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A TEACHER HANDBOOK FOR THE EXPRESSION OF ELEMENTARY
SCHOOL SUBJECTS THROUGH ART MEDIUMS

by

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ABSTRACT

The problem explored in this professional paper was to establish a more creative approach through the use of art methods to express basic principles commonly taught in the major subject areas in elementary school. Examples were compiled of how various art projects can be integrated into the study of social studies, mathematics, language arts, and science. The review of related literature pointed out that educators seem to basically agree that creative teaching is a desirable objective in all of the core areas in elementary education. However, the approaches to achieving creative teaching were not always clear and the use of creative art mediums had not yet been exploited.

A total of twelve art projects were outlined in detail for use in teaching elementary school subjects. They were as follows: Social studies: Map Doodle, Inner Tube Print, Torn Paper Design; Mathematics: Number Design, Mathematical Mobiles, Geometric Shape Design; Language Arts: Super Words, Puzzle Mural Design, Egg Carton Animals; Science: Rock Sculpture, Recycled Litter Poster, Foil and Saran Wrap Design. All of the projects meet criteria that enables the average elementary art teacher to easily implement in her classroom. The final conclusion is that it is indeed possible to incorporate creative art projects into the teaching of elementary school subjects.

Chapter 1

INTRODUCTION

At the present time, many of the elementary schools in the United States follow the self-contained classroom concept whereby one teacher is assigned a given group of students with the responsibility to instruct them on all of the subject areas taught at a given grade level. The subjects taught in elementary school usually include: language arts, arithmetic, science, social studies, music, and art. In the self-contained classroom, these subjects are approached individually and taught during separate time periods. For example, the first period of the day might be devoted to arithmetic, the second to science, etc., with the average length of each period being from one-half hour to forty-five minutes.

The subjects taught in elementary school are not all equally weighted in terms of the total amount of instruction time allocated to each subject area each week. With respect to emphasis placed on subject areas, language arts, arithmetic, science, and social studies are usually designated as major areas and receive more attention than the minor subject areas, music and art. Although it varies from school system to school system, art and music are normally taught only two or three times per week, whereas the children are exposed to the major subjects every day of class.

Statement of the Problem

The problem of this study was to establish a more creative approach through the use of art methods to express basic principles commonly taught in the major subject areas in elementary school. It seemed to the author that art mediums have not been exploited by the elementary teacher to the extent that they might be in the explication of concepts taught in subjects such as arithmetic, science, and social studies.

It is commonly accepted that "A picture is worth a thousand words." This statement succinctly points out the importance of the visual experience in the acquisition of information. Art mediums, by their very nature, lend themselves nicely to the exposition of topics in the visual modality. Moreover, the use of a variety of art mediums which involve three- as well as two-dimensional characteristics should provide an effective means of presenting many different kinds of subject content to elementary children.

The typical elementary school teacher usually receives only limited experience with art during the course of her training. Before the average elementary teacher can be expected to accept the use of art mediums or be motivated to use them as part of her teaching strategy, it seemed necessary that the techniques: (1) be within the perceptual-motor capabilities of the children; (2) involve the use of inexpensive materials easily obtained by the teacher; (3) be success-

oriented and provide a positive and stimulating experience for the student; (4) be readily adaptable to the subject matter being taught; (5) be easily organized into different time segments for efficient instruction; (6) be easily completed within a short period of time; and (7) be of a nature which does not require additional formal instruction for the teacher.

Purpose and Need for the Study

The purpose of the study was to investigate the use of creative art mediums in conveying major subject area content at the elementary level and to compile examples of how various art projects can be integrated into the study of four core subject areas, namely, language arts, arithmetic, science, and social studies. Intuitively, it is reasonable that by coalescing the creative processes inherent in the use of art mediums with the content components associated with the major subject areas, that the elementary school child will emerge with a richer educational experience. The child's experiences with art mediums integrated into the teaching of major subjects should provide added dimensions of meaning for art as a subject of study as well as for the major subjects. It is possible that art may be better appreciated by the recognition that it is not merely an activity important to frivolous leisure and the development of eye-hand coordination, but that it can be used as a means to communicate information and express meaning. Moreover, by affording the child the

opportunity to become involved in a creative process such as art, perhaps the teacher can transcend some of the boredom associated with rote teaching practices and thus provide an environment more favorable to learning.

General Procedure

The procedures followed in this study were as follows:

1. Reviewed related literature and research on the application of art mediums to the content subjects taught in elementary school.
2. Based on the review of the literature and by incorporating past experiences of the writer, a teacher handbook was developed pointing to corollary art experiences in the following subject areas: language arts, social studies, science, and mathematics.

Limitations

Since the purpose of this professional paper was to develop a handbook correlating art projects with elementary school subjects, it should be noted that as yet the handbook has not been subjected to formal measurement and evaluation as to its effectiveness. The material found in the handbook was taught to elementary school children on an intermittent basis by paraprofessionals and student teachers in the Bozeman, Montana Public Schools in 1970 and 1971. The handbook has been revised over the period of the last four years when subjective judgment and experience dictated changes.

Consultation with teachers and a review of textbooks used in public school systems in Montana and Fairfax County, Virginia provided information as to the content of existing elementary school subjects. The literature review was conducted through materials found in the Montana State University Library, the George Mason University Library, and the writer's personal library.

Definition of Terms

It is important that a distinction be made between creative art mediums and visual aids. It is well known that visual aids facilitate the educational process and are widely used by teachers at all grade levels for many different subjects. However, the handbook developed here is concerned with creative art mediums and not visual aids. The term "art mediums" refers to mediums which involve art materials such as clay, construction paper, and paint. The important point is that the children use these art mediums in a creative manner to fashion out objects or depict scenes that illustrate subject matter principles. With art mediums the child is creatively involved in an active way with the subject being taught. Whereas with most visual aid presentations, the child remains a passive agent in the process and is a recipient of information as it is conveyed through charts, diagrams, and pictures.

The first procedure in this study was to review related literature and research findings pertaining to the use of art media

to teach elementary school subjects. This is discussed in Chapter 2.

Chapter 2

REVIEW OF RELATED RESEARCH AND LITERATURE

This review is concerned with the use of creative art mediums in teaching social studies, mathematics, language arts, and science in elementary school. Inasmuch as historically the use of creative art mediums in teaching is virtually non-existent, the areas emphasized in the review will primarily relate to the important considerations bearing on the creative teaching of the subjects in elementary school. It will also emphasize those important aspects of implementing creative art mediums as part of the elementary school teaching method. This is appropriate since the basic issue concerns whether or not the introduction of creative art mediums will enhance the realization of educational objectives in the teaching of elementary school subjects. The areas emphasized in the review include the following: principles of creative teaching, creative teaching in social studies, creative teaching in mathematics, creative teaching in language arts, and creative teaching in science.

Principles of Creative Teaching

In general, educators seem to agree that creative teaching is a desirable objective in elementary education. The reason being that creative teaching and creative learning can be more effective than other types of teaching and learning. Moreover, they are especially effective for certain kinds of children, among them those who do not seem to learn

well by other conventional methods. Although creative teaching employs the principles of all good teaching, its attainment is possible only when teachers understand those factors which make it different from other methods of teaching (Carpenter, 1962).

Many attempts have been made to define creativity. James A. Smith (1966:4) has written that the most common of all acceptable definitions is the most simple, "Creativity is sinking down taps into our past experiences and putting these selected experiences together into new patterns, new ideas or new product." There have been extensive elaborations on this simple definition, but as a frame of reference for the ideas presented in this paper, this definition is the most succinct and appropriate.

In terms of the meaning of creativity to the individual and its importance to personal fulfillment, Rollo May has perhaps best expressed it:

Actual creativity I define as the process of bringing something new into birth Creative persons are the ones who enlarge human consciousness. Their creativity is the most basic manifestation of man's fulfilling his own being in this world (1959:57).

Research in the area of creativity has provided a basic set of principles within the range of all teachers' abilities. Consequently, the simple application of these principles by the teacher can produce a creative teaching process that will develop creative students. The most important principles that form a basis for creative teaching are

summarized as follows.

1. In creative teaching, something new, different or unique results. This implies that the process or product of the creative teaching must be new.

2. In creative teaching, divergent thinking processes are stressed. Divergent thinking processes are not concerned with an absolute or correct answer. In divergent thinking, knowledge, facts, concepts, understandings, and skills learned through convergent thinking processes are put to new uses, and new answers, rather than an absolute or correct answer, result (Marksberry, 1963).

3. In creative teaching, ideas and objects are manipulated and explored. Current research studies in the area of creativity (Shumsky, 1965) indicate that there is a high correlation between creative output and the opportunity to explore, experiment, and manipulate.

4. Creative teaching employs democratic processes and provides the opportunity for nonconformity. In a democratically structured classroom situation, children are free to express their own individuality within certain limits.

Creative Teaching in Social Studies

Smith (1967) has carefully outlined the need for creative teaching in social studies subjects and has pointed out that social studies is uniquely suited to the development of creative drives in

children because the objectives and content relate so closely to the daily living of the child and to the role he must play as an adult in a democratic society. The field of social studies is distinguished from other fields by the fact that its content as well as its purpose is focused upon human beings and their relationships. Social study teachers as well as the National Council for the Social Studies uses the term "social studies" to refer to school subjects that deal with human relationships. According to Wesley and Cartwright (1968:7), human relationships may be divided into four categories which, while somewhat overlapping, indicate the wide variety and range of those relationships: (1) people and people; (2) people and institutions; (3) people and the earth; and (4) people and goods.

The growth of knowledge in the social studies areas has accelerated in a staggering manner with the result that the selection of curriculum content has become terribly complex and controversial (Crowder, 1964). Historians are no longer in substantial agreement on the proper emphasis for the study of history. Moreover, they no longer occupy the controlling position with regard to the social studies content that they did in years past. Geography, political science, economics, sociology, psychology, and anthropology are disciplines that are all creating a vast amount of information which is in competition for a place in the social studies curriculum (Fraser, 1965).

The principles of creative teaching are easily adaptable to the

teaching of social studies. For example, in teaching social studies the teacher is given many opportunities to develop both convergent and divergent thinking processes. According to Smith, "To be creative, children must put (social studies) knowledge to new uses; and this quality will be developed largely through divergent thinking processes--working for many answers (1967:10)."

In Chapter 3, creative art mediums that make use of the selected principles outlined above for creative teaching and at the same time lend themselves to the expression of social studies content will be described in detail. The three mediums discussed are not by any means exhaustive of the possibilities that exist in the teaching of social studies. Rather, the projects presented have been selected to serve as examples in order to illustrate some of the art mediums available to the social studies teacher. In addition, these particular projects were selected to demonstrate that art mediums can be used to cover a wide range of social studies content.

Creative Teaching in Mathematics

In the past, according to Collier and Lerch (1969), the emphasis in teaching elementary school mathematics was on the mastery of skills through drill. Arithmetic was mainly a how-to-do-it subject. Children have been asked to memorize a great many singular facts and to drill on operation processes until they can repeat them by rote. As a result, the above authors contend that mathematics, to many, has become a dull,

monotonous subject thereby adversely affecting mathematical attitudes. Teachers cannot expect that learning geared to an automatic response will teach students to work creatively. Rote-type learners cannot be expected to metamorphose into creative mathematicians.

