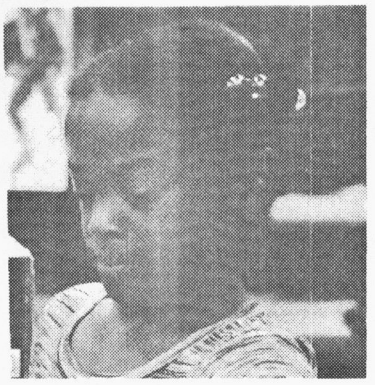


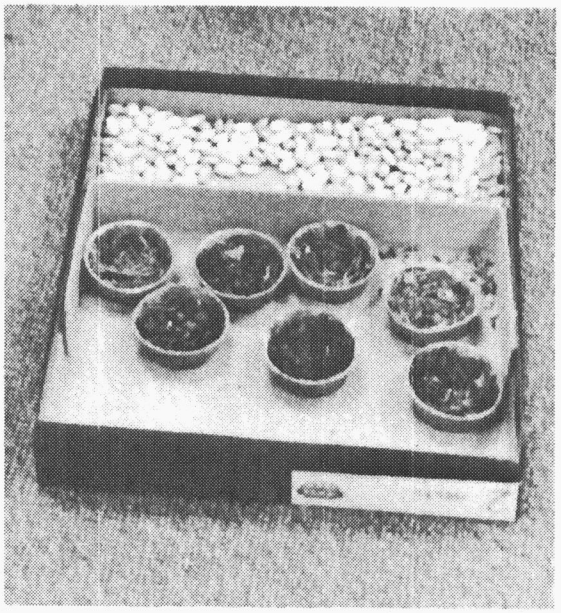
# PART III

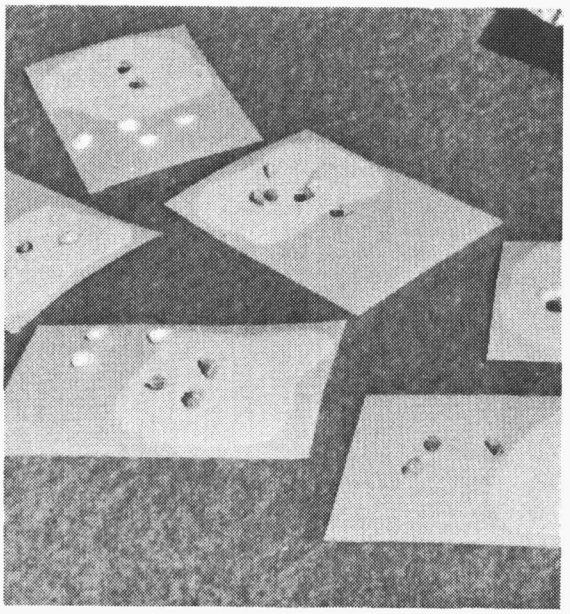
## Descriptions and Directions for Making the Activities

## The Structure of the Activities

Each activity has two components: 80–100 counters and something into or onto which the counters are placed. The counters and counting areas for the twenty activities are as follows:

| Counters | Counting Areas |
|---|---|
| 1. fish | aquariums |
| 2. eggs | nests |
| 3. lights | pine trees |
| 4. pins | pincushions |
| 5. corn | chicken gameboards |
| 6. cookies | plates |
| 7. airplanes | airport runway gameboards |
| 8. watermelon seeds | watermelon slices |
| 9. pumpkins and ghosts | haunted house gameboards |
| 10. spaghetti and meatballs | place-setting gameboards |
| 11. mice | mousetraps |
| 12. apples | buckets |
| 13. leaves | trees |
| 14. strawberries | strawberry patch gameboards |
| 15. frogs and toads | ponds |
| 16. bacon and eggs | plates |
| 17. men's and women's faces | snapshots gameboards |
| 18. candles | birthday cake gameboards |
| 19. rocks | river gameboards |
| 20. shells | sandy beaches |





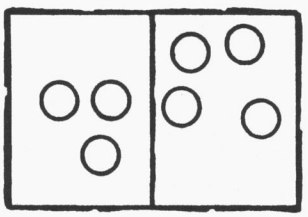
Each of the activities is designed in one of two ways: 1) with one kind of counter and *two* parts to the counting area, or 2) with two kinds of counters and only *one* part to the counting area. Both organizational techniques enable the child to

naturally create and thereby discover the various combinations and relationships within each number explored.

The organization for the twenty activities are of both these types:

**Organizational Scheme A**

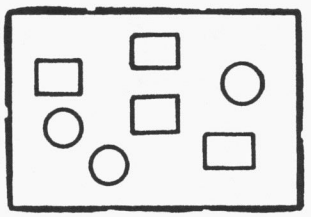
One kind of counter on a divided counting area.



| | |
|---|---|
| beaded pins | two-tone pincushion |
| corn | two-part chicken gameboard |
| airplanes | divided runway gameboard |
| rocks | divided river |
| shells | on the beaches and in the ocean gameboards |

**Organizational Scheme B**

Two colors or kinds of counters on an undivided counting area.



| | |
|---|---|
| two colors of fish | aquarium |
| two colors of eggs | nest |
| two colors of lights | pine tree |
| chocolate and vanilla cookies | plate |
| black and white seeds | watermelon slice |
| ghosts and pumpkins | haunted house |
| spaghetti and meatballs | place setting gameboard |
| pink-eared and black-eared mice | mousetrap |
| red and green apples | bucket |
| light and dark leaves | tree gameboard |
| ripe and unripe strawberries | strawberry patch |
| frogs and toads | pond |
| bacon and eggs | plate |
| men's and women's faces | snapshots gameboard |
| two colors of candles | birthday cake gameboard |

When creating your own ideas for open-ended mathematics Workjobs, this structure will help guide you. If you can find a counter you would like to use, think:

1. "What could this be used with in real life that would have two parts?" (which would give you a divided counting area) or;
2. "What else would naturally be found along with this?" (to give you two kinds of counters) and then, "In what kind of life setting would these two objects be found together?" (this gives you a counting area).

You might use red and yellow plastic flowers in a milk carton vase, or cut flowers from yellow felt to place on two grassy fields (light and dark green felt). You might put little boats on two blue felt ocean waves, or put sailboats and row boats on a blue felt ocean. You might park tiny cars in two, side-by-side parking lots, or have cars and bicycles in one lot. You could have blue and red buttons to place on felt or pelon shirt cut-outs or white buttons for dresses and pants. You could put pennies in a partitioned piggy bank, or pennies and centavos in one undivided piggy bank. It's fun! Just look around and use your imagination.

## Why These Particular Twenty Activities Are Suggested

I made and used many, many different activities in my classroom before I settled on the ones described in this book to share with you. These activities survived for good reasons:

1. The materials have proved to be durable.
2. They are relatively easy and inexpensive to assemble.
3. They are made with common, familiar materials from the child's environment.
4. Young children are naturally attracted to these materials and maintain their interest in using them over time. This natural motivation makes the activities enjoyable while at the same time provides young children a series of meaningful learning experiences.

## Rationale for the Number of Counters and Counting Areas Included in Each Workjob

Each activity has eight counting areas and between eighty and one hundred counters. I originally put ten counting areas with each activity, as I'm sure seems initially more reasonable to you. I learned about the children's attitude toward this quite by accident.

In the middle of the year I lent two teachers some of the counting areas as models for games they wanted to duplicate. These teachers were from out of town so it was about ten days before the counting areas were returned through the mail. During those ten days several of the Workjobs were short two of their ten counting areas. I hesitated to leave them on the shelf, but I did. During these ten days I gradually realized that the children seemed to be developing a preference for these activities. I began to piece things together and watched more closely to see what was happening. The children who always worked slowly and with such a struggle and those who often needed encouragement from an adult in order to finish their work, seemed changed. I was surprised to find some of these children finishing two activities in the time it previously took them to do one. There was also a difference in their attitudes while working as well as when they finished.

What I think I stumbled on was the appropriate length of time for young children to work at one sitting. For these activities eight seemed to be a magic number. I tried to put myself in the place of the children for whom it seemed to make

such a difference. I then could imagine how working with eight gameboards rather than ten might seem less overwhelming and give me the feeling that I can do it. Ten might be more than I could picture doing with ease, giving me the feeling of endless work.

As an experiment, I removed two counting areas from all the games and there was a change in my whole class; it seemed that eight was good for everyone, not just for the children who struggle. So, the class seemed more lively, more enthusiastic, more inner directed, and seemed to get even more work accomplished, more joyfully. It is for this reason that eight counting areas are included for each Workjob.

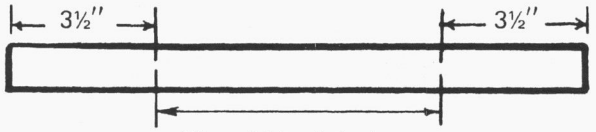
## Special Notes on Making the Activities

### COUNTERS

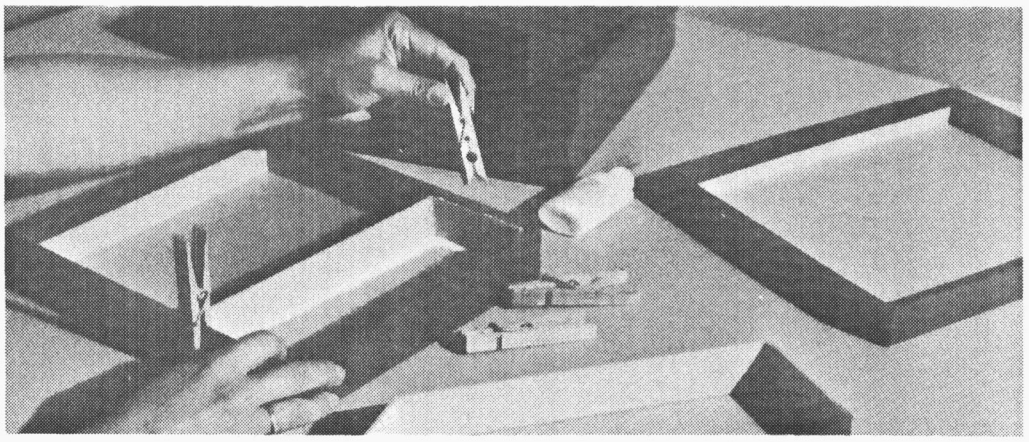
There should be from 80–100 counters in each of the twenty activities, but there is no need to have any specific amount. The teacher should feel confident to make whatever number of counters (green felt leaves, meatballs, ghosts, strawberries, etc.) that the suggested amount of supplies will naturally produce.

### SEPARATOR STRIPS

Each storage box (except the one containing the airport activity) will be divided into two parts by a strip of cardboard. This is glued into the bottom of the box to provide a separate area for the gameboards and counters. Separator strip:



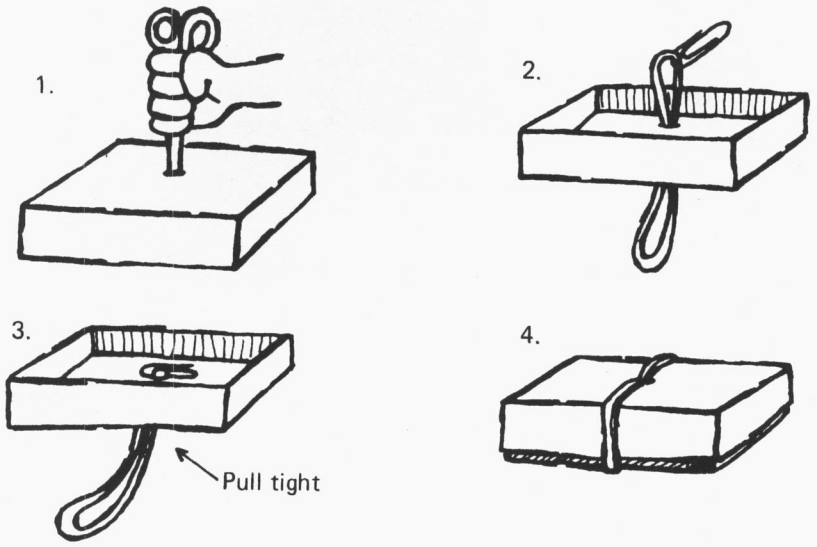

The width of the box
minus 1/8"



### HOW TO PREVENT SPILLS WHEN THE BOXES ARE DROPPED

You will need 20 (4" long) heavy duty rubber bands or some round elastic from the dime store cut into 9" lengths and tied with a square knot, scissors, 20 paper clips and a roll of masking tape.

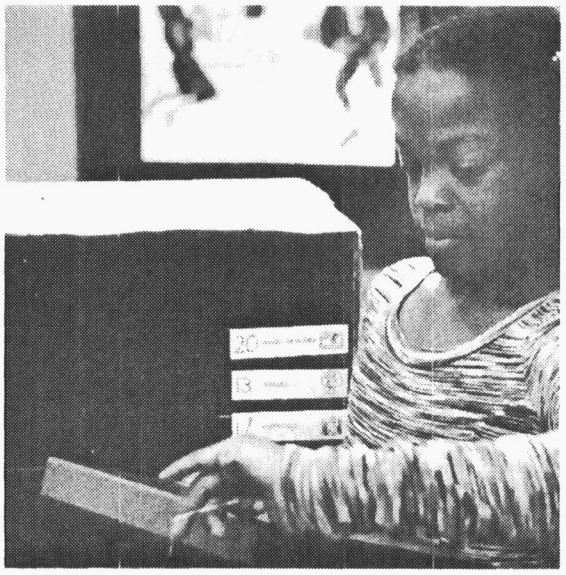
Poke a hole in the top of a WORKJOBS II storage box with the point of your scissors. Push half of the rubber band through the hole and attach a paper clip to the rubber band on the inside of the lid. Pull from the outside so the paper clip is tight against the inside of the lid.

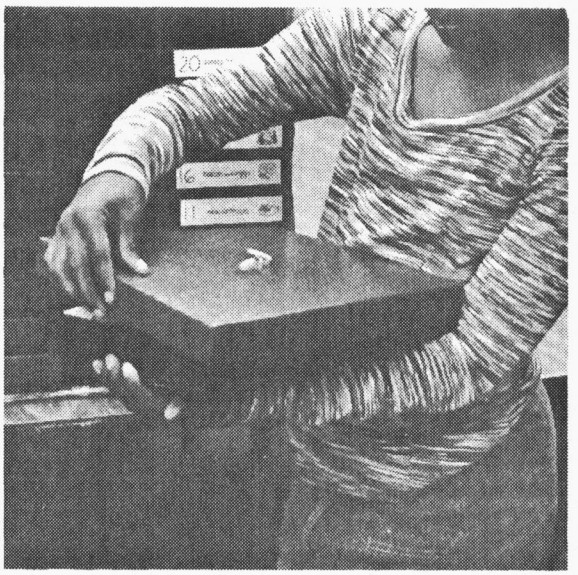



Cover the paper clip on the inside of the lid with a piece of masking tape. All of the rubber band remains on the top of the box and is now ready to be stretched around the outside of the box. This holds the box closed (even when it is dropped) and will prevent the corn, fish or shells from spilling all over the floor.

The rubber band is attached to the top of the box so it is always visible to the children insuring they will see it and remember to use it. (We used to put it on the bottom of the box to keep the top perfect but the children forgot to use it half the time.)

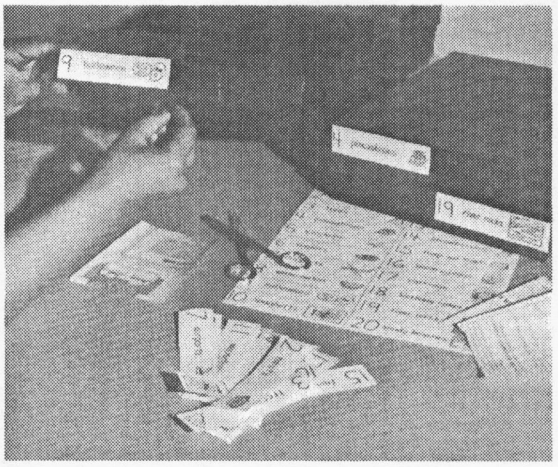
The purpose of the paper clip is to add strength to the lid and prevent the band from slipping back through the hole.

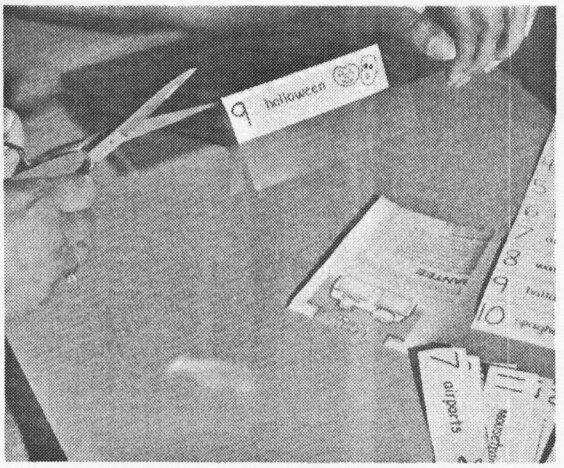




## LABELING THE WORKJOBS STORAGE BOXES

On pages 133 and 135 in the appendix there are two pages of labels which you can use to label two opposite ends of each storage box. With both ends labeled the boxes are always put away so that a labeled end is showing.

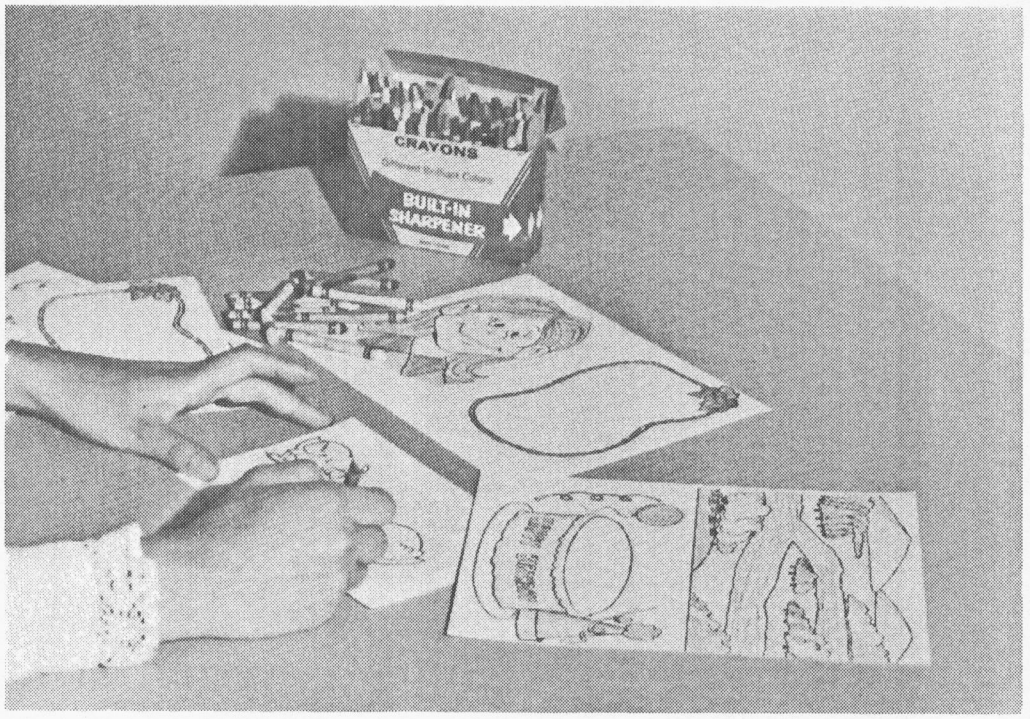





## COLORING THE GAMEBOARDS

The masters for the gameboards are on pages 143–146. You will need to make a Thermofax master and run off eight copies of each on heavy tagboard.

