of endeavors and explorations are involved in it, and included in such a way that each step opens up a new field, raises new questions, arouses a demand for further knowledge and suggests what to do next on the basis of what has been accomplished and the knowledge gained thereby."
 - A. Discovering possible areas.
11. Make a preliminary survey of area to discover potential experiences or pathways involved.
 - A. In terms of children's possible responses to the materials involved therein think through some of the possible experiences involved. (In other words, make a preliminary survey to determine whether or not to consider such an area seriously.)
111. Apply to the area under consideration the following criteria for the selection of areas-of-experience which may offer developmental possibilities.
 - A. Is Child Development and Maturation Considered?
 1. Are the materials selected with full consideration of the immediate interests, needs and drives of the children?
 - a. In what ways will the experiences within this area provide for the stimulation of interest, satisfaction of curiosity, dramatic play, construction and manipulation, sharing and communicating, physical activity and aesthetic expression?
 - b. How will this area satisfy the physical, social and ego-intergrative needs of the children?
 2. Are the experiences involved in this area selected with relation to past experiences?
 - a. Out-of-school experiences?
 - b. In-school experiences?
 3. Do the activities involved in this area provoke further interests and activities?
 - a. What new knowledge gained?
 - b. What skills will be newly acquired or strengthened?
 - c. What attitudes and appreciations will be newly developed or strengthened?

Dewey, John-Progressive Education and the Science of Education.
Reprint of speech of March 8, 1928. Progressive Education
Association.

4. Into what further wide interests might these experiences lead?
5. Are the experiences involved in this area sufficiently diversified to take into account individual differences in interest, in abilities, in social adjustment to the group, in emotional tendencies?
6. Do the experiences herein involved stimulate democratic living in the group?
 - a. Do they challenge individuals? small groups? the whole group?
 - b. Will they stimulate attitudes of critical thinking, tolerances, cooperation, consideration for rights of others and the like?

B. In the Content are Basic Human Needs Considered?

1. How do these experiences involve consideration for protection and conservation of life and health, the protection and conservation of property and natural resources, the securing of raw materials, the production and consumption of goods and services, the transportation and exchange of goods, communication, social control, the extension of freedom, education, the discovery of new knowledge, recreation, aesthetic and religious expression?
2. Do these experiences provide for increased social insight and social concern?

C. Are Practical Considerations Taken Into Account?

1. Are materials and needed helps available?
2. How often and how recently have similar activities been experienced?
3. How much time will the experiences involved consume?
4. Are these experiences practical and workable under school conditions?

If responses to the questions are largely satisfactory it is safe for the teacher to proceed with the next steps in her preparation.

IV. Enrich her own background of experience.

- A. Through engaging in first-hand experiences and recording the results.
- B. Through vicarious contacts and recording the results.
- C. Through collecting literature, music, art, dances, and pictures to enhance and extend the experiences of the children.
- D. Through creative experiences in writing stories and poetry, in painting, in dramatic-play, rhythmic expression and in music.
- E. Through compiling for use various sources of information.

V. Consider a number of ways in which this particular series of activities might get under way with the group of children concerned.

- A. Through interest emerging from an "on-going" activity? (Out of an intensive study of ~~edit~~ Medieval Life might grow a real interest in History of Records. Playing Grocer Street might lead into an intensive study of Wholesale Marketing-etc.) If so, state how you believe this interest will arise and describe the initial environment you will need to provide in order to promote further stimulation of interest.

- B. Persons who have information.
Name-address-how reached.
What the person knows with respect to this study.
- C. Sources of good illustrative material.
Magazines
Motion pictures
Concrete objects etc.
- E. Bibliography. Form:

Books

Author (surname first)-Title of Book.
Publication place-Publishing Company-Date
Annotation-remarks and paged references

Magazines

Name of Magazine-"Title of Article" - Date (Month and year)
Annotation-remarks as to value

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Suggestive AREAS - OF - EXPERIENCE Appropriate for
Use in the Grades of the Elementary School
(Acceptable for S131-B)

--Corrinne A. Seeds, Instructor

1. Kindergarten

The Home (the playhouse)

Transportation Facilities:

Busses

Trains

Airplanes

Boats

Trucks

Phases of Community Life

The gasoline station

The post office

The grocery store

The market

The Farm

2. First Grade (Emphasis upon transportation as it affects general living in a community.)

The Home (A large one- built by the children)

Development of General Community Life Study- beginning with:

Trains

Trucks

Boats

Airplanes

Busses

Phases of Community Life which will develop along with and following the means of transportation made first:

The Grocery Store (Furniture store, etc. etc.)

The post-office

The market

The cinema (Motion Picture theater)

The Park (playground)

The Taxi-stand

The Fire station

The emergency hospital

The police station

The Farm

3. Second Grade (Emphasis upon intensive development of certain important phases of Community Living.)

The Market

How we obtain our fruits and vegetables-with some reference to how other people obtain theirs-also how people who lived long ago secured theirs.

The Bakery

How we obtain our bread- how people living in other countries today obtain theirs and how those living in other times secured theirs.

The Fire-Station

How we protect ourselves from fire - how people in other countries do this - how people in other times did this.

The Post-office

How we get our mail - how other people get theirs- how people in other times carried theirs.

The Creamery

How we obtain our milk, butter, and cream- how people in other countries obtain theirs - how those living in the past did this.

The Community

The building and furnishing of interesting houses in which families may live-the building of garages - landscaping the community and the yards - the building of necessary stores, etc. for community living. Consideration of towns in other places and in other times.

4. Third Grade(Emphasis may continue to be placed upon phases of living in the child's own environment - or, upon intensive life-studies centered in the lives of people whose adaptations to their environments were quite simple.)
- a. Studies which extend knowledge of the relationships of present-day living.
- (1) Building boats that will float - building a harbor and carrying on harbor activities - making cargo - studying intensively exports and imports. Find out about boats of long ago.
 - (2) Building trains and a railroad center - carrying on activities in the railroad center - making products carried - studying intensively these products.
 - (3) Same for transport-trucks (where there are no trains or boats.)
- b. Intensive life studies of people whose lives are simple:
- (1) Indian Life- Pueblo Indians
Navajo Indians
Costonean Indians of California
Eastern Wood-Indians
Plains-Indians
- Note: Any one of these could be followed by a comparative study of Indians throughout the Western hemisphere.
- (2) Mexican Life
 - (3) Japanese Life (in the interior)
 - (4) Life in the Congo
 - (5) Life in the Sahara Desert
 - (6) Life of the Early Hebrews
 - (7) Primitive Life (The Later Cavemen)

5. Fourth Grade (Emphasis still upon people whose lives were relatively simple.)
 - (1) Early trade by boat (carry-over from Third Grade)
 - (2) South America through a life study of the Indians of the Amazon
 - (3) Mexican Life Study
 - (4) California Life Study centered in the Ranchos of the Spanish Dons
 - (5) Chinese Life Study

 6. Fifth Grade (Emphasis upon the living of people whose lives were growing more complex - who were more and more reconstructing their environment to meet their needs.)
 - (1) Viking Life
 - (2) Colonial Life in Eastern United States (Comparison with the West.)
 - (3) Colonial Life in California (comparison with the East)
 - (4) Westward Movement:
Life on the Oregon Trail (Etc.) and on the Pioneer Fronts - (Boonesborough) - A Gold Camp in California, etc.)
 - (5) American Industry Life Today:
Study of American Industry beginning with common-carriers and making live studies of major industries.

