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ABSTRACT

One of a series of documents produced by a nationwide network of early childhood education specialists, teachers, parents, and Head Start staff, the guide describes developmental characteristics of preschool and elementary school students by grade level. Arranged into five curriculum areas, the first presents physical, motor, social, cognitive, and emotional characteristics for each grade level. The second curriculum area, science, outlines a science skill continuum and presents metric and science information; basic science concepts; and facts about time, matter, space, and energy. Social Studies, the third area, presents an age-appropriate social studies continuum, including basic approaches, classroom activities, background information, and basic social studies concepts. The fourth curriculum area, language arts, focuses on basic reading/language art usage concepts. Math, the fifth area, deals with stages of math concept development and presents basic math facts related to problem solving and metric basics. (LH)

DEVELOPMENTAL RESOURCE GUIDES, K-6

The Best of BES -
Basic Educational Skills Materials

1983

Compiled by:
Southwest Educational Development Lab.
Austin, Texas

and

Unified School District 501
Topeka, Kansas

Sponsored by
Administration for Children, Youth, and Families
Washington
Basic Educational Skills (BES) Project

DEVELOPMENTAL CHARACTERISTICS OF MIDDLE AND LATER CHILDHOOD

LEVEL I
EARLY CHILDHOOD
AGES 3,4,5

LOCATED IN BES
CURRICULUM

LEVEL II
MIDDLE CHILDHOOD
AGES 6,7,8

PAGES 4 to 11

LEVEL III
LATER CHILDHOOD
AGES 9,10,11

PAGES 12 to 19

BASIC EDUCATIONAL SKILLS

S.C.C.A.A.
U.S.D.#501
TOPEKA, KS

CLASSROOM ENVIRONMENT

A learning climate can be established into functional educational practice by the subtle guidance of a teacher who promotes autonomy, freedom of exploration, and pupil individuality.

Practice in genuine planning and decision making gives children a feeling that they are trusted and encourages them to be worthy of trust.

Freedom to experiment and explore, rather than to be circumscribed by excessive authority appears to promote creativity and help the child retain the information at hand.

DEVELOPMENTAL

Developing basic skills is one of the more important developmental tasks of childhood and depends on the psychological, physical, emotional and intellectual growth of each individual child.

CURRICULUM

The child's educational program should use a curriculum sequence of developmentally and educationally appropriate experiences.

The curriculum is most usuable when appraised from the common premise of meeting the developmental needs of children.

SKILLS

It is crucial to understand that there is a most appropriate time to learn a skill, which is individual to e[illegible] skill.

Developmental [illegible]sks, like basic needs, [illegible]d to focus on social grow[illegible], peer adjustment, physical skills, and intellectual abilities.

LEVEL II

PHYSICAL CHARACTERISTICS

* HEIGHT AND WEIGHT GAINS ARE MODERATE AND STEADY. * The eruption of permanent teeth and the enlargement of the lower face change the proportion of the face and make it appear less top heavy. The nose cartilage hardens and the nose becomes larger. * THE TRUNK BECOMES SLIMMER AND MORE ELONGATED. * Arms and legs become long and spindly with little evidence of musculature, and "all-arms-and-legs" or gawky appearance. * THE HEART AND LUNGS ARE SMALL IN PROPORTION TO BODY WEIGHT, CAUSING EARLY FATIGUE IN STRENUOUS ACTIVITY. HOWEVER, VERY RAPID RECOVERY FROM ACUTE FATIGUE WILL TAKE PLACE AFTER SHORT REST PERIODS.

MOTOR CHARACTERISTICS

* EYE-HAND COORDINATION NOT FULLY DEVELOPED. LACK PRECISE FOCUS (TENDENCY TO FAR-SIGHTEDNESS) AND SPATIAL JUDGEMENT. * There is an increase in the incidence of fractures which is due to the peculiar accident prone characteristic of this group. * REACTION TIME SLOW, BUT SHOWS A PERSISTENT INCREASE THROUGHOUT THIS AGE RANGE.

SOCIAL CHARACTERISTICS

* A PERIOD OF SELF-DISCOVERY, IN WHICH THE CHILD FINDS OUT ABOUT HIMSELF/HERSELF IN THE COURSE OF ENGAGING IN ACTIVITIES AND RELATING TO OTHER PERSONS. * Family is still the main base of security and identity and is still more important than the peer group. As the child grows older though, the peer group becomes a dominant influence. * BEGIN TO PLACE MORE EMPHASIS ON THE ABSTRACT REINFORCEMENT OF HAVING CORRECT INFORMATION AND LESS EMPHASIS ON THE SOCIAL REWARDS OF PRAISE AND ATTENTION. * Little concern for opposite sex, with gradual trend towards antagonism.

MIDDLE CHILDHOOD

COGNITIVE CHARACTERISTICS

* EXTREMELY CREATIVE - FIND PRIDE AND PLEASURE IN NEW COGNITIVE SKILLS. * Gradual and sustained increase in attention span. * RELY LESS ON PERCEIVED APPEARANCES AND MORE ON THE RESULTS OF INTERNALLY PERFORMED MENTAL OPERATIONS. * Begin to internalize more dialogue. * LIKES TO MAKE COLLECTIONS - STAMPS, COINS, ROCKS, ETC. * Quantitive approach to problems - seriation, and classification gradually develop. * AN EXCELLENT TIME FOR LEARNING CONSERVATION CONCEPTS SUCH AS MASS, WEIGHT, VOLUME, LENGTH, AND AREA. * Sensitive to the important difference between things as they seem and things as they really are.

EMOTIONAL CHARACTERISTICS

* PERIOD OF RELATIVE EMOTIONAL CALM. * Individualistic as well as showing a need for peer and adult approval. * KEEN DESIRE TO REPEAT ACTIVITIES THEY KNOW AND PERFORM WELL. * Easily excited, sensitive to criticism, and strongly in need of approval and close supervision. * EXPERIENCING A DESIRE TO GROW UP AND A DESIRE TO REMAIN A CHILD FOREVER. * Usually fears failure at school and rejection by his/her peers. * LIVES IN THE HERE AND NOW. * Optimism is seldom daunted. * BEGIN TO IDEALIZE AND EMULATE ENTERTAINERS, POLITICIANS, SCIENTIST, AND ATHLETES, ETC.

LEVEL II ⇔ MIDDLE

Learns by participation and self-activation.

Works best in spurts -- do not show the persistence they will later.

Is prone to reverse letters when printing them.

Assertive, sometimes bossy, and sensitive to real or imagined slights.

Strain of growing up and being a school child sometimes leads to periods of regression.

Likes to bring home evidence of schoolwork.

Begins to play games with rules.

Plays tablegames with cards, dominoes, and puzzles.

Collects odds and ends.

Paints, colors, draws, models with clay, cuts and pastes.

Prints letters to spell real words.

Parental praise of academic achievements is highly valued.

Is basically self-centered at this age.

Makes faces and imitates latest dances.

Prefers to play with children of own age.

Often pair up as friends, but combinations of pairs may change many times.

Boys and girls play together, but movement toward like-sexed friends has already begun.

Has a good appetite usually.

Plays oral spelling and number games.

Does stunts on trapeze, rope, tricycle.

Tosses, bounces, and throws ball.

Does simple carpentry.

LEVEL II — MIDDLE

Towards the end of the seventh year the child begins to assimilate the wealth of new experiences to which they have been exposed.

The digestive work is being done - acquired skills are refined.

The reasoning abilities are used to sift and sort information into categories.

Activities have shifted and they now take place more in the mind than within the space of action.

Attaining orientation in time as well as in space.

Beginning to manifest an almost scientific interest in causes and conditions.

Reading errors are less frequent; reading is more fluent and rapid.

Go into lengthening periods of calmness and self-observation.

Develops an intense interest in a few selected activities - funny books, insects, etc.

Plays with magic and tricks.

Collects and swaps items.

Shows strong interest in swimming.

Plays simple ball games.

Enjoys hopscotch, jump rope, roller skating, ball bouncing.

CHILDHOOD AGE SEVEN

[illegible] increased sense of self and [illegible]
[illegible] sensitivity to reaction[illegible]

[illegible] reluctant to admit defeat to failure and criticism.

[illegible] subdued - can listen and is interested [illegible] helpful around the house, and shows thoughtfulness and consideration towards adults.

Not as interested in taking school work home to show family.

[illegible] sense of the confident certainty in being able to do everything well.

Less sure of knowing how to do everything and begins to grasp the role of the teacher as a guide and model for learning.

More careful and persistent in work habits - likes to know where to end, how far to go in learning task.

Plays with paper dolls and elaborate costumes.

Plays library, train, post office with elaborate paraphernalia.

Plays cops and robbers, enjoys tree houses and forts, etc.

Has a good time with friends, but also enjoys solitary activities, e.g. watching T.V., reading, and writing.

LEVEL II — MIDDLE

There is a new vein of active curiosity.

Beginning to see conclusions, contests, and implications, where before he/she saw only in part.

Has an interest in earlier times - Knights, Pilgrims, etc.

Beginning to see self more clearly as a person among persons; acting, participating, and enjoying.

Adopts an appraising attitude in defense. - becomes the aggressor rather than the aggressed.

Has more self-confidence - identifies with adults and has greater self-awareness.

Not as helpful around the house - wants to do more mature jobs.

Discovering that parents are not perfect and can make mistakes.

Begins to seek new experiences - mood and style are active and expansive

Interactions with adults are more productive.

Differentiates work from play.

Plays elaborate table games.

Collects "gadgets" and any number of things.

Becomes interested in secret clubs.

Engages in dramatic play, giving shows.

Begins to separate from opposite sex during play.

Prefers companionship (adult or child).

Enjoys unorganized group play.

CHILDHOOD AGE EIGHT

More attentive and responsive to adult communication.

There is a noticeable separation between sexes.

Attitude towards members of opposite sex is a combination of attraction and hostility.

Beginning to show interest in children from foreign lands and delights in learning that they do similar things.

Seeing and being with friends is now one of the dominant motives in going to school.

Friendships tend to be closer and more exacting.

Gossip more among themselves and begin sending notes to one another.

Constantly evaluates and criticizes own school work.

Interested in taking school work things home.

Works independently, but still needs to have directions read and reread.

Seeks to discover self through truly dramatic play.

Shows beginning interest in group games such as baseball.

Shows seasonal sports interest.

Likes to challenge himself/herself.

Wants money to buy things and likes to bargain and barter.

Usually friendly and cooperative.

Likes to meet new people and go places.

LEVEL III

PHYSICAL CHARACTERISTICS

* HEIGHT AND WEIGHT INCREASE SLOWLY AND EVENLY; AN ACCELERATED GROWTH PERIOD JUST PROCEEDING PUBERTY. * The trunk becomes slimmer and more elongated. * GIRLS ON THE AVERAGE, ARE TWO YEARS AHEAD OF BOYS IN PHYSIOLOGICAL MATURATION. * The growth process becomes quite peculiar to each child's time and growth cycle. * THE APPEARANCE OF SECONDARY SEX CHARACTERISTICS BY NINE OR TEN YEARS OF AGE IS NOT UNCOMMON. * Muscle strength continues to increase. * HEART AND LUNGS ARE IN SIZE AND CAPACITY PROPORTIONATE TO HEIGHT AND WEIGHT GAINS. * Longer periods of endurance are possible. * FLEXIBILITY DECREASES WITH BOYS SHOWING GREATER LOSSES THAN GIRLS. * Perceptible increase in resistance to disease.

MOTOR CHARACTERISTICS

* PERCEPTIBLE INCREASE IN STRENGTH AND MANUAL DEXTERITY.
* Keenly interested in vigorous competive sports.
* COORDINATION AND REACTION TIME CONTINUE TO IMPROVE.

SOCIAL CHARACTERISTICS

* A DEFINITE PUSH TOWARD IDENTIFICATION WITH AND SUCCESS IN THE PEER GROUP. * Show a strong concern about their peers. * EASILY EXCITABLE, DEMANDING, ENTHUSIASTIC, AND CONSTANTLY SEEKING PEER LOYALTY AND INDEPENDENCE. * Social acceptance is more peer-centered than adult-centered. * CONTINUED ANTAGONISM FOR THE OPPOSITE SEX, BUT LIKE INTERESTS ARE DEVELOPING. * Amount of time spent with family decreases and time spent in the community and with one's peers increases.