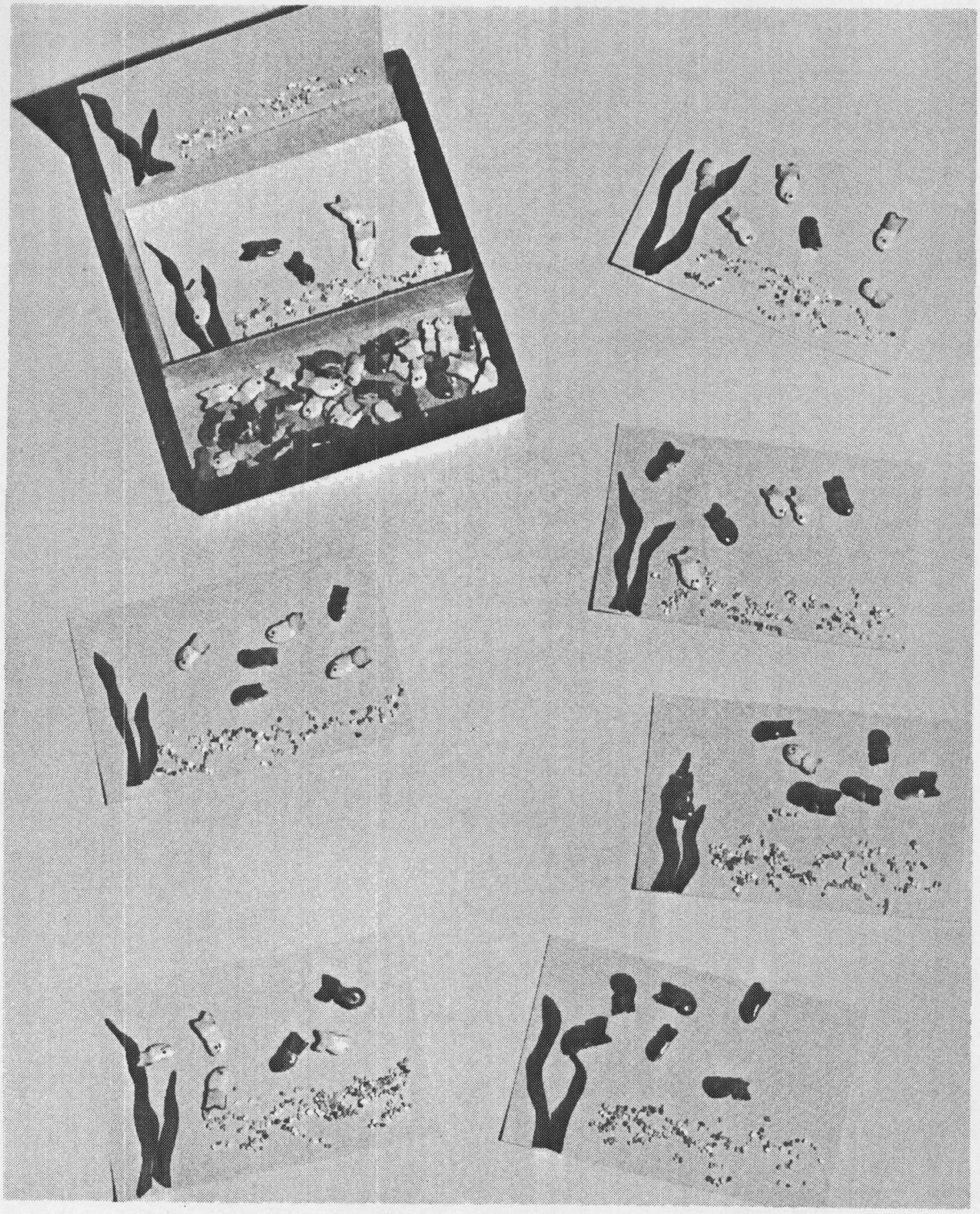
It is important that you not overdo the actual coloring of the gameboards. The gameboards are a background for the counters and should not compete with them for the child's attention. Simply color them quickly and lightly with crayon (spend 1–2 minutes per gameboard) and then cover them with clear contact paper.



# AQUARIUMS

## Activity

The child sets out various quantities or creates problems by filling the aquarium with yellow and orange fish, forming various combinations.



## Materials

### Storage Container

Storage box (approximately 9″ × 10″ × 1½″)

Separator strip of heavy cardboard (see page 37)

## Making Directions

Label the opposite ends of a storage box "Fish and Aquariums."

Glue separator strip inside on the bottom of the storage box.

---

### Counting Areas

Eight pieces of light blue railroad board 5½″ × 8½″

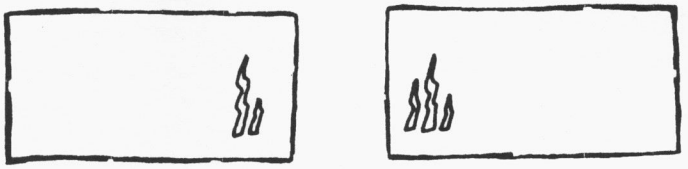
1/8 cup of natural aquarium gravel

Light and dark green scraps of felt

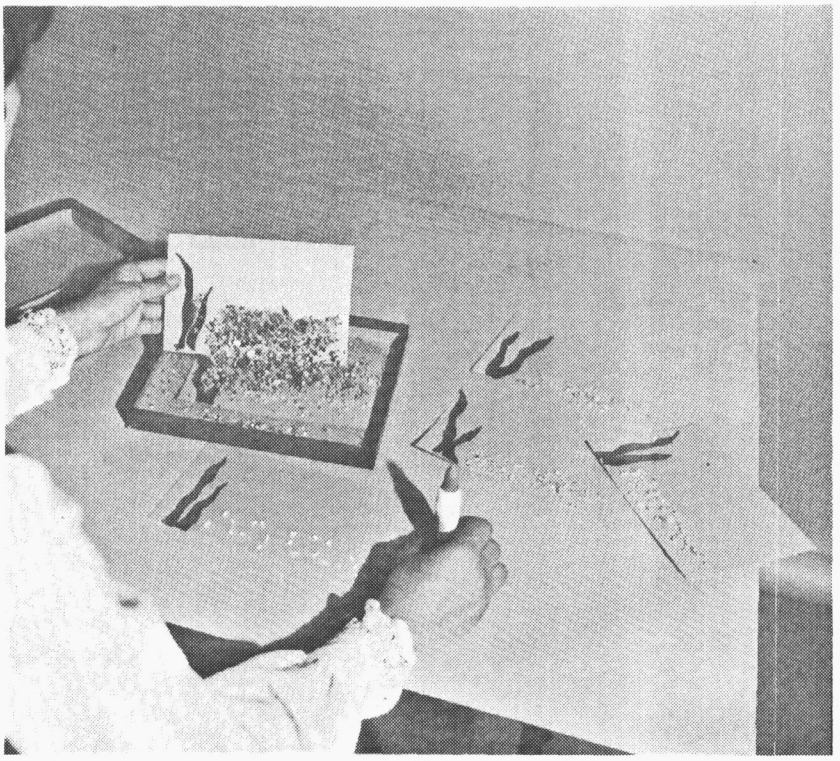
White glue

Scissors

Cut some "water plants" from light and dark green felt scraps and glue two or three on each piece of railroad board.



Dot a few places on each piece of railroad board with white glue. Using the lid from the storage box as a catcher for excess gravel, place the gameboards one at a time in the lid and pour gravel over the glue. Shake off excess gravel and allow to dry thoroughly.



Place the eight aquarium gameboards in the storage box.

### Counters

Two pieces of 4″ X 12″ felt (yellow and orange)

3/4 cup large lima beans

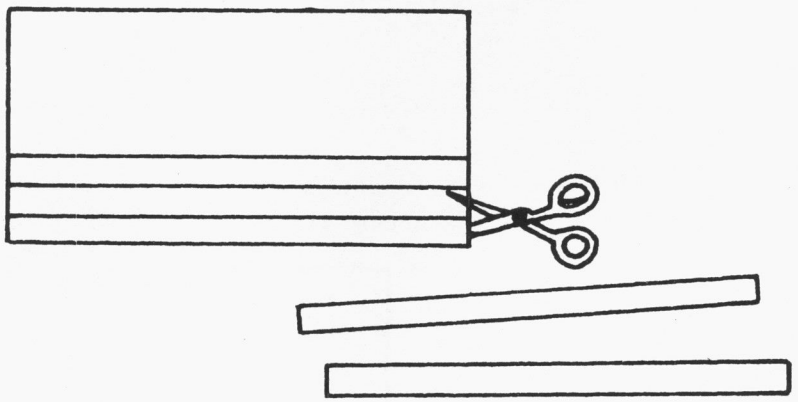
Two cans of quick-drying spray paint (orange and yellow)

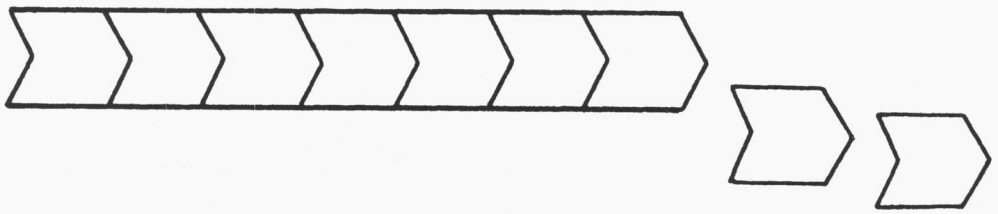
Newspapers

Black fine line permanent ink marking pen*

Scissors

Cut the 4″ X 12″ pieces of both yellow and orange felt into 1/2″ strips and then into eight "fish-tail" shapes.



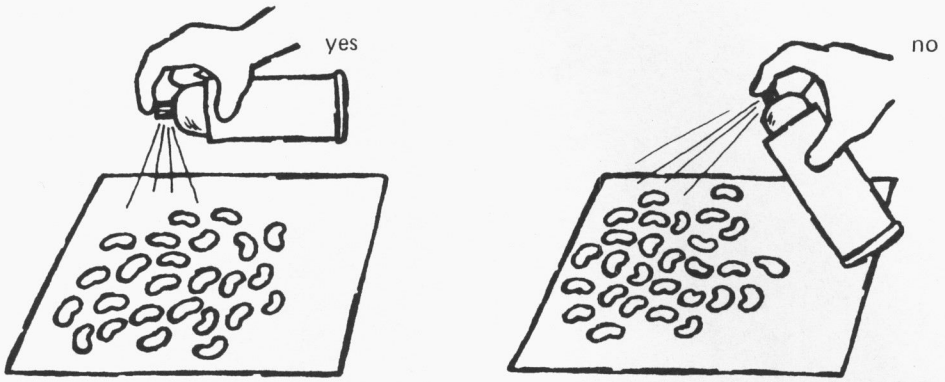


Spread out "several thicknesses of old newspapers"** and put all the large lima beans in the center. They should be as close as possible without actually touching each other. Be sure the paper extends two feet past the beans in every direction to catch the paint's overspray or mist.

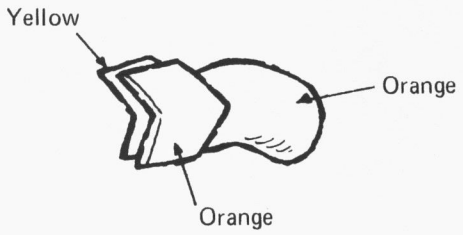
Spray paint one side of the beans yellow. Hold the can perpendicular to the beans, not at an angle, so the spray is directed straight down and can't get under the beans.

*A "Sharpie" by Sanford is a fine-line permanent ink pen which works well. They are available in stationery and office supply stores. Laundry markers are also excellent.

**Credit for this quote goes to my mom, Beatrice Baratta, who must have said these very words to me a hundred times when I was young . . . usually when it was already too late!




When the yellow paint is thoroughly dry, turn the beans over and spray paint the other side orange. Again, be especially careful to hold the can directly over the beans you are painting. When both sides are thoroughly dry, glue a yellow tail to the yellow side of the fish, and an orange tail to the orange side.



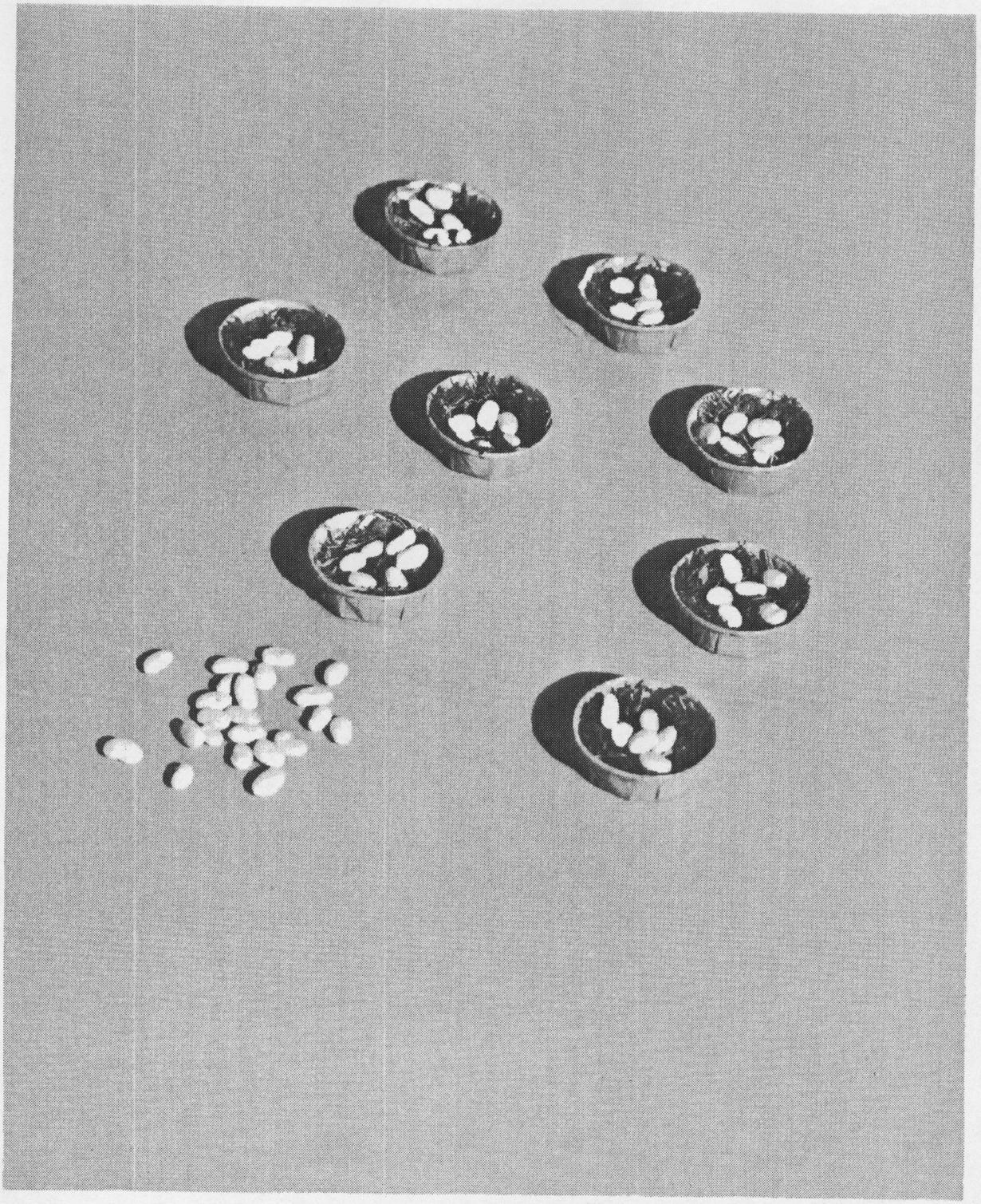

Make an eye and a mouth on each side.

Pour the finished yellow and orange fish into the separated area of the storage box.

# NESTS

## Activity

The child sets out various quantities or creates problems by placing eggs of two different colors in the birds' nests.



## Materials

## Making Directions

### Storage Container

Storage box (approximately 9″ X 10″ X 1½″)

Separator strip of heavy cardboard

Label the opposite ends of a storage box "Eggs and Nests."

Glue separator strip inside on the bottom of the storage box.

### Counting Areas

Eight portion cups from a restaurant or janitorial supply outlet (or the bottoms cut out of eight paper cups)

Newspaper

Quick-drying brown spray paint

White glue

1/4 cup potting soil

One cup of grass clippings from mowing your lawn or cut with scissors at the park

Scissors

Plastic mixing bowl and spoon

Cut the grass clippings into approximately 3/4″ pieces. Spread them on a cookie sheet and bake at 300° for twenty minutes. This dries all the moisture out, but does not change the color.

Spread out several thicknesses of old newspaper and place the eight portion cups in the center. Spray lightly with brown spray paint. Mix the dry grass clippings and potting soil together with about 1/3 cup of white glue in a plastic mixing bowl. Put a spoonful of the mixture in the bottom of each painted portion cup and press it to the bottom and sides with your fingers to make a nest.

When they are dry, place the eight bird nests in the storage box.