 7. Sixth Grade (Emphasis may continue to be - (a) upon the lives of people whose adaptations were increasingly more complex - or, more than likely, if real interests of eleven and twelve-year-old children are considered the emphasis will be (b) upon the serious consideration of the forces which are at work bringing together all of the people of the world into one great society.)
 - a. Studies centered in the lives of the people who lived in the past whose adaptations were relatively complex:
 - (1) Egyptian Life
 - (2) Life in the Middle Ages centered in:
 - (a) Life in the Castle
 - (b) Life in the Monastery
 - (c) Life in the Town with Guilds emphasized

 - b. Studies centered in the forces which are making the whole world of people and things:
 - (1) Aeronautics- followed by cross-section of history of aeronautics.
 - (2) The Modern Press- cross -section of History of Records.
 - (3) Communication through Radio, Telephone, Cable, and Telegraph-cross-section of History of Sound Communication.
- Note: Teachers may apply these areas to different grades in order to meet the needs of the children they teach and to fulfill the requirements of their own courses of study. Other areas may be selected after consultation with the instructor.

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SCOPE AND SEQUENCE

The Child's More Immediate Environment

MAJOR FUNCTIONS OF SOCIAL LIFE	GRADE I HOME AND SCHOOL LIFE (Center of Interest)	GRADE II COMMUNITY LIFE (Center of Interest)
	Aspects of Center of Interest Selected for Emphasis	Aspects of Center of Interest Selected for Emphasis
1. <u>Protection and Conservation of Life, Property, and Natural Resources.....</u>	How do we protect and maintain life and health in our home and school?	How do animals and plant life help people in our community and how are they protected? How do we in the community protect our life, health, and property?
2. <u>Production of Goods and Services and Distribution of the Returns of Production.</u>	How do the things we make and grow help us?	What do we do in our community to produce goods and services?
3. <u>Consumption of Goods and Services.</u>	How does our family provide itself with food, clothing, and shelter?	How do we use the goods and services provided in our community?
4. <u>Communication and Transportation of Goods and people.</u>	How do members of our family travel from place to place?	How does our community provide for transportation and communication?
5. <u>Recreation</u>	How can we have an enjoyable time at home and school?	How does our community provide for recreation?
6. <u>Expression of Aesthetic Impulses.....</u>	What can we do to make our home and school more beautiful and pleasant?	What do we do to make our community attractive?
7. <u>Expression of Religious Impulses.....</u>		
8. <u>Education</u>		
9. <u>EXTENSION OF Freedom.</u>		
10. <u>Integration of the Individual.....</u>		

OF PROPOSED TWELVE YEAR

Living by Making Simple Adjustments to Physical and Natural Forces

GRADE III

GRADE IV

ADAPTATION OF LIFE
TO ENVIRONMENT FORCES OF NATURE
(Center of Interest)

ADAPTATION OF LIFE
TO ADVANCING PHYSICAL FRONTIERS
(Center of Interest)

Aspects of Center of Interest
Selected for Emphasis

Aspects of Center of Interest
Selected for Emphasis

- | | |
|--|---|
| 1. How do people, plants, and animals in communities with physical environments markedly different from ours protect themselves from forces of nature? | How have frontiersmen provided for the protection of life and property? |
| 2. How do environmental forces of nature affect the goods produced in different communities? | How has frontier living been modified by the production and distribution of goods and services? |
| 3. Why can other communities furnish us with goods we cannot produce? | How has frontier living restricted the consumption of goods and services? |
| 4. How does our physical environment affect communication and transportation? | How have ways of transportation and communication served to advance frontiers? |
| 5. How does the environment influence types of recreation? | How has recreation been influenced by frontier living? |
| 6. How do people in communities markedly different from ours express their artistic impulses? | How have art, music, and literature been affected by frontier living? |
| 7. How do people in different communities express their religious impulses? | How is religion affected by frontier living? |
| 8. How do people in different communities provide education? | How has education been influenced by frontier living? |
| 9. | How has frontier life implanted ideas of freedom and caused these ideas to grow? |
| 10. | |

CURRICULUM

Living by Controlling Nature Through Science and Technology

GRADE V
EFFECTS OF INVENTIONS AND
DISCOVERIES UPON OUR LIVING
(Center of Interest)

GRADE VI
EFFECTS OF MACHINE PRODUCTION
UPON OUR LIVING
(Center of Interest)

Aspects of Center of Interest
Selected for Emphasis

Aspects of Center of Interest
Selected for Emphasis

-
- | | |
|---|---|
| 1. How do inventions and discoveries alter our ways of protecting and conserving life and property? | How does machine production lead to the conservation and to the waste of life, property, and natural resources? |
| 2. How do inventions and discoveries affect the variety and availability of goods? | How has machine production increased the quantity and variety and changed the quality of goods? How has standardized machine production influenced distribution of goods? |
| 3. How is the consumption of goods and services influenced by discoveries and inventions? | How has machine production of standardized goods influenced the choice and use of goods? |
| 4. How do inventions and discoveries influence recreation? | How has machine production influenced recreation? |
| 5. How do inventions and discoveries affect our art, music, and literature? | How has machine production modified art, literature, music, and architecture? |
| 6. How have discoveries influenced the spread of religion? | How has machine production influenced the development of the church? |
| 7. How do inventions and discoveries influence education? | How has machine production influenced education? |
| 8. How do inventions and discoveries extend freedom from superstition? | |
-

CURRICULUM GUIDE

SOURCE MATERIAL FOR THE MAJOR FUNCTIONS OF SOCIAL LIVING

Age Group - Ten and Eleven Years

Scope and Sequence Chart

Understandings Basic to Man's Developing Control of Tools and Techniques

Aspects or Problems and questions for section B of the Major Functions, "Protecting, Conserving, and Using Our Resources".

Suggested Activities for use in solving problems for the same section and level.

Reference Materials

24362

Grades Five and Six

Integrative Theme: Adaptation of our regulatory arrangements to the control and direction of technological development.

Specific Theme: for Grades five and six: How modern man uses science and inventions.

Center of interest for grade five: Effects of discoveries, inventions and development of machinery on our living in the United States.

Understandings Basic to Man's Developing Control of
Tools and Techniques

Man's progress has depended upon his skill in use of tools. His hands were his first tools; later, he used stone, wood, and bone. Extensive agriculture was impossible in the stone age. Until man was able to cultivate land, he was forced to move from place to place in order to obtain food for himself and his animals.

When man discovered iron and learned to forge tools and weapons, it became possible to better protect himself, till his land, raise food and maintain a permanent home.