LATER CHILDHOOD

COGNITIVE CHARACTERISTICS

* MARKED INCREASE IN LENGTH OF ATTENTION SPAN. * General increase in intellectual curiosity. * PROGRESSING TOWARD A DISTINCTION BETWEEN HIMSELF/HERSELF AND THE OUTER WORLD AND BETWEEN FANTASY AND THE UNDERSTANDING OF NATURAL LAWS. * The simple explanation of "because" is replaced by logical reasoning. * AN INCREASE IN THE USE OF READING SKILLS - - - SPONTANEOUS READING IS AT A HIGH LEVEL. * Likes to make collections - stamps, coins, insects, etc. * AMOUNT, WEIGHT, AND VOLUME ARE CONSERVED DESPITE CHANGES IN SHAPE. * Number and duration are conserved despite changes in distance or arrangement in space. * OBJECTS MAY CONVENIENTLY BE CLASSIFIED IN GROUPS. * Objects may be serially arranged by length or weight.

EMOTIONAL CHARACTERISTICS

* A TRANSITION PERIOD FROM CHILDHOOD TO EARLY ADOLESCENCE. * Experiencing a desire to grow up and a desire to remain a child forever. * DISCOVERING THEIR PARENTS ARE NOT AS ALL-KNOWING AND ALL-POWERFUL AS THEY HAD THOUGHT. * Have a great deal of confidence in adults. * HERO WORSHIP, PARTICULARLY ATHLETES, ENTERTAINERS, POLITICIANS, SCIENTISTS, ETC. IS THE RULE RATHER THAN THE EXCEPTION. * Fears failure at school and rejection by his/her peers. * INCREASED CONTROL OF EMOTIONS IN INDIVIDUAL AND GROUP SITUATIONS. * Has periods of self-doubt and dependence. * AT TIMES RELATIVELY NONCOMMUNICATIVE WITH ADULTS. *

LEVEL III ⟷ LATER

More a youth than a child.

More able to analyze movements both before and during an action.

Is open to instruction and is factual and forthright.

Becomes deeply involved in particular activities of own choosing - stamp collecting, building a model, etc.

Academic achievement is of considerable importance.

The mechanics of reading and math have been mastered, and those skills can now be used for gaining information, for solving problems, and for games and recreation.

Self-motivation is characteristic.

Friendships and companionships of the peer group become a powerful motivating force for liking school and for good school attendance.

Judgemental tendencies are continued, but with greater objectivity and discernment.

Shows an impressive sense of fairness (for age) and even reasonableness in estimates and expectations.

Developing a sense of individual status.

Can accept own failures and mistakes with greater fairness and is better able to accept blame and responsibility for own actions.

Each sex expresses a certain contempt for the other.

May show more interest in friends than family.

Less emotionally attached to teacher, so materials and information are more attractive.

Accepts parental mistakes and ignorance as a matter of course.

Need less bribing and bargaining to do a simple chore - will accept them as his/her responsibility and contribution to family.

Close friendships are continued and strengthened.

Skills learned in school are at least being put to practical use outside the classroom, which enhances their value and significance and furthers the child's interest in learning.

Still shows outbursts of emotion and impatience, but the outbursts are less frequent and are under greater self-control.

A new self-confidence has derived from having self under control and being better able to resist external pressures.

New tendency to organize and budget time which gives a new sense of self-importance.

Heightened self-confidence leads to self-derogatory remarks - a sign of emotional security and self-assurance.

LEVEL III ⟷ LATER

By and large likes school and is a responsible student.

Accepts assignments and gets them done without getting sidetracked and without having to rush to get them done in time.

Likes teacher and accepts his/her authority and knowledge.

More interested in learning facts and memorizing names than in finding causes and explanations.

Enjoys reading mystery and adventure stories.

Is at peace with self and his/her world - has mastered the trials and tribulations of childhood and adolescence is still far away.

Prefers to soak up information rather than to integrate or digest it.

Remarkably stable - fears and anxieties are at an all-time low - relations with parents, teachers, and peers are at an all-time high.

Generally, growing up is a romantic idea - idealizes parents and famous people.

Show much less interest in self-evaluation and seem to accept self as is - has a general feeling of well-being.

Individuality is now well defined and insights are much more mature.

Is self-accepting - likes his/her body, looks, abilities (physical and academic).

Usually relaxed and casual, yet alert.

Capable of loyalties and hero worship - can inspire it in teammates.

Not much companionship between the sexes.

Really likes own family - enjoys family outings and trips.

Likes and enjoys friends.

Very enthusiastic about organized group activities such as Scouts, Little League, etc.

Will usually go out of way to be helpful.

Form little groups of their own and may have secret meeting places, codes, passwords, etc.

LEVEL III

LATER

Entering a new phase of growth and renewed conflicts.

Appetite for knowledge about people and the world has increased.

Beginning to make their own choice about career, etc. - often dream of being famous.

Many continue to like school, but many others now find that school has become a problem.

Interested in the other sex or soon will be.

Very specific in what they do and do not want to learn.

Growth pressures reassert themselves and an accelerated pace of growth can be seen and felt.

Defies adult authority - quarrels, argues; subject to outbursts of rage and moodiness.

May be loud, boorish, and rude, perhaps because of his/her tremendous energy and activity.

Cannot tolerate indifference and needs to be noticed.

An especially sensitive period because of an impending change in status which brings both hope and new anxieties and fears.

Appetite seems to have increased severalfold.

Engages in fantasies about the future - future professions, marriage, etc.

Independence from parental influence begins.

Now challenges parental authority - e.g. child-rearing practices, etc.

It is now difficult to sit still and finish work at a single setting - especially without disturbing others.

Reasoning and problem solving materials are difficult and he/she prefers materials that can be learned easily and can be used competitively (spelling, multiplication, etc.).

Activity level shows a marked increase and he/she has trouble keeping still.

SCIENCE

LEVEL I
EARLY CHILDHOOD
LOCATED IN BES
CURRICULUM

LEVEL II
MIDDLE CHILDHOOD
AGES 6,7,8

LEVEL III
LATER CHILDHOOD
AGES 9, 10, 11

BASIC

EDUCATIONAL

SKILLS

S.C.C.A.A.
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TOPEKA, KS.

★ CLASSROOM

LEVEL II

To make a science area more an active part of the classroom — perhaps try a science cave, a science booth, a science theatre, etc. But, above all make sure change continually occurs with science material displayed. Make sure children have ample opportunity to actually use these materials.

Encourage CHILDREN to TAKE an ACTIVE PART in science in your classroom. Enthusiastically receive and display the items brought by the students — rocks, plants, insects, seeds, inventions, etc.

Create an outdoor science area as much as your local circumstances will allow, such as: gardening space, bird feeders, solar activity, fossil collecting, plant identifying, physics concepts on large motor equipment, etc.

Take science field trips: greenhouse, museum, industries, laboratories, nature walk, walks to see typewriters, computers, time clock, fuse boxes, water meters, furnace rooms, etc.

Consider taking your children on a CRAWL trip. Discover a whole new world!

After experiencing any activities, like the ones suggested above, follow-up with a form of record keeping and data recording such as experience charts, reports, etc.

ACTIVITIES ★

AND LEVEL III

Promote and practice conservation through the conservation of paper, energy, water, food, soil and other resources. Take part in local recycling programs.

Teach a reverence for natural decomposers (recyclers) — molds, bacteria, fungi, mushrooms and some plants.

Play an identifying game which consists of blindfolding a child who is sitting in the center of a circle; and then place a science-related object near him/her to feel, describe and identify. After naming and describing the function of the object, that child selects the next player to be "it".

Use a tea strainer with a filter paper fitted inside to isolate solid matter from liquid (e.g. fish bowl, melting snow, mud puddle, pond water, etc.).

Have each child develop and demonstrate a science project that he/she has thought of — e.g. collecting and demonstrating a collection of some sort; showing the three states of matter — solid, liquid, gas; changing some type of matter physically and chemically; demonstrating how air can produce a force, etc.

METRIC AND SCIENCE

LEVEL II

Since the metric system is nearly universal outside the United States, we need to keep up with progress in order to compete in world affairs and trade.

The metric system is easier than our customary system. It is more logical and systematically based on repeated units rather than on illogical and unrelated bodily proportions

Since the metric system is based on ten, as is our monetary system, it is less cumbersome, accurate to use and easily used with decimals.

Metric measurements have been used for quite sometime in science and applied science fields such as: medicine, pharmacy, optics, etc.

METRIC IS THE UNIVERSAL MEASUREMENT SYSTEM OF ALL SCIENCE IN EVERY COUNTRY.

It is imperative to preserve a child's inborn sense of wonder. We as adults have responsibility to share and discover the excitement and mystery of the world with each child we encounter. This is a fundamental reason to teach science to children.

The scientific method insures an accurate process for seeking knowledge and needs to be applied at all levels.

Science contributes to the intellectual development of children through investigating, discovering, identifying, experimenting, defining, comparing, inferring, classifying, recording and communicating.

Introduce and use appropriate scientific vocabulary at all levels, e.g. taxonomy, viscosity, refraction, etc.

INFORMATION ★

AND LEVEL III

Concepts of measurement with any kinds of units prior to the introduction of standardized units.

Introducing the Celsius thermometer which could initially be color-coded into temperature ranges (such as "cold", "warm" and "hot") rather than specific degrees.

Units which are related to one another should be introduced and taught in relation to one another.

Introducing the centimeter, meter and kilometer -- also in terms of "more than", "less than" and serial ordering of objects.

Introducing the milligram, gram and kilogram in upper primary grades.

Introducing the milliliter, centiliter, liter and kiloliter in upper primary grades.

The following topics should be investigated and applied: (All that was introduced in the primary grades should be reinforced and expanded.)

A brief history of the metric system.

Decimal notation.

Celsius temperature.

To further seriation concept development over time, do more in-depth, hands-on experimentation with: (A) centimeter, meter, kilometer; (B) milligram, gram, kilogram; (C) milliliter, centiliter, liter, kiloliter.

METRIC INFORMATION

Science should be one of the primary means for facilitating thinking and learning.

According to Piaget, the skills of inferring, predicting, and hypothesizing are far more appropriate for concrete-operational children (7-8 yr. to 11-12 yr.) and formal-operational children (11-15 yr. and on) and adolescents than for preoperational children (18 mo. - 7-8 yr.). These younger children need many direct experiences with objects and phenomena as a basis for concept formation.

Observing is one of the most basic of all science skills -- it involves the careful use of the senses to establish data.

Experimenting is a skill which incorporates logical operations through thinking and carrying out a sequence of activities designed to acquire new information.

SCIENCE INFORMATION

BASIC CONCEPTS

To enhance individual curiosity, self-confidence and persistence in the study of science.

To use the five senses to describe and sort living and non-living things, identify change, and evaluate likenesses and differences.

To understand that inferring, predicting and hypothesizing are means for seeking explanations or causes for identifying relations, interactions and patterns.

To organize lengths and collections of objects in serial order e.g. from most to least or longest to shortest. (Limit these to 5-7 discrete items.)

To determine the approximate distance, size and location of simple objects in space.

To identify common organisms in own area, their cycles and their relations to the environment.

To recognize how the size and shape of an object determines whether it will fit into a certain space.

To introduce very simple inferring and predicting based on specific data.

To demonstrate how a limited space of related events usually occur in logical sequence.

To recognize there is usually a predictable order to how living and nonliving things grow and change.

GRADE ONE

To recognize that time can be measured by counting the events that happen during a given amount of time (day, week, month).

To identify changes caused by the passage of time.

To identify the natural requirements of living things for survival, growth, birth, death, etc.

To properly use the basic equipment involved with scientific investigation and experimentation.

To demonstrate care and safety in the use of science equipment.