Recent developments in mathematics at the elementary school level are generally referred to as the new or modern mathematics. Starr (1969:1) stated that the major emphasis in the modern approach to teaching mathematics is an "understanding" of basic mathematical ideas which are sometimes hidden by computational techniques. This point is further elaborated on by Collier and Lerch (1969:7) who noted:

An important objective of today's instruction is to help the elementary school age child to understand the why as well as what and how of mathematics--in effect to help the young learner to use his intelligence and creative ability to think mathematically.

It is apparent that $2 + 2$ is still 4, but today's kids are finding out why it's four.

As a means to achieve student understanding of mathematical concepts, Margolin, Nesbit, and Pearson (1970:66) observe that manipulative materials are an important means of involving the pupil in the learning process and promoting a discovery approach. Collier and Lerch expand on this idea in their statement which follows:

Teachers are becoming increasingly aware that many children need to see, feel or touch, to talk, as well as to hear or listen in order to develop meaning and understanding. In addition to the familiar printed materials, the chalkboard, and the paper pad, teachers can easily make . . . (use of) any number of instructional aids such as manipulative materials, charts, audiovisual aids, models, games, and other devices to help each individual develop

clear mental pictures of the truths of mathematics (1969:9).

This author would add creative art mediums to the list. Chapter 3 contains examples of three such art projects.

This brings us to the question, "What constitutes creativity in mathematics?" Westcott and Smith (1967:10) answer it in the following way:

Creativity in mathematics is the birth or discovery of new relationships between mathematical ideas; the modification and/or variance of existing patterns, symbols, and relationships; the contrivance of new symbolism and organization of symbols; the discovery of new applications of mathematical ideas.

This author contends that the three art projects described in Chapter 3 are examples of how to promote creativity in students by developing in them the attitude of exploring what Westcott and Smith (1967:210) call variability elements of the problem, media, task, or whatever is being considered. The variability elements refer to the modifications and changes that can be applied to the subject.

Creative Teaching in the Language Arts

The language arts are the receptive language activities of reading and listening and the expressive activities of speaking and writing (Petty, Petty, and Becking, 1973:4). The primary objectives of teaching in the language arts is probably most succinctly expressed by Burrows, Manson, and Stauffer (1972:12) who stated:

Never before has it been so essential for language-arts teachers to extend, refine, and enhance children's oral language

and at the same time build a complementary and dynamic power in the use of the written word.

Effective communication, however, is not simply the ability to speak and write clearly and effectively whenever the occasion demands. It also means writing and speaking with imagination and sensitivity. To meet these latter objectives, relevant creative adventures must be encountered daily by children in our schools. Smith (1973:38) observes that each child needs to come to appreciate the beauty of language itself, the effective use of words and the creative ways they can help him express his own original thoughts.

Developing creativity has long been considered one of the important tasks of elementary school teaching. But Corcoran (1970:228) noted that teachers have sometimes thought of creativity as a trait to be developed only in connection with stories which children write and pictures they paint, rather than a quality which can infuse all aspects of life. To be sure, creative teaching in language arts involves stimulating the children to invent new poems and stories, but it also should allow them to enjoy word combinations and even individual words as a creative medium in which to explore. Perhaps Smith (1973) expressed it best when he pointed out that creative teaching in the language arts involves the study of language for language sake. In his words, "It is loving the rhythm of certain words; it is delighting in the way words are put together; it is using words and phrases to paint pictures (Smith, 1973:38)."

The teacher can fuse creative development and oral expression through informal situations that call for both speaking and bodily movement. Freedom of both body movement and speech is important if one is to communicate his ideas with greatest effectiveness. According to Petty, et al (1973:88), pantomime, dramatic play, and puppets are means for combining body movement with language. Moreover, talking for a puppet instead of one's self tends to bring out a shy child rather easily. The best approach is to have each child make his own puppet and put on a play. There are various ways puppets can be constructed, and one such technique is suggested by the author in Chapter 3.

Another way to incorporate creativity into the teaching of language arts is to contrive experiences that build good oral vocabulary (Smith, 1973:154). The teacher can dwell on the describing words in the language which add tone, humor, and color to ordinary speech. One way to do this is to use the "super words" art project described in Chapter 3. Similarly, the "puzzle design" art project which is also presented in the next chapter can be used to generate new and interesting words.

Creative Teaching in Science

Science is man's relentless search for verifiable patterns, concepts, descriptions, or explanations of phenomena in the universe (Piltz and Sund, 1974:5). In Victor's 1975 edition of Science for the Elementary School, the table of contents is partitioned into three main areas: earth and universe, living things, and matter and energy. The

subject matter of science lends itself nicely to creative teaching methods. Piltz and Sund (1974:1) summed it up cogently in their statement, "There is no field of human knowledge that affords a greater outlet for creative activity than science; its very nature and structure demand innovation and encourage original thought and action." It is unfortunate that historically science has been taught by describing the creative products of others rather than involving the child himself in creative acts.

But all of this seems to be changing with new efforts being made to use creative teaching methods in science. There is some controversy, however, on how best to bring about the creative teaching of science. Carin and Sund (1970:203) cite work by Calvin Taylor, a leader in research on creativity, on new science curriculum materials. Taylor is of the opinion that it is unlikely neglected areas of education will automatically receive attention with the emergence of new instructional programs. He emphasizes, therefore, the need for deliberate techniques to develop creative ability and to determine how instructional media might be effective for this purpose.

A list of twenty-six suggested techniques to assist the teacher in developing creative science potential has been offered by Carin and Sund (1970:205). In general, these techniques assume that creativity cannot be taught as a process, but by developing situations that demand imagination, originality, and problem solving, the children are more

likely to be creative. Items 15 and 24 on this list are of particular interest to the author. They are as follows:

15. Encourage pupil involvement: Give children opportunities to participate. Let them do experiments or demonstrations to discover answers.

24. Encourage artistic ability: The creative arts can be a valuable aid in teaching science. For example, have students draw a home, car or city of tomorrow. Use these drawings for class discussions to illustrate science concepts and principles.

The writer has given examples in Chapter 3 which enlarge upon the ideas expressed in the two suggestions above. For example, a three-dimensional art project is described in detail to enrich the artistic experience beyond two-dimensional drawings. Another of the projects suggested by the author in Chapter 3 uses junk and trash in an artistic work. It is interesting that Kaplan, Kaplan, Madsen, and Gould (1975:26) make the following statement about using junk to teach science:

Using junk in the classroom capitalizes on the child's innate curiosity about objects in the environment. Junk aids the process of learning and becomes a product of a learning experience. With junk, children play, discover, practice and learn A necessary factor in using junk is a classroom atmosphere where students are encouraged to explore and create. Selection of and experimentation with junk are as important as the end product. Using old things in new ways stimulates the child's ability to think creatively, practice problem solving skills, and develop an awareness of the possibilities of recycling materials.

Some General Conclusions
About Creative Teaching

Research in the field of creativity has shown creative ability is widely distributed among the population. It can be nurtured or stifled, and the elementary school years are critical ones in its development. If creative potential is not stimulated during these formative years, it probably will not manifest itself fully in adulthood. Creativity does not necessarily correlate with intelligence, although creative scientists generally have above average intelligence (Carin and Sund, 1970:209). Some general rules to follow in stimulating creative work have been suggested by Piltz and Sund (1974:227): (1) stress that children do not copy; (2) tell them to do something that is original and unique from what the others produce; (3) do not evaluate except on the above two points; and (4) do not make changes in the childrens' work except in spelling, grammar, or where there is some danger involved. In addition, this writer believes that it is important to remember that the greater the involvement of the student, the greater the learning.

This chapter is perhaps best concluded with a statement by Bybee (1973:344). In his words:

The number one specific recommendation of the 1970 White House Conference on Children was: to provide opportunities for every child to learn creatively, to grow creatively, and to live creatively. This is to be accomplished by a reordering of national priorities. Creativity is now the educational priority for the decade 1970-1980.

Some specific applications of art mediums for the creative teaching of elementary school children are offered in the next chapter.

Chapter 3

APPLICATION OF ART MEDIUMS

In this chapter, a total of twelve art projects are outlined for use in teaching elementary school subjects. There are three projects presented for each of the major content areas: social studies, mathematics, science, and language arts. Each project is covered in detail and has a statement of its objective, itemized list of required materials, step-by-step procedures to be followed by the teacher, and special guidelines for conducting the project. Each project is illustrated to facilitate complete understanding of its technique and application.

SOCIAL STUDIES

Map Doodle

Objective. The objective of the map doodle art project is to provide the child with a pattern of lines which can be used to create a design satisfying to him. The pattern of lines is supplied by a map describing a given geographical area(s) being studied in social studies. The child may select any portion of the map and use it as the basis for drawing a satisfying design. Thus, the child makes use of the map features in creating a unique artistic design. He thereby not only studies the map characteristics, but he also works with the map features in an active way to produce a creative component in the

learning process. Instead of interacting with the map in a passive manner, he is afforded the opportunity to actively use the map with complete freedom of creation.

1. Materials

A. Tracing paper

It should be of at least typing paper size, 8-1/2 x 11 inches or larger.

B. Map of any area

It may be a map of a single country or one depicting a group of countries.

C. Pencil

A number two black leaded pencil is suggested, since it is easy to erase and readily available.

D. Colored magic markers or colored pencils

The colors and number of colors used are optional. Crayons should not be used, because they will not give enough detail to the design.

2. Procedure

A. Instruct the child to place tracing paper over an area of the map of interest. Maps printed in textbooks, atlases, or individual map prints may be used.

B. With the black lead pencil, have the child trace any area of interest to him. Encourage him to be selective in the development

of a design. Emphasize that the tracing paper may be rotated or repositioned during tracing and that the design may include only partial segments of the map if so desired. Symbols of various topography, rivers, etc. may be incorporated into the design. The children should be given freedom to create abstract compositions or look for hidden images depicting reality.

- C. Instruct the child to fill in the traced areas in color using as many colors as he wishes.
- D. Discuss the designs and relate them to characteristics on the map. Encourage the students to study each other's drawings in small groups or as a class. The children will enjoy trying to guess what features were extracted from the map by different students and how they were incorporated into the various designs.

Guidelines. Effective use of the map doodle permits the child to use his complete freedom of artistic expression, while at the same time focusing his attention on the various map features in an area of study. The classroom discussions of the children's designs can be used by the teacher to point out the salient features of the map under study. For example, if there is a particular aspect of the topography the teacher would like to impress upon the children, the teacher may simply ask the class how it used that feature in the map doodle designs.