Man improved his methods for the production of food, shelter and clothing. He advanced from the use of skins for clothing and shelter to the use of woven and other materials for more comfortable living. Man discovered fire and learned how to put it to use, to warm his dwelling, and to cook food. He learned to cure his ills through the use of certain roots and shrubs.

The first power used by man was his hand. He extended the use of his hands by employing a stick which he later fashioned into a plow or cultivator. He substituted domesticated animal power for his own. He also used hand and foot powered machines, an example of which is the loom.

Man found that his flat stick converted into a circle made a wheel. This he also used with water power to run his mill.

Steampower used to drive the locomotive and ship was a great advance over sails and wind. The combustion engine followed this step to give us the automobile, airplane, and other machines. Electric power through the use of the turbine engine was the last great advance.



Grades Five and Six

Integrative Theme: Adaptation of our regulatory arrangements to the control and direction of technological development.

Specific Theme for Grades five and six: How modern man uses science and inventions.

Center of Interest for Grade five: Effects of discoveries, inventions and development of machinery on our living in the United States.

Scope

Aspects

B. Protecting, Conserv- ing and Using Our Resources

1. Soil Conservation: Why is soil conservation vital to human existence? What kinds of soil are there and how can we make the best use of them? What discoveries and invention help us to analyze soil, to add to its nutritive value, and to check soil erosion? Where are the eroded areas in the United States? In the world?
2. Conservation of plant and animal life: Why is it important to conserve plant life? Why is animal life important to human life? What are the native plants and animals of Poston and what measures should we take to protect the valuable types? What plants and animals in the United States need Federal protection to prevent their becoming extinct?
3. Conservation of minerals: What minerals are found in Poston and also in other areas of the United States? Of what value are these minerals to us and how can we best conserve them for future generations?
4. Security and Safety:
 - a. The Fire Department - How does the Fire Department protect our lives and property? What scientific discoveries and inventions do they use to make their work more effective
 - b. Police Department - How does the Police Department protect us and what scientific discoveries and inventions do they use to make their work more effective?
 - c. Sanitation - How does the Public Health Department help us live more safely? What scientific discoveries and inventions do they use to make their work more effective?

What kind of soil is found in Poston?

How do scientists analyze soil?

Who analyzes soil in Poston?

Does the wind harm the soil which is to be used for agriculture?

Do heavy rains harm the soil?

What can be done to prevent the wind and rain from harming the soil?

What are the areas which have suffered most from soil erosion in the United States?

What other countries have problems of soil erosion?

ScopeAspectsB. Protecting, Conserv-
ing and Using Our
Resources

- What caused the great floods in China?
- Why did the people have to move away from southern sections of Italy years ago?
- What is meant when we say "Babylonia was the cradle of the world"?
- Why did that land furnish food for large numbers of people in ancient times?
- Why are most of the people who live there now very poor and sickly?
- Does the soil in Poston have enough food in it for the plants so that they will help keep us healthy?
- How can plant food be added to the soil?
- Where does plant food come from?
- What other kinds of vegetables must we have to keep us healthy?
- What is meant by "crop rotation"?
- Did Indians rotate their crops? Did Indians irrigate their crops?
- What fertilizers cannot be obtained because of priorities? What substitutes can be used?
- Where is guano found?
- What are the Chilean nitrate beds?
- How do countries like China, Mexico, and other fertilize their crops?
- Why is it dangerous for an American to eat fresh fruit and vegetables in those countries?
- Why is it necessary to change from one type of plant crop to another?
- What kind of vegetables grow best in the Arizona climate?
- Why is it possible to raise two crops a year in Poston?
- Can two crops a year be raised in any other section of the country?
- Where does Poston's irrigation water come from?
- Do other countries use dams to check soil erosion and to store water?
- Why are there no longer bad floods in the Nile Country?
- What has China done to check the bad floods in the Yangtze River?
- Has China been able to prevent these floods?
- What kind of damages are done by floods?
- Why do no trees with large leaves grow on the desert?
- What sort of plants grow on the desert near Poston?
- What sort of animals live in the desert near Poston?
- Are these plants and animals found in any other section of the country?
- What other deserts are there in the United States?
- Do people live on these deserts?
- Are any of these deserts under cultivation?
- How does our desert compare with the desert in Lybia?
- Where are other great deserts located in the world?
- What is an "oasis"? Do we have any oasis in our deserts?
- Why is it supposed to be dangerous to cross the desert?



ScopeAspectsB. Protecting, Conserv-
ing and Using Our
Resources

Do you know any stories about pioneers crossing this desert?

How does our desert compare in appearance to other deserts you have read about?

What sort of insects and pests are likely to attack our vegetables?

What can be done to prevent pests from ruining our crops?

Is there any danger of farm animals being infected with diseases?

What can be done to prevent this from happening?

What is the famous pest that spoils the cotton crops?

Do farmers near Poston have any trouble with it?

How has it affected the cotton crops in the south?

What has been done to get rid of this pest in the south?

What is meant by the "dust bowl"?

Where is it located?

What caused it?

What kind of land was found there originally by the pioneers?

What kind of farming was done there just before the depression?

Can this land be restored to the people? If so, how?

What has been done to help restore this land?

What has been done by the Federal Government to re-forest this land and prevent wind erosion?

Are there any dust bowls in other parts of the world?

What are the procedures that foreign countries have used to prevent the formation of these dust bowls or to restore their fertility after they have been formed?

What is "top soil"?

How long does it take for top soil to be produced?

How can we replace top soil which has been lost due to wind or rain?

What is meant by a "virgin forest" or "virgin land"?

Are there any sections in the world where we can find virgin forests or virgin land?

How have the people of Japan, Java, and the East Indies tried to conserve their soil when they must use hillsides for agriculture?

What kind of soil did the early southern colonists find in the southern states?

What crops did they raise there?

What happened to the soil?

What is the condition of the people in certain sections of the south now?

Why are they unable to make a living?

What is being done to help restore the fertility of the soil?

What kind of soil did the New England colonists find when they landed in America?

ScopeB. Protecting, Conserv-
ing and Using Our
ResourcesAspects

- What have been the chief industries in the New England states? Why?
- What were the chief industries in the New England states just before the last war?
- What is meant by the "cut-over land" of the Great Lakes?
- What sort of country was this before the lumbermen came in?
- What is being done to this land?
- What is happening to the many lakes and streams in this section of the country?
- What has happened to the great forests of Washington, Oregon and California?
- Why was this allowed to happen?
- Is anything being done to restore these forests?
- What is the National Government doing to save the remaining forests in this country?
- What countries have been the leaders in forest conservation?
- What kind of laws did they have?
- Where are the important forests in the world?
- What sort of lumber comes from each important locality?
- How does the National Government try to prevent fires from ruining our forests?
- What men help in this work?
- What sort of training do they need?
- Have you ever talked to one of these men?
- How does the cutting down of trees affect rainfall?
- What happens to rain which falls in a forest?
- What happens to rain which falls on bare land? What happens to the land?
- What happens to the people who live on this land?
- Why do people who live on one side of the mountain have better food than those on the other side?
- What has happened to the great schools of salmon that used to go up the rivers of the northwest?
- What can they no longer go up these rivers?
- What kind of laws are made to help take care of this situation?
- What else is being done to help the salmon and other fish in this country?
- What is meant by "extinct"?
- What other kinds of fish may become extinct?
- What is the national government doing about this problem?
- What sort of laws do foreign governments have to prevent fish from becoming extinct?
- Why do we have so few buffalo today?
- What other animals are in danger of becoming extinct?
- What laws has the Federal Government made to protect them?
- What is meant by "in season" in regard to deer hunting?