To identify circumstances with which objects are moved by pushes and pulls (forces).

To classify objects according to their common characteristics.

To identify the basic properties of liquid and air and how we utilize these properties.

To identify temperature as a measure of hotness and coldness.

To observe and describe an object's size and position.

BASIC CONCEPTS

To question, wonder, observe, compare, make guesses, test ideas and formulate some tentative conclusions.

To demonstrate the scientific processes of observation, classification, measurement, data collection, organization and space/time relations.

To construct a basic understanding of live cycles.

To demonstrate the basic characteristics of our measurement system (metric, time, calendar).

To construct metric measurements of length, volume and mass in terms of "more than" and "less than".

To identify the color-codes Celsius and Farenheit thermometers in terms of "cold", "warm" and "hot".

To distinguish spatial (space) and temporal (time) relationships.

To identify the need for proper energy and environmental conservation.

To distinquish the cycles of plants and animals in relation to the seasons of the year.

GRADE TWO

To classify some of the basic properties of energy and how we use energy resources.

To know the various ways plants and animals reproduce.

To recognize the basic states of matter — solid, liquid, gas.

To identify that all matter needs energy to be moved or changed.

To distinguish that matter is made up of very small particles.

To recognize that matter can be changed physically and chemically.

To identify that the ultimate source of the earth's energy is the sun.

To use quantitative terms to describe and sort objects according to their properties.

BASIC CONCEPTS

To summarize observations, reactions and conclusions of scientific investigation orally and/or in writing.

To demonstrate the controlling of variables related to scientific observation and experimentation.

To sequentially summarize observations, reactions and conclusions either orally or written.

To construct an in depth study of classifying on the basis of similar as well as dissimilar properties.

To use increasing precision when measuring volume, length and mass.

To grasp the basic variables involved with different populations.

To identify the three basic standards of measurement of distance, mass and time.

To understand metric units as the worldwide standard for scientific measurement.

To realize motion is interpreted and measured in terms of both distance and time.

GRADE THREE

To recognize that time is based on counting regular events in terms of seconds, minutes and hours.

To identify that shadows can be used to measure time.

To comprehend the rotation of the earth in relation to the position of the sun and the moon.

To know that moving air or air under pressure can exert a force.

To realize heat energy can expand or contract masses of air.

To comprehend that heat energy causes most objects to expand when warmed and contract when cold.

To recognize that some materials are good, and some are poor, conductors of heat.

To understand that plants and animals exist in communities and each is dependent upon other living and nonliving objects in its own environment for survival

BASIC CONCEPTS

To introduce inferring and making predictions based on graphic data.

To formulate concepts of science from observations, experiments and facts.

To introduce the integrated processes of controlling variables, collecting and interpreting data and formulating hypotheses.

To recognize the basic factors relating to environments.

To understand that stars appear to move across our sky because the earth is rotating.

To understand that stars give off light and that the earth, other planets and moons appear to shine because they reflect light.

To understand the processes whereby all food basically comes from plants.

To comprehend the cycles of water — rain, evaporation, streams, lakes, ground water wells.

To realize the importance to control water pollution, soil erosion and flooding.

To recognize the various ways that heat can be produced, transferred, reflected or focused.

To appreciate that as fossil fuels dwindle and pollution from them increases, alternative energy sources will be needed.

GRADE FOUR

To identify how friction is created, what reduces friction, the advantages of friction and that matter in all states causes friction.

To realize that electricity must travel in a circuit to be useful, and that it flows through some materials more readily than others.

To comprehend what is sound, that sound can travel through liquids, solids, gases and what causes changes in sounds.

To realize the role of food in providing energy to all living things.

To realize that the universe is made up of many, many stars, and most are observable only with powerful instruments.

To realize the cycle of interaction that occurs as a plant dies and other living things utilize their decayed chemicals.

To describe what is a cell, its function, and its relation to complex, larger units.

To promote the importance of proper functioning of the human body, and how this is achieved.

To become familiar with the complex digestive, respiratory and circulation systems that keep our bodies functioning.

To recognize the interaction of land and water, water evaporation, water runoff, groundwater, water pollution, soil erosion and flooding.

BASIC CONCEPTS

To identify and demonstrate scientific processes of rational thinking, inference and prediction.

To assimiliate experimental data, write statements and chart data about patterns observed.

To develop greater competency in controlling variables, collecting and interpreting data and formulating hypotheses.

To differentiate between conditions that hold variables constant and those that do not.

To compare mean, median and made to analyze data and distinquish between observations that do or do not support a hypothesis.

To conduct and evaluate a logical experiment when given a scientific problem.

To make predictions formulated and based on past inferences and then revised upon new data.

To appreciate an interrelationship and interdependence between all living things and their environment.

GRADE FIVE

To comprehend the basic principles about the moon and the earth, their rotation, and how they effect one another.

To understand how fossils are formed.

To recognize how rock layers have been and still are moved by the earth's forces.

To comprehend the basic principles related to light.

To accept the basic principles about air, atmosphere and weather.

To understand the basic principles of magnetic force and its uses.

To recognize there is an orderly system for classifying plants and animals and this communicates the relationships between organisms.

To study the basic principles about the elements and compounds, atoms and molecules.

BASIC CONCEPTS

o continue to develop independent
erforming of hypothetical deduc-
ive reasoning, controlled experi-
entation, deliberate speculation
nd accurate distinguishing of
eality from possibility.

To competently use complex equipment involved with scientific investigation and experimentation.

To formulate concepts of science through utilization of observations, experiments, facts, theories and laws,

To demonstrate and record precise metric measurement related to volume, length, and mass.

To identify, record and use information concerning Celsius and Farenheit temperatures.

To organize and record observations over a specific period of time and then construct related predictions and hypotheses.

To understand stated theories and interpret the related information.

To realize we have measured distances from earth to the sun and other planets.

GRADE SIX

To understand the effect of the earth's rotation on the position the sun is from the earth, and realize what changes this causes.

To understand the continual changes caused by the earth's natural forces and how this affects the earth's geologic history.

To understand the basic principles of light and realize what can be done with it.

To demonstrate the basic principles of electricity, electrical fields, electrical charges and electrical currents.

To appreciate that life can reproduce itself and that some characteristics are inherited.

To understand survival mechanisms that occur in living things.

To recognize changes of the environment can be affected by how humans use and recycle their environment.

To summarize basic factors relating to ecosystems.

To independently plan, conduct and evaluate experiments.

To comprehend how machines use forces and how we use machines.

BASIC FACTS

MATTER

Classifying objects according to color, size, shape, texture, mass, living, nonliving, etc.

Studying the needs of animals (food, water, space to find food, rest exercise, etc.).

Studying the various ways people use animals for food, clothing, work and pleasure.

Make observations about how plants need soil, water, light and space to live, how plants grow in water and in soil, and how people use plants for food, cloth and pleasure.

Demonstrating how liquids flow and take the shape of their container.

Identifying air as a substance and discovering properties of air.

Identifying and classifying trees.

Discovering the different states of water (liquid, gas and solid) and what causes these changes to occur.

Making simple classifications of animals on various basis.

Studying organisms cycle of birth, death, habitat, food web, food chain, decay, growth.

Learning the basics about molds and green plants.

Learning that nearly all living things are interdependent and have an effect upon one another; that most organisms eventually become food for other living things.

TIME

Measuring the passing of time by counting regular events such as days and nights, weeks, months and years.

Observing a sequence of events and contemplating its duration.

Predicting the order in which living and nonliving things change.

Using examples of every day experiences to compare and establish how long events take to occur.

Recognizing salient features of seasons and seasonal change.

GRADE ONE

SPACE

Working with objects to teach the descriptive words up, down, large, small, far, near, short, long, tall, straight, curved, etc.

Finding out how the size and shape of objects determine whether they will fit into a certain space.

Discovering that many plants and animals use the soil as their home.

Finding out that soil contains many of the food and chemical plants that animals need to live and grow.

Experimenting with direction and movement.

Measuring various lengths (metric).

Making three-dimensional shapes.

Experiencing a basic introduction to charting as a recording technique.

Comparing volumes.

BASIC FACTS - GRADE ONE - ENERGY

Demonstrating and experiencing how forces such as pushes and pulls are needed to move objects.

Identifying changes in temperature.

Observing a variety of friction situations.

Observing changes in weather.

Observing how springs, levers, engines, magnets and electricity help move things.

Identifying color phenomena with refraction experiments, prisms, rainbows, etc.

BASIC FACTS

MATTER

Studying life cycles through growth, development, degeneration, generations, metamorphosis, germination.

Discovering the quantities and kinds of seeds plants produce.

Discovering that everything we feel with our senses is matter.

Experimenting with the state of matter — solid, liquid, gas.

Studying how matter is made up of very small particles.

Discovering that matter needs energy to be moved.

Experimenting to see how matter can be changed in two basic ways — physically and chemically.

Observing and describing animal responses.

Identifying and observing a plant part as it grows.

Experimenting with fermentation, plant nutrition and plant light, fungi, etc.

Identifying and classifying nuts, leaves, seashells, etc.

Observing elements and relationships in an ecosystem such as a terrarium or acquarium.

TIME

Studying how animals and plants prepare for the seasonal change and how this relates to their survival (migrating, hibernation, animal life cycles, plant growth cycles).

Studying the passing of time by repetition of a regular event (dripping water, clock, sun's position, moon's position).

Studying precise measurement of time with a clock and discovering how timepieces require energy to operate.

Observing life cycles.

Understanding week, month, year and the recording of this time on the calendar.

GRADE TWO

SPACE

Experimenting and measuring with the basic units of the metric system.

Experimenting with lines, curves and various surfaces.

Evaluating the ways to use resources and taking care of the environment (disposing of litter properly, recycling bottles and papers, efficiently using natural resources).

Discovering and experiencing symmetry.

Classifying and sorting various mixtures.

Using graphs.

BASIC FACTS - GRADE TWO - ENERGY

Demonstrating how energy must be expanded in order to move objects or stop their momentum.

Studying the need and use of various fossil fuels, kinds of combustion, insulation, food for energy, etc.

Creating and observing solids, liquids and gases.

Communicating the ultimate source of most of the earth's energy is the sun.

Experimenting with temperatures and thermometers.

Observing, creating, measuring gases.

Learning that gravity is an attractive force between earth and any object.

BASIC FACTS

MATTER

Studying how plants and animals exist in communities and depend upon other living and nonliving matter for survival

Interpreting how humans interact and effect the environment in relation to other organisms.

Classifying various matter according to its common characteristics.

Identifying and studying various population variables such as food chain, food web, plant eater, animal eater, plant-animal eater, predator-prey.

TIME

Counting time by basing it on natural or man-made events.

Measuring time in standard units — seconds, minutes, hours.

Using shadows to measure time (using the sun as the light source).

Learning the sun is the chief source of light and energy for earth and that it seems to move because the earth rotates.

Learning the moon has phases because we see varying amounts of its sunlit side.

Charting seasonal change in terms of time.

GRADE THREE

SPACE

Experimenting with three basic standards of measurement --- distance, mass and time.

Making approximations of scale drawings.

Experimenting with motion, as motion is interpreted and measured in terms of both distance and time.

BASIC FACTS - GRADE THREE - ENERGY

Seeing how air under pressure and masses of air can exert a force.

Finding out that heat energy can expand masses of air and cold air can contract it.

Discovering that temperatures measure relative hotness and coldness.

Identifying which materials are good and poor conductors of heat.

Experimenting with magnetism and observing relative strength of these forces under various conditions.

Understanding the relation of nutrition to human and animal energy.

BASIC FACTS

MATTER

Demonstrating that foods are chemicals and reactions involving foods provide the energy used by living things.

Discovering that ultimately all food is manufactured by green plants, through the chemical interaction of sunlight, water, carbon dioxide and chlorophyll.

Studying lack of food as a problem for many of the world's people.

Learning a cycle is repeated when organisms die and this decay releases chemicals to be used by other organisms.

Understanding how to create and use magnification.

Learning the cell is the basic structual unit of all living things; that groups of cells can be organized into larger, more complex functional units.