### Counters

1/4 cup great northerners or navy beans

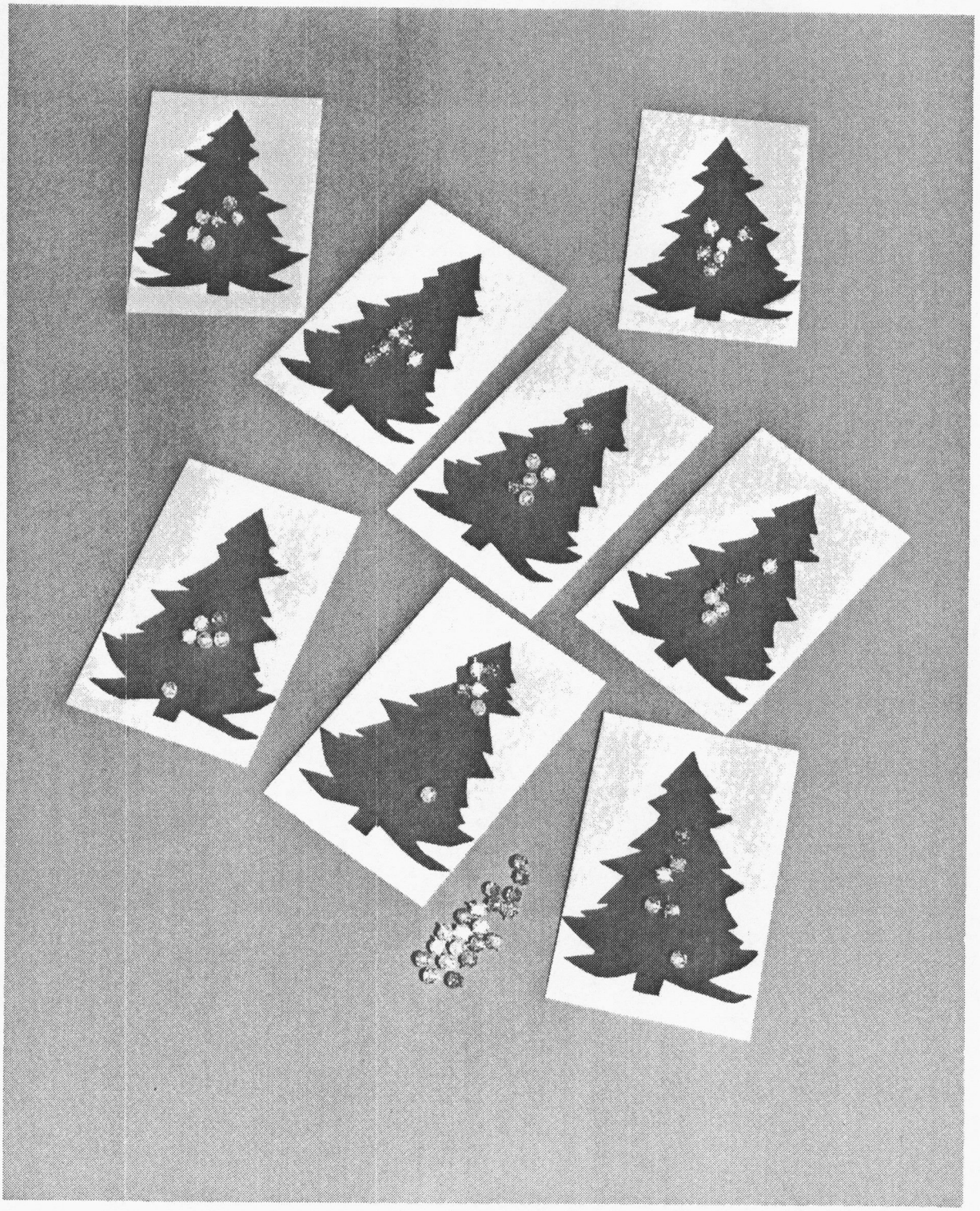
Two cans of quick-drying spray paint to make beans look like bird eggs—pale yellow and baby blue are suggested

Paint half the "eggs" with one color by rolling the beans from side to side in the bottom of a box while you depress the spray paint nozzle. When dry, take them out, put in the other half of the beans, and paint them with the second color. Pour the eggs into the separated area of the storage box.

# TREES

## Activity

The child sets out various quantities or creates problems by placing lights of two different colors on the green pine trees.

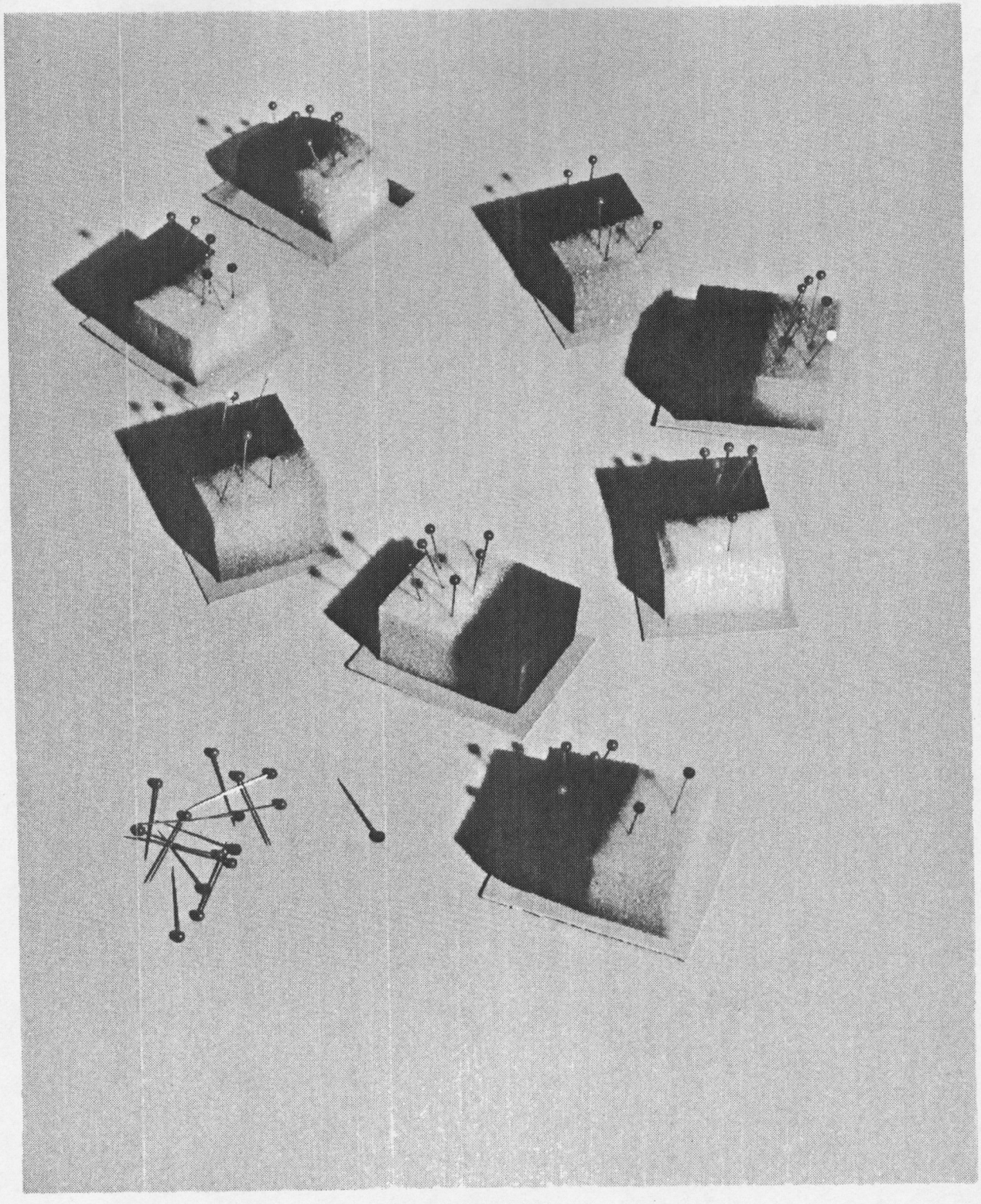


| Materials | Making Directions |
| --- | --- |
| **Storage Container** | |
| Storage box (approximately 9″ X 10″ X 1½″)<br>Separator strip of heavy cardboard | Label opposite ends of a storage box "Pine Trees and Lights."<br>Glue separator strip inside bottom of storage box. |
| **Counting Areas** | |
| A piece of dark green felt 7½″ X 5½″<br>Pattern for cutting out trees (see page 148)<br>Scissors<br>Eight pieces of royal blue railroad board (approximately 5½″ X 8½″)<br>White glue | Cut out eight dark green felt trees with the pattern from the appendix. (You may prefer to Xerox or trace the pattern onto the paper rather than cutting it out so you keep the appendix intact.)<br>Glue each felt tree to a piece of royal blue railroad board with white glue.<br>Place the eight pine tree gameboards in the storage box. |
| **Counters** | |
| Two different-colored strands of plastic faceted beads, 2′ long | Cut the beads off the two strands so they are all loose and place them in the separated area of the storage box. |

# PINCUSHIONS

## Activity

The child sets out various quantities or creates problems by placing the pins in the two sides of the pincushions.



## Materials

## Making Directions

### Storage container

Storage box (approximately 9″ × 10″ × 1½″)

Separator strip of heavy cardboard

Label opposite ends of a storage box "Pins and Pincushions."

Glue separator strip inside bottom of storage box.

---

### Counting Areas

Eight pieces of foam rubber (approximately 1½″ × 2″ × 1″)

Eight pieces of railroad board (approximately 2″ × 2½″)

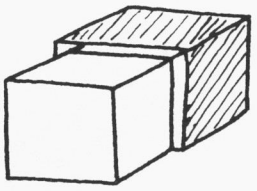
White glue

Newspapers

A scrap of tagboard 2½″ × 3½″

Two cans of quick-drying orange and brown spray paint

Spread out several thicknesses of old newspaper and put the eight pieces of foam in the center. Crease a 2½″ × 3½″ piece of tagboard so it fits snugly over the foam and exposes only half of it. Paint the exposed portion of each piece of foam with one color.



When it is dry, cover the painted portion with the tagboard and paint the other half with a second color. (It's not important to have the two halves exactly equal.) When dry, glue each piece of foam to a piece of 2″ × 2½″ railroad board with a generous amount of white glue.

Place the eight pincushions in the storage box.

---

### Counters

80 beaded pins

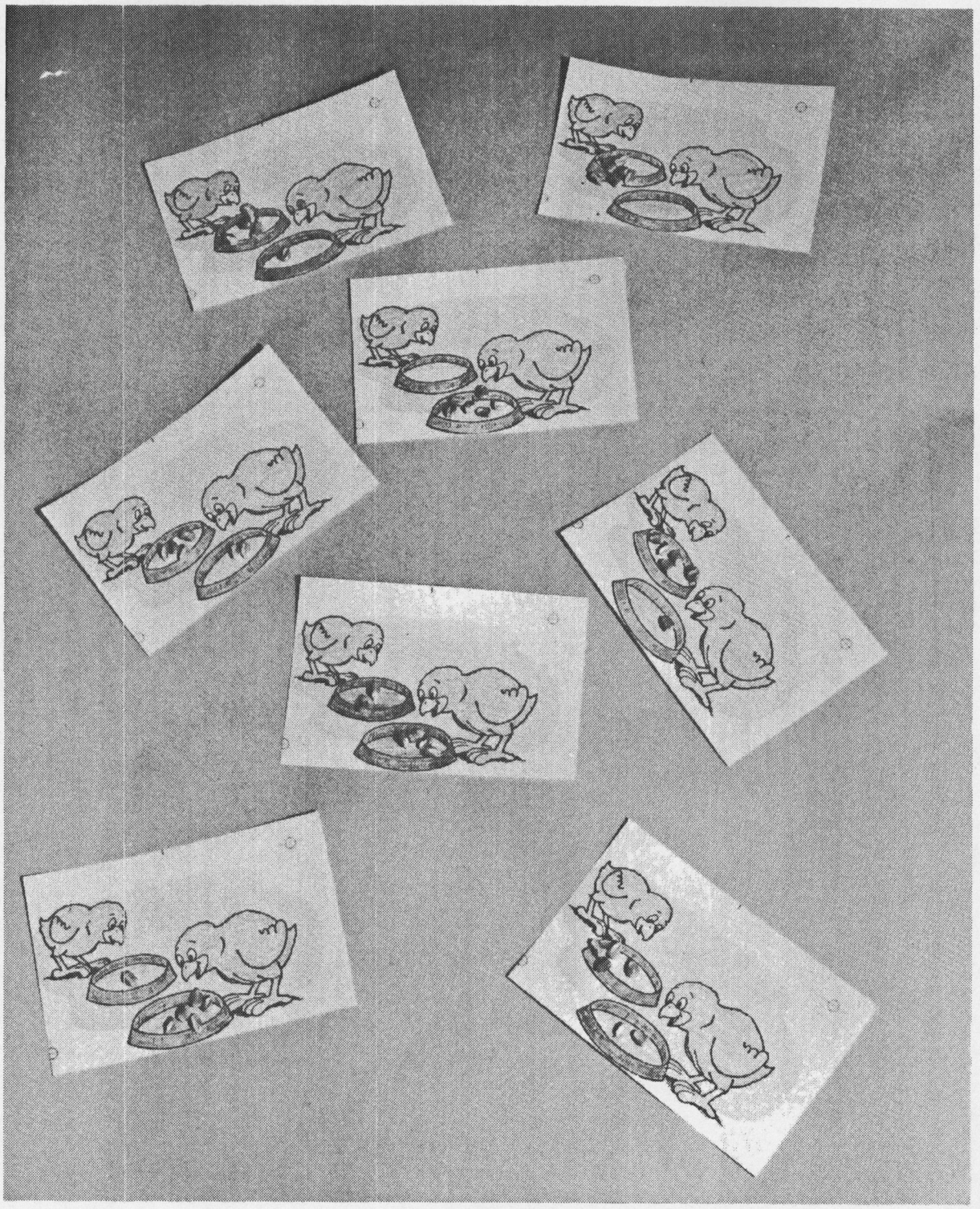
Pour beaded pins into separated area of the storage box.

Note: This activity provides a good opportunity for young children to practice handling a potentially dangerous material safely and responsibly. During the teacher's initial introduction she or he should point out how to use pins safely and properly in this activity. The children should be asked directly, "Should pins be used to hurt people? Why not? Are they used to stick into pincushions?" Once this has been talked about openly there is rarely a problem and even if a problem should arise it provides an important opportunity to teach the child a needed lesson. Of course, it is left up to each classroom teacher to make the final judgement as to an individual student's ability to handle the material safely after having been properly instructed.

# CHICKENS

## Activity

The child sets out various quantities or creates problems by placing kernels of corn in the two feeding dishes which are pictured on each gameboard.

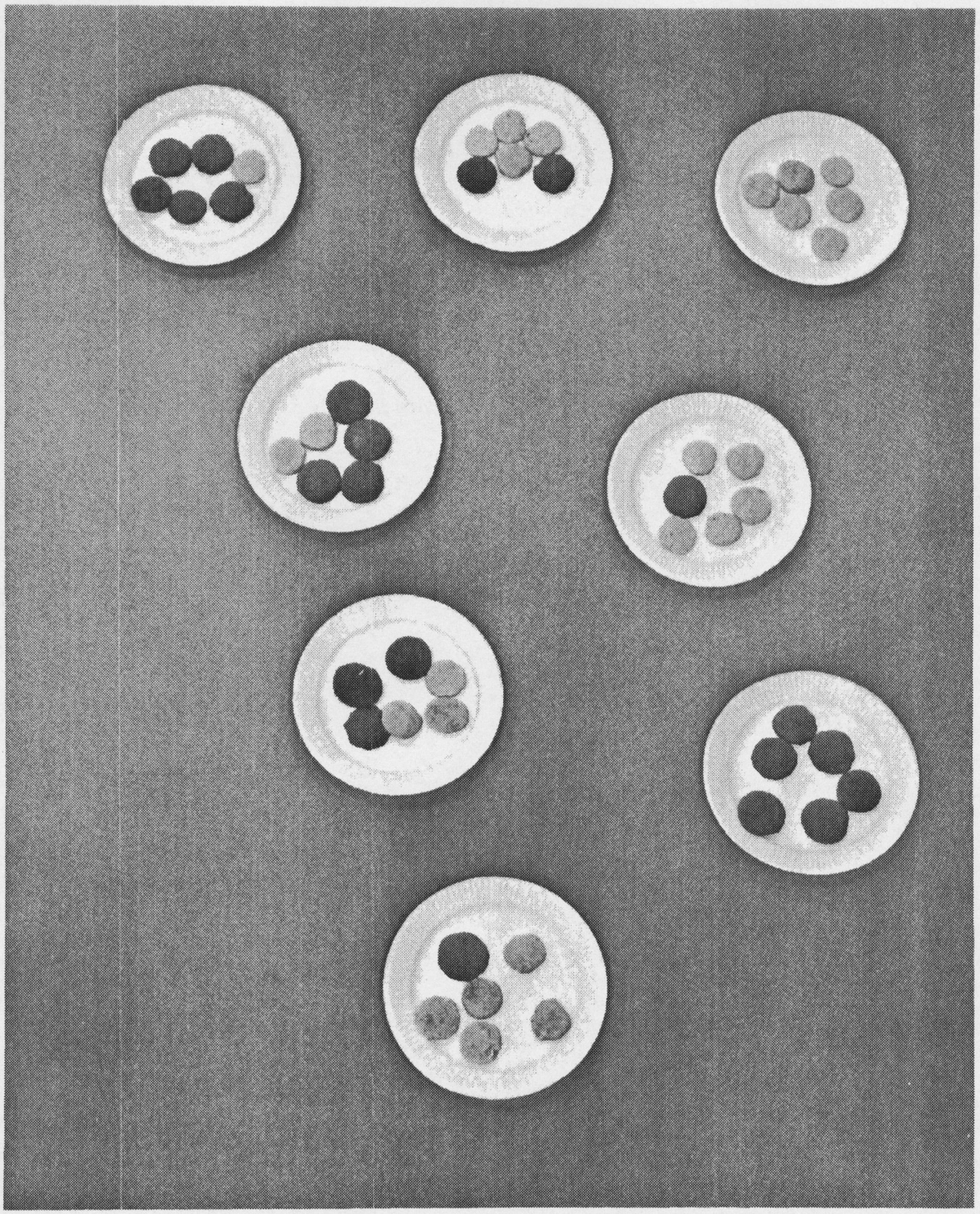


| Materials | Making Directions |
|---|---|
| **Storage Container** | |
| Storage box (approximately 9" X 10" X 1½")<br>Separator strip of heavy cardboard | Label opposite ends of a storage box "Chickens and Corn."<br>Glue separator strip inside bottom of storage box. |
| **Counting Areas** | |
| Eight chickens and corn gameboards (see page 143)<br>Crayons for coloring gameboards<br>Clear contact paper | Make a Thermofax master from the pattern in the appendix and run off eight chickens and corn gameboards on heavy tagboard. Color gameboards as desired with crayons. Cover gameboards with clear contact paper.<br>Place the chickens and corn gameboards in the storage box. |
| **Counters** | |
| 1/3 cup feed corn (from a feed store, not popcorn) | Pour corn into separated area of the storage box. |

# COOKIES

## Activity

The child sets out various quantities or creates problems by placing chocolate and vanilla cookies together on the plates.