ScopeAspectsB. Protecting, Conserv-
ing and Using Our
Resources

- Are forest fires necessary?
 What kinds of fire extinguishers are there?
 How do they work?
 Do you have a fire extinguisher in your apartment?
 Do you know where it is?
 What would you do if a fire started in your home?
 What ways are there to put out a fire if you do not have a fire extinguisher?
 How can you help the firemen in case of a fire near your home?
 How is the water pressure produced by the fire truck?
 Where do the firemen get reserve water?
 What are some of the famous fires we have had in this country?
- How is the garbage disposed of in Poston?
 What danger is there to people in careless disposal of garbage?
 How is the sewage disposed of in Poston?
 What sort of a process is used to disinfect the sewage and why?
 What are the sewers in Paris used for besides carrying away waste material?
 What cities dispose of their sewage by emptying it into rivers and lakes?
 How can drinking water be infected by this practice?
 Why is it dangerous for children to swim in our canals? In the Mississippi River?
 Why do many people bathe in the Ganges River in India? What is the danger of this practice?
 Is the Colorado River polluted by any large city?
 Why cannot states protect themselves from polluted water?
 What are the rivers where this problem is the greatest?
- What is the fine for pulling up cactus in Arizona and why?
 What is the fine for taking desert holly out of the state and why?
 How can flowers and leaves be picked without injuring the plant?
 Why do states have laws against picking wild flowers?
 What is the State flower of Arizona, of California, or of any other states which you know?
 Why do we protect trees?
 What causes the dust in Poston?
- How do the police help to prevent crime?
 What are the United States Federal Police called?
 What are the Canadian Federal Police called?
 What is the nickname of an English policeman?
 What is the French policeman called?
 Are there any policemen to enforce countries to obey international laws?
 What happens if countries do not obey these laws?

ScopeAspects

B. Protecting, Conserv-
ing and Using Our
Resources

- How is the work of a Federal policeman different from that of a city policeman?
- What is meant by the "Big Brother" movement among the police?
- How does the organization of playgrounds and recreation centers help prevent crime?
- What connection does the Poston police department have with Yuma County and the State of Arizona?
- What types of cases are referred to the county sheriff and to the state police?
- How does the radio help the police?
- How do the police use the teletype, telephone, telegraph, and the printing press?
- How does our Poston police system protect us?
- Why do we need police in Poston?
- What happenings should be reported to the police?
- Who is the chief of police in Poston?
- Why is it necessary to have a chief?
- What are his duties? Who assist him?
- What are the various ranks in the Police Department?
- What is the duty of each rank?
- How do the policemen help the firemen?
- How do the police help the Department of Public Health?
- What is the difference between a petty offense and a felony?
- How do fingerprints help the police?
- Do we use fingerprints for other purposes? Footprints?
- How can a criminal be identified by his fingerprints?
- What device is used for this process?
- What other measurements are used to identify criminals?
- How are chemical tests and the microscope used to identify criminals?
- How are blood tests used and what are the limitations of these tests?
- What causes the beautiful colors in the rocks and mountains around Poston?
- Are there any valuable stones or gem stone in our mountains?
- Are there any valuable minerals here?
- What caused the boom in Parker in 19--?
- Have all the valuable minerals been removed?
- How are minerals refined?
- What is meant by "ore"?
- What metals are on priority now?
- What happens to a mine if excavation is stopped when the easily available mineral has been removed although much valuable, but less attainable minerals remain?
- What mineral was discovered in California about 90 years ago?
- What happened to California after this mineral was discovered?
- Do know any stories about the gold rush?
- Where else was gold discovered later in the century?



B. Protecting, Conserv-
ing and Using Our
Resources

What other valuable minerals are found in the United States?

Where are these mines located?

What are the uses of these minerals?

How does the shortage of coal, iron and oil in Germany affect the war?

Where are the large deposits of oil found in the world?
Of coal? Of iron?

What is meant by the Russian "scorched earth" policy?

Why are the Caucasus Mountains so important in this war?

Why is so much of the war being fought in North Africa?

Why is coal used so little in the west?

What fuels do we use for power?

Why was gasoline rationed in the east before it was rationed here?

What changes are people in the east **making in the** heating of their homes?

How did people do their cooking in colonial days?

What was the Franklyn stove?

Why was it an improvement over earlier heating methods?

How does a modern furnace work? When is steam heat used?

When is hot air used? When is a circulating heater used?

~~How are furnaces~~ regulated automatically? How is heat controlled by a button? How do air conditioners work?

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SCOPEB. Protecting, Conserving
and Using Our ResourcesActivities

Visit the soil survey section of the Agriculture Department in Block 37. Interview some person who can discuss the types of soil found in Poston. Read state or government pamphlets which describe types of soil found in this section of the country.

To discover acidity or alkalinity of Poston soil, carry out the following experiment with litmus paper: (Experiment set up by Mr. George Shibata)

Simple Litmus Paper test to determine the Acidity or Alkalinity of Poston Soils.

Apparatus: Soil sample, two small glass jars or cups, litmus paper (red and blue), water, dilute hydrochloric acid and dilute sodium or potassium hydroxide (.10 N).

Procedure: Place some of the soil sample into two glass jars or cups making sure that the soil particles are first broken into minute particles. Place a piece of red litmus paper into the soil sample in one of the containers (A) and place a piece of blue litmus paper into the soil sample in the other container (B). Pour into both containers enough water to completely saturate the soil (a slight excess will not harm the results). After a short time, take out the litmus paper from each of the jars and observe the change in color, if any, in each case.

Result: The soils of Poston are largely alkaline soil and so the litmus paper should be blue. The litmus (red) in container (A) should be blue, and the litmus (blue) in container (B) should be unchanged.

Discussion: This simple experiment can be used by the teachers to demonstrate to their pupils that soils of Poston are so-called alkali soils. The dilute hydrochloric acid could be used with litmus to determine the acid reaction on both blue and red litmus. (Blue litmus in the presence of acid will turn red, and the red litmus in acids will not show any change.) The same could be done with the dilute base solution (red litmus in the presence of base will turn blue, and the blue will show no change). Explain that the white crust so often seen on the soil surface is the salt in the soil coming to the surface and that this salt is harmful to the plants themselves. Because of the excess alkali in the soils of Poston, many of the vegetables will not grow as they normally should, but instead are weak-looking and stunted in growth.