Classifying minerals in rocks.

Studying why the proper functioning of the human body depends upon what is put into it and how it is received; that humans have complex digestive, respiratory and circulatory systems.

Discovering after large amounts of water fall on the earth, some evaporates, much runs off in streams, some soaks into the ground and some goes under the ground.

TIME

Using decimals, graphs and pendulums.

Recognizing time as an important experimental variable.

Introducing the integrated, sequential processes of controlling variables, collecting, and interpreting data and formulating hypotheses.

GRADE FOUR

ENERGY

Discovering heat is produced from solar energy by chemical reactions, by electric currents and by friction.

Learning heat from the sun can travel across large distances almost instantly and can be reflected or focused like visible light.

Discovering as the fossil fuels dwindle and pollution from them increase, other alternative sources of fuel will be utilized.

Discovering friction is caused by rubbing or rolling one object against another and this produces heat; that friction may be reduced by use of lubricants or by moving objects on rollers; that friction has both advantages and disadvantages; that matter in all states creates friction.

Creating and experimenting with basic circuit boards, lamps, switches, conductors and nonconductors.

Find out electricity must travel in a circuit to be useful; that the flow of electricity through a circuit is controlled by closing and opening the switch.

Discovering sound is caused by vibrations of an object; that sound vibrations travel through liquids, solids and gases; that different vibrations (caused by changes in lengths, mass or tension of an object) cause differences in pitch and loudness; that loud and unpleasant sound is noise pollution.

BASIC FACTS - GRADE FOUR - SPACE

Finding out that stars appear to move across our sky because the earth is rotating.

Learning the earth, other planets and moons appear to shine because they reflect light.

Learning the universe is made up of many, many stars — most observable only with powerful instruments.

Studying environments (environmental factors, range, optimum range; biotic, abiotic, seasonal change, temperature, response).

Experimenting with everyday space physics such as pendulums, momentum, expansion, contraction, etc.

BASIC FACTS

MATTER

Learning there is a logical orderly system for classifying plants and animals; learning this is call "taxonomy".

Finding out scientific groupings and names are extremely important, since they are a means of communicating the relationships between organisms.

Discovering some of the smallest organisms are of greatest importance to humans.

Reinforcing that nearly all living things are interdependent and have an effect upon one another; that most organisms eventually become food for other living things.

Analyzing how living things often react slowly to environmental changes.

Studying how different kinds of matter have different physical and chemical properties.

Doing simple analysis of mixtures.

Learning there are only about a hundred different elements in all kinds of matter; that elements combine in various ways to form compounds; that matter is made up of tiny particles called atoms and molecules.

Observing and recording animal behavior; experimenting with conditioning.

Discovering physical changes do not affect the structure of matter, but chemical changes do.

Defining plant parts functionally.

TIME

Discovering how fossils are formed by sand grains and other particles settling out of water and then becoming cemented into rock layers, and how these rock layers often have the remains of animals and plants preserved in them.

Calculating wheel speeds.

Studying how parts of earth's rock layers have been lifted and broken by great forces from within the earth, and how these forces continue to act upon the earth's surfaces.

GRADE FIVE

ENERGY

Discovering how movement of air in the atmosphere is caused by temperature differences.

Studying how weather is affected by many local factors, including altitude and atmospheric pressure; that large bodies of water can moderate climates; that in the northern hemisphere, prevailing winds blow from west to east and clockwise around high pressure areas.

Experimenting to see how light beams travel in a straight line.

Demonstrating how we see most objects because they reflect light, but yet some objects give off their own light.

Experimenting with chemical reactions.

Learning that light, heat, radio and television waves are forms of radiant energy.

Studying the earth's magnetism.

Discovering forces can change objects and motions and that the strength and direction of forces can be shown by vectors.

Creating levers and discovering their uses.

Experimenting with inertia and mass, force and acceleration.

BASIC FACTS - GRADE FIVE - SPACE

Learning the moon seems to move because it travels around the earth as the earth rotates.

Experimenting with inertia and mass.

Studying how the earth is affected daily and seasonally by the sun and the moon.

BASIC FACTS

MATTER

Studying ecosystems (water cycle, food-mineral cycle, oxygen-carbon dioxide cycle, pollutant, pollution, evaporation, condensation, gas cycles).

Learning life can reproduce itself in a variety of ways.

Experimenting with plant nutrition and plants in various lights.

Discovering living things tend to produce far more offspring than can survive; those that survive in nature are often the hardiest and have the keenest sense.

Studying and identifying small water animals.

Learning there is a constant succession of changes in our environment: people can effect this change either positively or negatively depending on how they use and recycle parts of their environment.

Experimenting with optical illusions.

Experimenting with density, viscosity and membranes.

Experimenting with fermentation.

Demonstrating how to control variables and interpret data.

TIME

Studying how the natural forces of the earth are constantly changing (wind, water, etc.)

Learning how geologists are able to infer much about the history of the earth by assuming the forces that affect the land today also affected it in the past.

GRADE SIX

Discovering light can travel through some materials; that light beams will bend if they pass from one material to another of different density; that light waves travel in straight lines at high speed.

Discovering that light contains many different wave lengths of light; if this light is refracted in a certain way, the colors in it spread out and form a spectrum.

Experimenting to find how lenses bend light in such a way that things viewed through them appear larger or smaller than actual size.

Discovering that machines constantly change the strength and direction of forces; that machines, no matter how complex, are made up of one or more simple machines; that machines allow people to direct forces more effectively.

Identifying that electric current is generated by converting some other form of energy into electrical energy.

Finding out that electricity is a form of energy and can be converted into other forms of energy; that some objects can be given positive or negative charges; that like electrical charges repel each other, while unlike charges attract.

Experimenting with pressures and volumes.

Studying how the earth's movement causes the sun's position in the sky to change, and causes a change in our seasons.

Observing photos taken of other planets.

Learning how distances from the earth to the sun and to the other planets have been measured.

SOCIAL STUDIES

LEVEL I
EARLY CHILDHOOD
LOCATED IN BES
CURRICULUM

LEVEL II
MIDDLE CHILDHOOD
AGES 6,7,8

LEVEL III
LATER CHILDHOOD
AGES 9, 10, 11

BASIC

EDUCATIONAL

SKILLS

S.C.C.A.A.
U.S.D. #501
TOPEKA, KS.

BASIC

To enable students to deal realistically with the problems that confront them living in a complex society, to function as responsible and effective members of their community, and to foster a respect and understanding of other members of their community.

Social Studies is an interdisciplinary approach which includes the study of anthropology, economics, geography, history, political science, sociology, psychology, archaeology, and career education.

Social studies deals with the development and understanding of human relationships.

Social Studies enhances clarification of values, sensitivity to and understanding of others, and respect for situational ethics.

Social Studies

H O M E

N E I G H B O R H O O D

C O M M U N I T Y

S T A T E

N A T I O N

W O R L D

APPROACHES

To teach youth about the various kinds of human relationships.

To provide opportunities in the daily curriculum through which children will develop the knowledge, values, skills and abilities necessary for their rational participation in human relationships.

To build certain characteristics, traits, knowledges, skills, abilities, appreciations and attitudes in each child to develop an effective citizen for a democratic society.

SOCIAL STUDIES CAN BUILD AN AVENUE FOR INTERACTION AND IDENTIFICATION WITH SOCIETY WHICH THEN BUILDS AN AWARENESS OF PERSONAL COMPETENCY — AN INGREDIENT ESSENTIAL FOR A POSITIVE SELF-CONCEPT.

For Level II Social Studies it is important for the child to know what it FEELS like to be a child during a particular time or in a different culture — such as:

Have children authentically act out life style characteristics of different kinds of Indians — combine this with a geographical and climatic understanding of

Act out life on a riverboat — as it really happened long ago.

MUSIC is a universal language of the world. Music will help children get the "feel" of the people from various cultures. Music can demonstrate styles, environment, emotions, history and national character of a country. Musical instruments express the life style of various cultures. (cowboy music, Swiss mountain bell music, Viennese waltzing music, African drum music, etc.)

ART in Social Studies helps the child to become aware of his/her immediate and worldly environment. (Suggestions: Make wall murals and dioramas illustrating phases of history, make puppets for presenting historical and current social issues, construct models of apartments, houses, tents, earth homes, grass huts, etc. to illustrate modes of living.)

ACTIVITIES

DANCE is another international language. Social Studies can be greatly enriched and topics better understood when children dance as other cultures dance or when they create their own dance interpretations, life styles, feelings, roles and relations.

LANGUAGE ARTS become the necessary tools for teaching and learning of Social Studies. When doing Social Studies, the child utilizes reading, research, chart making, letter-writing, composition, story and poetry writing, outlining, summarizing, note taking, report-making, oral expression, reference usage, and CREATIVE WRITING.

MATH and Social Studies are closely related and children can extend their mathematics skills. (Suggestions: Conduct census to determine size and number of families, do map work to locate and define size of homes, playgrounds, neighborhoods and communities. Practice can be done on estimating distances between places of production and consumption. Calculate latitude and longitude, map elevations and data about population size, density, distribution and mobility. Time lines depicting historical events integrate math and social studies too.)

BACKGROUND INFORMATION AND

According to Modern Elementary Curriculum by William B. Ragan and Gene D. Shepherd, Social Studies includes the study of:

ANTHROPOLOGISTS — to learn the activities of people, the ideas they share and hold, and the things produced, especially culture.

ECONOMISTS — to learn the activities of production, exchange, and consumption of goods and services with the conflict of unlimited wants and limited resources.

GEOGRAPHERS — to learn the activities of human culture in interaction with natural environmental factors.

Social Studies Objectives:

To develop the concepts and processes of INQUIRY, DECISION-MAKING, and CREATIVE-THINKING.

HISTORIANS — to learn the activities of identifying and describing the events of the past.

POLITICAL SCIENTISTS — to learn the regulations of power through legal government.

SOCIOLOGISTS — to learn the activities of people in groups within a society, culture, and formal and informal institutions.

PHILOSOPHERS and SOCIAL PSYCHOLOGISTS — to learn the activities of shaping basic beliefs and the dynamics of group interactions.

CREATIVITY OF CHILDREN IS ONE OF THE MOST PRECIOUS COMMODITIES OF ANY SOCIETY.

Creative potential, if properly developed, will produce the unusual, unique, and innovative ideas that will move society forward and lead humans into better relationships, fullest development, and to whatever happiness they find in their lifetimes.

CONCEPT FORMATION AND

Dealing with the continuity of human life, the study of history can be better understood by children if these concepts are introduced:

TIME — The study of history is a time-oriented study. As children do experience themselves in time, the introduction of this concept is appropriate.

CHANGE — A value inherent in the teaching of history is that it helps children to accept the inevitability of change. The concept that change is constant, and not to be feared, can be taught to children.

THE CONTINUITY OF HUMAN LIFE — That life has a continuity can be taught to children through their own experiences.

Problem-solving processes for young children:

(a.) Definition of problem
(b.) Desire to solve probem
(c.) Memory scan for related problem
(d.) Generation of alternative solutions
(e.) Analysis of alternatives
(f.) Seeking information needed
(g.) Organizing sought information
(h.) Choosing most likely solution
(i.) Trying solution
(j.) Evaluating the results

THE PAST — Children do experience the immediate past. They can discuss and record it. Children can also handle objects and records from the more distant past and gain an understanding of life before their time.

THE METHODS OF THE HISTORIAN — Children can utilize the methods of the historian in order to make their lives more meaningful, richer and fuller. Children can be taught to recognize problems; to observe, analyze and infer from the data; and finally to reach conclusions.

Taken from Social Studies for the Preschool-Primary Child by Carol Seefeldt

Effective strategies for teaching Social Studies include actively involving the students in the process of learning and applying the RESEARCH SKILLS:

(A) Data-Gathering Operations: Observing, Counting; and Quantifying, Interviewing, Experimenting.

(B) Data-Organizing Operations: Classifying, Comparing, Defining, Mapping, Modeling, Graphing and Charting Statistics.