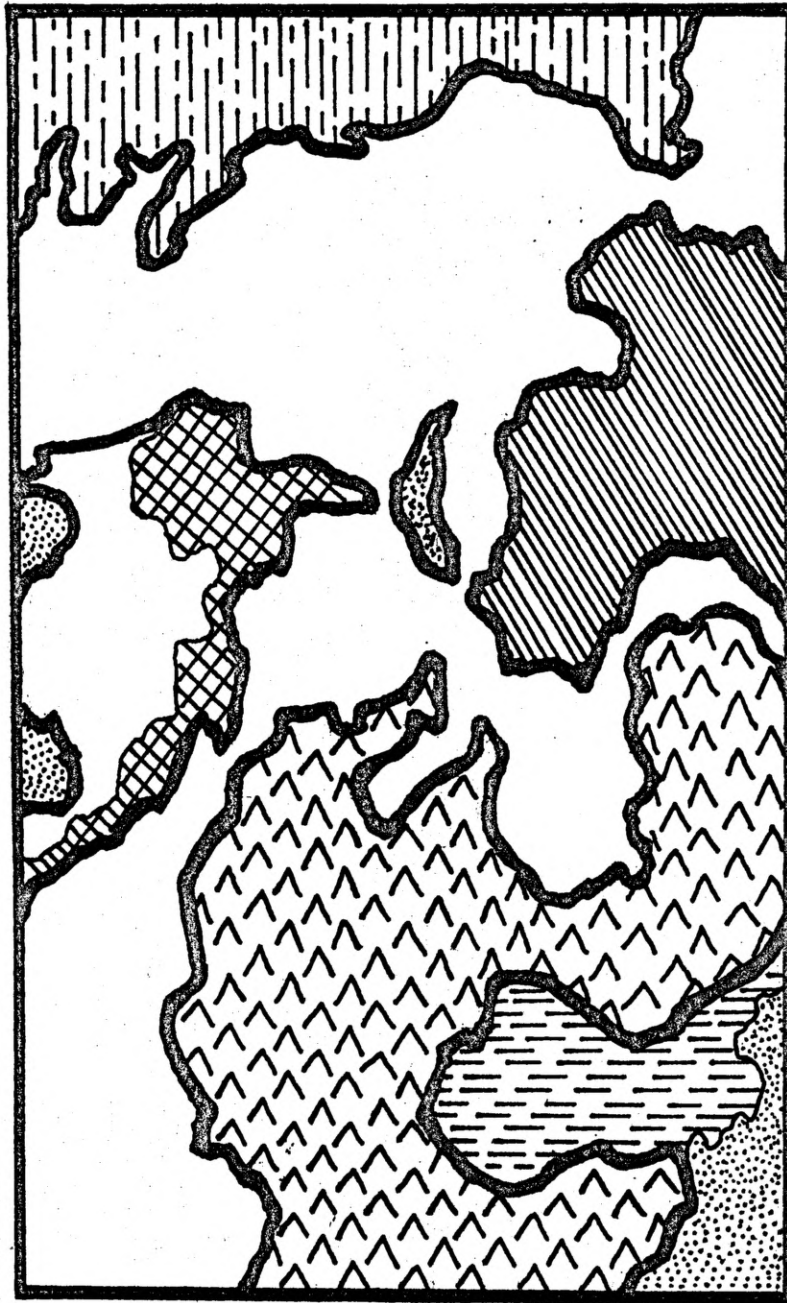


Figure 1

Map Doodle

Occasional use of the map doodle can enrichen the child's experience in learning map skills and in studying the geographical characteristics of various countries.

Inner Tube Printing

Objective. The purpose of the inner tube printing art project is to permit self expression in the child through the creation of figures or objects while at the same time affording him the opportunity to develop experiences in transferring patterns. The characteristics of the figures or representations of objects or artifacts may be representative of any culture of choice. Thus, the child may learn the subject matter of a given culture and at the same time engage in artistic expression. This project lends itself nicely to the creation of larger classroom designs where the contributions of individual children are grouped together.

1. Materials

A. Piece of old inner tube

The size of the piece given each child will be determined by the figure or object to be cut out. For best results, the size of an individual piece should not exceed six by six inches.

B. Piece of scrap paper

C. Drawing paper

White drawing paper or colored construction paper will work equally well.

D. Tempera paints

This is an opaque water base paint which comes in powder or liquid form.

E. Paint brush

It should be at least a size 12 or 14.

F. Scissors

G. Spoon

An old table spoon or something comparable will serve the purpose.

H. Piece of stiff cardboard

Its size is determined by the size of the piece of rubber used.

I. Rubber cement glue

J. Smocks and paint rags

K. Water in small tins

2. Procedure

A. Sketch the silhouette of a desired figure or design on a piece of scrap paper. The silhouette refers to the outline of the form being represented.

B. Cut the silhouette out and use it as a pattern to trace the same picture on a piece of inner tube. A pencil, ball point

pen, or chalk may be used to do the tracing.

- C. Cut out the rubber silhouette with the scissors.

- D. Glue the rubber silhouette to a square of stiff cardboard.

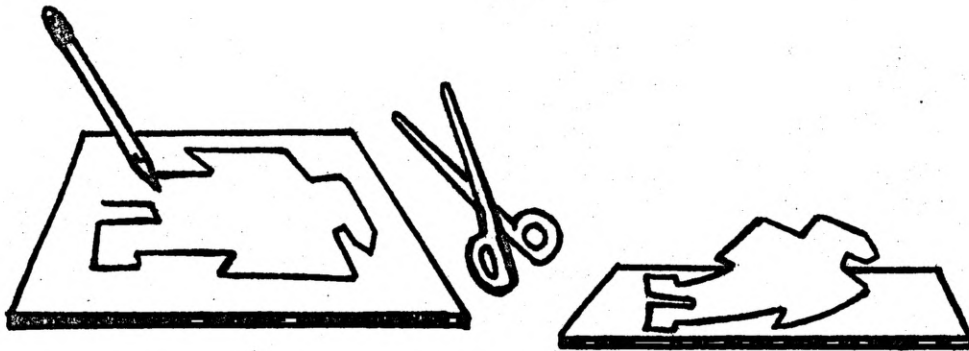
Apply rubber cement to the cardboard and also to one side of the piece of inner tube. Allow it to dry to a tacky state, and then press glued sides together.

- E. Brush tempera paint on the rubber figure. For best results, the teacher should mix the paint prior to the project. The paint consistency should approach that of a "medium gravy," thus providing maximum brightness of the colors after they are transferred. The teacher should caution the children to paint only the rubber surface and not the cardboard.

- F. With the painted side of the rubber figure laying face up while the paint is still wet, cover the rubber design with a sheet of drawing paper. Rub the back side of the drawing paper with a spoon to transfer the pictures to the desired background.

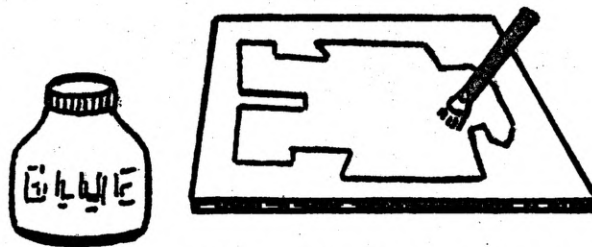
- G. The rubber printing stamp may be used repeatedly to create a number of pictures differing in color. To change colors, wipe the used rubber stamp off with a damp rag, clean the brush with water and simply apply another color.

- H. Discuss the prints and relate them to social studies content.



Draw and cut out of paper.

Trace and cut out of rubber.



Glue to background surface and
paint raised surface.

Place printing paper
on top of wet surface
and rub with back of
spoon. Lift paper print
and allow to dry.

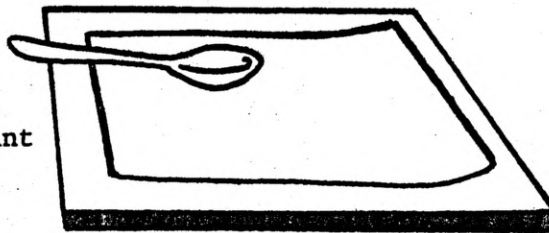


Figure 2

Inner Tube Printing

Guidelines. To relate this project to social studies content, the teacher may ask the children to create designs which they think best represents the culture or country under study. For example, in the study of Africa, the child might select a native drum, a banana, or a coconut. Once the printing stamps have been made by the students, the teacher may want to encourage the children to exchange stamps and create either overall designs that incorporate more than one print or pictures that tell a story. This project may be conducted in stages with the stamps being made on the first day and the printing being done during a subsequent period.

Torn Paper Design and Mural

Objective. The objective of the torn paper design and mural art project is to provide the child with the opportunity to select from a social studies unit what he thinks is important and express it in an art form. In addition, the child has the experience of combining his artistically expressed ideas with those of other children in the class by forming a composite picture in the form of a mural. In the process, the child learns to observe and associate movement, action, and proportion within the figure as a unit. He also learns the many uses of color and its contrasts as well as the effects of perspective through the placement and spacing of figures.

1. Materials

- A. Newsprint paper or newspaper
- B. Colored construction paper
- C. Paste or glue
- D. Large piece of paper or fabric material

It should be bulletin board size or a size large enough to encompass all of the children's figures in a composite mural.

- E. Masking tape or pins

2. Procedure

- A. Practice with newspaper the method of pinching paper and tearing it to obtain a simple shape such as a ball and/or square. With this method, the thumb and index fingers of both hands are used to grasp the paper and control the tearing movement. Each tearing movement is short; i.e., no longer than the width of the child's thumb, so that he has maximum control.
- B. Review the unit of social studies the teacher wishes to have expressed in the art medium. The purpose of this is to give the children ideas about what they can design and express as an art form. Explain to the children that they have the freedom to select any object, figure, costume, environmental object, etc. and create it in their design.
- C. The teacher should advise the students that they will be selecting only one item from those discussed in class. For

the designs of living animals or people, suggest that the figure express movement. That is, the figure should exhibit some type of action posture. This will provide a more satisfying mural design.

- D. , Have the children select a color of construction paper and instruct them to pinch-tear the outline or silhouette of their chosen item.
- E. When the original outline has been torn, let the children add any details they want to complete their figures. These details should also be torn from construction paper and glued to the silhouettes. Pieces left over of contrasting colors can be used for this purpose.
- F. At this point the teacher should tack the background piece of the mural up on the wall or bulletin board so that it can be seen by the entire class.
- G. As the children finish their torn designs, give each child a piece of masking tape rolled sticky side out and let him attach his figure to the mural.
- H. It is appropriate at this time for the teacher to comment briefly on how the different placement of figures on the mural will produce varying depth perspectives. Since the closer the object is to the viewer the larger it will look and the farther away it is the smaller it will look, a rule of thumb in placing

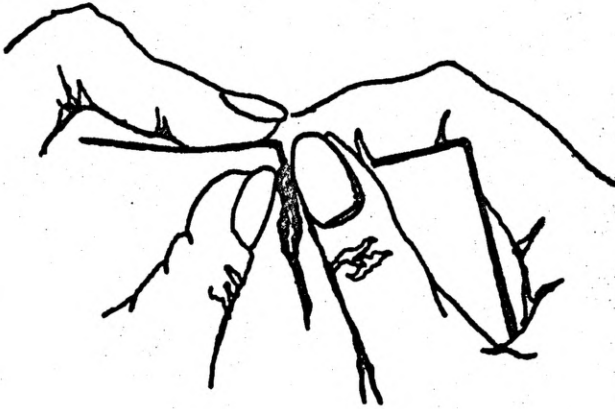
items on a mural is to place smaller representations toward the top area of the mural and larger silhouettes toward the bottom. This makes a more satisfying mural, because it is a basic rule of perception that there is always the illusion that the bottom part of any picture is closer to the viewer.

- I. Once all the torn paper designs are up on the mural, they can be rearranged by the class and through discussion various scenes depicted.