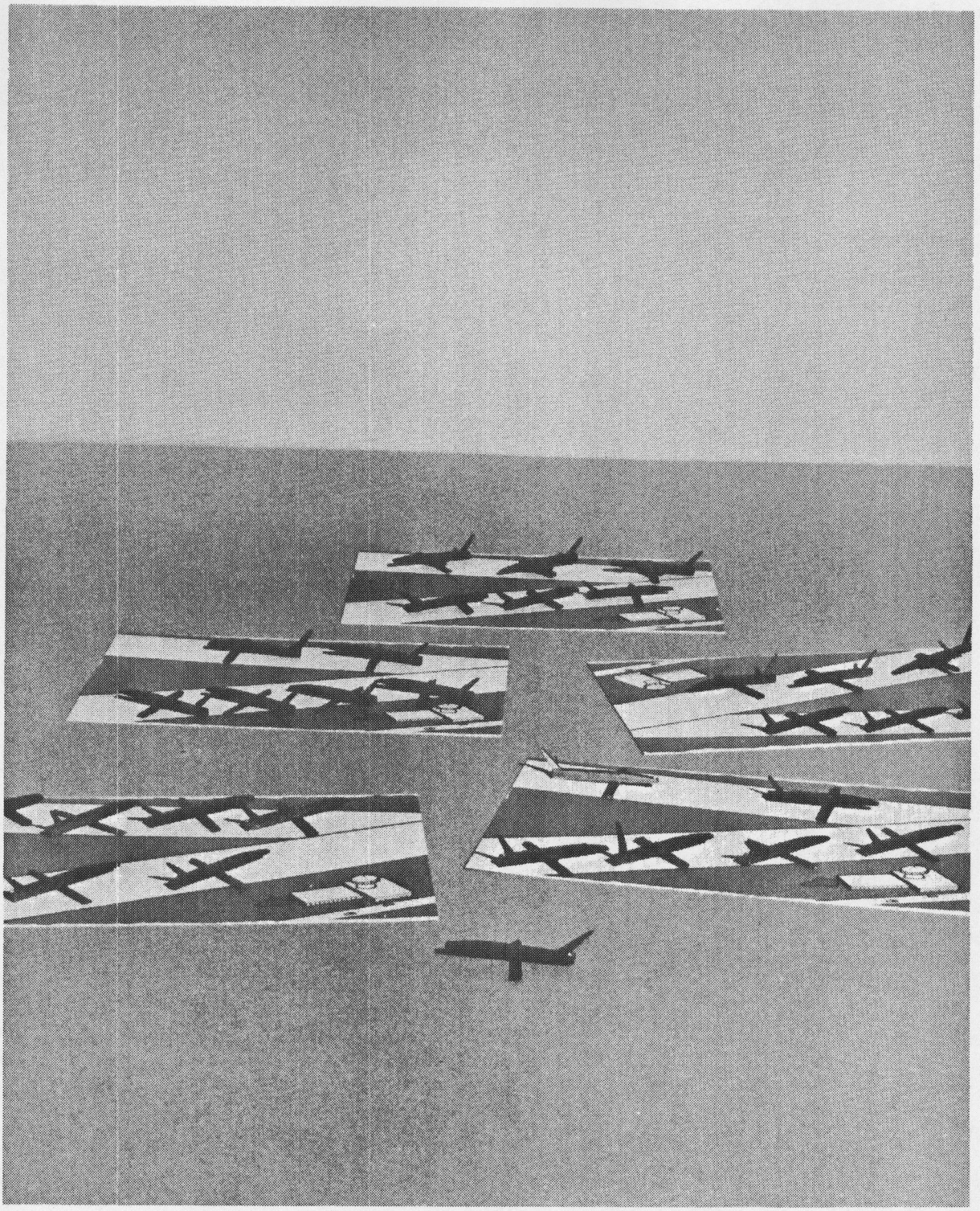


| Materials | Making Directions |
|---|---|
| **Storage Container** | |
| Storage box (approximately 9″ × 10″ × 1½″)<br>Separator strip of heavy cardboard | Label opposite ends of a storage box "Cookies."<br>Glue separator strip inside bottom of storage box. |
| **Counting Areas** | |
| Eight 6″ diameter paper plates | Place the paper plates in the storage box. |
| **Counters** | |
| 1 cup flour<br>½ cup salt<br>½ tsp. powdered yellow tempera paint<br>¼ cup water<br>Spoon, mixing bowl, cookie sheet<br>Make a second batch, substituting 2 tsp. powdered brown paint for the yellow | Form the cookie dough into little balls. Press each ball of dough flat, making the cookies about the size of a nickel. Put cookies on a cookie sheet and bake at 250° for four hours. Turn once every hour.<br>Pour cookies into separated area of the storage box. |

# AIRPORTS

## Activity

The child sets out various quantities or creates problems by placing airplanes on the divided runways.



## Materials

## Making Directions

### Storage Container

Storage box (approximately 9″ X 10″ X 1½″)

Separator strip of heavy cardboard

Label opposite ends of a storage box "Airports."

Glue separator strip inside bottom of storage box.

---

### Counting Areas

Eight airport runway gameboards (see page 144)

Crayons for coloring gameboards

Clear contact paper

Make thermofax master using the pattern in the appendix and run off eight airport runway gameboards on heavy tagboard.

Color gameboards as desired with crayons.

Cover gameboards with clear contact paper.

Place the airport gameboards in the storage box.

---

### Counters

10 packages of Stim-u-dents (obtained from drug stores and dentists; these are interdental stimulators used to clean between the teeth)

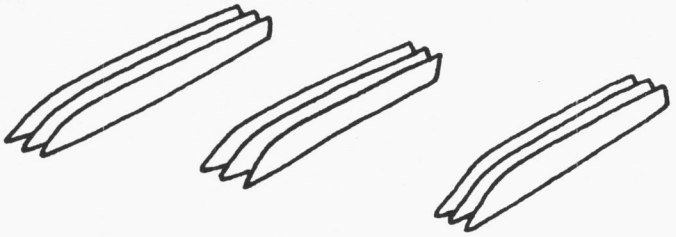
White glue

Waxed paper

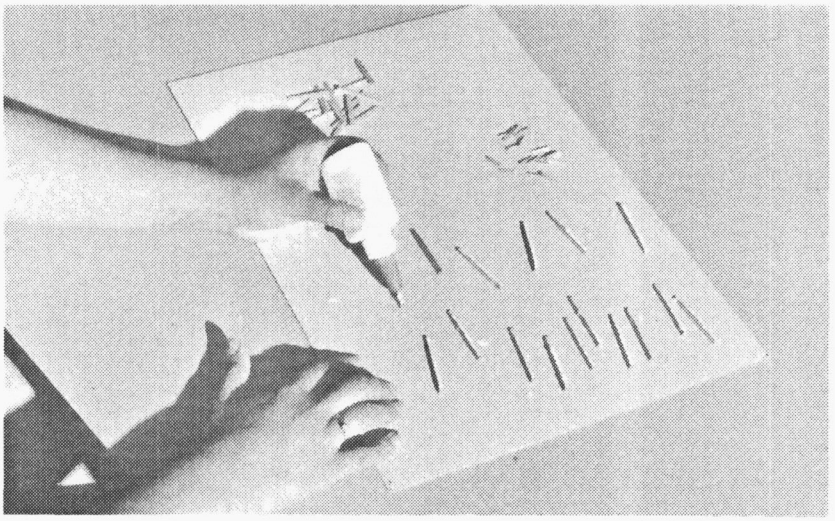
Silver spray paint

Newspaper

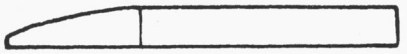
Open the package of "Stim-u-dents" and break them apart into groups of three.



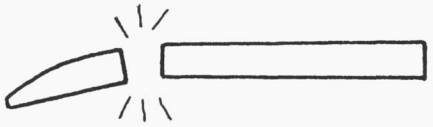
Each of these groups will make one airplane. Break one stick away from each of the other two. Line up the double sticks on a piece of waxed paper with the flat side down and the curved side up. Squeeze out a line of white glue, generously filling each trough. Don't skimp on the glue—it dries clear.



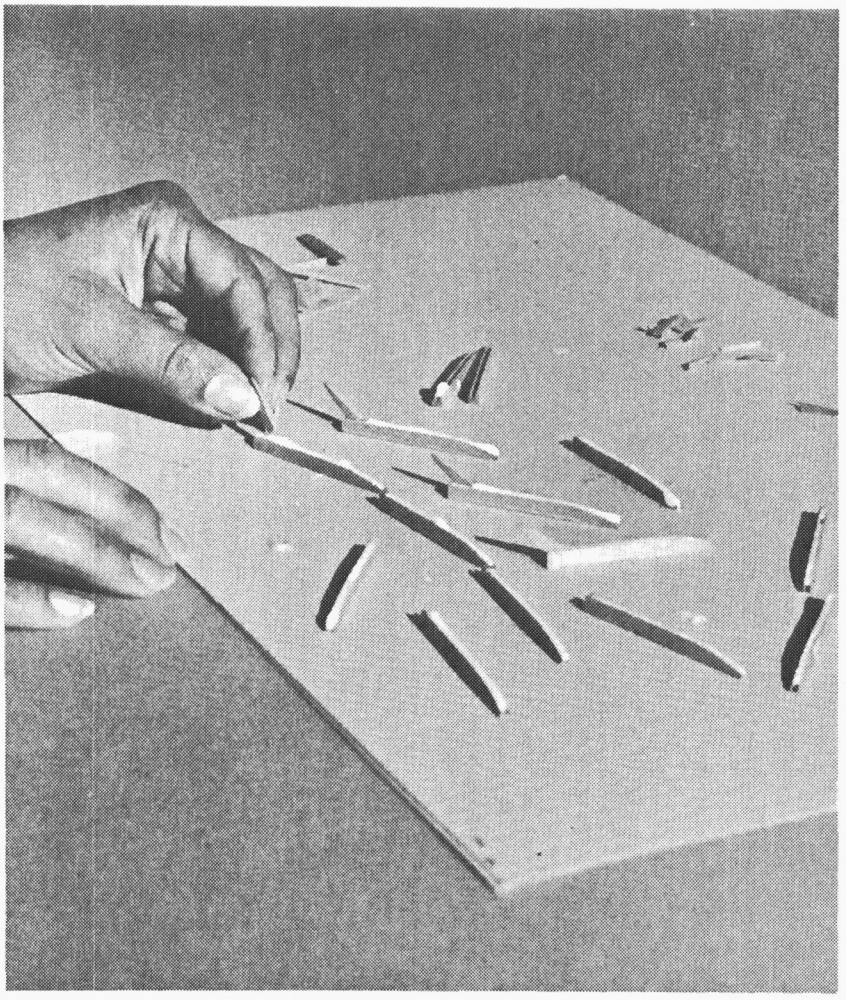
At this point, lay each single Stim-u-dent stick onto this model one at a time and mark the cut line with a pencil. (You can "eyeball" this if you prefer.)



Hold the stick between your fingernails at the point and break the point off.

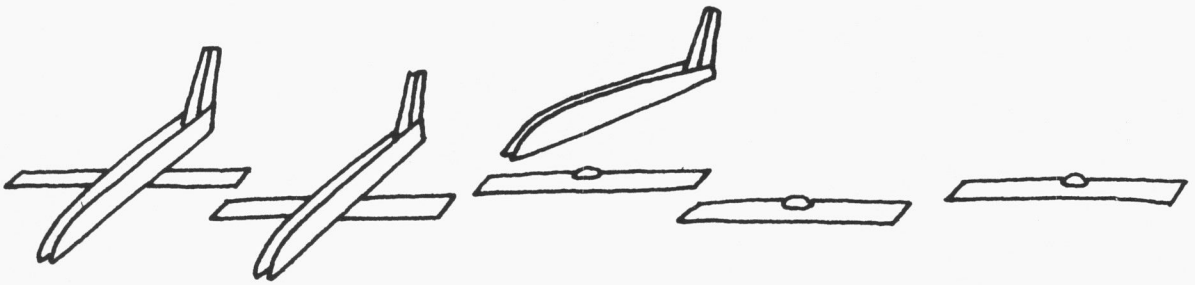


Stick this pointed, broken-off piece (thin side down) into the glue.



When the bodies and tails of the planes are dry, line up all the sticks from which you have broken the tail pieces. These sticks will form the wings on the bottom of each plane's body.

Put a generous dollop of glue in the center of each wing. Then press the body of a plane into the glue to dry. When the airplanes are thoroughly dry they can be painted with silver spray paint.

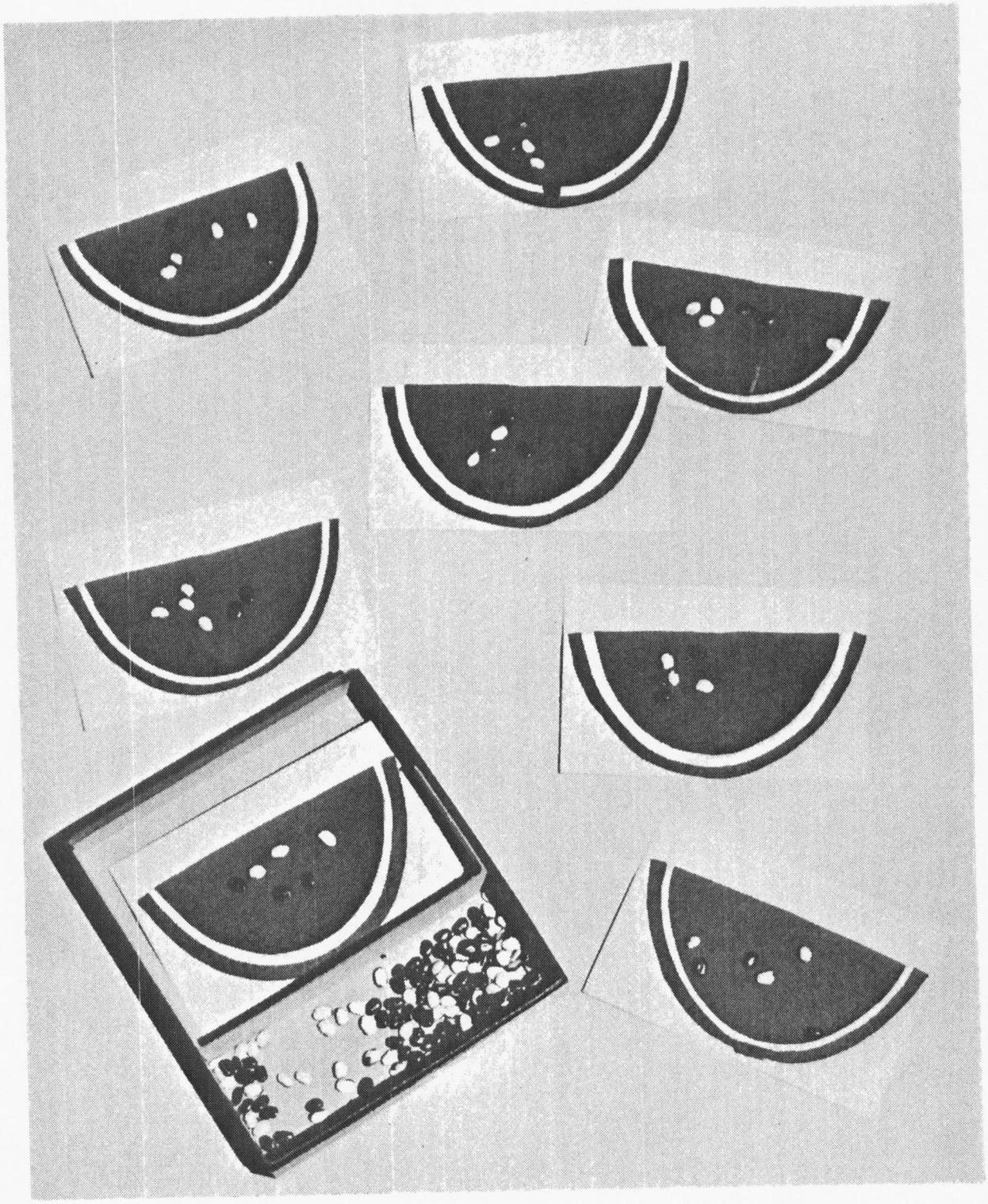


Put the airplanes in the storage box on top of the gameboards.

# WATERMELON

## Activity

The child sets out various quantities or creates problems by placing seeds on the slices of watermelon.



## Materials

### Storage Container

Storage box (approximately 9″ X 10″ X 1½″)

Separator strip of heavy cardboard

## Making Directions

Label opposite ends of a storage box "Watermelon."

Glue separator strip inside bottom of storage box.

---

### Counting Areas

Watermelon slice pattern (see page 148)

Eight pieces of yellow railroad board (5½″ X 8½″)

Eight pieces of red felt (4″ X 6″)

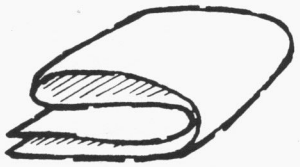
One piece of green felt (12″ X 3″)

One piece of white felt (1½″ X 12″)

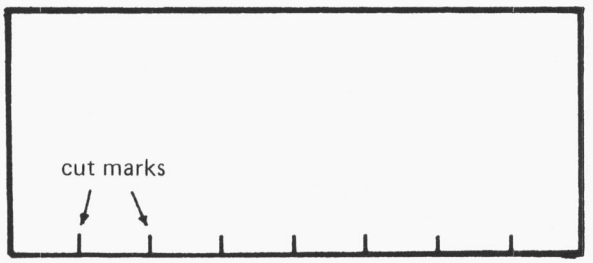
Scissors

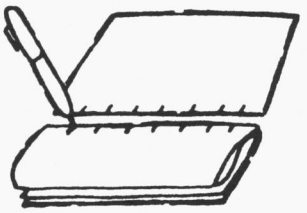
White glue

Fold the piece of green felt in half and then in half again.

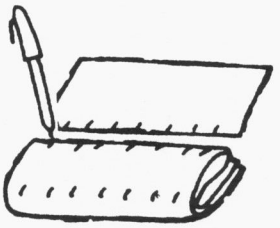


Place one of the folded edges against this model. Mark the cut lines on the felt with a pen or pencil.



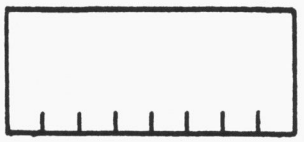



Mark the other folded edge in the same way.

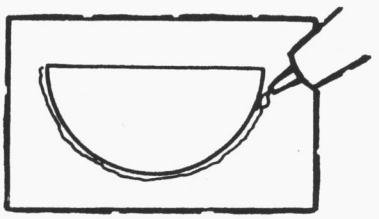


Now cut the felt through the markings from folded edge to folded edge. This gives you eight long thin pieces. You want these pieces a bit uneven; just eyeball each cut and snip!

Repeat the whole procedure for the white piece of felt. This piece is narrower than the green one, so you'll end up with eight very skinny pieces. Again, don't try to make these cuts especially straight. You want them a bit uneven so the finished watermelon slices look more varied and natural.



Trace the pattern for the watermelon slice from the appendix and use it to cut out eight pieces from the red felt. Glue each slice down on yellow railroad board. Put a line of glue around the curved edge of the red felt.



Press a white felt strip into the line of glue, forming it around the curved edge. Put another line of glue next to the white felt and press a green felt strip into this glue. You will find that the straight pieces curve quite easily.

Place the watermelon gameboard in the storage box.