(C) Data-Using Operations: Inferring, Deducing, Generalizing, Explaining, Predicting, Hypothesizing.

BASIC CONCEPTS

To develop a better awareness and understanding of self, family, school and local community.

To recognize and understand parental role and appreciate the needs and wants of the family.

To explore the needs and wants of self and others.

To recognize and study the students' relationships to others.

To successfully work and play with others.

To recognize the school as an institution of our culture.

To develop techniques for relating to the daily world and for solving daily problems.

To recognize the need for rules in any group.

To study the life stages of infancy, childhood, adolescence, adulthood, old age and death.

To study verbal and nonverbal communication — active listening and participation, body language, facial expressions.

To study the relationship of humans with their environment.

To develop environmental and conservation awareness.

To participate in the economic environment.

To demonstrate skills in problem-solving and critical thinking.

GRADE ONE

To anticipate problems and participate in problem solution relating to personal choice, responsibility, authority, privileges and rights, and appreciation of freedom of choice.

To recognize and acknowledge contributions of the past through local history, multimedia resources, cultural facets and relating of past experiences to the present.

To develop an appreciation and understanding of the early historical and geographical backgrounds of the children in the classroom.

To appreciate the contributions of the early settlers to our mode of living today.

To build a knowledge of our country's cultural heritage and of other cultures in the world.

To recognize a variety of career possibilities and opportunities.

To introduce basic map skills based on self-in-space and local topological experiences.

To introduce the study of children of other lands based on "how it feels" sort of role projection in relation to history.

To introduce prehistoric life and other paleontological and archaeological basics as a foundation to the study of early life.

BASIC CONCEPTS

To further develop an understanding of themselves and to begin to learn about various cultures of the world through increased understanding of universal human experience of children, families and basic human needs.

To participate in an in-depth study of their community and of other communities — how they live and support themselves, their cultures, kinds of government, community growth and change.

To further understand that people are interdependent in a variety of ways.

To identify the structure of social groups and recognize their patterns of behavior.

To recognize and acknowledge contributions of the past through state history and time lines.

To study techniques of consumerism in daily life.

GRADE TWO

To anticipate problems and participate in problem solution relating to current events in their community.

To recognize the conflict between unlimited wants and limited geographic and human resources.

To further develop a knowledge of space and the human exploration of it.

To recognize the interrelationships of humans and the environment relating to physical features, climate, map reading, political boundaries, geographic linkage, universal interdependence, and intercommunity exchange.

BASIC CONCEPTS

To demonstrate a willingness to listen to another person's viewpoint, a concern for the rights and privileges of others, a willingness to work with others.

To develop an appreciation and understanding of cultural patterns, cultural change, and ethnic diversity.

To demonstrate skills for group interactions and communication patterns.

To study cities, with emphasis on the city in which the child lives — the historic, geographic, economic, and political factors contributing to their development.

To study the agricultural, industrial and sociological factors contributing to the development and growth of cities, including topography, migration, commerce, etc.

To possess skills for the use of school and community resources.

GRADE THREE

To develop a sense of civic responsibility and an appreciation of laws and how they function.

To understand the requirements and opportunities for various jobs.

To recognize the interrelationships of humans and the environment relating to demography and geographic location.

To demonstrate a regard for the nation's resources.

To demonstrate basic skills of an informed and skillful buyer.

To recognize and acknowledge contributions of the past through visualization of past experiences and study of national history.

To demonstrate the greater acquisition of map and globe skills.

BASIC CONCEPTS

To organize an in-depth study of that region of the United States where the student lives.

To become informed about local laws and be better prepared for effective citizenship in an increasingly complex world.

To study mental health behavior patterns, maturation and ways of coping with crisis and stress.

To participate in the functions of groups, their social planning, their conflict and change, and their social cohesiveness based on shared participation.

To appreciate the creative contributions of social groups.

To study human society — past and future — and the human role in the historical process.

To study cultural geography of characteristics unique to each geographical region such as meeting individual needs, acquiring customs and developing value systems.

To recognize and acknowledge contributions of the past through global history.

To develop a knowledge of the human struggle for freedom.

GRADE FOUR

To recognize the democratic form of government and the democratic way of life.

To begin to develop a knowledge of geography, weather and climate of the world.

To recognize how transportation and communication developments have linked the entire world.

To further develop a knowledge of the sea and its importance in the future of the human species.

To study more complex map and globe usage including such concepts as longitude and latitude.

To begin to develop an understanding of world problems and why they exist.

To recognize various techniques used to promote propaganda.

To develop skills for the gathering of evidence, investigation of social, political and economic issues, and the separating of fact from opinion.

BASIC CONCEPTS

To participate in decision-making processes that promote reasoning and judgement, acceptance of differences, positive self-worth, values in actions and commitments.

To anticipate problems and participate in problem solution relating to contemporary problems.

To participate in the process of fact-finding.

To encourage groups to interact and solve problems with the sound techniques of a humanized curriculum which utilizes knowledge from the social sciences.

To demonstrate and utilize map skills.

To help children appreciate the great sacrifices, hard work and keen thinking done to attain the Bill of Rights and other documents of our independence.

To bring about special emphasis to the democratic process from its beginning to its present state.

GRADE FIVE

To study the history and geography of the United States starting with an historic survey from the age of discovery through the present day.

To demonstrate how the geography of a nation has influenced it's history.

To demonstrate the importance of the United States in world affairs through the exploration of economics and political principles reflected in the changes from an early agrarian society to an industrial nation.

To identify regulators in our monetary system.

To apply map and globe skills relative to the United States and its place in world affairs.

To develop a knowledge and understanding of the importance of a balanced environment and a study of ecology.

To identify kinds of prejudice, discrimination and sexism.

BASIC CONCEPTS

To value individual worth and accept differences in others in order to give stability to relationships among people.

To demonstrate a commitment to knowledge, skills, social participation and values that contribute to the growth of an individual in his/her society.

To recognize the processes of socialization and intercultural relationships.

To develop an appreciation for the literature, music, art, and types of living in our own country.

To begin to develop a knowledge of the problems of youth and of senior citizens created by our society.

To form concepts and understandings of the influences of climate and geography on the mode of life, the type of people, the food, shelter, and clothing of a culture.

To study problems of various cultures around the world and how those problems exist today (food, shelter, clothing, communications, health, etc.).

To explore the role of developed and developing nations as they may be affected by climate, resources, economics, forms of government, value systems and political alignments.

GRADE SIX

To demonstrate an awareness of how geographic and human resources influence the economic development of society.

To study world history and geography beginning earlier than prehistoric humans and tracing civilization from archaeological finds and early recorded history to the present.

To discover and discuss the progress of human life on the planet earth.

To develop a knowledge of technology and problems created by it (environmental waste, economics, unemployment, resource usage, etc.).

To anticipate problems and participate in problem solution relating to politics, political structures, political theory and political efficacy.

To demonstrate research and organizational skills.

To demonstrate the decision-making skills of drawing influences, synthesizing and making generalizations.

LANGUAGE

ARTS

Level 1
EARLY CHILDHOOD
LOCATED IN BES
CURRICULUM

LEVEL 11
MIDDLE CHILDHOOD
AGES 6,7,8

LEVEL 111
LATER CHILDHOOD
AGES 9, 10, 11

BASIC

EDUCATIONAL

SKILLS

S.C.C.A.A.
U.S.D. #501
TOPEKA, KS

LEVEL II

To know that words and sentences are read from left to right.

To understand the concept of alphabetical order.

To build a growing interest in stories and poetry.

To understand word functions: verbs, adjectives, nouns.

To understand antonyms, synonyms and homonyms.

To use context to determine meaning of words.

LEVEL III

To read critically.

To comprehend the printed word literally and inferentially on a variety of subject matter.

To understand library procedures for research purposes.

To select a book appropriate to independent reading level.

To adjust reading rate to content and purpose: e.g. skim, scan, study.

CONCEPTS

LEVEL II

To use the table of contents, glossary, and index.

To use the dictionary for specific purposes.

To paraphrase, draw conclusions, and verbalize generalizations.

To comprehend a variety of subject matter both literally and inferentially.

LEVEL III

To be able to recognize the theme in fiction and nonfiction.

To recognize and understand literary terms and devices e.g. figures of speech.

To recognize character motivations and conflicts between characters and ideas.

READING/LANGUAGE USAGE

ORAL COMMUNICATION LEVEL II

To name common sounds after hearing them.

To identify letter sounds, beginning with initial sounds and progressing to blends and rhyming words.

To use vowel sounds as clues to syllabication.

To answer factual questions about the content of an oral presentation using own words.

To retell a story and/or experience.

To functionally participate in group situations in which ideas are orally expressed.

To apply fundamental rules of grammar.

To recognize the main ideas and details in an oral presentation.

To enunciate clearly.

To organize ideas into a logical and interesting sequence.

To use a pleasing tone of voice.

To discriminate like and different word sounds.

To continually build speaking vocabulary.

ORAL COMMUNICATION LEVEL III

To express ideas effectively through oral communication.

To emphasize and practice argumentative skills which promote analytical methods of thinking.

To recognize the main ideas and details in an oral presentation.

To answer factual questions about the content of an oral presentation.

To summarize the material from a presentation in correct sequence.

CONCEPTS

WRITTEN COMMUNICATION LEVEL II

To develop the recognition and use of complete sentences.

To provide dictionary readiness through the teaching of alphabetical order.

To use context to determine meaning of words.

To recognize vowels and vowel combinations, initial and final consonant clusters and letter and word configurations.

To recognize basic sight words.

To identify letter sounds beginning with initial sounds and progressing to blends and rhyming words.

To promote creative and expressive writing in all communications.

To understand and use compound verbs, affixes, hyphenated words, possessives between word pairs: synonyms, antonyms and homonyms.

To use correct punctuation and capitalization.

To summarize the material from a written presentation in correct sequence.

To promote a continual growth of written vocabulary.

To apply the fundamental rules of grammar in written communication.

WRITTEN COMMUNICATION LEVEL III

To use the dictionary for specific purposes.

To use forms and techniques to demonstrate expository writing skills (complete sentences, a topic sentence, writing several types of compositions).

To use the table of contents, glossary and index.

To express ideas effectively (emphasizing creativity and expression) in writing brief reports, original stories, letters, notes, poetry, and simple research papers.

LEVEL II

To recognize beginning sounds.

To recognize vowels and vowel combinations, initial and final consonant clusters, letter and word configurations.

To discriminate like and different sounds.

To identify letter sounds, beginning with initial sounds and progressing to blends and rhyming words.

To follow directions in marking worksheets.

To use vowel sounds as clues to hearing and seeing the number of syllables in words.

LEVEL III

To follow directions involving several steps.

To recognize the main ideas and details in an oral presentation.

To tell or write varied stories and/or experiences.

CONCEPTS

LEVEL II

To retell, rewrite, illustrate, or dramatize an oral story or dramatic experience.

To answer factual questions about the content of an oral presentation using own words.

To recognize the main idea in an oral presentation.

To listen to sounds and directions, to learn new words through listening, and to listen for pleasure and appreciation.

LEVEL III

To increase elaborative comprehension skills.

To recognize controversial topics, opinions, generalizations, and arguments presented in an oral presentation.

BASIC

LEVEL II

SEQUENCE OF LISTENING

SEQUENCE IN THE DEVELOPMENT OF ABILITY TO LISTEN:

EGOCENTRIC LISTENING:	Paying attention only to that which directly affects or interests them.
APPARENT LISTENING:	Simply waiting for a chance to inject own thoughts.
PASSIVE LISTENING:	Giving no observable response.
EVENTUAL LISTENING:	Followed by some related response.
FOCUSED LISTENING:	Followed by evidence of comprehension, interpretations and/or emotional reaction.

TO PROMOTE GOOD

Use considerate placement of children with visual or auditory insufficiencies.

Provide many and varied opportunities for listening — to each other, to records or tapes at a listening station, to presentations of instructions or stories by other students or the teacher, to pupil's own voice on tape, to sounds in the environment, etc.

Provide appropriate and interesting materials for listening.