Guidelines. As in the inner tube printing project, the children have the opportunity to create designs which they think best represents the culture or country under study. The question may be raised by the children if they can use scissors to create their designs rather than the pinch-tear technique. Cutting with scissors should be discouraged, since this will detract from the overall and unusual effect of the torn paper design. All decorations that are added to the basic silhouettes such as hats, weapons, etc. should also be torn and not cut with scissors for the same reason.

One reason the torn paper method is effective with elementary school children is that this method forces the children to focus on basic features in their designs. This method will permit only a limited amount of detail in their art work, and thus the children are inclined to concentrate on overall design features. This is desirable, since they will not become frustrated with trying to achieve detail

For maximum control of tearing, position thumbs and forefingers close together.



Position larger items closer to the bottom of the paper and smaller things toward the top. This allows for proper proportion. Overlapping is also recommended.

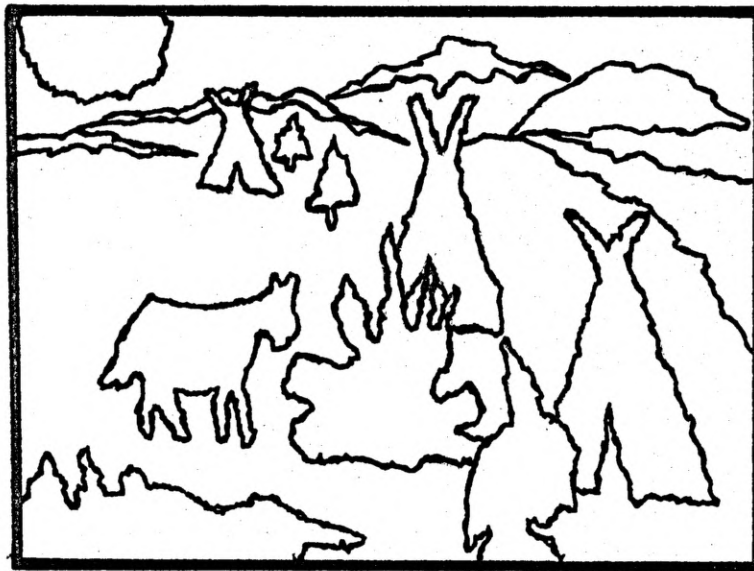


Figure 3

Torn Paper Design and Mural

that they cannot hope to attain. This project may be carried out in stages over several class periods. For example, one period can be devoted to learning the technique and creating the basic designs with the formulation of the mural being reserved for a subsequent period.

MATHEMATICS

Number Design

Objective. The purpose of the number design art project is to correlate the learning of numbers with the creation of an abstract design through a special technique. The elementary school child works with crayons and water colors to make patterns shaped from number design. This project can be used to enhance the pupil's recognition of numbers as well as to teach him their construction and basic sequence. The child ends up with an abstract design based on his own creative inclination. The project does not require a high level of motor control and is therefore appropriate for elementary children in the lower grades. In the process, the child participates in a success oriented activity since his work is fail-proof. In addition he gains a positive experience from working with crayons and water colors. The characteristics of the crayon resist technique featured in this project permits a child with a very low level of artistic skill to create a satisfying piece of work.

1. Materials

- A. Square sheet of white drawing paper

It is suggested that it be 12 by 12 inches or larger.

- B. Color crayons

The child may use any color or combination of colors he desires.

- C. Water colors

- D. Water tins

It is suggested that they are filled less than half full to avoid spillage.

- E. Water color brushes

- F. Smocks and paint rags

2. Procedure

- A. With a crayon, instruct the pupil to draw the numbers to be studied on the drawing paper. Each number should be drawn so that it touches at least two edges of the paper.

- B. Inform the students that the paper may be turned after each number is drawn so that different edges of the paper are used for different numbers.

- C. On a 12 by 12 inch piece of paper up to nine numbers can be accommodated. The drawn numbers will overlap one another.

- D. With water colors, have the child color in the various sections made by the overlapping numbers.

- E. Let the student decide on his own color combinations.

- F. The crayon will act as a natural barrier to the water colors, since it consists of an oil base. Thus, the student need not worry about "going out of the line" he has established in his drawing. The child should press firmly on his crayon in drawing the numbers so that the lines are solid and will act as barriers to the water colors.

Guidelines. The teacher may use this art project to achieve various objectives in teaching mathematics. For example, it can be used in the study of certain numbers, such as four, five, and nine, which are difficult for the young student in that they are often written backwards by the young beginner. Of course, any set of numbers can be stressed by working with them in a design. The teacher may want to give different pupils different numbers and let the students compare the different abstract designs that result. There are other mathematical concepts besides numbers that can be studied using this project. Shapes such as circles, squares, and triangles can be used in place of numbers. Mathematical symbols including plus (+), minus (-), multiplication (x), and division (÷) can also be worked with in place of numbers. The project is an excellent one to break the monotony of the routine instruction of mathematics, but yet keep the students involved in learning mathematical concepts. The children will enjoy examining each others designs during class discussion, because one child's drawing becomes a source of hidden figures for the other children.

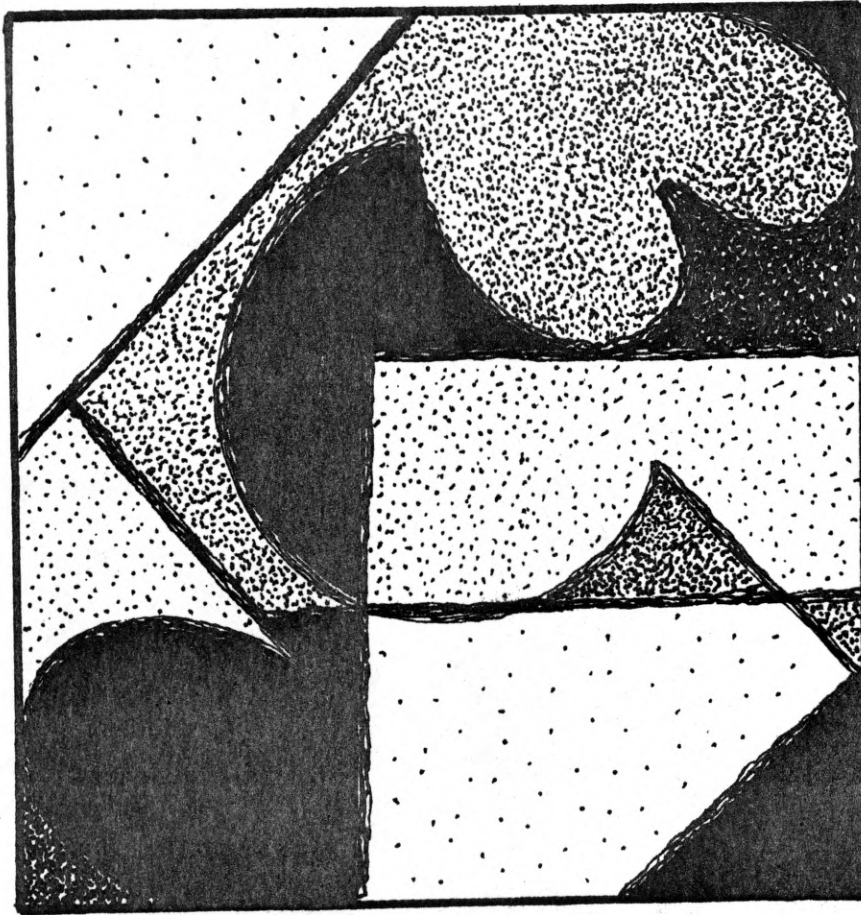


Figure 4

Number Design

Mathematical Mobiles

Objective. The objective of the mobile project is to further develop the concepts of geometric shape, mathematical symbols, and number recognition through a balanced and dynamic art form. The project can be conducted as an individual or group effort. With either approach the project is an effective way to stress mathematical concepts in a moving three-dimensional art medium. The dynamic and visual characteristics of the finished mobile provide a means of instilling the mathematical concepts into visual memory. Because of the three-dimensional quality of the mobiles, they are effective visual aids in teaching and discussing a variety of mathematical concepts.

1. Materials

- A. White or colored construction paper
- B. Tempera paint or watercolors
- C. Balsa wood or wire
- D. Glue or paste
- E. Scissors
- F. Thread or string
- G. Pointed object to punch holes in the paper
- H. Cardboard or tag board

2. Procedure

- A. Draw desired mathematical shapes or symbols on construction paper, cardboard, or tag board.

- B. Cut the designs out with scissors.
- C. Punch one hole toward the top and center in each of the shapes.
- D. Determine what material will be used to cover the mobiles (fabric, tissue paper, paint, etc.).
- E. Cover both sides of all the shapes in one mobile with one of the selected materials. In working with construction paper, tempera paint, or water colors gives a pleasing effect to the design. If fabric is going to be used to cover the mobile shapes, cardboard or tag board should be used as the backing. For an additional finished look, cut out the fabric with pinking shears. This allows a finished look without raveling of the fabric material. When working with tissue paper, have the students cut one-inch squares of tissue paper in any desired color. Wrap each square around the erasure end of a pencil. Stick into glue and then stick onto the mobile shape. Cover both sides.
- F. Thread string or thread through the holes in the designs. The strings should be approximately one yard in length.
- G. Attach strings to balsa wood or wire in such a way as to allow the mobile pieces to swing around freely and completely without touching one another and so that the balsa wood or wire stays horizontal.

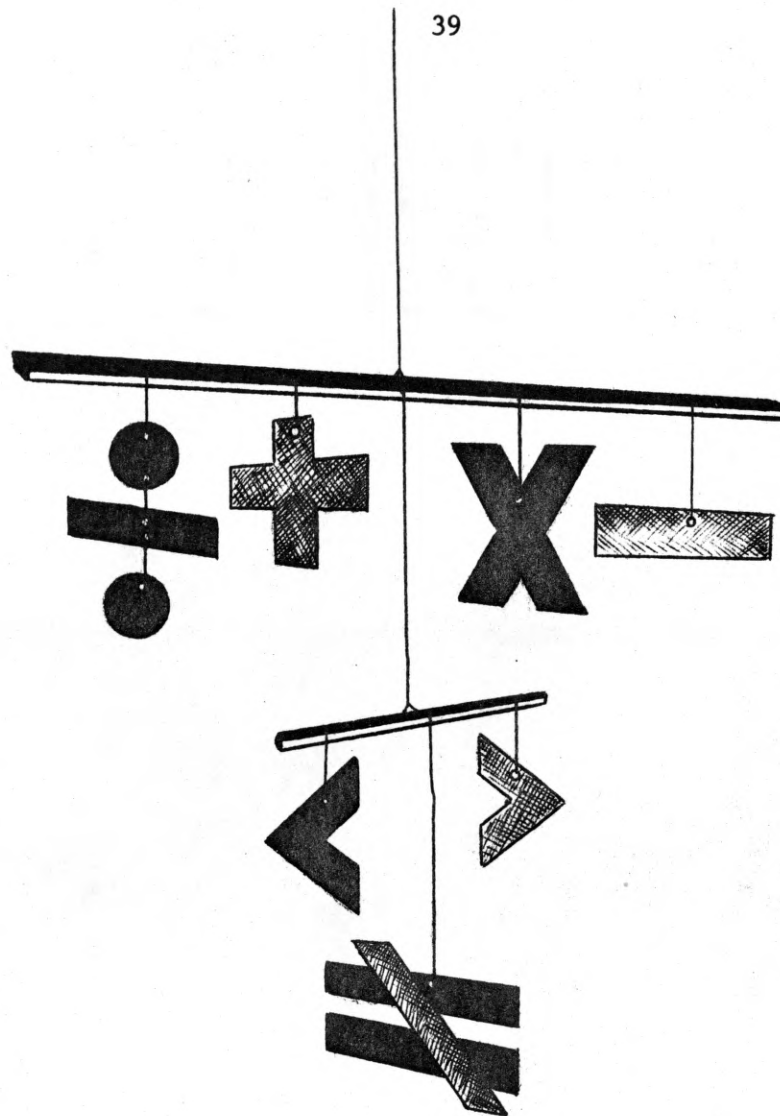


Figure 5

Mathematical Mobiles

- H. After balance is achieved and the strings are tied securely, add a dab of glue at the points where the string touches the wood or wire. This will insure that the strings will not come loose after a period of time.
- I. Finally, another string is attached to the center of the mobile and then fastened to the ceiling or fixture so that the entire mobile will move in the circulating air.

