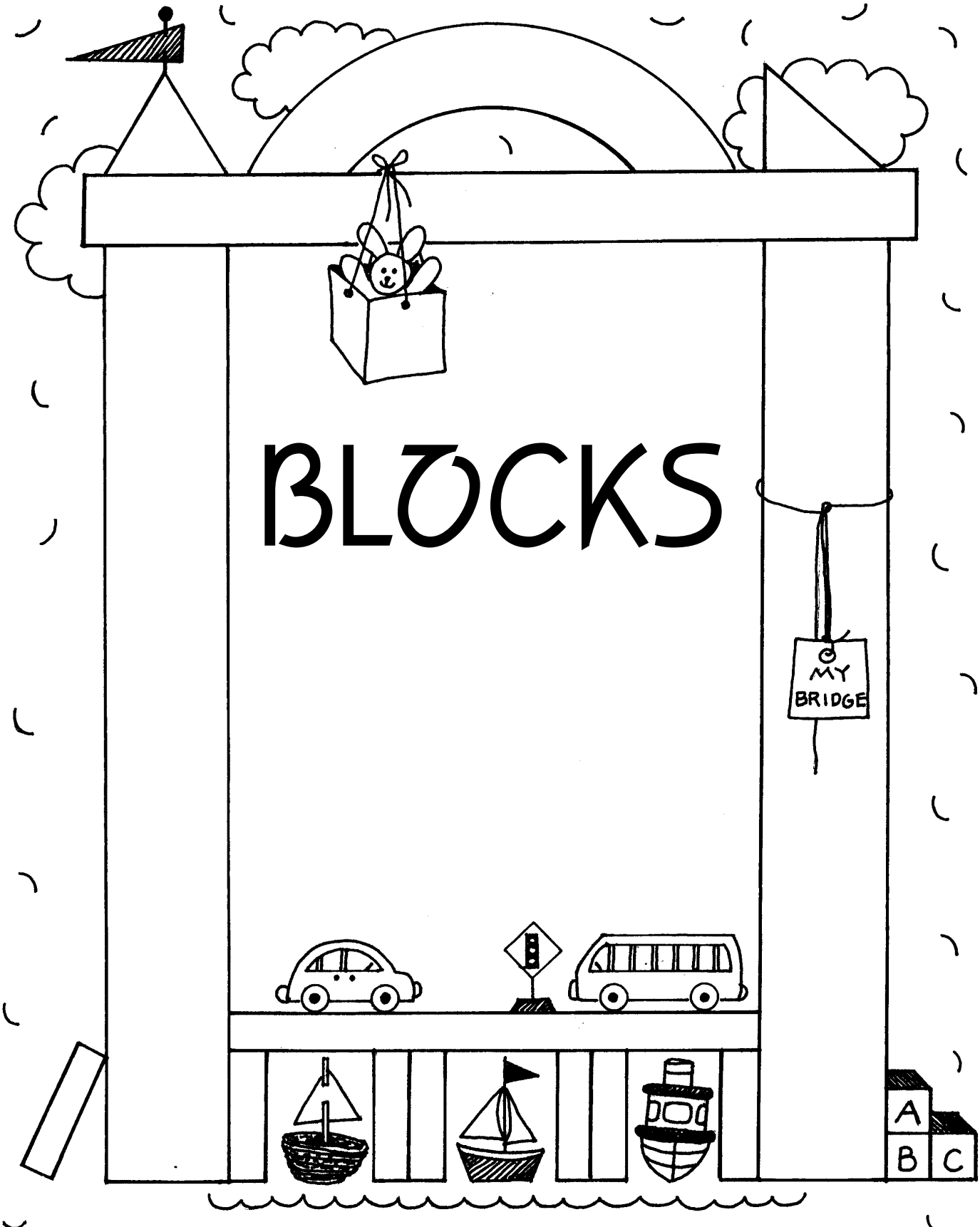
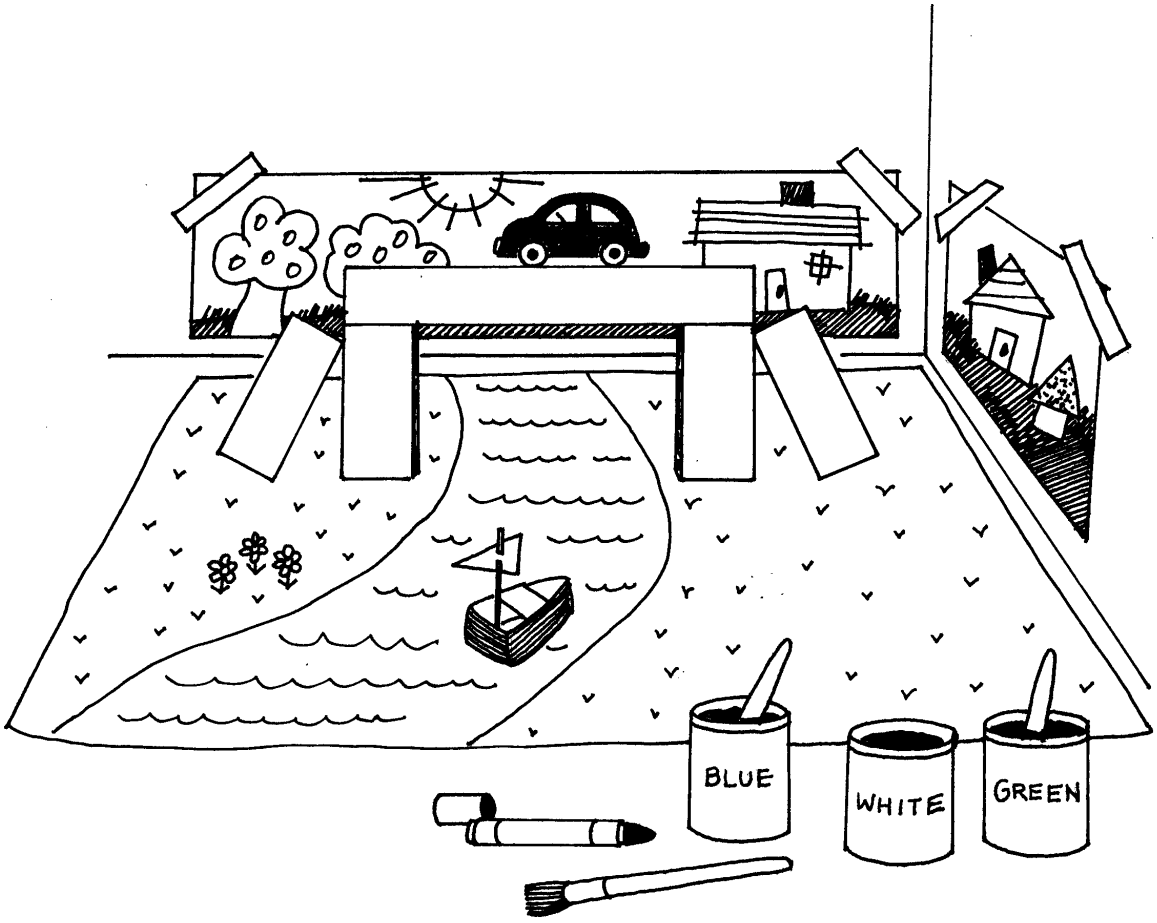