### Counters

1/4 cup baby lima beans

Quick-drying black spray paint

Newspapers

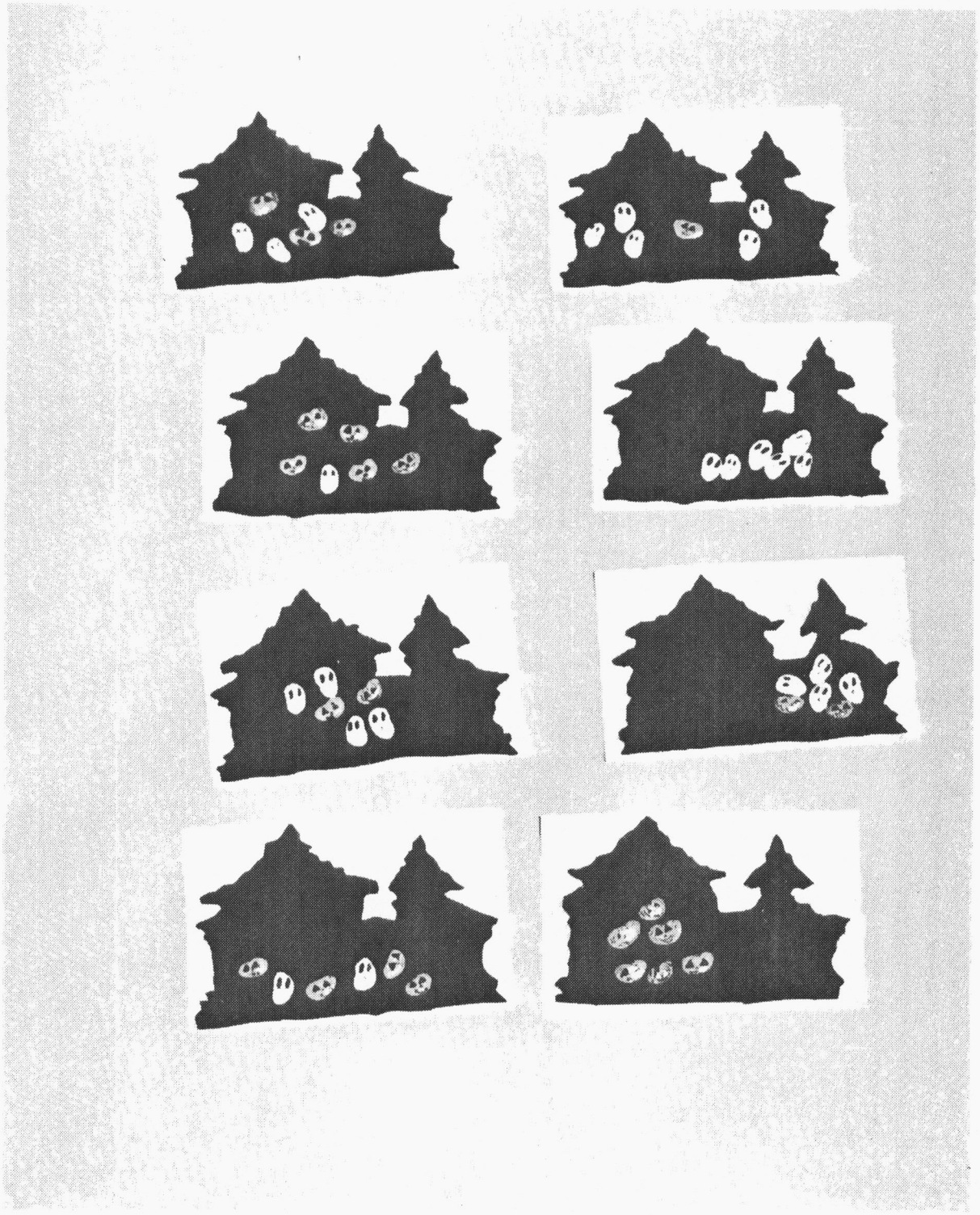
Dump the baby lima beans into a piece of spread out newspaper, making sure they are close together but not actually touching. Spray this side black by holding the can of paint directly perpendicular to the beans. This prevents the mist from reaching the other side. Again, make sure the newspaper extends 2′ beyond the beans to catch the overspray.

Pour watermelon seeds into separated area of the storage box.

# HALLOWEEN

## Activity

The child sets out various quantities or creates problems by placing the ghosts and pumpkins onto the haunted house on each gameboard.



## Materials

## Making Directions

### Storage Container

Storage box (approximately 9″ X 10″ X 1½″)

Separator strip of heavy cardboard

Label opposite ends of a storage box "Halloween."

Glue separator strip inside the bottom of the storage box.

---

### Counting Areas

Eight pieces of buff-colored railroad board

Eight pieces of black felt 6″ X 8″

Haunted house pattern (see page 147)

White glue

Cut eight haunted houses from black felt using the pattern in the appendix.

Glue each house to a piece of buff-colored railroad board with white glue.

Place the eight haunted house gameboards in the storage box.

---

### Counters

3/4 cup large lima beans

Newspaper

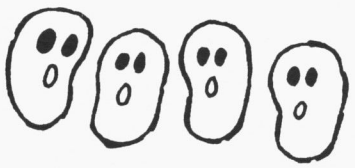
Orange spray paint

Black fine line permanent marking pen, such as Sharpie by Sanford

Spread out a piece of old newspaper and put roughly half of the large lima beans in the center (don't count; it doesn't have to be exact).

Spray both sides of the beans orange.

While the orange paint is drying, draw the eyes for the ghosts on both sides of the unpainted portion of the beans using a fine line permanent marker.



When the orange paint is thoroughly dry, draw in the jack-o-lantern faces on both sides of the orange beans.

Double check to be sure the pumpkins and ghosts have faces on both sides and then place them in the separated area of the storage box.

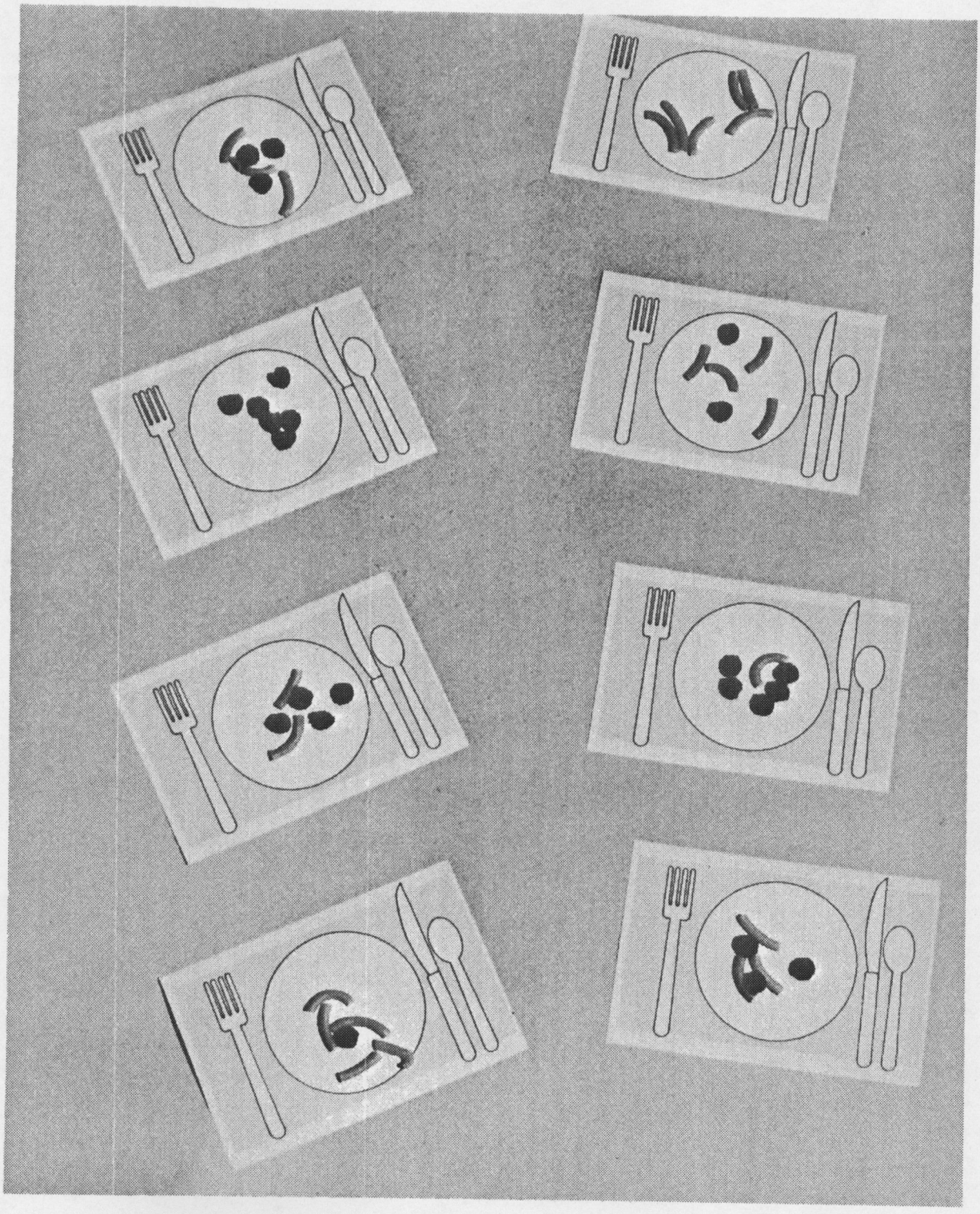
---

Special thanks to Donna Burk, a teacher in San Jose, California, who dreamed up the Halloween Workjob for her kindergarten class and was happy to let me share her idea with you.

# SPAGHETTI

## Activity

The child sets out various quantities or creates problems by placing spaghetti and meatballs together on the paper plates.

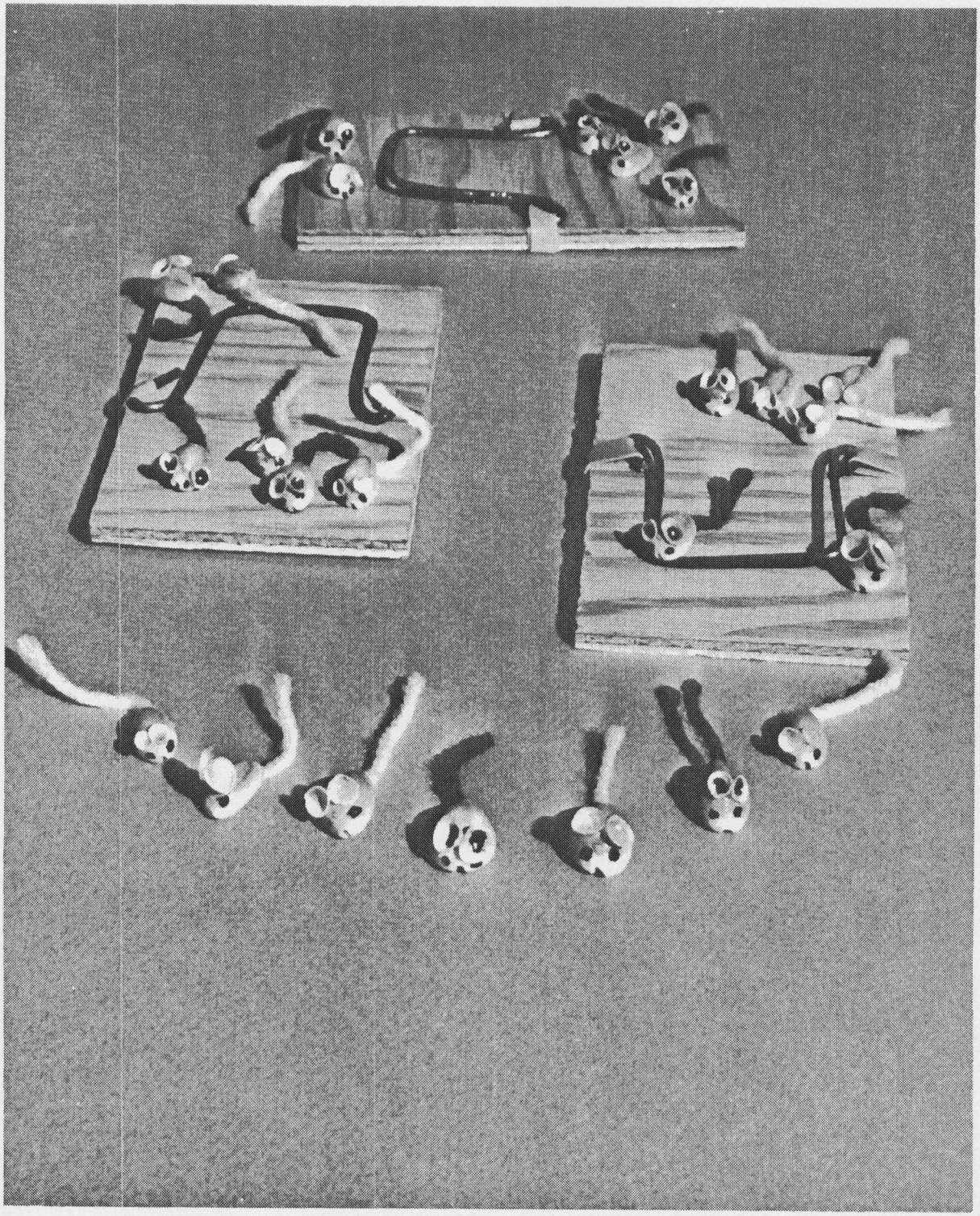


| Materials | Making Directions |
| --- | --- |
| **Storage Container** | |
| Storage box (approximately 9″ X 10″ X 1½″)<br>Separator strip of heavy cardboard | Label opposite ends of a storage box "Spaghetti and Meatballs."<br>Glue separator strip inside bottom of storage box. |
| **Counting Areas** | |
| Eight spaghetti gameboards (see page 143)<br>Crayons for coloring gameboards | Make a Thermofax master from the pattern in the appendix and run off eight gameboards on heavy tagboard. Color gameboards with crayons of desired color. Cover with clear contact paper. |
| Clear contact paper<br>Scissors | Place "Spaghetti and Meatballs" gameboards in the storage box. |
| **Counters** | |
| 1/2 cup elbow macaroni<br>1 yard of red ball trim (½″ balls)<br>Scissors | Cut red "meatballs" from the ball trim and put them along with the macaroni into the separated area of the storage box. |

# MOUSETRAPS

## Activity

The child sets out various quantities or creates problems by placing black-eared, black-tailed mice and pink-eared, pink-tailed mice.



## Materials

### Storage Container

Storage box (approximately 9″ X 10″ X 1½″)

Separator strip of heavy cardboard

## Making Directions

Label opposite ends of a storage box "Mousetraps."

Glue separator strip inside bottom of storage box.

---

### Counting Areas

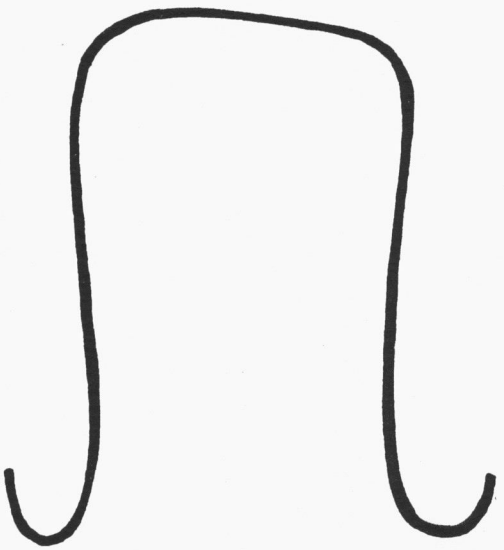
Eight pieces of ¼″ plywood approximately 3″ X 5″

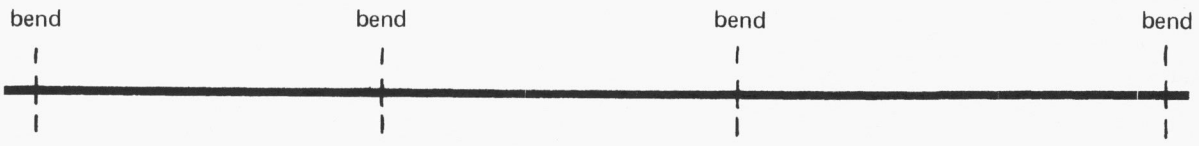
Eight heavy duty rubber bands (2 3/4″ X 3/8″)

Eight pieces of wire 8″ long cut from clothes-hangers with wire bolt cutters

Pliers

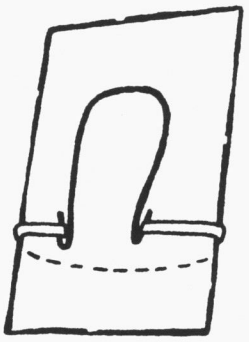
Bend each wire with the pliers into a "mousetrap" wire shape according to the pattern in the appendix. Don't attempt to make them perfect or all alike; the more uneven they are the cuter they look.





Slip one end of one heavy-duty rubber band over the end of the wire and pinch it shut with the pliers.

Put the wire on top of one piece of plywood and stretch the rubber band under the wood. Attach this free end to the wire and pinch that piece shut, securing the rubber band which in turn holds the wire in place.



Place the mousetraps in the storage box.

---

**Counters**

1/2 cup cowry and 1/8 cup rosecup sea shells

Model airplane glue

Black fine line marking pen with permanent ink

Red (or pink) yarn or rubber bands

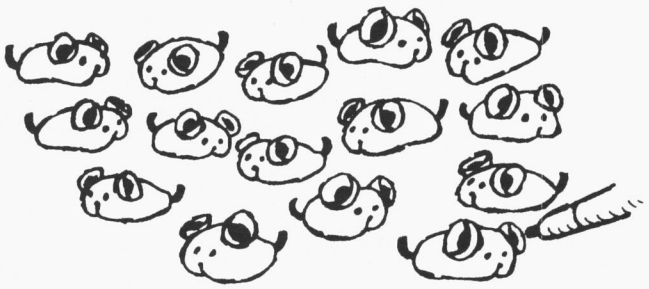
Black yarn or rubber bands

Scissors

Line up all the cowry seashells and put a dollop of glue where each ear should go. Place the rosebud shell on the glue. Repeat to make all of the mice.

When the ears are dry, divide the mice roughly in half—don't count, the exact number is not important. Cut enough 1″ pieces of pink yarn or rubber band for one group of mice and enough 1″ pieces of black yarn or rubber band for the other group. Put some glue on the bottom of each mouse and glue on their tails securely.

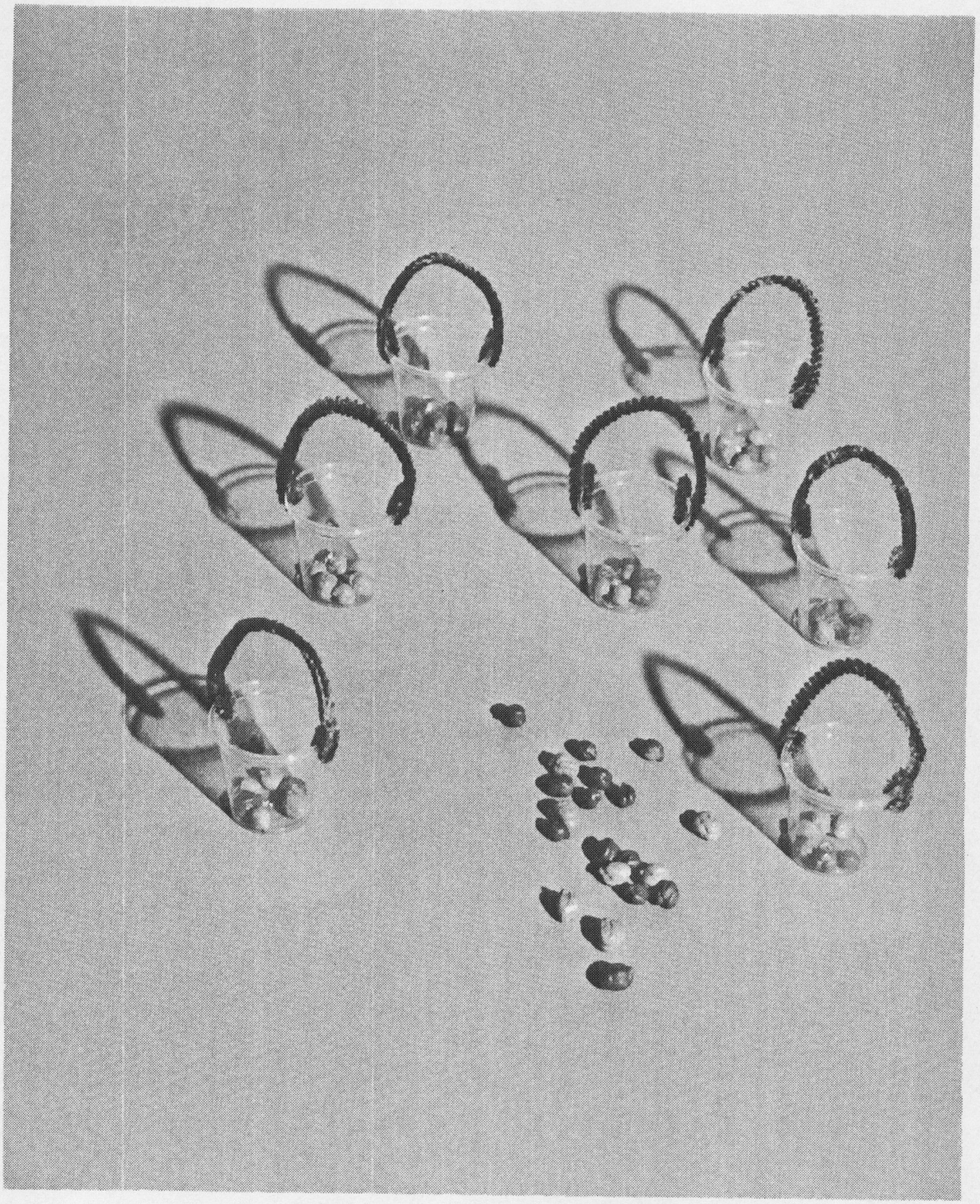
When the tails are dry, draw eyes on each mouse with the marking pen and color a black splotch on the ears of the mice with black tails. Be careful to put black splotches only on the ears of mice with black tails!