AND LEVEL III

KINDS OF LISTENING

PASSIVE LISTENING:	No indication of behavioral response to message.
MARGINAL LISTENING:	Fractionated — level used when child watches TV while listening to others talk.
APPRECIATIVE LISTENING:	Level to be used to enjoy a poem, story, dramatization or record.
CREATIVE LISTENING:	Level used as children imaginatively enter into the experience or feelings of characters in a story or play.
ATTENTIVE LISTENING:	Level used for accuracy of comprehension to follow instructions, record data, understand announcements, etc.
RESPONSIVE LISTENING:	Level used as the listener participates in conversation, discussion or recitation.
ANALYTICAL OR CRITICAL LISTENING:	Level used as the listener weighs what is heard and attempts to distinguish among fact, opinion, and propaganda.

LISTENING HABITS

Provide opportunitites to communicate child's own ideas, experiences, and feelings while teachers and peers listen attentively.

Provide frequent opportunity to respond to listening experiences verbally, with body movements, or with creative expression (painting, writing a poem, essay, etc.)

Make sure teacher provides a good model by being an attentive and accurate listener.

BASIC FACTS

Readiness Review for Level II:

To use correct verb form with noun.

To know that words are read from left to right.

To order a sequence accurately.

To discriminate whether word sounds are the same or different.

To classify.

To listen to a story read aloud for a few minutes.

To follow directions.

To distinguish and print capital and small letters.

REVIEW FOR LEVEL II

To draw a line from left to right.

To name an object by hearing a description.

To retell story in own words.

To complete oral statement with spoken word that fits context.

To name common sounds after hearing them.

To tell a story with a beginning, a middle and an end.

To recall sequence of a simple story.

BASIC FACTS - REVIEW

BASIC FACTS

To follow two-part directions.

To relate picture of concept to it's opposite.

To recognize main idea of story.

To distinguish among letter, word, and sentence.

To recognize basic sight words.

To print name (only first letter capitalized).

To name words that rhyme with given words.

REVIEW FOR LEVEL II

To recognize word forms that are the same and different.

To select pictures of objects that have the same beginning sound.

"Love and respect and the development of a positive self-image are basic to the development of a person — education is built on this foundation."

Help Me Learn

by

Mary F. Rice
and
Charles H. Flatter

BASIC FACTS

Medial /a/a.

Final /n/n /d/d.

Verb ending — s.

Recalling details.

Final /t/t /g/g.

Medial /i/i

Initial /l/l /v/v /n/n

Initial /k/c /r/r /g/g /m/m /b/b /b/b /j/j /s/s /h/h.

Plural ending — s.

Finding the main idea.

Practicing left-to-right progression.

Initial /f/f /t/t /p/p /k/k /w/w /y/y.

Graphemic bases with initial consonant substitution -ig -it

Final /b/b

Medial /o/o

Initial /z/z

Medial /u/u

Compound words

Understanding and using the contents page.

Graphemic bases with initial consonant substitution -ot -ob

Final /b/b /d/d /n/n /t/t /ks/x /p/p

Initial /dr/dr /fl/fl /gl/gl /pl/pl

GRADE ONE

Word ending -ed.

Medial /e/e.

Final /m/m.

Word ending -ing.

Possessive ending 's.

Summarizing information.

Initial /kw/qu.

Graphemic bases with initial consonant substitution -ut -un.

Medial /ā/a with e marker — medial /ī/i with e marker.

Initial voiceless /th/th /sh/sh.

Initial /kr/cr /pr/pr /br/br /gr/gr /st/st.

Recognize developing sequence.

Begin understanding characters.

Intial /bl/bl /tr/tr.

Final /t/y.

Syllables.

Predicting outcomes.

Final /a/ay /i/ie.

Medial /o/oa.

Final /st/st /ngk/nk /nd/nd /ng/ng /ch/ch.

Medial /ē/ee /ē/er /ā/ai.

Contraction with n't.

Initial /hw/wh /a/a /u/u.

Following oral directions.

BASIC FACTS

Initial /fr/fr /sm/sm /sp/sp.

Medial /o͞o/oo / /oo.

Initial /a/a /e/e /i/i /o/o

Understanding characters.

Predicting outcomes.

Adjusting reading rate.

Final voiceless /th/th /sh/sh /l/ll /s/ss /k/ck.

Dropping final -e before adding -ed -ing.

Doubling final consonant before adding -ed and -ing.

Using public signs (recognizing standard sign shapes).

Following written directions.

Initial /skr/scr /str/str /thr/thr.

Final /nt/nt /ld/ld

Medial /ou/ou /oi/oi

Prefix -un.

Developing sequence.

Initial /j/g /s/c.

Different spellings for /oi/ /ou/.

Different spelling for /ā/ /ē/ /ī/

/ur/ spelled as er, ir, or, and ur.

Word endings -er -est (comparative and superlative).

Alphabetizing to second letter.

Initial /n/kn /r/wr (silent letters).

GRADE TWO

Contractions with 'll, 've and 're.

Changing y to i before adding -es and -ed.

Prefix re-.

Doubling final consonant before adding -er and -est.

Alphabetizing to the third letter.

Comparing and contrasting feelings and story themes.

Evaluating reality of story.

Understanding cause and effect of character's feelings.

Categorizing personal interests for book selection.

...ing library for self-selection of books and materials.

Initial ar/ar /ôr/or /ô/au /ô/al.

Suffixes -ful -less.

Changing y to i before adding -er and -est.

Following reasons to a conclusion.

Listing major events leading to main ideas.

Finding definitions of words in a children's dictionary.

Finding words in a dictionary alphabetized to the third letter.

Establishing empathy with story characters.

BASIC FACTS

Initial /sw/sw /tw/tw /g/g /j/g e /k/c and /s/c.

Medial /ā/ei /ē/ie /īld/ild /īnd/ind /ōld/old /ō/ow /ō/oe /ār/air /ār/ear /ār/eir.

Prefix in- and dis-.

Using vowel sounds as clues to number of syllables in words.

Understanding literary forms.

Reading to locate specific information.

Using the glossary.

Initial /sk/scj /sp/spl /f/ph /sk/sc /s/sc /ī/igh /skw/squ /ā/eigh.

Suffix -ous -ion.

Syllabication between prefix and root, and between suffix and root.

Drawing conclusions.

Organizing to show sequence.

Reading simple maps.

Initial /shr/shr /spr/spr.

Reading globes.

Interpreting simple diagrams.

GRADE THREE

Recognizing the double medial consonant as a clue to syllabication.

Final /sp/sp /lt/lt /ft/ft /f/gh /mp/mp /sk/sk sh as in sigh /ē/ei /oo/ew /oo/ou /oo/oo /ē/ey.

Recognizing -le as a syllable.

Recognizing the ending -es with words ending in ss, x or ch.

Interpreting figurative language.

Using context to determine meaning of words.

Reading graphs.

Using scanning as a technique for finding information.

Medial /e/ea.

Hearing the schwa sound.

Dividing words between schwa sound and accented syllable.

Following directions.

Using capital letters as initials.

Vowel sounds as clues to syllabication.

Using simple abbreviations.

Summarizing information.

BASIC FACTS

Identifying cause and effect.

Recognizing basic sight words in the content area.

Outlining.

Using the main entry in a dictionary, using guide words and illustrations.

Identifying different types of fiction.

Identifying accented syllables: primary stress.

Recognizing the author's purpose.

Identifying and analysing compound words.

Reading maps, graphs, and tables.

Extending ideas and topics.

Recognizing story elements, plot, characterization and setting.

Finding appropriate meanings in the dictionary.

Distinguishing among fact, fiction, and opinion.

Developing time sequences.

Recognizing -le ending as a clue to syllabication.

GRADE FOUR

Recognizing and using common suffixes.

Recognizing alliteration (wild, wooly, threatening, throngs).

Recognizing basic sight words.

Visualizing from a written description.

Keeping simple records.

Using the pronunication key.

Identifying and using common prefixes.

Recognizing basic sight words in the content area.

Using the encyclopedia.

Using context to determine meaning.

Interpreting figurative language.

Summarizing.

Identifying homophones (to,too,two)

Developing paragraphs.

Identifying homographs [fair (market) and fair (beautiful)] .

BASIC FACTS

Drawing conclusions.

Recognizing mood through author's word choice.

Recognizing climax.

Reading maps, graphs, and charts.

Following sequence.

Identifying different types of fiction.

Using the newspaper.

Locating answers to specific questions.

Recognizing story elements: characterization.

Being aware of sensory images and communicating them orally and in writing.

Following cross references in the encyclopedia.

Identifying word function: verbs, nouns, adjectives.

GRADE FIVE

Recognizing possessives.

Comparing sources of information and detecting discrepancies.

Outlining.

Following the organizational pattern of writing in the content area.

Predicting outcomes.

Distinguishing between definite and indefinite terms (nibble-eat).

Using context to determine word meaning.

Recognizing story elements: characterization.

Being aware of sensory images and communicating them orally and in writing.

Following cross references in the encyclopedia.

Identifying word function: verbs, nouns, adjectives.

BASIC FACTS

Making comparisons.

Changing adjectives to adverbs.

Identifying style.

Following the organizational pattern of writing in the various content areas.

Summarizing.

Distinguishing between concrete and abstract terms.

Using the Atlas.

Recognizing basic sight words in the content area.

Recognizing story elements: plot.

Identifying main ideas and stating in own words.

Changing root words to nouns.

GRADE SIX

[illegible]

Using the Dewey Decimal System.

[illegible]

Analyzing words through prefix meaning.

[illegible]

Recognizing the author's purpose.

Keeping simple records.

Identifying different types of nonfiction.

Making generalizations.

Changing root words to adjectives.

Recognizing story elements: setting.

Identifying motives of characters in stories.

Analyzing words through suffix meaning.

Recognizing and discussing multiple meanings from a single story.

CLASSROOM ACTIVITIES

Use conversation, descriptive language, oral feedback.

Fill the environment with printed words and phrases: names on cubbies, labels on objects, captions on pictures, directions on centers or activities, etc.

Use picture books, information books, folktales, and poetry.

Illustrate a story sequence by folding a sheet of paper into three sections and drawing a picture of the most important thing that happened on each part.

Read or talk into a cassette recorder, then play back.

Choose a title from a newspaper, book, magazine, TV program, etc., and write a story about it.

Do a dramatization of a selection.

Copy a list of familiar story titles from the chalkboard and write at least one sentence about each of them.

Draw pictures to illustrate group experience charts.

Make simple puppets from sticks, sacks or socks — naming them, telling where they will perform or write skits for them.

Draw characters from an assigned story and write a sentence describing each.

Divide words into syllables.

Arrange a list of words from the chalkboard or newspaper ads in alphabetical order.

Draw or write an ending to a story.

Finish sentences written on chalkboard by drawing a rebus for each ending concept.

Copy and illustrate a favorite poem or passage from a story.

Draw pictures of "doing" words: jumping, running, eating, swimming, etc., and write captions for them.

Read while another pantomimes.

Construct funny things from scraps of paper, cloth, wood, etc., and write or tell about them.

Have an informal news exchange and "sharing" period each day.

Discuss various ways to communicate and try them out.

Write a cooperative experience story.

Have informal dramatizations to develop imagination, spontaneity, fluency, originality and constructive social attitudes.

Write sentences containing opposites and underline the opposites.

Develop a picture story. (This encourages children to describe persons, objects or action and is an effective means of organizing ideas.)

Arrange sets of picture cards and alphabet cards in alphabetical order.

Write stories from a newspaper article, a nonsense word, a quote, an open-ended situation, about a particular taste or smell, etc.

Read baseball cards, cereal boxes, children's magazines, etc.

Have a special time which provides an opportunity to orally communicate (e.g. a personal happening, a story, a poem, etc.)

Supply missing vowels in a list of words: b__d, y__s, h__t, etc.

Have informal group discussions which provide opportunities to express personal opinions and help create solutions to a group problem.

Make a picture dictionary, drawing or finding a picture for each letter.

Tap out the meter of a poem, make up and sing jingles, etc., to show the patterning in language and music.

Write stories about people and read them aloud.