For a more technical discussion of the soil reaction, refer to the United States Department of Agriculture Yearbook - 1938 - "Soils and Men" which can be found at the Agriculture Department in each camp.

Interview the soil survey officials to find out how scientists analyze soil. Watch these men at work if possible. Find out their names and the particular work each does.

Take a field trip to find samples of soils of various texture and to collect these samples. Try to find pure clay, pure sand and loam which is a mixture of sand and clay. Some loam is very sandy and some has more clay in it.

Experiment With Soils

Experiment set up by Mr. George Shibata,
Instructor in Adult Education

Simple tests to demonstrate the difference in the water-holding capacity and drainage of various types of soils in Poston.

Apparatus: Sandy soil samples, clay soil samples, loamy type of soil sample, funnels or milk carton with perforations at one end and open at the other end, cup or glass for water, cup or glass to collect water (3), and filter paper.

Procedure: Place some of each soil sample (which should first be broken into minute particles) into either a funnel or a milk carton so that there will be a funnel or carton containing a sample of (1) sandy soil, (2) clay soil and (3) loamy soil. Place a filter paper in the funnel or carton before putting in the soil samples. Pack the soil down in each case. Then pour equal amounts of water (COLORED WATER WOULD BE GOOD FOR DEMONSTRATION) into each container and observe the funnel or milk carton. Also the relative amounts of water which has collected after a certain length of time should be noted.

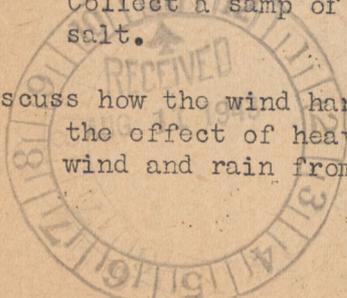
Result: The sandy soil should show the quickest penetration of water and appear first beneath the funnel or carton, the loam and the clay soils may not show much difference although the loam, if a sandy loam, may show a more accelerated penetration. The results in the amounts of water collected should show the most water from the sandy soil, and about the same amount in the case of the loam and clay soils. Here again, if sandy loam soil is used, a difference may be noted.

Discussion: This demonstration can be used to point out that soils vary in the speed with which water will move through the soil depending upon the soil type. Also after a rain, the puddles which often remain in certain areas of the camp, while not in other parts of the camp, can be explained by the difference in soils. For the teachers' information, the size of the individual soil aggregates determine the speed with which water can move through the soil. The sandy soils, because of the much larger individual sand grains, possess more and large air spaces through which the water can move down. The loam being composed of both sand and clay would react differently from either. Because of the smaller soil particles, the clays and loams will retain more of the water and therefore, have superior water holding capacities. Water-holding capacity is a desirable factor of soils for agricultural use.

(Read United States Department of Agriculture Yearbook - 1938)

Visit the soil laboratory of the Agriculture Department of Block 6 Laundry Room to see the "salt bridge" and to find out the percentage of salt in the soil. Collect a samp of soil with salt concretions (crusts) to show the deposit of salt.

Discuss how the wind harms the soil which is to be used for agriculture. Discuss the effect of heavy rains on the soil. Discuss what can be done to prevent wind and rain from harming the soils.



Experiment with Soils

Set up by Mr. George Shibata, Instructor in
Adult Education

Simple test to demonstrate the reason for the "Dust in Poston and the effect of a cover as a control method."

Apparatus: Small boxes or nursery flats, soil samples, water in glass, grass seeds, oats, etc.

Procedure: Place the soil, which should first be broken into minute particles, into the boxes or nursery flats. Plant seeds in one and allow time for seeds to sprout. When the flats are ready, place the unplanted flat on a table. Stand on one side and place mouth near the box and blow. Observe the result. (Caution - blow hard enough to see the dust from the soil). Place the planted flat on the table and blow on it with the same velocity and observe. Sprinkle enough water over the surface of the unplanted flat to cover it, blow again and observe.

Result: The exposed soils (i.e., without covering or moisture) should show the dust when blown. The soil with greenery should show little dust and the moistened soil show little dust.

Discussion: The reason for the dust in Poston during any wind is because the native vegetation was entirely removed to build our community which resulted in the exposing of the soils to the natural element - wind. Therefore, every time it blows, the minute soil particles are carried by the wind creating the dust which we see. This is called wind erosion. So often when the wind is blowing in Poston, and the dust is so evident and discomforting here, outside the camps, the dust does not seem evident. This is because of the natural covering which is still there as a protective covering. The demonstration showed that a natural covering will protect the soil surface from wind erosion. Also, the watering of the roads of Poston is done because, as the result of the experiment showed, the water lessens the dust by forming a moist covering which acts as a protection against the wind action.

Experiment with Soils

Simple test to demonstrate the effect of covering as a control method to prevent soil erosions from rain.

Apparatus: Small boxes or nursery flats, soil samples, water in sprinkling can, if possible, and one nursery flat planted with grass or oats.

Procedure: Pack bare soil into a nursery flat or box which is placed on a slight incline. Sprinkle for a few minutes with water and observe the movement of the soil. Catch some of the "run-off". Let this water settle and observe the sediment. Also observe the eroded surface of the soil. Contrast the results in the experiment with the tilted flat with a flat sprinkled when placed on the level; when planted with turf and placed on a slope; and when covered with straw and placed on a slight slope.

Result: The exposed soil when placed on a slope should show the loss of considerable soil as it is washed down with the water and this soil should be deposited as a sediment in the glass in which the water is caught. The exposed soil in the flat which is placed on the level should not show loss of soil if the

water is sprinkled gradually enough and in reasonable quantity. The flats which are covered with turf or straw may show a small loss of soil when gently sprinkled, but the loss will not compare in any way to that found from the bare flat. It is important to see that the sprinkling is gentle and not too prolonged so that the effect is that of a rain and not a cloud burst.

Discussion: When vegetation is completely removed from the soil, there are no plant roots to hold the soil together. As a consequence, a rain hitting a sloping surface washes down considerable soil and thereby reduces the fertility of the land. Agriculturalists agree that crops should not be planted on land which has a 5% or greater slope unless terracing or a special agricultural method is used. Natural vegetation, at least roots, remain in the soil during the entire year, but when crops are planted in the soil, the harvesting process usually requires the removal of plants, roots and all and hence, leaves the soil on the hillsides in a condition to be rapidly washed away.

Discuss contour plowing in relation to soil erosion. Discuss that plants must get their food out of the soil. The animals and people who eat the plants get the food value from these plants which originally came from the soil. Interview a member of the Agriculture Department to find out if the Boston soils have enough of the food elements which people need.

Observation - To observe that animal bones have the same elements in them as are found in the soil. Place a piece of bone in hydrochloric acid and watch the bone dissolve. Place some soil (salty) in a glass, add hydrochloric acid and watch the mineral (calcium) in the soil. Compare to that in bone.

Discuss how plant food can be added to the soil. Discuss where plant food comes from.