# APPLES

## Activity

The child sets out various quantities or creates problems by placing red and green apples in the buckets.



## Materials

## Making Directions

### Storage Container

Storage box (approximately 9″ X 10″ X 1½″)

Separator strip of heavy cardboard

Label opposite ends of a storage box "Apples and Buckets."

Glue separator strip inside bottom of storage box.

---

### Counting Areas

Eight plastic buckets (pharmacists and hospitals use them as medicine cups)

A large paper clip

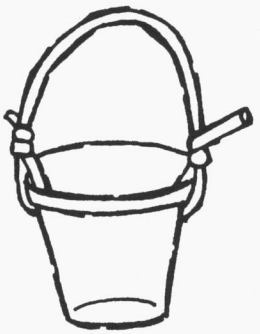
Candle and matches

Eight 6″ pipe cleaners

Straighten out one end of a large paper clip. 

Light a candle or put a large kitchen match in a lump of clay and light it. Hold the straight end of the paper clip in the flame for about 45 seconds and then push it quickly through both sides and then back out of the plastic bucket (just below the lip). This makes a hole through which you can thread the ends of a pipe cleaner to make the bucket's handle. Twist the end of each pipe cleaner around the handle above the lip so it can't pull through when the bucket is picked up.

Place the buckets in the storage box.



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### Counters

1/3 cup garbanzo beans

Two cans quick-drying spray paint (red and green)

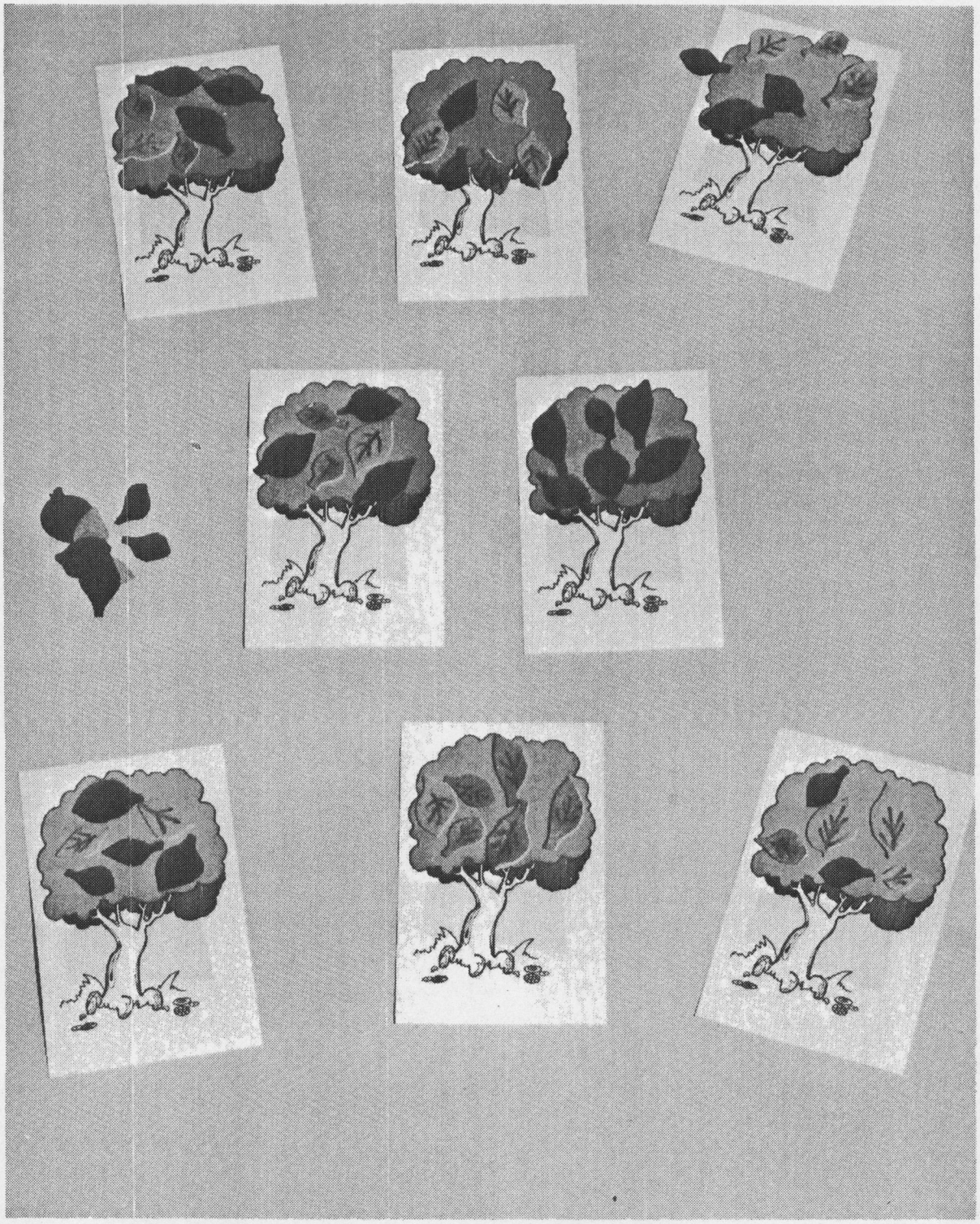
Take one color of spray paint and paint the apples by rolling half of them from side to side in the bottom of a box while you depress the spray nozzle. Take them out of the box when they are dry and put in the other half. Paint them the other color.

Pour the apples into the separated area of the storage box.

# LEAVES

## Activity

The child sets out various quantities or creates problems by placing light and dark green leaves together on the tree which is pictured on the gameboards.



## Materials

## Making Directions

### Storage Container

Storage box (approximately 9″ X 10″ X 1½″)

Separator strip of heavy cardboard

Label opposite ends of a storage box "Leaves and Trees."

Glue separator strip inside bottom of storage box.

---

### Counting areas

Eight leaves gameboards (see page 144)

Crayons for coloring gameboards

Clear contact paper

Make a Thermofax master from the pattern in the appendix and run off eight "Leaves" gameboards on heavy tagboard. Color gameboards with crayon. Cover with clear contact paper.

---

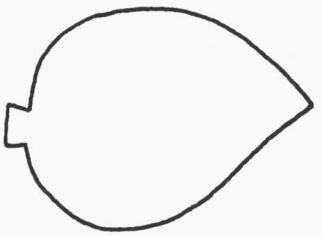
### Counters

Two pieces of felt 9″ X 12″ (light green and dark green)

Scissors

Trace this leaf pattern and use it as a guide to cut as many dark and light green leaves as possible from the felt. (It's fine to have a different amount of each color.)

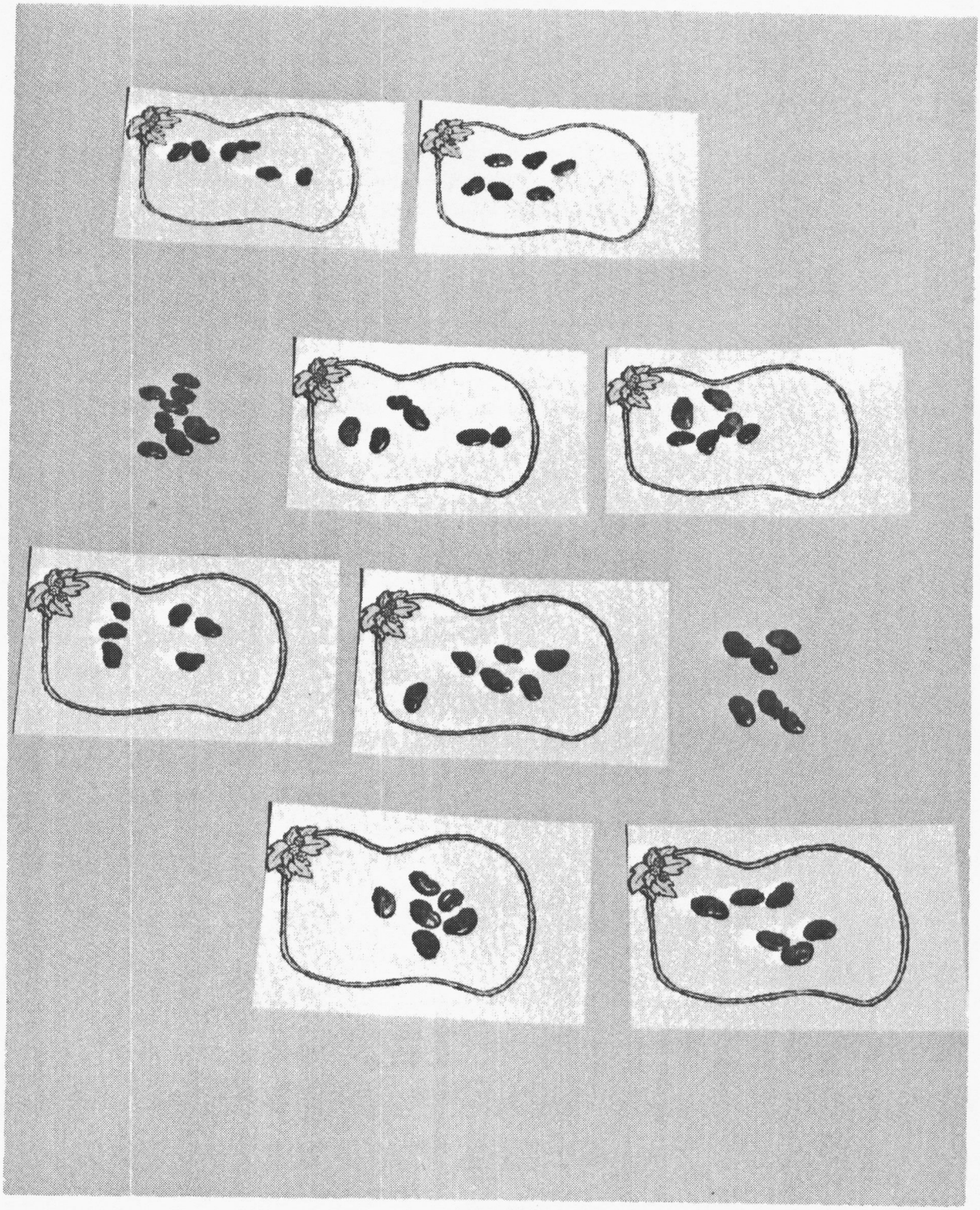
Put the green leaves in the separated area of the storage box.



# STRAWBERRIES

## Activity

The child sets out various quantities or creates problems by placing red and green strawberries on the strawberry patches.



## Materials

## Making Directions

### Storage Container

Storage box (approximately 9″ X 10″ X 1½″)

Separator strip of heavy cardboard

Label opposite ends of a storage box "Strawberry Patch."

Glue separator strip inside bottom of storage box.

### Counting Areas

Eight strawberry patch gameboards (see page 146)

Crayons

Clear contact paper

Make a Thermofax master from the pattern in the appendix and run off eight strawberry patch gameboards on heavy tagboard. Color gameboards with crayons of desired color. Cover with clear contact paper.

Place the strawberry patch gameboards in the storage box.

### Counters

3/4 cup large lima beans

Two cans of quick-drying spray paint (red and green)

Felt scraps from cutting out green pine trees

Newspapers

White glue

Black fine line permanent marking pen

Spread out several thicknesses of old newspapers. Place the lima beans in the center very close together but not touching. Spray paint the beans red on this side. Hold the can directly over the beans so the mist is directed straight down rather than at an angle.

When the red paint is thoroughly dry, turn the beans over and paint the second side green. Again be careful to hold the can perpendicular to the beans.

Trace the pattern on this page and cut enough green felt strawberry tops so you have one for each lima bean. It is not necessary that these be done very carefully—they look good even if they're cut out very quickly without the pattern.

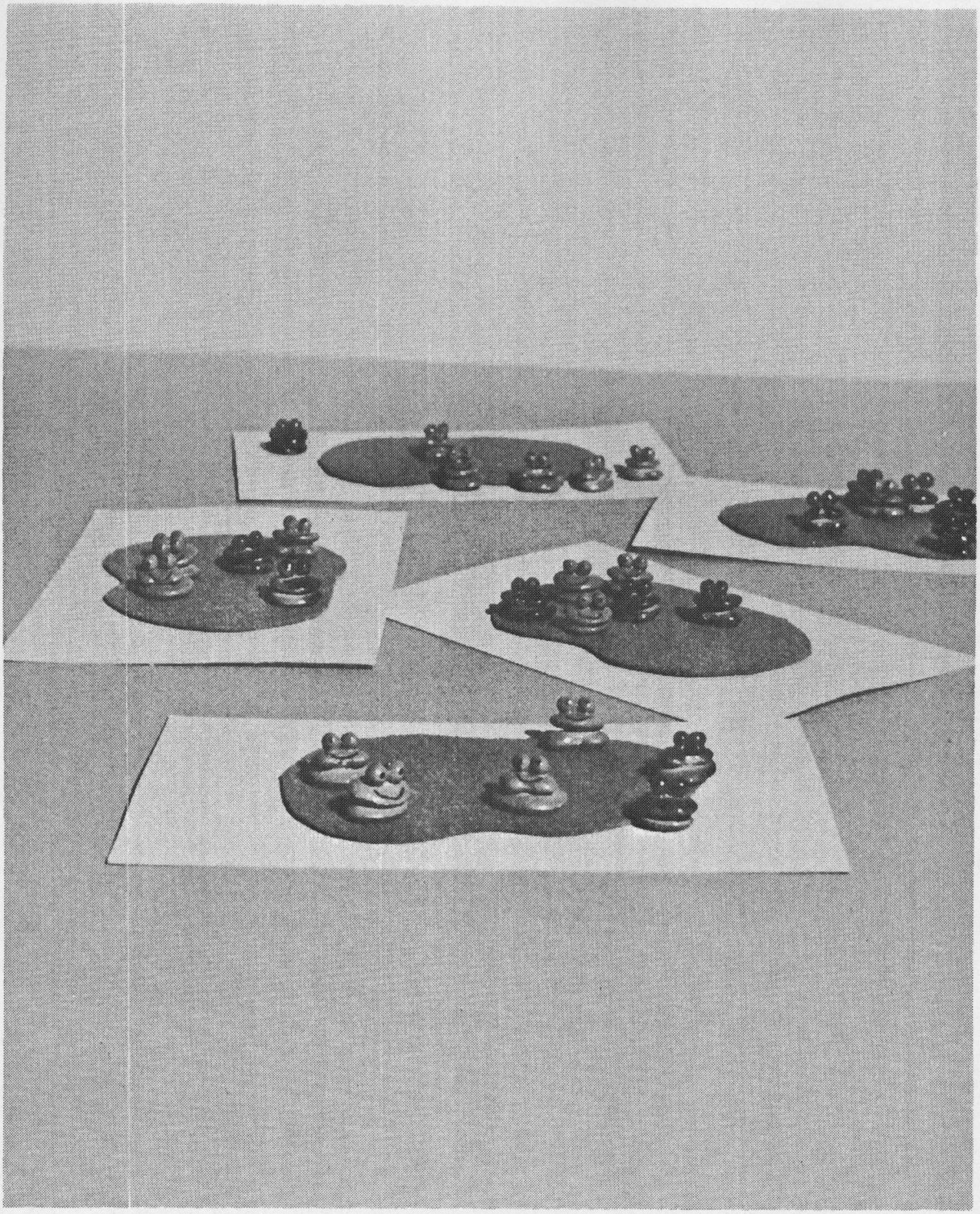
When both sides of the beans are thoroughly dry, glue a felt strawberry top onto each one with white glue and put "seeds" on each berry with a dot of black ink from the marking pen.

Pour strawberries into the separated area of the storage box.

# FROGS AND TOADS

## Activity

The child sets out various quantities or creates problems by placing frogs and toads together in the ponds.



## Materials

### Storage Container

Storage box (approximately 9″ × 10″ × 1½″)

Separator strip of heavy cardboard

## Making Directions

Label opposite ends of a storage box "Frogs and Toads."

Glue separator strip inside bottom of storage box.

---

### Counting Areas

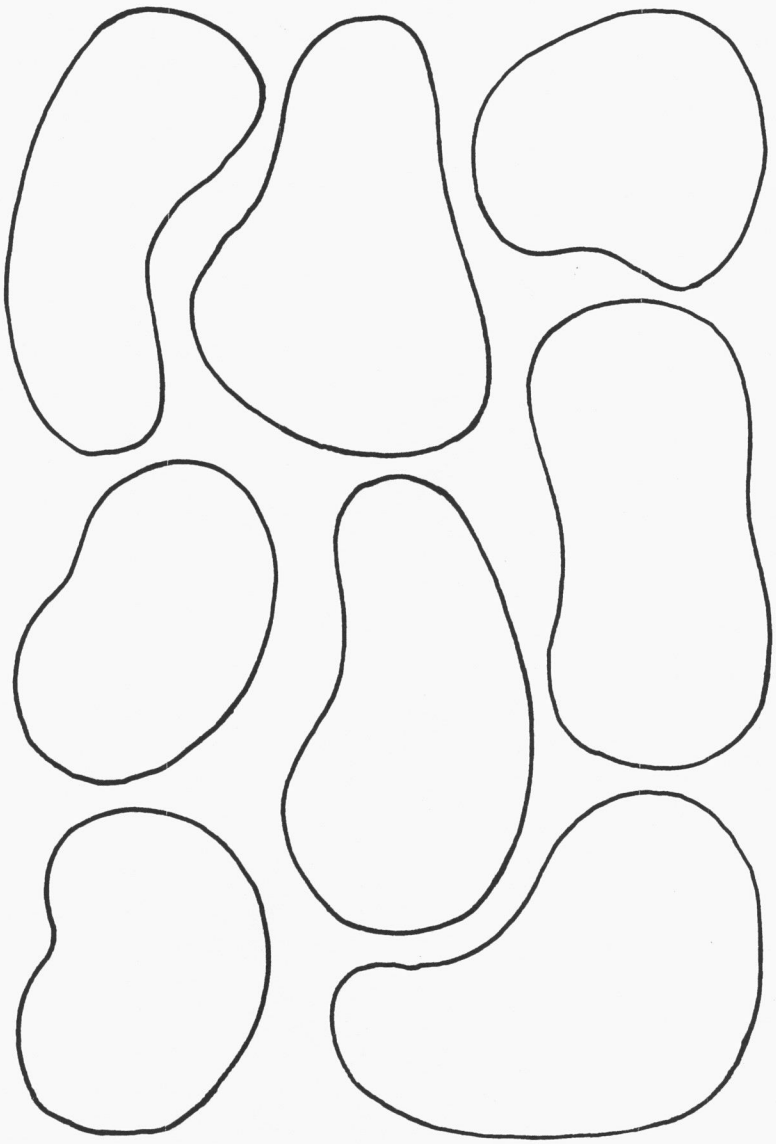
Eight pieces of brown railroad board (5½″ × 8½″)

Eight pieces of blue felt (4½″ × 6″)

Scissors

White glue

Cut out an irregular pond shape from each piece of blue felt and glue it to the brown railroad board.