Encourage independent writing through completing unfinished stories.

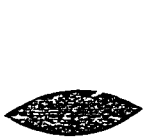
[illegible] poetry to children, also [illegible] or read the poetry.

Ask [illegible] to reinforce the sentence concept and the information it can provide.

Provide experiences that reinforce capitalization and punctuation.

Listen to recordings (stories, poems, plays) and the radio (weather reports, news, etc.).

CLASSROOM ACTIVITIES



Read poems or stories to younger children.

Classify groups of words from the newspaper to fit such catagories as size, color, action, emotion, etc.

Write and read aloud original stories or poems.

Encourage reading to verify facts and support a position expressed in discussion.

Do a dramatization of a selection.

Copy a list of words recently studied and illustrate them or use them in sentences.

Read supplementary or enrichment books.

Cut out newspaper or magazine pictures showing various facial expressions and write about what that person might be saying or thinking (could be expanded to include the beginning and ending of what a person might be saying or thinking).

Draw or write an ending to a story.

Create a change of words by changing only one letter each time (i.e. bell, ball, bull, pull, etc.).

Record group experience charts.

Write sentences showing multiple meanings of words such as: park, match, trunk, saw, run, etc.

Write synonyms for a list of words.

Do simple research reports about a chosen sport, animal, or other topic of individual interest and share this information with the group.

Write antonyms for a list of words.

Write riddles, poems, jingles, limericks, advertisements to sell something, character descriptions of a favorite person, biographical or autobiographical sketches, etc.

Add suffixes (-ed, -es, -ing) to appropriate words.

Write correct homonyms for pairs of definitions, such as (1) a fruit (pear), (2) a set of two (pair).

Copy and illustrate a list of compound words.

Scan newspaper articles for words with affixes, then write these words, circle the affix and underline the ro

a list of words a words for each.

rect affix to complete a sentence. such as:

__ed, un__ __, dis___, ___ive. (act) Mr. Sm an ___act___ role in the campaign.

Divide words into syllables.

Write sentences using vocabulary words and indentify them according to function (noun, adjective, etc.).

LEVEL III

Classify a list of words in as many ways as possible.

Write sentences containing opposites and underline the opposites.

Identify pairs of words as synonyms or antonyms.

Indicate the word that does not belong in a group, such as: airplane, helicopter, jet, balloon.

Summarize a story from a reader or a favorite story.

Have informal dramatization to develop spontaneity, fluency, imagination, originality, and constructive social attitudes.

Write dialogues and act them out.

Have a special time which provides an opportunity to orally communicate (a personal happening, a story, etc.)

Rewrite an ending to a story.

Tap out the meter of a poem, make up and sing jingles, etc., to show the patterning in language and music.

Read jokes, riddles and newspaper cartoons.

Have informal group discussions which provide opportunities to express personal opinions and help create solutions to a group problem.

Have an informal news exchange and "sharing" period each day.

Take and idea, poem, story, etc., and elaborate on it — to encourage alternative, creative thinking.

Write stories about people and read them aloud.

Do crossword or word search puzzles related to vocabulary.

Provide many small group activities that encourage group discussion and problem solving.

Read baseball cards, cereal boxes, children's magazines, etc.

Discuss various ways to communicate and try out these alternatives.

Write pairs of statements which begin — fortunately, unfortunately, etc.

Pretend to be an inanimate object such as an apple or a vacuum cleaner and write or tell about how it feels.

Listen to recordings (stories, poems, plays and radio (weather reports, news, etc.).

Write and recite (with feeling and inflection) essays, limericks, haiku, original stories, etc.

Find suitable synonym (use a thesaurus) for words underlined in a story.

Read a newspaper article and circle statement of fact and underline opinions.

Have scavenger hunts.

MATH

LEVEL I
EARLY CHILDHOOD
LOCATED IN BES
CURRICULUM

LEVEL II
MIDDLE CHILDHOOD
AGES 6,7,8

LEVEL III
LATER CHILDHOOD
AGES 9, 10, 11

BASIC

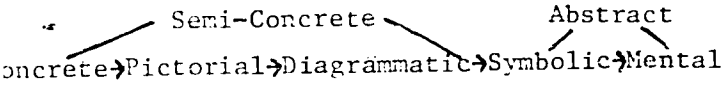
EDUCATIONAL

SKILLS

S.C.C.A.A.
U.S.D. #501
TOPEKA, KS.

MATH

Stages of math concept development:



CONCRETE STAGE: Children work with real objects such as counters, abaci, place-value charts, etc. Through the manipulation of objects, quantitative and spatial relationships are discovered.

PICTORIAL STAGE: One step removed from real objects is a picture of these objects. Instead of 12 counters, the child sees a picture of these counters. Instead of manipulating them into one set of 10 with two left over, the child rings with a pencil ten of the counters to show the collection of one ten and two left over.

Different children need different amounts of time and different numbers of experiences at each stage.

Math concepts are better understood and retained longer when hands-on, manipulative learning experiences take place.

Children need a bridge that helps them move in an organized way to the highly abstract symbolic stage. The pictorial and diagrammatic stages help accomplish this goal.

DIAGRAMMATIC STAGE: Bridging the concrete and pictorial stage with the symbolic stage is the role of diagrams. Here quantitative and spatial relationships are represented by some type of drawing. The number line is an excellent example of this type of bridge.

SYMBOLIC STAGE: This is probably the stage of development with which most adults are familiar. The following algorithm is representative of this stage: 2+4=6. The fundamental stages have been ignored if the initial approach is strictly symbolic. Symbolism is the shorthand used to represent quantitative and spatial relationships.

MENTAL STAGE: This stage of concept development is probably the most neglected of the stages on the continuum. Here we are given a verbal or symbolic stimulus and we must handle the quantitative relationships in our mind. No paper, pencil, objects, etc., are allowed. At this level the arthmetic of everyday life is practiced.

Strategies for Developing Concepts in Elementary School Mathematics, Ronald C. Welch and Virginia R. Havin.

Diagramming must be taught. Children must have experiences which enable them to see many different models. They should experiment, with the teacher, in drawing many diagrams together and discussing the strengths and weaknesses of their models. Then, they are ready to attempt to design their own diagrams.

There is a vast territory between concrete experiences and some abstracted end point called "understanding". "Understanding" implies the ability to reverse, conserve, equate, represent symbolically and mentally, remember, reconstruct, and select a correct solution without trial-and error.

PROBLEM

Problem solving is the thinking process that a person goes through from the time a problem first appears until it is solved.

Steps in the problem solving process: Defining the problem, Thinking about possible solutions, Getting the information needed, Choosing and trying out a solution. Depending on the situation, people do not go through the steps in the same order and not all the steps are followed for every problem.

Developing a positive attitude toward problem solving helps children become successful learners.

Learning to recognize there may be more than one solution to a problem helps children become more open-minded.

To provide practice in problem solving, give children things to do that have built-in problems. All kinds of puzzles are problem solving games. Riddles, jokes, mysteries, brain teasers, magic tricks are all activities that make children stop to think.

COMPUTERS AS AIDS TO PROBLEM SOLVING:

Computers present learning in game-like situations with immediate feedback.

Computer games can powerfully motivate the learning of basic skills and sophisticated concepts.

Children need to learn flow charting, BASIC program languages, uses for computers in society, and field trips could be taken to computerized installations.

Make problem solving fun. Children enjoy games that challenge them to think of many possibilities. Older children may want to keep score of how many different solutions they can list.

Problem solving in the form of estimation skills and predicting-of-outcomes is important at all levels. Estimate for real-life purposes: How long until lunch? How much lemonade will we need for a scout meeting?

Problem solving in the form of game strategies and other beginnings of reasoning-and-rules thinking are highly related. Capitalize on games as daily learning activities, as well as use them for recess and reward activities.

Problem solving needs to include the acquaintance with math tools per se. What is a measuring stick? What is a drawing compass? What is a calculator and a computer? What is an odometer? Creatively thinking of all their uses could then be done.

Getting Involved Series: Your Child and Problem Solving, Bess-Gene Holt.

Computer games can simultaneously incorporate fantasy elements, systematic feedback, and competition as well as foster teamwork, cooperation, and cross-age helding

Computers are a tool for creative activity. Children can compose music, create animated cartoons, and write stories given a powerful programming language.

METRIC BASICS:

Teach students to THINK METRIC.

Minimize metric conversions.

Use metric measure throughout the curriculum.

Estimate to a specified degree of accuracy before measuring.

Have students do measuring themselves.

Relate the metric system to everyday experiences.

Teach the need for appropriate units according to the size of what is being measured.

METRIC ACTIVITIES:

MUFFINS

1 litre flour 125 ml sugar 30 ml baking power 4 ml salt	Sift together.
2 eggs 500 ml milk 170 ml oil	Mix together and stir into dry ingredients.

Bake at 205 degrees C 20-25 minutes. Makes 24 muffins.

ake meter tapes and measure
d label distances around

Compare items to develop an understanding of the basic units. Is the meter about the length of a school building, or the length of a paper clip?

ovide plenty of practice
or ipate and reading linear,
olume, weight (mass), and
emperature metric measures.

Make and interpret simple charts and graphs. Graph daily temperature readings. Chart shadow lengths of pupils at different times of day or year. Any drawing, or diagram can be an elementary graph.

SNACK STICKS

250 ml peanut butter (crunchy)
250 ml dry milk powder
30 ml plain gelatin
pinch of salt
30 ml wheat germ
170 ml honey or corn syrup

Mix dry ingredients, cut in honey and peanut butter. Shape into 40 sticks or balls.

BASIC FACTS

Ordering and describing objects relative to size.

Identifying numbers and values one to ten.

Matching sets including up to ten items.

Counting items totaling less than ten.

Counting and grouping tens and ones up to ninety.

Adding numerals totaling zero to ten; eleven to eighteen.

Identifying ordinal numbers to the [illegible].

Ordering numbers from one to ten on a number line.

Comparing and ordering numbers up to one hundred.

Recognizing and reading number words, zero to ten.

Adding families (groups) of facts.

Recognizing numerals zero to one hundred.

Ordering properities when adding numbers.

Adding three addends.

Adding two-digit numbers on a place-value table when a model is given — no regrouping.

Completing subtraction and addition boxes.

Adding two-digit numbers using the shortcut method — no regrouping.

Finding the missing addends from addition puzzles.

Subtracting from sums to six, seven to ten, eleven to eighteen.

GRADE ONE

Subtracting families of facts.

Subtracting two-digit numbers on a place-value table when a model is given — no regrouping.

Subtracting equations.

Skip counting by two, three, five, and ten. (1-100, 2's-20, 5's to 100 (orally), 10's-100 (orally).

Recognizing halves, thirds, and fourths.

Stating whether objects shown would be measured with a meter or a liter.

Recognizing equal parts or shapes.

Recognizing volumes are measured appropriately in liters, quarts, and pints.

Find half of a set of real objects through grouping and sub-grouping or fractionating the group into whole number groups.

Telling time by the hour and half-hour.

Understanding cycles of time by numbering a calendar, knowing days of week and months of year.

Making and completing a simple bar graph based on comparisons and seriation skills.

Recognizing squares, circles, rectangles, and triangles and describing the elements of these shapes.

Adding and subtracting prices.

Adding and subtracting of pictured items having corresponding words.

Calculating simple prices and change from real-life consumer situations.

Adding small amounts of pennies, nickels, and dimes.

Recognizing numeral and number relation, so that a button pushed does mean a number symbol representation. (computers, calculaters)

BASIC FACTS

Grouping tens and ones to ninety and counting these.

Counting in order from one to one hundred, one thousand.

Adding tens and ones in table form.

Counting objects grouped into hundreds, tens, and ones using table form and model.

Comparing small numbers and quantities.

Identifying quantities and then numbers that are one more than, less than; ten more than, less than; one hundred more than, less than.

Recognizing odd and even whole numbers.

Completing verbal problems, open sentence problems and then sentences with the symbol < or > .

Identifying ordinal numbers to the eighth.

Identifying the commutative property of addition.

Supplying the missing addends.