Guidelines. Teachers will find that this art project provides a creative and enjoyable learning experience for elementary pupils studying mathematics. Students can view the mathematical shapes in an original way and the mobiles make pleasing displays in the teacher's room. The dynamic movement make the mobiles interesting displays. The project is easily broken into different work periods if the teacher desires to have students work on it for more than one class session. A natural break in the project comes at the end of making the shapes that form the hanging elements. It should also be pointed out that two students can work together when the components of the mobile are being balanced. One student can hold the supporting balsa wood or wire and the other pupil can attach and balance the shapes.

Geometric Shape Design

Objective. The purpose of the geometric shape design art project is to further develop the concepts of triangular, square,

circular, and rectangular shapes. Concepts of proportion and depth perception are also developed. This is accomplished by placing geometric shapes next to and overlapping one another in such a way as to create figures and objects of interest to the child. In effect the students use the various geometric shapes as building blocks to form any object or figure of the imagination. The process of combining the basic geometric shapes together in creative ways will help sharpen these mathematical concepts.

1. Materials

A. Colored construction paper for background pieces

They can be shaped as a square, circle, or rectangle. It is suggested that the square be no smaller than 12 by 12 inches, that the circle have a diameter not less than 12 inches, and the rectangle be no smaller than 12 by 18 inches. The background pieces can be of any desired color.

B. Colored construction paper is also used for the geometric shapes.

It is suggested that the following sizes be cut either by the students or the teacher:

- circles - small (3 inch diameter)
- medium (6 inch diameter)
- large (9 inch diameter)
- squares - small (3 x 3 inches)
- medium (6 x 6 inches)
- large (9 x 9 inches)

rectangles - small (2 x 12 and 1 x 12 inches)

- medium (3 x 6 inches)

- large (9 x 6 inches)

triangles - small (3 x 3 x 3 and 1 x 3 x 3 inches)

- medium (6 x 6 x 6 and 3 x 6 x 6 inches)

- large (9 x 9 x 9 and 6 x 9 x 9 inches)

C. Scissors

D. Glue or paste

2. Procedure

A. Each child should either cut or be given a minimum of eight geometric shapes of various sizes.

B. Instruct the children to place the geometric shapes in various arrangements on the surface of their desks. In the beginning the purpose of the positioning and repositioning of the shapes will be to acquaint the students with moving the shapes about to create random patterns.

C. After the students are used to manipulating the shapes in overlapping patterns, the teacher should stimulate the class to think of figures and shapes that might be created by the geometric building blocks. This can be done in the form of general classroom discussion and participation.

D. After the students decide on what designs they would like to create, they may want to trade geometric pieces with fellow

students or cut new shapes. For example, there are many possible variations of the triangle and rectangle, and the students may want to embellish their designs with geometric shapes of special sizes.

- E. While the students are creating the designs, the teacher can select and pass out the pieces that will be used for the background material.
- F. After the basic designs are formed by the students, have them paste or glue all the pieces down on the background piece that has been selected.

Guidelines. This is an excellent art project to use as a teaching aid for instructing elementary school children on the concepts of geometric shape. For elementary children in the lower grades, the shapes can be pre-cut by the teacher. Another option is to prepare cardboard templates that can be used by the children to trace out the various sized shapes. It is important to note that triangles and rectangles can form a wide variety of shapes. For example, in making a wagon, the wagon box could be made from a rather large rectangle and the tongue from a long narrow one. Moreover, the children should be encouraged to cut out special sizes to embellish their figures with things like hats, flowers, etc. After the students have created their designs, it will be fun for them to see and discuss how others used the same shapes to create different art work.

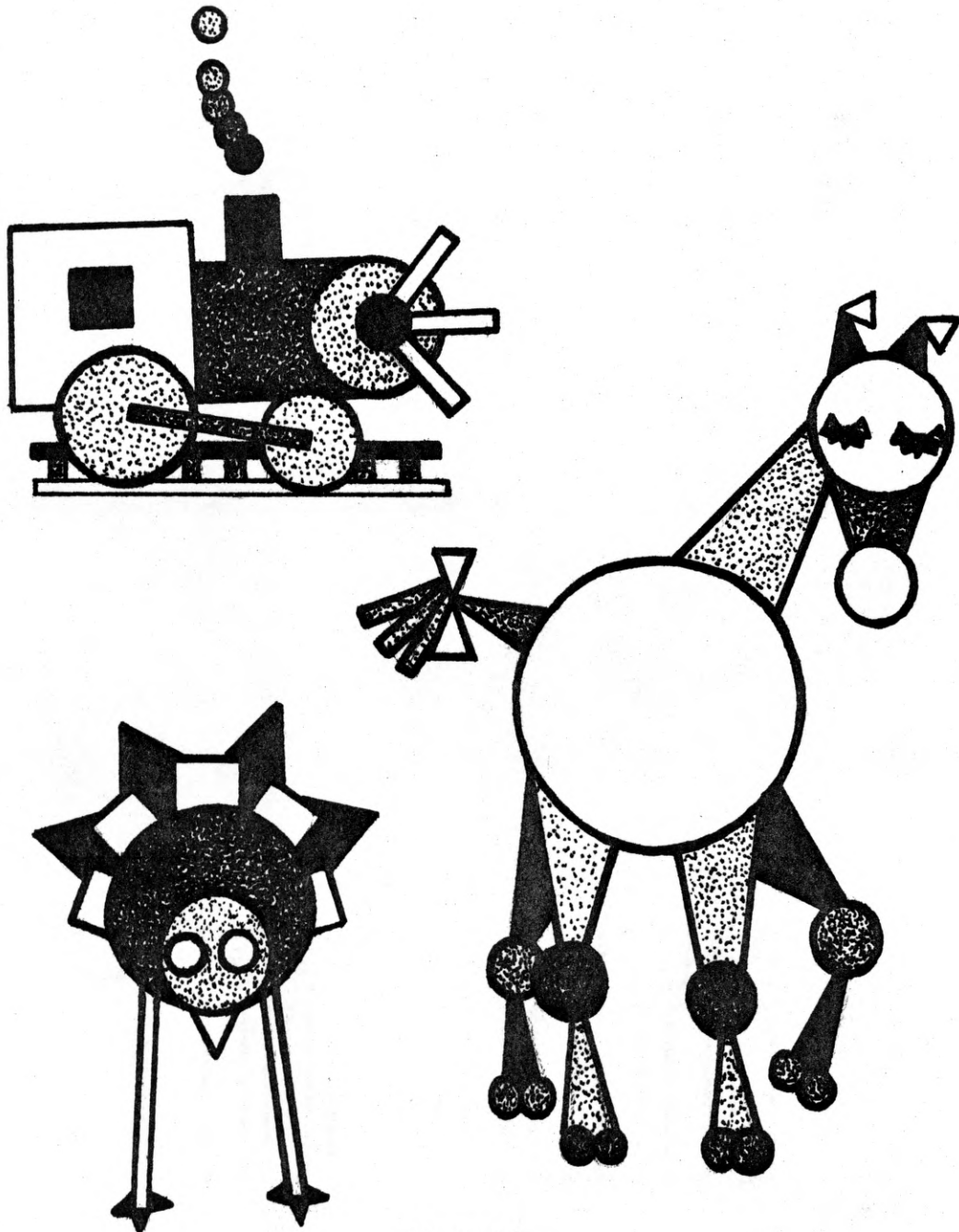


Figure 6

Geometric Shape Design

To create more depth in the designs, the teacher can suggest that light and bright colors be used for front or closer objects and darker ones be reserved to depict back or further away items. For example, the closest wheels on a wagon could be light yellow, whereas the wheels farthest from the viewer might be dark purple. This method of combining colors will create the illusion of more depth to the design. Depth is also of course created by the overlapping of the various elements in the design.

LANGUAGE ARTS

Super Words

Objective. The goal of the super word art project is to aid elementary school children develop vocabulary and spelling skills by means of an artistic activity. In particular, the project assists in the child's usage of descriptive and action adjectives, nouns, and verbs. The child's imagination is stimulated as to how many ways a word can "work" by creating the picture of the word. In addition, the spelling of certain words is enhanced by instilling visual memories that are of interest to the child.

1. Materials

- A. Miscellaneous materials such as wood scraps, scrap fabrics, colored construction paper scraps, water colors, crayons, paper clips, toothpicks, yarn scraps, broken jewelry, old shoe

strings, colored chalk pieces, pebbles, or almost anything that can be picked up and held in the hand of an elementary school child. The only limitation is that it must be of a size and consistency that it can be glued to a background material.

- B. Scissors
- C. Glue or paste
- D. Pencil
- E. Cardboard covered with colored construction paper approximately 9 by 12 inches that can be used as a background to support relatively heavy objects. When light weight materials are used, plain colored construction paper without the cardboard backing can be employed.