Place the pond gameboards in the storage box.

### Counters

1¼ cups large lima beans

1/8 cup lentils

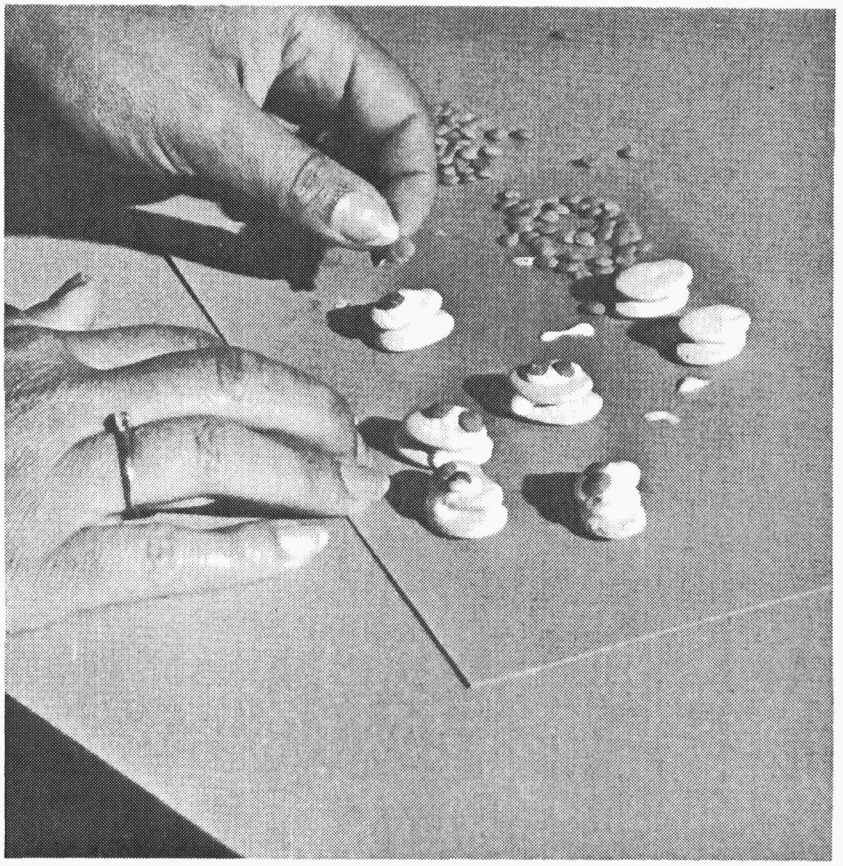
White glue

Two cans of quick-drying spray paint (brown and green)

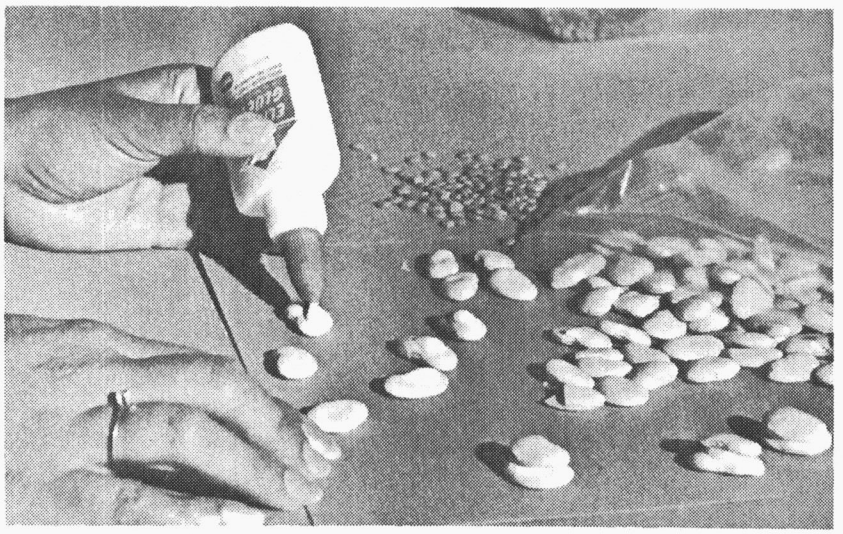
Newspapers

Black fine line permanent marking pen

Make a line of large lima beans and put a big splotch of white glue on top of each. Don't skimp on the glue! (It dries completely clear.) Press a second lima bean into each splotch of glue.



Put more glue on top and press two lentils into the glue to make the eyes.



Make sure they're near the rounded edge of the limas, not in the center. *Do not* skimp on the glue! Use more than you think you need to! Some teachers even go back over the "eyeballs" when dry and cover them again with a blob of glue. It seeps down around the lentils and dries perfectly clear.

When throughly dry (twelve hours) spray paint half the lima beans brown and the other half green. (Don't count, just divide them roughly in half.)

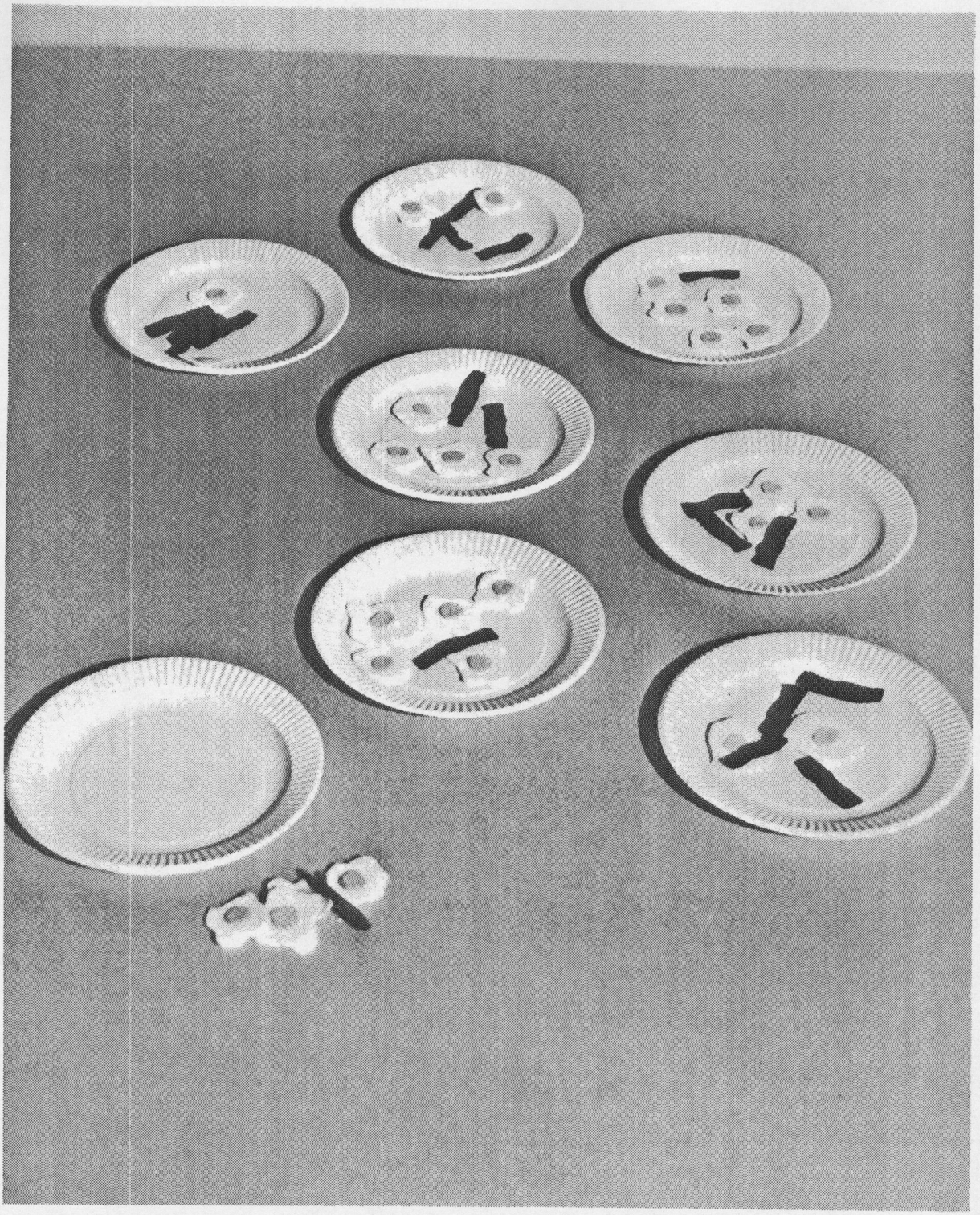
Make an "eyeball" on the edge of each lentil and draw in a mouth.

Pour the frogs and toads into the separated area of the storage box.

# BACON AND EGGS

## Activity

The child sets out various quantities or creates problems by placing eggs and slices of bacon on the plates.



## Materials

### Storage Container

Storage box (approximately 9″ X 10″ X 1½″)

Separator strip of heavy cardboard

## Making Directions

Label opposite ends of a storage box "Bacon and Eggs."

Glue separator strip inside bottom of storage box.

---

### Counting Areas

Eight colored paper plates (may be spray painted if necessary)

Place the paper plates in storage box.

---

### Counters

Bacon pattern (see page 83)

Egg template patterns (see page 149)

One piece of white felt (7½″ X 12″)

One piece of yellow felt (1½″ X 12″)

One piece of brown felt (3″ X 12″)

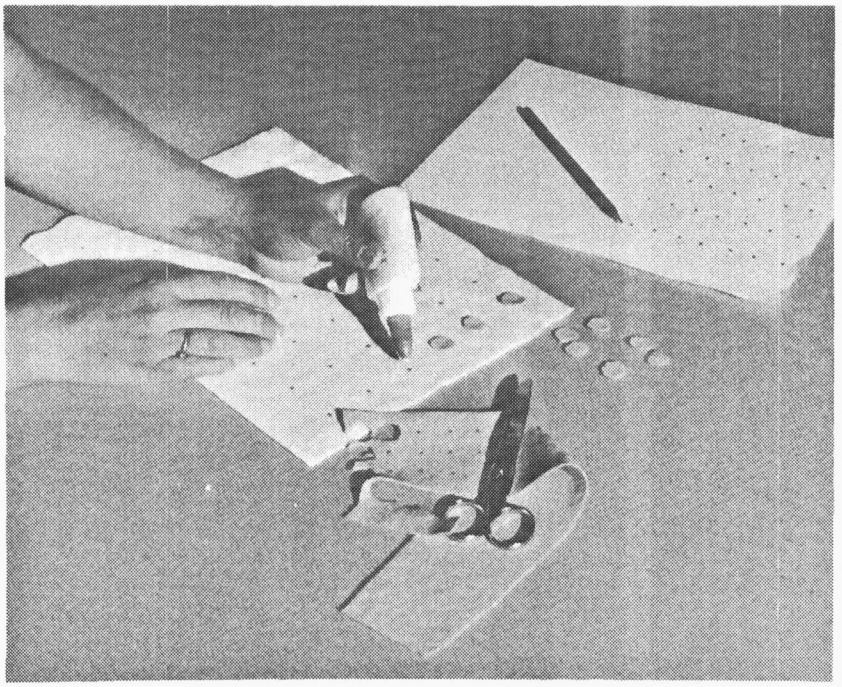
White glue

Scissors

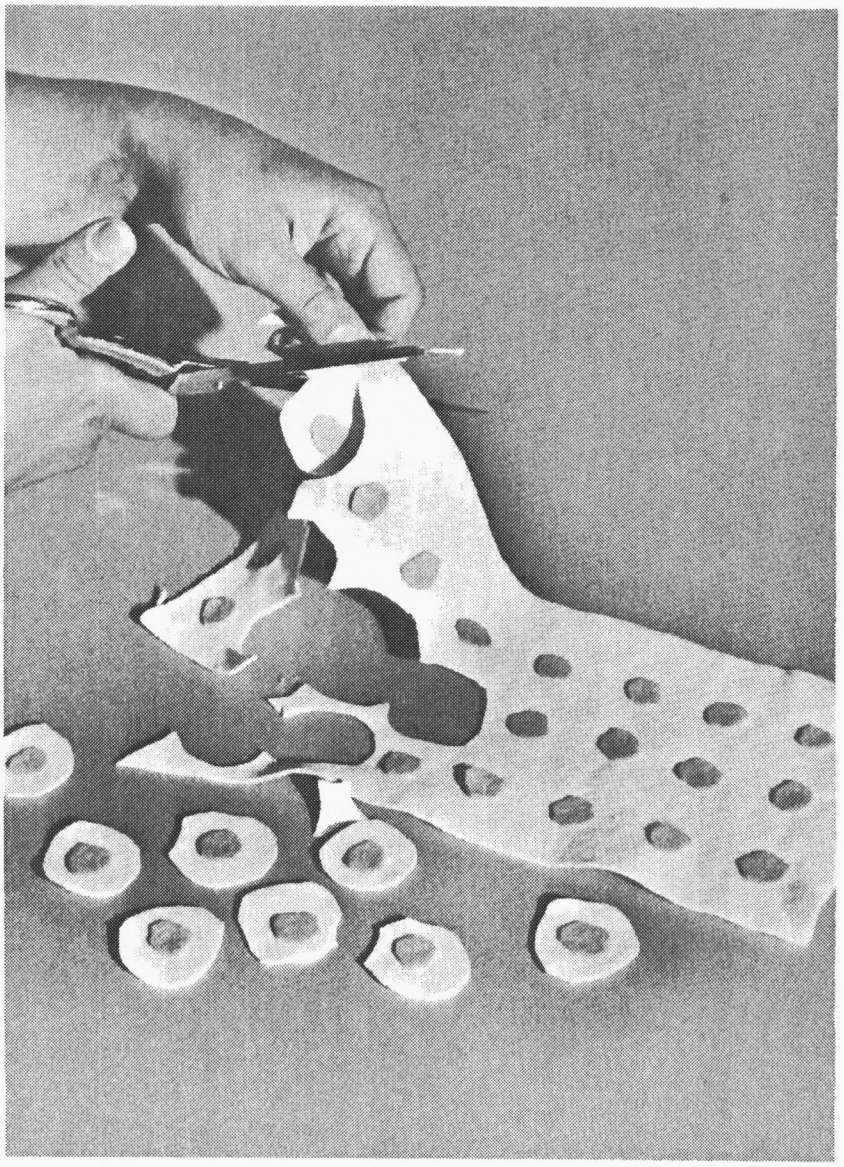
Cut out egg yolks from yellow felt approximately the size shown on this page.

Trace a copy of the "egg templates" from the appendix onto plain paper. Place the template on top of the felt and poke through each dot with a pencil, marking the felt below.

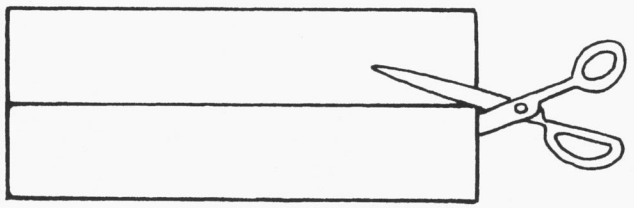
Glue a felt egg yolk over each dot with white glue.



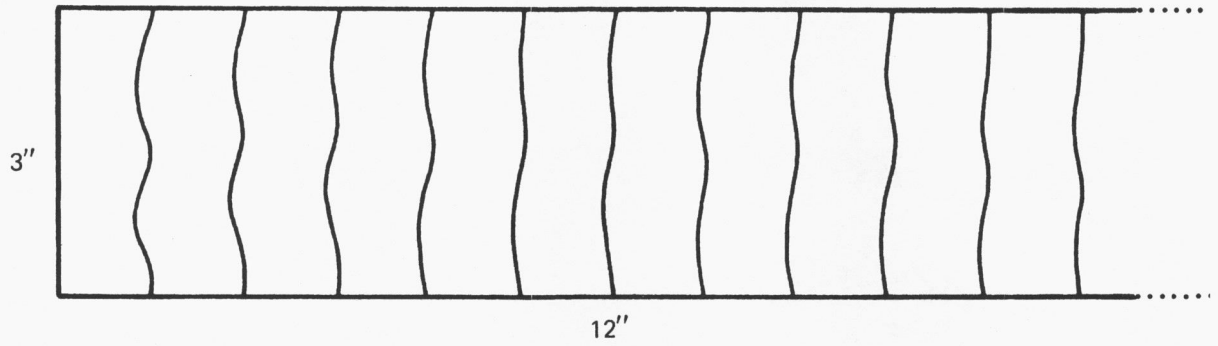
When the glue is dry, cut around each yolk, making irregular egg shapes.



Take the piece of brown felt and cut it half, making two 1½″ × 12″ pieces.