Observation - Arrange three milk cartons on a table. One milk carton should contain plain sandy soil, the second should contain sandy soil with nitrogen (sodium nitrate) added and the third should contain sandy soil with vigoro added. Plant tomatoes in each carton and compare for height and color. This experiment takes about a month. Small holes should be placed in the bottom of each carton so that there will be drainage.

Observation - Visit the nursery and observe how fertilizer is used or visit the Agriculture Department when the gardeners are going to put fertilizer on a certain plot of ground. (Inquire beforehand for the time and place).

Read about the Chilean nitrate beds. Also about Muscle Shoals as an example of a nitrate plant where nitrate is produced out of the air by chemical and electrical fusion. Write to the T.V.A. for information on Muscle Shoals.

Read about guano and how it is used.

Read stories of how Indians planted corn. Plant corn with a planting stick in Indian fashion. Read about the type of irrigation used by the South West Indians.

Discuss what is meant by crop rotation and why it is necessary. See United States Agriculture Yearbook on Crop Rotation.

Read about agriculture and fertilizers used in China, Mexico, and other countries. Discuss why it is dangerous for us to eat fresh fruit and vegetables in these countries.

Discuss how alfalfa or other legume plants help replace the nitrate in the soil.

Observation - In order to see the nodules containing bacteria which produce nitrogen on the roots of a plant, plant bean seeds. After three weeks or a month, pull up the plants and observe the roots for nodules.

Discussion - Inside of the nodules are small bacteria which combine the free nitrogen from the air in the soil with oxygen to form nitrates. It is necessary to plow the plants under the ground after the beans are harvested in order to preserve the necessary chemicals. It is not necessary to plow under alfalfa plants.

Discuss why fertilizers cannot be obtained because of priority and what substitutes are obtainable.

Interview members of the Agriculture Department or read bulletins from the Arizona State Agriculture Department to find out what kind of vegetables grow best in the Arizona climate.

Discuss what other kinds of vegetables we must have in order to keep us healthy.

Read in health books to find the vegetables needed for a balanced diet.

Discuss why it is possible to raise two crops a year in Arizona. Try to find out how long the growing season is for Arizona, for Delaware, for Maine, for Southern California and for Northern California.

(For further information refer to the Agriculture Department or read in the Agriculture Yearbooks published by the Agriculture Department in Washington, D. C. There are some of these books in the Poston Agriculture Department. It is best to get the books through the Arizona senator or representative. It is wise to ask for the books through the Project Director.)

Find out in what parts of the country two crops a year can be grown.

Find out where the irrigation water for Poston comes from. Interview the engineers in the Administration Buildings.

Find out about famous dams in this and other countries.

Study about the dams and flood control in the Valley of the Nile.

Try to find out if China has done anything to prevent the bad floods on her most important rivers. Find out what happens to the people when these bad floods occur.

Discuss why no trees with large leaves grow on the desert.

Observation - Put a potted plant with large leaves under a glass jar in the sun light and watch the moisture collect on the inner surface on the top of the jar. Put a potted desert plant under another glass in the sunlight and observe the amount of moisture which will collect on top of that jar. Compare the amount of moisture which is sent out by each plant.

Discussion - Plants which have large leaves allow a great deal of moisture to pass from the plant into the air. This is because the large surface of the leaf allows a large quantity of water to evaporate. Plants with small, narrow leaves do not allow so much water to evaporate. Hence, they are better adapted to the desert. As a consequence, the cotton woods (trees with large leaves) are found near the banks of a river where there is plenty of moisture and the mesquites (trees with small leaves) are found out in the dryer parts of the desert.

Make a collection of leaves of plants which grow on the desert near Poston. Keep them in notebooks all carefully labeled. Visit the biology laboratory of Mr. Anderson in Camp 2 to see the collection of stuffed desert animals. The Arizona Guide Book has been placed in the professional library in Camp 2. A book entitled "Desert Plants and Life" by Joegger can be found in the Poston Public Library in Camps 1 and 2 and may be found in the professional library.

Read in science books to find out if plants and animals similar to those in Poston are found in any other section of the country.

Read in geographies to find where other deserts are located in the United States. Read about the people who live on these deserts. Read to find if any of these deserts are under cultivation.

Read about the desert in Lybia. Find out if it is different from our desert.

Read about other great deserts in the world and find where they are located.

Make a map of the world showing all the great deserts illustrating the comparative size of each.

Study about oasis, what causes them, and what trees and plants grow in them.

Find out what is meant by a mirage. Find stories about travelers in the desert.

Discuss why it is dangerous to cross the desert.

Observation - Fill two glasses with equal amounts of water. Mark the surface of the water by typing a string around the glass at that level. Put one glass in the sun and keep the other glass in the classroom. Observe the evaporation and compare each day.

Discussion - When people walk or work outside in the sun, they perspire and lose a good deal of water from their bodies. They must drink more water to replace the water that they have lost.

Observation - Fill two glasses with equal amounts of water. Add a teaspoon of salt to each glass of water. Stir until the salt is dissolved. Cover each jar with a piece of cloth which is allowed to touch the surface of the water. It is important to keep this cloth floating on the top of the water at all times. After three or four days remove the cloth, dry it out and observe the salt crystals which have collected on its surface. Wash the salt from the cloth and observe the cloth when it is dry.

Discussion - As the water evaporates, the salt which is in the water collects on the surface of the cloth. As water evaporates from the body in perspiration salt collects on the skin and is brushed off by clothing or washed off by bathing as happened when you wash the cloth. In very hot weather when one perspires a great deal, a large quantity of water and salt are lost from the body. Frequent drinking replaces the water lost, but the salt can be replaced by eating salt tablets or by taking additional salt in food. If the loss of salt is not made up, one may become very ill from heat exhaustion. This illness is due more to loss of salt than to the heat. It is important to take salt in the hot summer months in Poston. To prevent harm from the direct rays of the sun on the head, it is important to wear helmets or carry umbrellas.

Try to find out how our desert compares in appearance to other deserts you read about.

Try to think of reasons why crickets are likely to eat clothing.

Observation - Collect two or three crickets and place them in a large glass jar with holes on the cover for air. Secure two pieces of cloth and saturate one with salt by soaking it in salt water. After it is dry, place both pieces of cloth in the jar with the crickets which have been provided with other food such as bread crumbs. Observe what the crickets eat.

Discuss what other insects damage clothing.

Read the life story of the moth and try to find why moths eat clothing.

Try to find out what sort of insects are likely to attack our vegetables. Collect insects from various vegetable crops. Look these up in books to find their names and whether or not they are helpful or harmful to vegetables.