Completing families of facts for addition and subtraction.

Completing addition and subtraction boxes and wheels.

Adding or subtracting two-digit numbers, no regrouping; then adding or subtracting two-digit numbers with regrouping.

Completing equations with missing numbers.

Subtracting from ones to ten, eleven to fourteen, fifteen to eighteen.

Adding multiples of two, three, four, and five.

Skip counting by two, three, five, and ten.

Solving story problems involving addition and subtraction.

Identifying basic multiplication facts with two, three, four, and five as factors.

Understanding the commutative property of multiplication.

Identifying halves, thirds, and fourths of quantities.

Identifying and writing fractional parts from real-life story problems, especially consumer and social situations.

Recognizing the fractional numerals 1/2, 1/3, 1/4, 3/4, 2/3.

Dividing shapes into halves.

GRADE TWO

Selecting the correct fraction of a given figure — 1/2, 1/3, or 1/4.

Telling time to the hour, half hour, and quarter hour and five minutes.

Finding fractions of a dozen.

Calculating time before and after a given time.

Arranging times in sequence.

Measuring lengths to the nearest centimeter.

Measuring volumes using liters.

Measuring perimeters of polygons in centimeters.

Weighing items in grams and kilograms.

Identifying a liter, a milliliter, a centiliter, and a deciliter.

Measuring temperature using a Celsius thermometer.

Recognizing and naming the common three-dimensional shapes of cone, cube, sphere and cylinder.

Identifying circles, rectangles, squares, and triangles.

Calculating costs and change.

Matching congruent figures.

Determining symmetry through equating and through balance concepts.

Reading and making a simple bar graph (preferably from own-generated data).

Solving simple story problems involving basic multiplication facts and fractional parts.

Making and understanding a calendar (day, week, month, year).

Comparing and adding values of coins and dollars (penny, nickel, dime, quarter, half dollar).

Comparing costs.

Finding costs and choosing correct coins and dollars.

Using signs ¢ and $.

Identifying the number of sides and corners of polygons.

BASIC FACTS

Introducing multiplication by using addition.

Recognizing the commutative property of multiplication.

Rounding to the nearest ten or hundred.

Recognizing and reading amounts of money.

Comparing numbers using < and > .

Using ordinal numbers to describe position up to twentieth.

Summing more than two addends with two-digit numbers.

Adding or subtracting two-, three-, and four-digit numbers with regrouping.

Checking addition of more than two addends.

Estimating sums or differences using two-digit numbers.

Using addition as a check for subtraction.

Creating and solving problems involving adding, subtracting, multiplying and dividing using grouping symbols.

Demonstrating the commutative and associative properties of addition.

Multiplying two-digit numbers with regrouping.

Relating sets and division.

Using more than one operation to solve a problem.

Recognizing basic multiplication facts of two through five, six through nine, one and zero as factors.

Using information presented in a previous problem to solve a problem.

Recognizing the basic division facts of two through five, six through nine.

Using the vertical form of division and multiplication.

Solving a division and multiplication equation when given a picture representation of the equation.

Solving division problems with a remainder.

Solving work problems involving factional parts of quantities.

GRADE THREE

Dividing two-digit numbers with regrouping.

Writing a fraction that describes a shaded region.

Finding a unit fractional part of a quantity.

Writing a fraction that describes a part of a set possessing specified characteristics.

Writing one fraction that is equivalent to a given fraction.

Adding quantities of money through ten dollars.

Recognizing the Roman numerals I, V, and X.

Comparing fractions using $<$ and $>$.

Telling time in hours and minutes.

Comparing centimeters and meters.

Solving problems involving time.

Identifying freezing and boiling points on a Celsius thermometer and reading degrees of temperature.

Finding the perimeter of a figure in centimeters.

Finding the volume of a rectangular solid in cubic centimeters.

Finding the volume of a container in liters.

Discriminating between A.M. and P.M.

Determining weights in grams and kilograms.

Identifying a cube, a rectangular solid, a cone, a cylinder, and a sphere.

Discriminating between curved and flat surfaces.

Identifying simple place figures (square, circle, rectangle, triangle).

Matching a physical object with a representative solid.

Comparing the length of line segments without using a standard unit of measurement.

Discriminating between a segment and a curved line.

Identifying a segment given its end points.

Identifying congruent figures.

Collecting and graphing data on a bar graph.

Recognizing lines of symmetry.

BASIC FACTS

Reading and recalling 7-, 8-, and 9-digit numbers.

Reading and writing large numbers in a variety of contexts.

Rounding numbers to the nearest ten, hundred, and thousand.

Comparing whole numbers, fractions, and decimals using $<$ and $>$.

Summing more than two addends with two- and three-digit numbers.

Adding or subtracting any three-digit numbers with more than one regrouping.

Adding numbers in the thousands and hundred thousands.

Creating and solving word problems involving addition, subtraction, multiplication, and division with regrouping.

Estimating sums or differences using three-digit numbers.

Using multiplication as a check for division.

Solving word problems involving time, money, fractions, decimals, and graphs.

Using estimating as a check for multiplication, division, addition, and subtraction.

Solving problems involving adding, subtracting, multiplying and dividing using grouping symbols.

Multiplying or dividing a four-digit number by a one-digit number with regrouping.

Finding the missing factor in a basic multiplication fact.

Finding a fractional part of a number by dividing the denominator and multiplying by the numerator.

Estimating products in multiplying or dividing of larger numbers.

Multiplying or dividing by a two-digit number with regrouping.

Reducing fractions to lowest terms.

Adding or subtracting fractions having like and unlike denominators.

GRADE FOUR

Changing a fraction to a mixed number and vice versa.

Finding a fractional part of a number by dividing the denominator and multiplying by the numerator.

Writing and reading decimals to tenths and hundredths.

Adding or subtracting decimals with regrouping.

Telling time to the half hour, quarter hour, minute, and second.

Weighing masses in grams and kilograms; identifying gram, centigram, milligram, decigram, and kilogram.

Measuring liquids in milliliters and liters.

Reading distances in meters, kilometers, decimeters, centimeters, and millimeters.

Finding the area of a region; volume of a rectangular prism.

Using a Celsius thermometer to state freezing and boiling points of water, and body temperature.

Identifying and measuring metric units for volume, weight, distance, and temperature.

Measuring and drawing segments in inches, 1/2 inches; 1/4 inches, and 1/8 inches.

Identifying and drawing segments and lines of symmetry.

Identifying cube, rectangular prism, sphere, cylinder, cone, and pyramid.

Identifying congruent figures.

Identifying rays, parallel and intersecting lines, angles and right angles.

Using a compass and measuring parts of a circle.

Locating points on a grid with number pairs.

Finding the mean, median, and mode of a set of numbers.

Solving problems using statistical information, distance charts, maps, etc.

Developing a concept of central tendency through real-life and self-determined problems. For example, understanding derived from "usually" — What do you "usually" eat for breakfast? How decided?

BASIC FACTS

Reading and writing numbers in the billions.

Rounding numbers to the nearest ten, hundred, thousand, million, and billion.

Changing standard numerals to Roman numerals and vice versa.

Solving word problems involving subtraction, addition, multiplication, and division.

Finding multiples of a number, common multiples of two numbers, and the least common multiple of two numbers.

Multiplying a large number by a three-digit number, multiplying by ten and one hundred, multiplying by multiples of ten and one hundred.

Finding factors of a number, finding common factors of two numbers and finding the greatest common factor of two numbers.

Dividing three- and four-digit numbers of one-digit numbers when regrouping is involved.

Dividing a number by a fraction by multiplying by the reciprocal.

Dividing by a two-digit number when the basic multiplication facts for the divisor are given.

Checking division by using multiplication.

Solving word problems involving averages and fractions.

Computing averages to the nearest whole number.

Adding or subtracting fractions with unlike denominators.

Multiplying a whole number by a fraction by dividing and then multiplying.

Multiplying a fraction by a fraction.

Dividing a number by a fraction by multiplying by the reciprocal.

Changing fractions to mixed numbers.

Writing whole and mixed numbers as fractions.

Adding or subtracting mixed numbers.

Reading and writing decimals with tenths, hundredths, and thousandths.

Rounding decimals to the nearest whole number.

Adding or subtracting decimals with regrouping.

Comparing and ordering decimals.

Dividing or multiplying decimals by a whole number.

Estimating sums, differences, products, quotients, decimals, time, and length.

Naming periods of time using days, hours, minutes, seconds.

GRADE FIVE

Finding perimeter of polygons.

Measuring lengths with millimeters, centimeters, meters, kilometers.

Using the formula to find the volume of rectangular solids.

Finding the area of squares, rectangles, and triangles by counting and by computing.

Describe and draw a square meter and square decimeter.

Measuring liquid volumes with milliliters and liters.

Comparing Celsius readings with Fahrenheit, but no conversions.

Measuring weight with grams and kilograms.

Measuring lengths to the nearest 1/16 inch.

Identifying plane figures and reviewing geometric terminology and notation (end point, segment, side, vertex).

Measuring angles with a protractor.

Identifying angles as acute, right, or obtuse.

Identifying parallel and perpendicular lines.

Making line, bar, dot, and circle graphs.

Locating points on a grid given number pairs.

Finding the cost of several items when given multiple prices.

Identifying special triangles and quadrilaterals (equilateral, isosceles, rhombus, parallelogram, quadrilateral, trapezoid, scalene).

Making change using the count-back method.

Finding the sale price, given the original price and the discount as a fraction.

Computing sales tax.

Finding the amount of sales tax on a purchase, using a tax table.

Naming a ratio with words or fractions.

Solving word problems involving purchases and discounts.

Using fractions to name simple probability results.

BASIC FACTS

Converting from one metric unit of length to another metric unit of length.

Stating that a metric ton equals one thousand kilograms.

Defining the arc, hectare; square centimeter, square meter.

Multiplying by multiples of ten, one hundred, and one thousand.

Checking adding and subtracting by estimation.

Multiplying by three- and four-digit numbers.

Identifying prime numbers.

Estimating the product of any two whole numbers.

Identifying composite numbers.

Finding the greatest common factor of two whole numbers.

Finding all factors of a given whole number.

Dividing a whole number, up to five digits, by a two- or three-digit whole number given appropriate multiplication facts.

Finding the prime factorization of a composite number.

Writing a percent for a ratio expressed as hundredths.

Expressing a quotient as a mixed number.

Determining when a mixed number quotient is an appropriate answer for a real-world problem.

Multiplying a fraction and a whole number.

Using cancelling when multiplying fractions.

Dividing a number by a fraction.

Adding or subtracting mixed numbers with or without regrouping.

Writing a mixed number as a fraction.

Determining what information is needed to solve word problems.

Multiplying or dividing mixed numbers.

Determining which of two numbers, with up to four-digits to the right of the decimal, is greater or less.

Rounding decimals to the nearest designated tenth, hundredth, or thousandth.

GRADE SIX

Multiplying decimals and rounding the answer to the nearest tenth, hundredth, or thousandth.

Solving word problems involving decimals and fractions.

Changing a decimal to a fraction and vice versa.

Dividing a decimal by a decimal.

Writing a decimal as a percent.

Graphing number pairs on a coodinate grid.

Giving the coordinates of points on a grid.

Adding and subtracting decimals with regrouping.

Dividing a decimal number by a whole number.

Multiplying or dividing decimals by ten, one hundred, or one thousand.

Writing a fraction as a decimal and as a percent.

Calculating the approximate circumference and area of a circle.

Estimating liquid volumes and estimating weights.

Estimating amounts on a bar graph.

Finding averages of up to nine whole numbers.

Multiplying amounts of money.

Finding and applying a percent of quantity in practical situations.

Using positive and negative numbers.

Adding, subtracting and comparing integers.

Determining the surface area of a rectangular solid and the volume of a rectangular solid.

Solving word problems involving charts and tables, graphs, maps; and also averages, ratios, percents, and integers.

Comparing the cost of buying on the installment plan with the cost of buying for cash.

Filling out a check and computing a checking account balance.

Adding or subtracting hours, minutes and seconds.