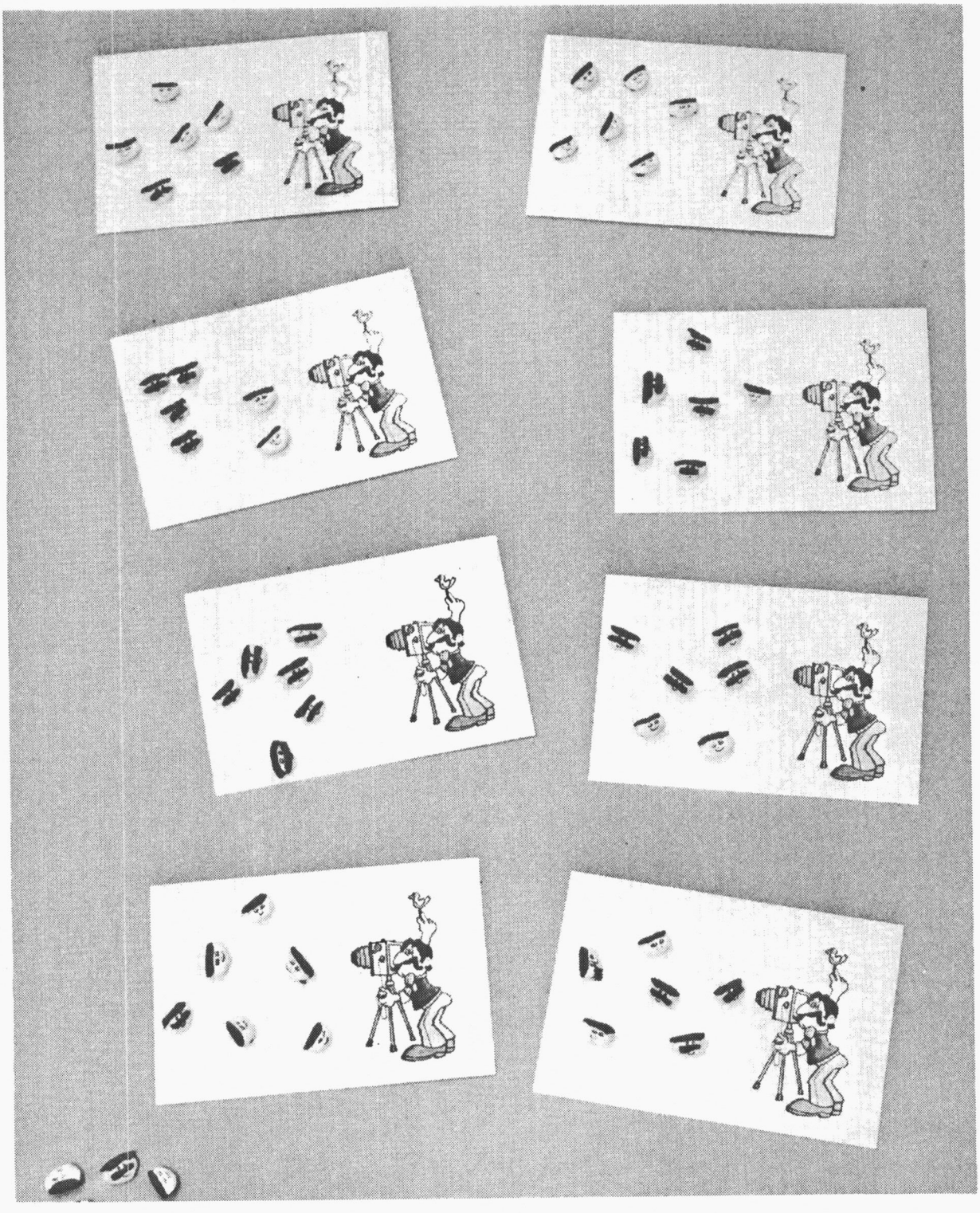
Cut each piece of 1½″ × 12″ brown felt apart, making wavy lines to simulate bacon slices.



# SNAPSHOTS

## Activity

The child sets out various quantities or creates problems by positioning men's and women's faces for the photographer pictured on the gameboard.



## Materials

## Making Directions

### Storage Container

Storage box (approximately 9″ × 10″ × 1½″)

Separator strip of heavy cardboard

Label opposite ends of a storage box "Snapshots."

Glue separator strip inside bottom of storage box.

---

### Counting Areas

Eight snapshots gameboards (see page 146)

Crayons

Clear contact paper

Make a Thermofax master from the pattern in the appendix and run off eight gameboards on heavy tagboard. Color gameboards as desired, with crayons. Cover with clear contact paper.

Place gameboards in the storage box.

---

### Counters

1 cup fava beans (or 3/4 cup lima beans sprayed light brown to simulate flesh tones)

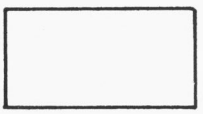
Brown or black felt scraps

White glue

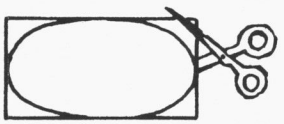
Scissors

Black fine line permanent marking pen

Cut 1/2″ × 1″ rectangles from black or brown felt scraps for hair.



Cut the corners off each felt rectangle.



Glue the felt to the top of each bean folding it to bring the hair down on both sides of the bean.

Cut a 1/8″ × 3/4″ rectangle of felt for each man's mustache. Glue in position on only one side of each bean.

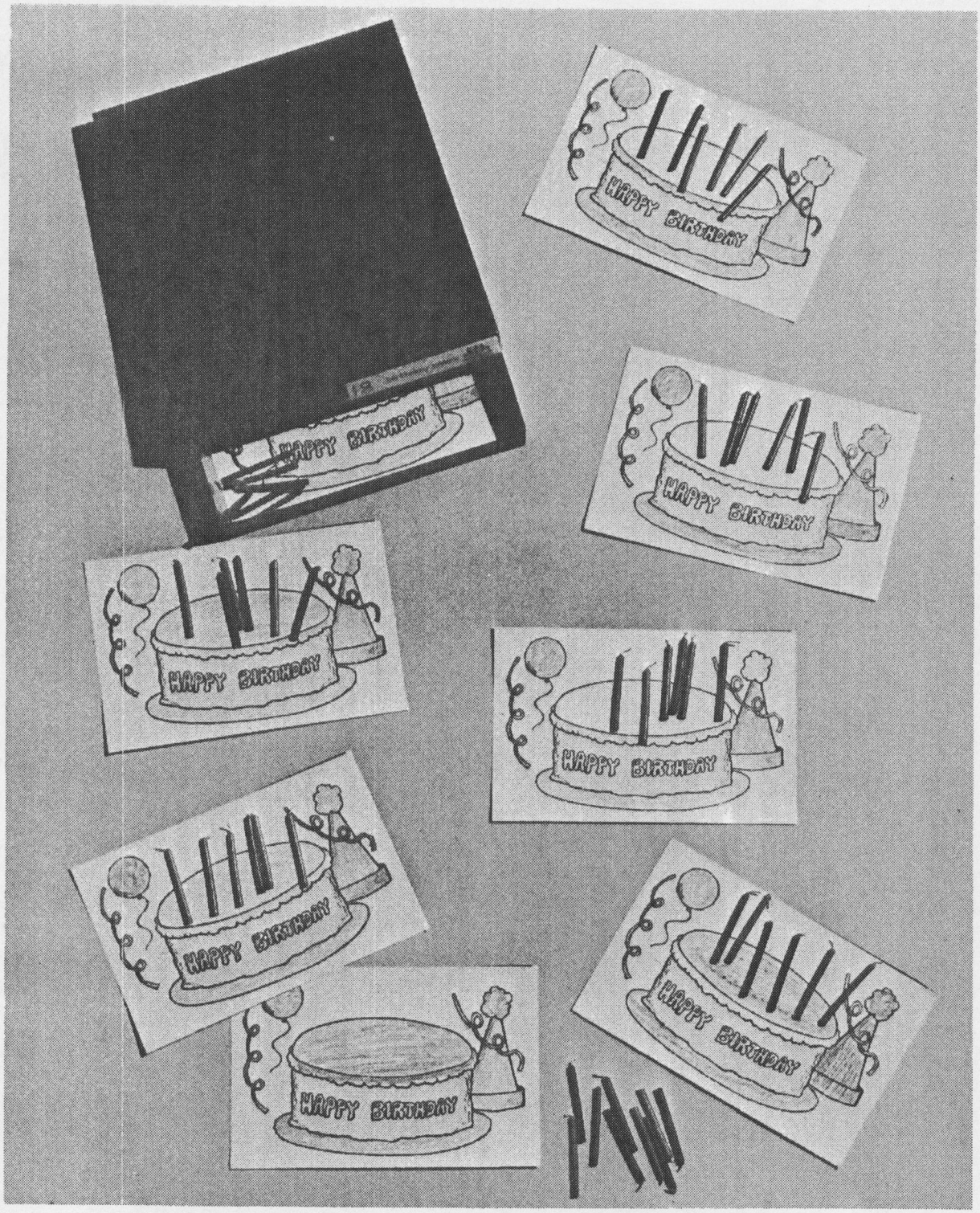
When the glue is dry, draw in eyes and mouths.

Put faces into the separated area of the storage box.

# BIRTHDAY CAKES

## Activity

The child sets out various quantities or creates problems by placing candles of two colors on the birthday cake gameboards.



## Materials

## Making Directions

### Storage Container

Storage box (approximately 9″ × 10″ × 1½″)

Separator strip of heavy cardboard

Label opposite ends of a storage box "Birthday Cakes."

Glue separator strip into bottom of storage box.

---

### Counting Areas

Frosting pattern (see page 147)

Eight birthday cake gameboards (see page 145)

Crayons for coloring gameboards

Eight (3″ × 5″) pieces of pale yellow felt

Scissors

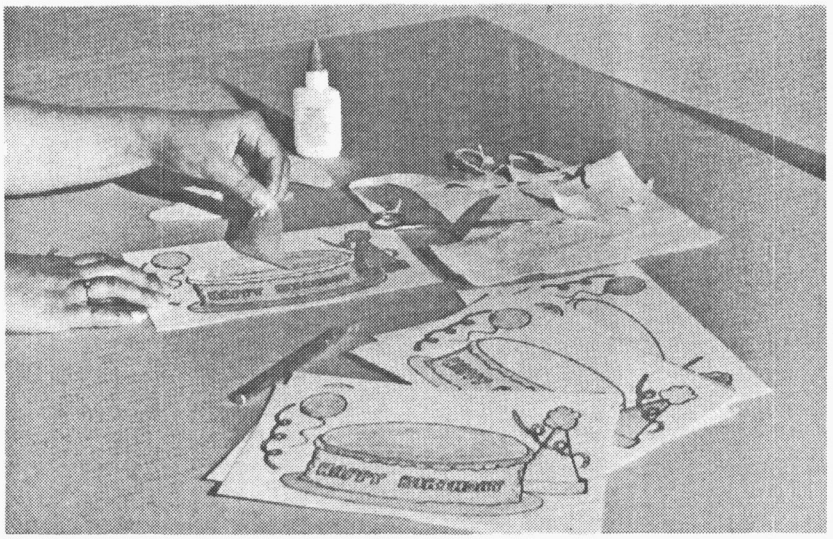
White glue

Clear contact paper

X-Acto knife or single-edged razor blade

Make a Thermofax master from the pattern in the appendix and run off eight gameboards on heavy tagboard. Color gameboards as desired, with crayons. Cover with clear contact paper.

Cut through the contact paper around the top of each cake with an X-Acto knife or single-edged razor blade, being careful not to cut into the tagboard.



Peel the contact paper off the top of each cake so the tagboard is exposed. Using the frosting pattern from the appendix, cut out eight identical pieces of yellow felt and glue them onto the exposed tagboard portion of each gameboard with white glue.

---

### Counters

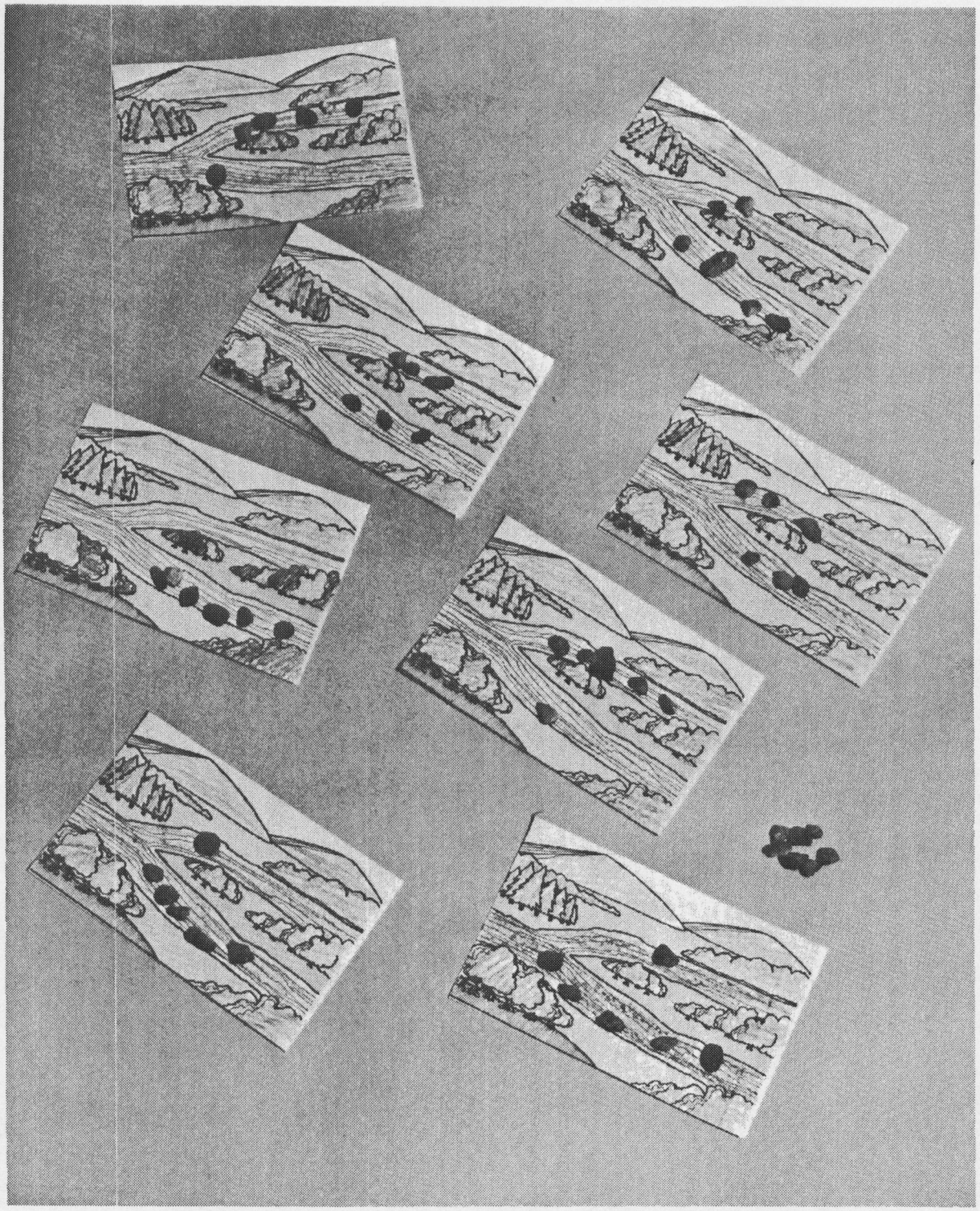
Two boxes (36 candles in each) in two different colors

Pour candles into the separated area of the storage box.

# RIVER ROCKS

## Activity

The child sets out various quantities or creates problems by placing the river rocks in the divided stream which is pictured on the gameboards.

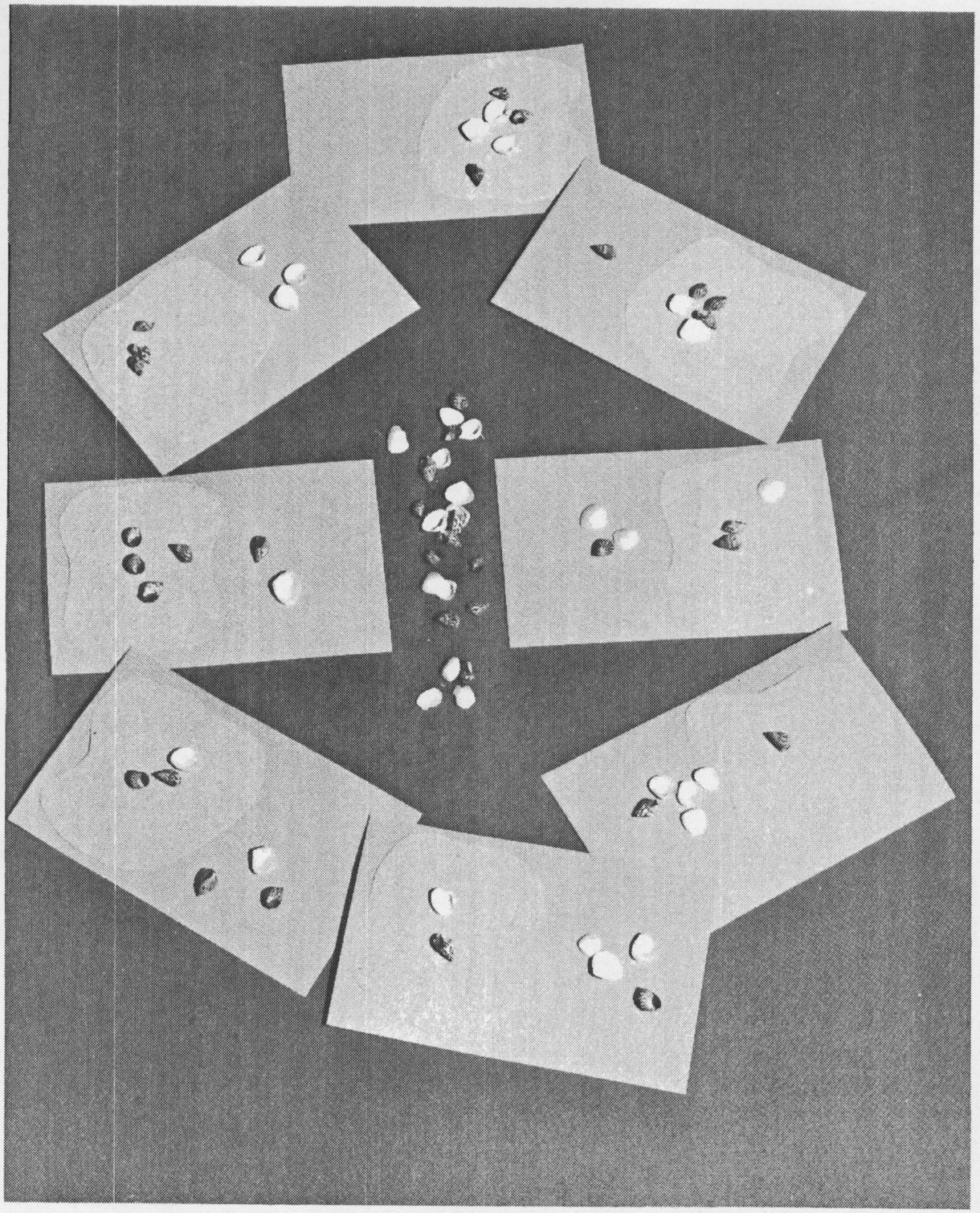


| Materials | Making Directions |
|---|---|
| **Storage Container** | |
| Storage box (approximately 9″ X 10″ X 1½″) | Label opposite ends of a storage box "River Rocks." |
| Separator strip of heavy cardboard | Glue separator strip inside bottom of storage box. |
| **Counting Areas** | |
| Eight river rock gameboards (see page 145) | Make a Thermofax master from the pattern in the appendix and run off eight "River Rocks" gameboards on heavy tagboard. Color gameboards as desired with crayons. Cover with clear contact paper. |
| Crayons for coloring gameboards | |
| Clear contact paper | Place the river rock gameboards in the storage box. |
| **Counters** | |
| 1/2 cup of river rocks | Pour river rocks into separated area of the storage box. |

# SANDY BEACHES

## Activity

The child sets out various quantities or creates problems by placing shells in the ocean and on the sandy beach nearby.



| Materials | Making Directions |
|---|---|
| **Storage Container** | |
| Storage box (approximately 9″ X 10″ X 1½″) | Label opposite ends of a storage box "Sandy Beaches." |
| Separator strip of heavy cardboard | Glue separator strip inside bottom of storage box. |
| **Counting Areas** | |
| Eight pieces of blue railroad board (5½″ X 8½″) | Cut out each shape with old scissors and glue them to one end of each piece of blue railroad board, leaving the other end as the "ocean" area. |
| Eight 4″ X 4″ pieces of sand paper | Place the sandy beach gameboards in the storage box. |
| Old pair of scissors | |
| White glue | |
| **Counters** | |
| 2/3 cup of small sea shells | Pour shells into the separated area of the storage box. |