- Interview the Agriculture Department for help on this matter. (James Katayama).
 Find out what can be done to prevent pests from ruining our crops.
 Investigate if there is any danger of farm animals becoming infected with diseases.
 Read agriculture bulletins to find out what diseases hogs and chickens are likely to have. Interview the Agriculture Department (William Kobayashi) regarding hogs. Fred Kobayashi regarding poultry to find what can be done to prevent the development of diseases in Poston.
- Secure information about the boll weevil which has caused so much trouble in the south by ruining the cotton crops. Try to find out what the people have done to get rid of this pest. Look up the United States Agriculture Department reports to find how airplanes have helped in the work of pest control. Try to find information regarding the use of a different kind of insects to attack and destroy the boll weevil.
- Discuss what is meant by the dust bowl and locate it on the maps. Read bulletins from the University of Oklahoma and from the Soil Conservation Service, Albuquerque, New Mexico, for information. Try to find out what caused the dust bowl to develop.
- Make a map showing where the dust bowl is located and over what states it extends. Investigate bulletins and geographies to find what kind of soil was found on the great plains by the early pioneers. Find what natural growth covered the hundred of miles of these plains. Read to find what kind of farming the pioneers engaged in in this section.
- See soil conservation bulletins to find what kind of farming was carried on in the dust bowl just before the depression. Try to find how this farming affected the land.
- Examine soil conservation bulletins to find if this land can be restored to the people and if so, how? Find out what has been done recently to help restore this land.
- Read what has been done by the Federal Government to reforest land in the Central States and prevent wind erosion.
- Discuss what is meant by "top soil". Read to find out how long it takes for top soil to be produced. Interview the Agriculture Department to find how the top soil was formed in Poston.
- Observe any places which have been excavated or where holes have been dug to see how far the soft silt goes down before it meets a layer of sand. This will indicate the depth of the "top soil". Find out if the "top soil" is usually as deep in other sections of the country.
- Read to find how we can replace top soil which has been lost through wind or rain. Try to find out if there are any dust bowls in other countries. Learn what other countries have done to prevent these from forming or to restore their fertility after they have been formed.
- Read to find which are the areas which have suffered most from soil erosion in the United States. Discuss what caused the erosion in in each case.
- Read to find which other countries in the world have suffered from soil erosion. Discuss what caused the erosion there.
- Read about the great floods in China. Discuss what caused the floods and what happens to the people who live there.
- Read about how people live in Italy in early times. Find out why they moved away from southern Italy years ago.
- Read about how people lived in early Babylonia. Find out what kind of a country it was and what the people raised for food. Find out what Babylonia is like today and how the people live.
- Consult your geographies to find what is meant by "virgin forest" and "virgin sand".
- Find where the virgin forests in North and South America are located; also virgin forests in other parts of the world.

- Discover what sort of agriculture is used in Norway, Japan, Philippine Islands and the East Indies when crops must be grown on the hillsides.
- Read to find what kind of soil was found by the early colonists when they first settled in the southern states. Find out what crops they raised. Discover what has been happening to the soil ever since it was first cultivated by the colonists.
- Consult bulletins from the Tennessee Valley Authority and from the Soil Conservation Service to find the condition of people in agricultural sections of the South. Find out why many of them are now unable to make a living. Read what is being done to help restore the fertility of the soil.
- Find from your history and geography what kind of soil the New England colonists found when they landed in America.
- Discover what the chief industries in the New England States have been and why these industries were developed. Find out whether or not these industries are still the most important and if not, what others have taken their places exclusive of recent war industries. Find what has happened to many of the great cotton mills of New England and why.
- Discuss what is meant by the cut-over land of the Great Lakes? See pamphlets of the Forestry Department, University of California.
- Discuss the type of country that was found in this section by the pioneers before the lumbermen came. Read in geographies to learn about this country. Discuss what is being done to restore this land.
- Discuss what is happening to the many lakes and streams in this section of the country. Find out why many people who live here have goiter.
- Discuss and read about what has happened to the great forests of Washington, Oregon, and California and why this was allowed to happen; also, what is being done to restore these forests. Read about forest restoration in government pamphlets and books.
- Discuss and read about what the National Government is doing to save the remaining forests all over the United States.
- Find out what countries have taken the lead in forest conservation. Discover what regulations are made for the lumbermen.
- Make a map showing the most important forests in the world. Show from what sections the best lumber comes.
- Describe the efforts made by our National Government to prevent fires from ruining our forests and learn about the work of the forest rangers. Find out what sort of training they are required to have.
- See a bulletin from the University of California at Berkeley which describes the courses required for the training of these men.
- Discuss how the cutting of trees affect rainfall--what happens to rain which falls in the forest--what happens to rain which falls on bare land. What happens to the land?
- Observation - Got two small boards approximately the same size. Cover one board with a piece of carpet. Leave the other bare. Place both boards so that they incline slightly. Pour a quarter of a cup of water on each board and compare the amount of water that collects in the containers placed at the bottom of each board. Discuss the difference. Discuss the similarity of the carpet to the "forest cover". Discuss the possibility of floods when all the water runs off at once, also the loss of top soil. Discuss the gradual seeping of the water into the streams through the forest cover to that much water is retained and the rest runs off gradually.
- Consider what happens to the people who live on the "cut-over land" and on forest protected land.
- Discuss why people who live on one side of a mountain range running north and south are able to have better food than those who live on the other side.

Observation - Slant two pieces of glass in a tent shape to represent a mountain.

Boil water in a teapot or a similar vessel so that the steam goes directly toward the glass. Observe that the moisture condenses on the side toward the kettle and does not fall and condense on the far side. Compare the California mountain ranges which are heavily forested on the west and comparatively bare on the east.

Discussion - Moisture is necessary for the growth of trees and plants which are used for food.

Discuss what has happened to the great schools of salmon that used to go up the rivers of the northwest.

Read about the salmon industry in the Columbia River basin and elsewhere on the northwest coast.

Investigate why these fish can no longer go up these rivers in the way they used to do. Learn about the great dams which have been built in this area. Compare the advantages these dams bring to the people with the disadvantages if there are any to the fish industry. Read about the kinds of laws that had been made to prevent the salmon from becoming extinct.

Collect information about other things that are being done to help the salmon and other fish in this country.

Discuss what is meant by "extinct". Look it up in the dictionary.

Investigate what other kinds of fish are in danger of becoming extinct. Read about the laws that have been made by the Federal Government to protect all kinds of fish in this country. Discuss what laws foreign countries have for protecting their fish. Compare their laws with ours.

Learn about fishing rights set up between countries.

Visit the fish hatchery in Poston and interview the supervisor (Mr. John Marumoto). After the interview, read pamphlets from the United States Department of Fisheries.

Discuss the damage caused by forest fires and what causes them. Find out how many billions of dollars are lost each year in the United States and Canada due to forest fires. Find out the forest resources of the United States compared to those of England, France, Germany, and Belgium. Find out about the conservation methods used in Germany and France. Locate some famous forestry experiments in these countries.

Make a map of the national forests in the United States. Read about forest fires in geographies and discuss how they can be prevented.

Discuss the various kinds of fire extinguishers and try to find out how they work. Interview the fire chief or a fireman and ask him about those which you do not understand.

Observation - Place a small candle in a glass jar, light the candle and screw the cover on tightly. Discuss why the flame is gradually extinguished.

Discuss why a blanket, rug or coat thrown over a burning material would operate the same way. Watch a fireman demonstrate the use of a pump fire extinguisher in Poston.