2. Procedure

- A. Write on the board three or four words appropriate for the grade level being taught and ask the class to help design the word to look like it means. For example the word "thin" could be written stretched out to look tall and skinny. The word "long" could be written l o n g. Similarly, most any word that conjures up the idea of action could be "dressed up for the occasion" by using the miscellaneous materials listed above; e.g., the word "run" could wear shoes and socks.
- B. Once the children get the idea of the project, the teacher

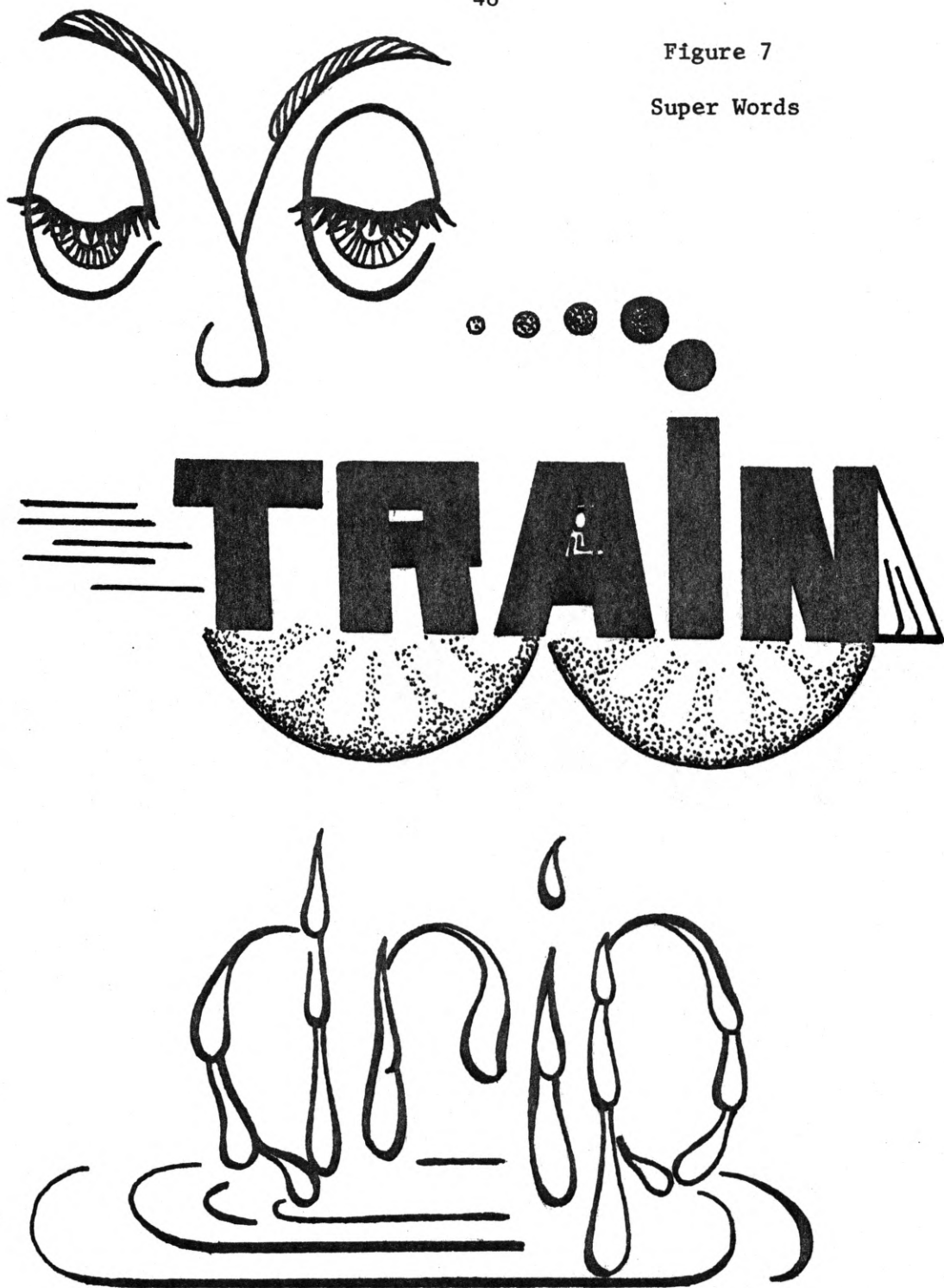
should erase the board so that they will not be copied, thus freeing the children to use their own imaginations.

- C. The children should select one word that they would like to create a design to match its meaning.
- D. After the children have selected their words, they should look through the miscellaneous material and any available art supplies and decide what material to use to illustrate them.
- E. Next, the children should select the color of the background material they wish to use.

Guidelines. There are a number of different ways the teacher can have the children select the words they use to artistically illustrate. The children can select their words from a list of spelling words that are currently being studied. On the other hand, the teacher can ask the students to choose their word from those they have missed on previous spelling tests or from words they are having difficulty understanding their meaning. The teacher should make sure that the students design their words so that they fill at least one-half of the space of the background material. This will enhance the appearance of their word designs. In general the teacher should encourage the students to use their own imaginations in creating their designs. An occasional example can be offered by the teacher to stimulate a child's creativity, however. This project is an excellent one to use in correlating language skills with artistic activity. It

Figure 7

Super Words



will stimulate the children to look at words from a new and creative vantage point as well as offer them an enjoyable experience.

Puzzle Mural Design

Objective. The goal of the puzzle mural design is to stimulate oral and written expression through a creative activity that begins as an individualistic effort and ends in a classroom mural. By working with miscellaneous shapes, imaginative verbal and written expression can be initiated which correlates with a work of art. Initially, the students work alone to decorate their shapes and later all of their pieces are placed together in a puzzle which forms a class mural of abstraction. Because the entire class works with one media; i.e., magic markers or tempera paints, the final pattern takes on a pleasing unified design. Regardless of the quality of the individual designs, the project is always successful as a group effort in terms of artistic achievement. This art project is a useful tool for the development of language skills, because it can be used in a variety of ways to generate verbal and written expression. For example, round robin discussions can be held that incorporate the puzzle pieces. Children can be instructed to write or tell an imaginative story that connects the mural pieces.

1. Materials

- A. Two large pieces of brown or white wrapping paper are used per

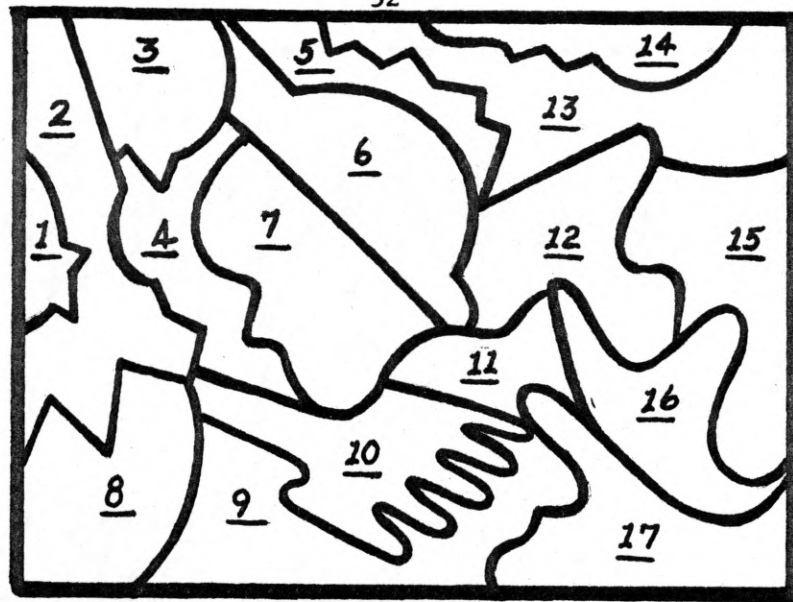
mural. Their size should be such that they can be used to cover a bulletin board. Two pieces of chip board or cardboard of equal size on the order of 38 by 42 inches can also be used.

- B. Magic markers or tempera paints
- C. If tempera paints are used, smocks, paint rags, and small tins of water will be needed.
- D. Pencils
- E. Masking or scotch tape

2. Procedure

- A. Determine the number of children that will be working on each mural. Not more than fifteen students should work on one mural.
- B. Draw the puzzle design on one of the mural pieces. The teacher will do this prior to class. The design can be any free form type, but the number of pieces in the puzzle must equal the number of students that will be working on the mural.
- C. The teacher should then cut out the puzzle pieces and use them as templates to redraw the exact same puzzle design on the second mural piece.
- D. The second mural piece is to remain intact and the pieces numbered consecutively.
- E. After the second mural piece has been numbered, the pieces from the cut up mural piece are to be numbered on their back side to correlate them with the pieces drawn on the intact mural.

- F. The pieces are passed out to the students with each child receiving one puzzle piece.
- G. The students should not be permitted to see the puzzle design on the intact mural piece. This is saved for a later surprise.
- H. The students are instructed to create a design of their own choosing on the pieces of the puzzle.
- I. When the children have finished decorating their puzzle pieces, they should be given scotch or masking tape.
- J. The children are to cut three or four pieces of tape that are two or three inches long and roll them sticky side out and place them on the back corners of their puzzle piece.
- K. At this time, the large second mural piece is brought out and shown the students.
- L. Each student is then instructed to place his puzzle piece in the area with the numerical code that corresponds to the number on his shape.
- M. The mural is now ready to be hung and displayed in the room.
- N. To correlate the art project with oral expression, ask the children to explain what inspired their individual design and discuss how the design changed after it was fitted into the group mural.
- O. To correlate with written expression, the children can be asked to write an imaginative story that connects the pieces of the mural together.



Background Piece

Completed Design



Figure 8

Puzzle Mural Design

Guidelines. It is important that the teacher use one medium in creating the mural puzzle. The colors will then have the same consistency and produce a nice overall cohesive effect. Otherwise, if a mix of magic markers and tempera paints are used on the same mural, these two different mediums will clash and subtract from the quality of the abstraction. On the other hand, if more than one mural per class is being completed, tempera paint could be used for one, magic markers for another, and actually even chalk or crayons for still another. The teacher can use any desired random puzzle design and can emphasize different curves, zig zags, or jagged lines to add variation to the overall puzzle. To correlate the art project with the development of oral and written skills, the teacher can use the round robin approach and have each child write a sentence that describes his design. Later the sentences can be rearranged and put together by the class to tell a story. In the end, the class will have an artistic mural which relates to an accompanying written story.

Egg Carton Animals

Objective. The purpose of the egg carton animal project is to have the children use their imaginations to create an animal or other object out of egg cartons. The egg cartons may be used in the esthetic investigation of the additive artistic process. The project offers unlimited opportunities for study in three-dimensional modular units,

as in combining simple units and their variations to produce personal creative expressions of images or forms. This is an excellent beginning for creative writing or role playing, using the animals as one would use puppets. A central theme can be explored such as forest creatures, a space odyssey, etc. using the puppet technique. Actual roles can be assigned to the students for expression through their created character in skits or various kinds of dialogue situations.

1. Materials.

- A. Egg cartons in enough quantity to provide one per child
- B. Pipe cleaners
- C. Tempera paint, crayons, or magic markers
- D. If tempera paint is used, smocks, brushes, rags, and water tins will also be required.
- E. Scissors
- F. Rubber cement or Elmer's glue
- G. Newspapers for table top protection
- H. Construction paper

2. Procedure

- A. A class theme should be identified by the teacher and students.
- B. Animals and/or objects that correspond to the theme should then be listed on the board.
- C. The children may add to this list as they continue to think about the theme. For example, for a space odyssey theme,

science fiction characters in the form of unusual insects or other space creatures could be invented. Also, space vehicles and related items could be added to round out the theme.

- D. With the theme established, the students should examine both the inside and outside of their egg carton and decide what object or figure they want to create.
- E. The children should next decide what shapes they want to cut from the egg carton. The shapes should be cut but not glued together until the child can envision what the entire object will look like.
- F. The lid of the carton can be used in a multiple of ways: as a base of support or cut up into separate pieces to be used as elements in the design.
- G. Sections of the design can be joined together by pipe cleaners or glue.
- H. Pipe cleaners may be added as well as other pieces of material such as construction paper and used for features such as arms, legs, antenna, and tails to give the figure personality.
- I. The created characters can be finished with paint, crayon, or magic marker. Only one type of finishing should be used by the entire class.
- J. The characters are then assembled and are ready to become the main personalities in role playing or puppetry skits.

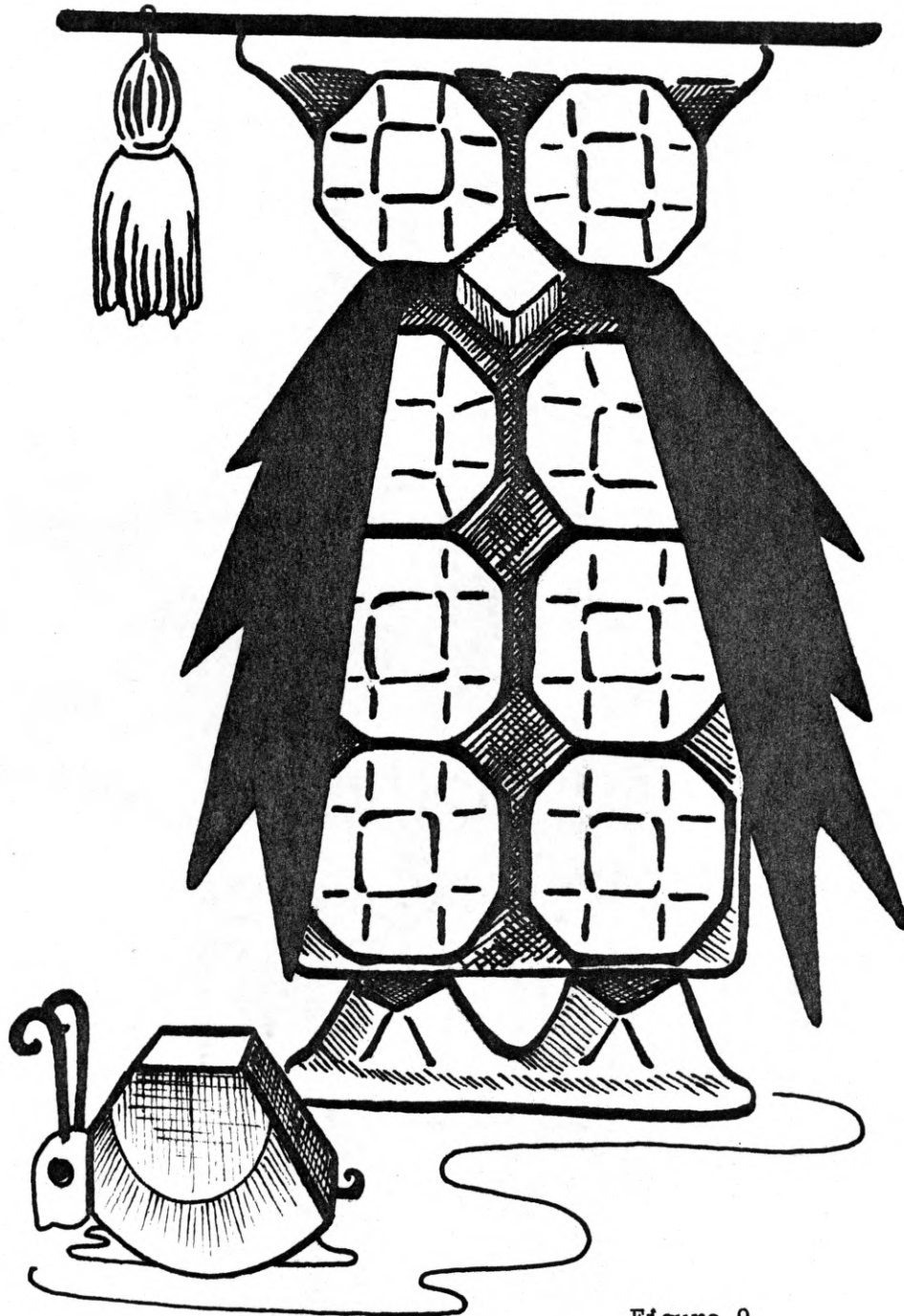


Figure 9

Egg Carton Animals

Guidelines. There should be a collection period prior to when this unit of study begins so that a wide variety of materials in sufficient quantity will be available to permit adequate artistic expression. Colored pipe cleaners are recommended, but white ones can be dipped in water colors. When pipe cleaners are limited in supply, strips of construction paper can be cut and used instead. In formulating skits using the created participants, it may not be practical for each student to have a speaking part. However background effects in the form of noises or choruses can allow everyone to participate. For example, with a forest creatures theme, there could be about five major participants and the remaining students could create wind effects, cricket sounds, etc. The skit could be a spontaneous production, or it could be written out in detail by the class for a formal production.

SCIENCE

Rock Sculpture

Objective. The aim of the rock sculpture art project is to have elementary children visualize and create a three-dimensional design and in the process become familiar with things in the natural environment. The children will learn to arrange and rearrange individual naturalistic parts of a sculpture to the point where the sculpture becomes physically balanced. Additionally, the students

learn how to use objects in the environment in new ways. To correlate this project with a specific science subject, it can be conducted in conjunction with a field trip into the out-of-doors. This project can be nicely related to nature studies involving geological and biological subjects. The basic form of the sculpture is formed with rocks; therefore, the project directly correlates with earth science concepts. Moreover, naturalistic things like tree twigs, weeds, and feathers can be used to embellish the rock sculpture so that botanical and biological subjects can also be related to the project.

1. Materials

A. Rocks and pebbles

Look for odd and interesting rocks and also flat and smooth ones.

B. Glue

Elmer's or a white glue that dries clear

C. Cardboard

D. Construction paper

E. Miscellaneous embellishments, such as twigs, weeds, flowers, feathers, seeds

F. Tempera paint

G. Smocks, rags, brushes, and water in small tins

H. Sea shells and other miscellaneous pieces, such as yarn, glittler, sequins

2. Procedure

- A. Collect and wash rocks and pebbles. The size of the rocks should be such that they can be easily held in a child's hand.
- B. Spread the rocks and pebbles out over a large area and study their various shapes and sizes.
- C. Experimentally have the children pick them up, turn them from side to side, and balance them on top of each other.
- D. When a shape representing a figure or an object suggests itself and the rocks balance nicely on top of one another, glue them together.
- E. After they are glued, using a small puddle of it, set them aside to dry. The students will know when they are dry, because at that point the glue will appear clear.
- F. Prepare a base for the rock sculpture to set upon. This should be the strength of cardboard, and if it is cardboard it can be covered with colored construction paper. The base can be made large enough for the rock sculpture plus other naturalistic items to be arranged around it.
- G. The next thing to do is embellish the rock sculpture with tempera paint and miscellaneous items.
- H. The final step is to glue the sculpture to its base and allow it to dry.

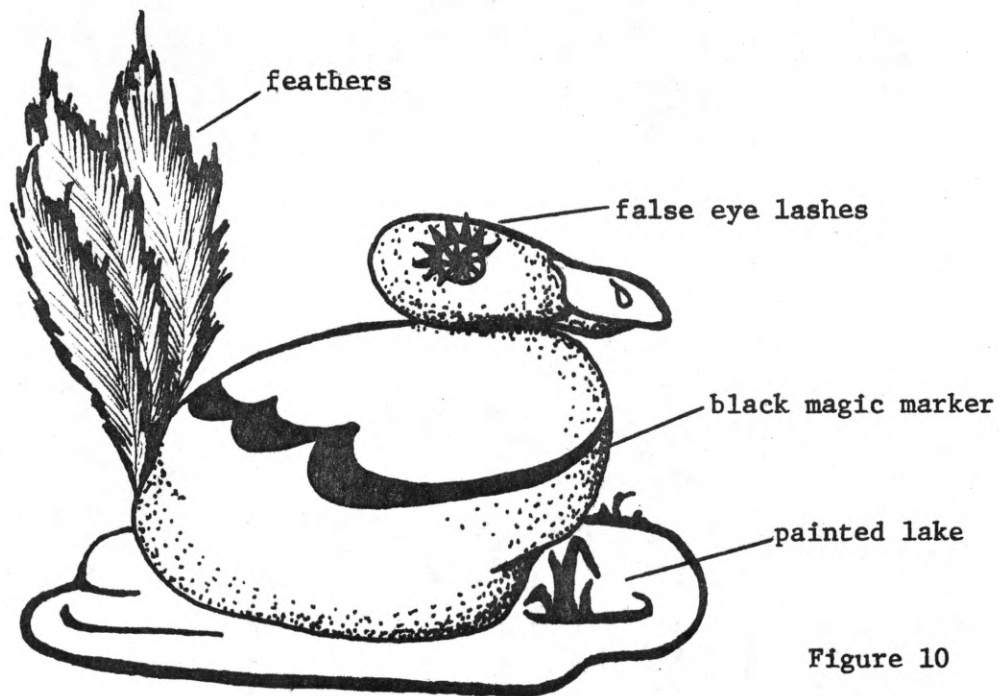
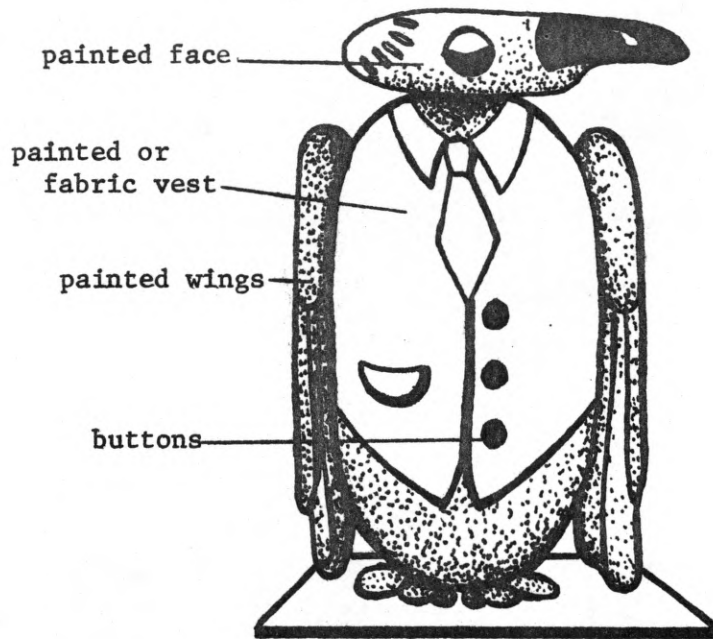


Figure 10
Rock Sculpture

Guidelines. The rock sculpture project provides rich tactile experiences with shapes and textures found in nature. It also allows the child to develop an awareness of size relationships. This project goes nicely with the study of rocks, particularly when the students are to classify rocks gathered on a field trip. It is suggested that before applying the tempera paint that the children outline in pencil the area they want to paint. Tempera paint can be used for bright accent colors. After it is dry, shellac can be applied to give a permanence to it that will not wash off. If shellac is used, the room must be well ventilated. For making hair, grasses and weeds can be used. Moreover, yarn pieces can also be employed. The teacher may want to consider having the children dress the rocks up in Barbie and Ken clothes, especially using shoes and sweaters and hats. If this type of attire is used, the rocks should be dressed before gluing them together. Feathers and false eyelashes also make excellent embellishments. Consider setting the rock sculpture in a natural environment with sea shells, driftwood, or using a mirror to simulate a pond.

Recycled Litter Poster

Objective. The objective of the recycled litter poster is to achieve an effective poster through the use of old used, found, rejected and broken junk. The scientific objective of this art project is to

stress awareness of ecology and how to reuse waste and scrap. This makes the child more aware of environmental issues. The posters can be an interesting collage of materials in an abstract design or depict easily recognized objects and forms. It may be that after an environmental studies unit or field trip the teacher and class can come up with a central theme to guide the design of the posters.