Check in your barrack and find out where the fire extinguisher is.

Discuss how you would use the fire extinguisher if a fire started in your home.

Discuss what else you could do while someone else was using the fire extinguisher.

Discuss what you could use to smother the air around a fire besides water.

Discover why you never put water on an oil fire.

Observation - Put a little oil in the bottom of a glass jar. Pour water over it and observe the effect. Watch your teacher carry on the same experiment with a tin can out of doors with the can sitting in a bank of sand. The teacher will light the oil floating on the surface of the water.

Discussion - One should never try to put out an oil or grease fire by pouring water on it. Sand or dirt will put the fire out.

Discuss how you can help the firemen in case there is a fire near your home.

Interview a fireman and let him see if he thinks your ideas are wise.

Learn how the water pressure is produced by the fire truck. Visit the fire-station and ask the fire chief to explain this process to you. Investigate where the firemen get their reserve water in case of a bad fire.

Read about some of the famous fires we have had in this country.

Find out how the garbage is disposed of in Boston, how often it is collected and what is done with it.

Discuss what danger there is to the people if garbage is disposed of carelessly. State reason why it is necessary to keep garbage cans covered.

Check in your block to find out when garbage is collected from your mess halls.

Keep a record for two weeks of your observations made once each day to see if the garbage containers in your block are covered.

Learn why you have one can for garbage and one can for trash. Find out what is done with the trash and also the garbage.

Discuss how the sewage is disposed of in Boston.

Find out what sort of a process is used to disinfect the sewage and why.

Discover how the sewers in Paris are used. Read about cities which dispose of their sewage by emptying it into rivers and lakes. Discuss how drinking water can be infected by this process. Find out how the communities which get their drinking water from rivers into which other people have emptied their sewage can purify the water.

Inquire why it is dangerous for children to swim in the canals of Boston now, in the Hudson River. Read about the people who bathe in the Ganges River in India and discuss what part this plays in their religion. Discuss the danger of such a practice.

Find out if the Colorado River is polluted by the sewage from any large city. Check its course from its tributaries to its mouth on the maps of your geographies to see what large cities are located on its banks.

Consider why states cannot prevent other states from polluting the water which they must use. Look on your maps and read to find out what are the rivers where this problem is the greatest.

Find out what is the fine for pulling up cactus in Arizona and why. Interview the Boston Agriculture Department if you cannot find the information elsewhere.

Investigate what is the fine for taking desert holly out of the state and why.

Learn how flowers and leaves can be picked without injuring the plant. Interview biology teachers or the Agriculture Department.

Secure information about the laws various states have against picking wild flowers and discuss why these are necessary.

Find out what is the Arizona state flower, the California state flower, and make a map of the United States showing all the state flowers.

Learn the national flowers of some foreign countries.

Discuss why it is important to protect all trees, shrubs and plants unless it is necessary to remove them for building or other purposes.

Investigate the cause for the dust in Boston. Observe on a windy day which areas are dusty and which are not. Find out where the dust is coming from. Consider whether you could do anything to help hold the dust down in the worst places.

Discuss how the police help in preventing crime.

Learn what the United States and Canadian Federal Police are called. Learn the nicknames for the English police and the name for the French policemen.

Inquire if there are any policemen to enforce countries to obey international laws. Discover what happens if countries do not obey these laws.

Learn how the work of a Federal Officer is different from of a city policeman.

Discuss and read about what is meant by the "big brother" and "big sister" movement to assist the police.

Read about playgrounds and recreation centers and discuss how their organization helps prevent crime.

Interview the Poston Police Department to find out what connection they have with Yuma County and the State of Arizona. Find out what types of cases are referred to the county sheriff and to the state police.

Find out what law enforcement officers the Federal Government has. Find out for what offenses the Federal officers are called in.

Discuss how the radio helps the police. Find out if our police cars are equipped with radios.

Interview the policemen to find out how they use the teletype, telephone, telegraph and the printing press.

Find out how our Poston police system protect us.

Discuss why we need police in Poston. Decide what happenings should be reported to the police.

Learn who is the chief of police in Poston. Discuss why it is necessary to have a chief. Find out what his duties are and who assist him.

Interview a policeman to find what the various ranks are in the Police Department. Find out what are the duties of the men in each rank.

Secure information on how the policemen help the firemen and also how they help the Department of Public Health.

Interview a policeman and find out what is the difference between a petty offense and a felony.

Report on how finger prints help the police. Try experiments with various inks in making your own finger prints.

Inquire for what other purposes fingerprints are used. Discuss how footprints are used.

Learn how a criminal can be identified by his fingerprints. Find out what device is used for this purpose.

Find out what other measurements are used to identify a criminal.

Investigate how chemical tests and the microscope are used to identify criminals.

Collect information how blood tests are used and what are the limitations of each test. Interview the head of the clinical laboratory (Henry Sugiura) for information on blood tests.

Discuss the cause of the beautiful colors in the mountains around Poston. Read in geology books to find the names of the various types of rocks. Collect rocks and classify for types and label.

There is no need to keep more than one good example of each type of rock. Keep collection in boxes which have transparent covers if possible. Cellophane may be used if available.

Find out if there are any valuable stones or gem stones in our mountains.

Inquire if there ever were any valuable minerals in our mountains. Find out if there are any left. Find out what caused the boom in Parker.

Learn how minerals are separated from the rocks in which they are found. Read to find out what is meant by "ore".

Find out what metals are on priority now.

Read and discuss what happens to a mine when an excavation is stopped when easily available minerals are removed although much valuable, but less attainable minerals remain.

- Look up the great gold rush in California about 90 years ago. Discuss how this discovery changed life in California. Find stories about the gold rush.
- Read about other great gold discoveries in the history of our country.
- Collect information on what other valuable minerals are found in the United States, and where these mines are located. Read to find what are the uses of these minerals and why they are important to us.
- Find out where other great gold mines are found in the world; also, the source of diamonds and other jewels.
- Discuss how the shortage of coal, iron and oil in Germany affect the war.
- Make maps showing the location of the large deposits of oil, coal and iron in various parts of the world.
- Find magazine or newspaper articles which tell about the Russian "scorched earth" policy.
- Collect information on why the Caucasus Mountains are so important in this war.
- Study the geography of the Mediterranean Sea and North Africa to find why such an important part of the war is being fought there.
- Read to find why coal is found so little in the west and what fuels we use for power.
- Learn why gasoline was rationed in the east before it was rationed here.
- Bring in magazines and newspaper articles which tell of the changes people are making in the east in the heating of their homes.
- Secure information on how people did their cooking in colonial days. Read about the Benjamin Franklin stove and discuss why it was an improvement over earlier heating methods.
- Discuss how various types of furnaces work.
- Report upon the value of steam heat and how it works.
- Discuss how hot air is used to heat houses and what are its advantages. Find out how a circulating heater works. Learn how furnaces are automatically regulated and how heat is controlled by a button. Learn how air conditioners work.
- Find out what the correct temperature for a room should be when one is sitting down -- when one is moving around.