1. Materials

A. Cardboard or poster board

This will be used as background material and will establish the size of the poster.

B. Glue

Elmer's or a white glue that dries clear is recommended.

C. Pencil

D. Scissors

E. Litter

This may be junk from almost any source.

F. Scrap pieces of tin foil

G. Ribbon scraps and Christmas wrapping leftovers make excellent litter items.

H. Old newspapers, broken clothes pins, as well as attic and basement junk are good litter items.

2. Procedure

A. The students should first collect and stockpile enough litter

to the point where there are a wide variety of things to be used in the posters.

- B. Things that can be washed and cleaned should be.
- C. Obviously decomposed things should not be used.
- D. The background piece can be made from cardboard or poster board approximately 18 by 24 inches.
- E. The letter samples should be placed on the poster boards and arranged in some abstract design or to depict a central theme established in class.
- F. If a realistic form is going to be created, it is a good idea to draw it out first on paper.
- G. Individual litter pieces can be cut to fit into the design.
- H. Glue the material to the background and allow to dry.

Guidelines. Ecology centered slogans designed from litter make an effective art-science project. Other themes that can be depicted on the posters are the various recycling steps for different materials. In poster making, the designs should fill at least two-thirds of the poster space. Urge the children to work out from the center of their posters. When gluing wood or metal objects to a paper material, cover the entire back of the heavy object with glue remembering that it will dry clear. When gluing light things such as paper or ribbon, a tiny dab every two inches will do the job. It may be interesting for some of the litter to be allowed to stick out from the



tail = ribbon scrap

tree = fallen branch

head = wheel from broken toy

beak = broken clothes pin

body = old newspaper

leaves = leaves or scrap paper

Figure 11

Recycled Litter Poster

background to form a relief effect. If some realistic object is to be depicted as the central item in a poster, such as a bird or a person, it is recommended that the basic shape be cut out of recycled things, such as old newspaper or wrapping paper as opposed to new construction paper.

Foil and Saran Wrap Design

Objective. The purpose of the foil and saran wrap design is to promote a creative experience through the use of a new media, and to encourage original thinking from the children in the area of design. Moreover, this project can be used to correlate art with the science of health. For example, concepts gleaned from the study of cells and microscopic life can be translated into artistic expression.

1. Materials

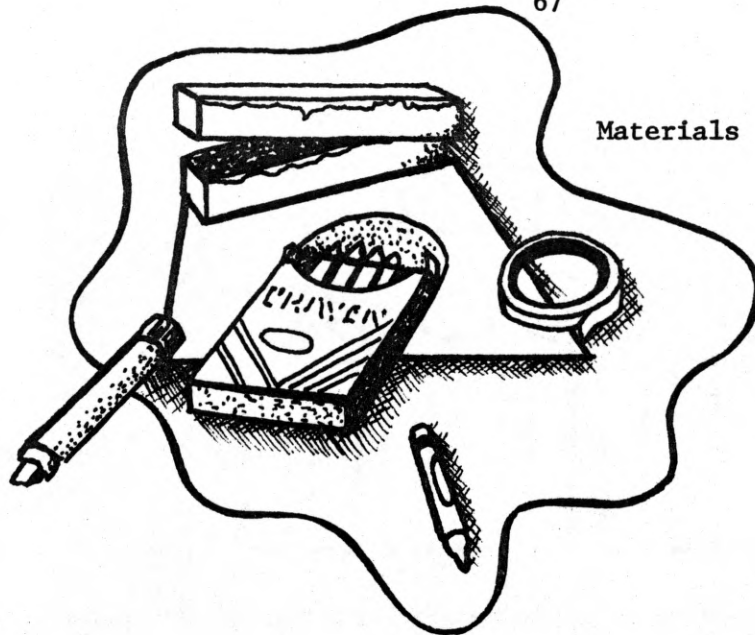
- A. Cardboard or chip board cut into 6 by 9 or 9 by 9 shapes.
- B. Crayons
- C. Colored felt tip markers
- D. Aluminum foil. It should be cut one inch larger on all sides than the background piece.
- E. Saran wrap. It should be the same size as the aluminum foil.
- F. Masking tape

2. Procedure

- A. Discuss what makes a good design considering such things as lines, enclosed shapes, color, and texture.
- B. Ask the children to draw several shapes on the cardboard with crayons. To make the area interesting, use odd shapes, little shapes, overlapping shapes, and shapes that seem to float in space.
- C. Place the saran wrap over the cardboard and trace the shapes on the saran wrap that have been drawn with a black felt tip marker.
- D. Fill in the shapes and areas on the saran wrap with various colors using felt tip markers.
- E. Wad up the aluminum foil until it crinkles and then open and flatten it. It will now have a rough texture.
- F. Place the aluminum foil over the cardboard and fold the edges over to the back of the cardboard.
- G. Place the saran wrap over the foil and also tuck the edge around to the back of the cardboard.
- H. Use masking tape to secure the foil and saran wrap on the back of the cardboard.

Guidelines. The artistic result from this project is a sparkling texture with a clear smooth surface giving the illusion of bright shapes floating on a textured background. This technique is

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Materials

Completed
Design



Figure 12

Foil and Saran Wrap Design

particularly effective in illustrating microscopic life, such as blood cells or bacteria. This project could be used for a science unit where the subject is microscopic organisms. It is recommended that film strips, movies, or illustrated aids be viewed by the children prior to the project. It would be a real bonus if the children could look at live material through a microscope so that they could see shapes changing in pattern. The foil and saran wrap designs when correlated with the scientific study of cells aids in the retention of the concepts and is a graphic and enlarged sample of what is normally an unseen world. The project also sharpens the children's observation skills through the process of creating the microscopic world they see in an artistic design.

In the next and final chapter, the summary and conclusions of this paper are presented.

Chapter 4

SUMMARY AND CONCLUSIONS

The problem of this study was to establish a more creative approach through the use of art methods to express basic principles commonly taught in the major subject areas in elementary school. It seemed to the author that art mediums have not been exploited by the elementary teacher to the extent that they might be in the explication of concepts taught in subjects such as mathematics, science, language arts, and social studies. The specific purpose of the study was to investigate the use of creative art mediums in conveying major subject area content at the elementary level and to compile examples of how various art projects can be integrated into the study of the four core subject areas.

The procedures followed in this study were to review the related literature and research on the application of art media to the content subjects taught in elementary school and based on the review incorporate past experiences of the writer into a teacher handbook clearly pointing to corollary art experiences in the core subject areas.

The literature review was organized into six sections:

(1) principles of creative teaching, (2) creative teaching in social studies, (3) creative teaching in mathematics, (4) creative teaching in language arts, (5) creative teaching in science, and (6) some general conclusions about creative teaching. In general, the literature review

pointed out that educators seem to basically agree that creative teaching is a desirable objective in all of the core areas in elementary education. However, the approaches to achieving creative teaching are not always clear and the use of creative art mediums is a technique that for all practical purposes has not yet been exploited.

A total of twelve art projects were outlined in detail for use in teaching elementary school subjects. There were three projects presented for each of the major content areas: social studies, mathematics, science, and language arts. The following is a listing of the projects under the respective subject areas:

Social Studies

Map Doodle

Inner Tube Print

Torn Paper Design

Mathematics

Number Design

Mathematical Mobiles

Geometric Shape Design

Language Arts

Super Words

Puzzle Mural Design

Egg Carton Animals

Science

Rock Sculpture

Recycled Litter Poster

Foil and Saran Wrap Design

All of the above projects meet the following criteria:

- (1) they are within the perceptual-motor capabilities of the children;
- (2) they involve the use of inexpensive materials easily obtained by the teacher;
- (3) they are success-oriented and provide a positive and stimulating experience for the student;
- (4) they can be readily adaptable to the subject matter being taught;
- (5) they can easily be organized into different time segments for efficient instruction;
- (6) they are easily completed within a relatively short period of time; and
- (7) they are of a nature which does not require additional formal instruction for the teacher.

The final conclusion is that it is indeed possible to incorporate creative art projects into the teaching of elementary school subjects.

LITERATURE CITED

LITERATURE CITED

- Burrows, A. T., D. L. Manson, and R. G. Stauffer. 1972. *New Horizons in the Language Arts*. New York: Harper and Row.
- Bybee, R. W. 1973. Creativity, children, and elementary science. In R. B. Sund and R. W. Bybee, *Becoming a Better Elementary Science Teacher*. Columbus, Ohio: Charles E. Merrill Publishing Co.
- Carin, A. A., and R. B. Sund. 1970. *Teaching Modern Science*. Columbus, Ohio: Charles E. Merrill Publishing Co.
- Carpenter, R. 1962. Creativity: Its nature and nurture. *Educational Leadership*, 82 391-395.
- Collier, C., and H. Lerch. 1969. *Teaching Mathematics in the Modern Elementary School*. London: The MacMillan Co.
- Corcoran, G. B. 1970. *Language Arts in the Elementary School*. New York: Ronald Press.
- Crowder, W. W. 1964. Some trends in elementary school social studies. *Social Education*, 28:388-390.
- Fraser, D. M. 1965. Annual review of curriculum materials. *Social Education*, 29:228-237.
- Kaplan, S. N., J. Kaplan, S. K. Madsen, and B. T. Gould. 1975. *A Young Child's Experiences: Activities for Teaching and Learning*. Pacific Palisades, California, Goodyear Publishing Co.
- Margolin, S. J., M. Y. Nesbit, and J. R. Pearson. 1970. Using manipulative materials in mathematics instruction. In *Teaching Mathematics in the Elementary School*. Washington, D.C.: National Association of Elementary School Principals, NEA, and the National Council of Teachers of Mathematics.
- Marksberry, M. 1965. *Foundations of Creativity*. New York: Appleton-Century-Crofts.
- May, R. 1959. The nature of creativity. In H. H. Anderson (Ed.), *Creativity and Its Cultivation*. New York: Harper and Brothers.
- Petty, W. T., D. C. Petty, and M. F. Becking. 1973. *Experiences in Language*. Boston: Allyn and Bacon.

- Piltz, A., and R. Sund. 1974. Creative Teaching of Science in the Elementary School. Boston: Allyn and Bacon.
- Shumsky, A. 1965. Creative Teaching in the Elementary School. New York: Appleton-Century-Crofts.
- Smith, J. 1966. Setting Conditions for Creative Teaching in the Elementary School. Boston: Allyn and Bacon.
- Smith, J. 1967. Creative Teaching of the Social Studies in the Elementary School. Boston: Allyn and Bacon.
- Starr, J. W. 1969. The Teaching of Mathematics in the Elementary School. Scranton, Pennsylvania: International Textbook Co.
- Smith, J. A. 1973. Creative Teaching of the Language Arts in the Elementary School. Boston: Allyn and Bacon.
- Victor, E. 1975. Science for the Elementary School. New York: Macmillan.
- Wesley, E. B., and W. H. Cartwright. 1968. Teaching Social Studies in Elementary Schools. Boston: D. C. Heath and Co.
- Westcott, A. M., and J. A. Smith. 1967. Creative Teaching of Mathematics in the Elementary School. Boston: Allyn and Bacon.