BLOCKS
MY
BRIDGE
A
B
C

Rivers and Bridges

3 to 6



Purpose: As children build with blocks, they solve problems, use their imaginations, and increase their understanding of size, shape, and space. Block building encourages logical thinking and understanding spatial concepts such as over and under, beside, high and low, wide and narrow, strong and weak. When building together or beside one another, children are learning about teamwork, sharing, and respecting the work of others.

HOME CONNECTION

Parents and children should take walks to see buildings and bridges in their town or city. Children should be encouraged to notice how structures change and to ask questions about how buildings are erected.

Materials:

newspaper	flat paint brushes
large sheets of paper or paper bags	tape
tempera paint: blue, green, white	scissors
pictures of bridges	

Preparation:

1. Invite a small group of children to join in creating a make-believe river.

2. Tape together several large sheets of paper or paper bags. Cut a winding or straight river. Make the river the length of the block corner.

3. Lay the river on top of some newspapers, and, together with the children, paint it blue, blue-green, or white, using flat paint brushes.

4. When the river is dry, tape it on the floor in the block area. Find pictures of bridges. Hang them on the wall in the block corner. Make sure the pictures are at the children's eye level.

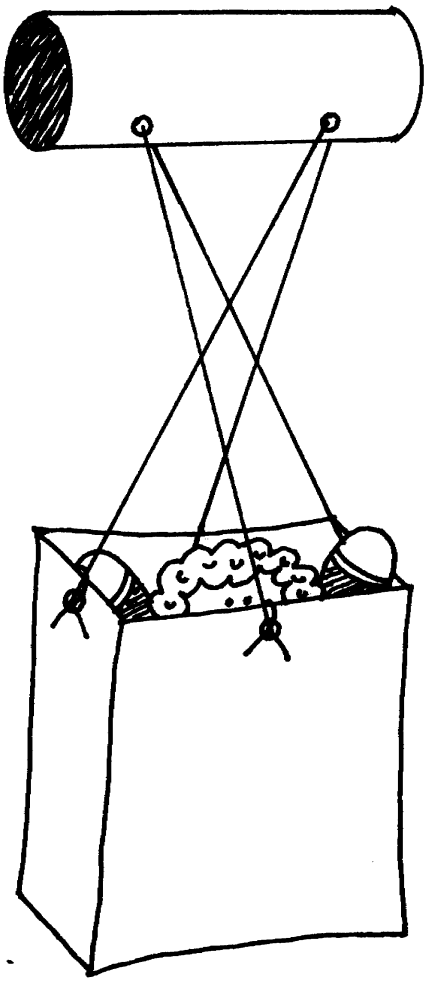
Activity: Ask the children to imagine that this is really water. Discuss how a car, person, or animal could get across the river. When bridges are mentioned, invite children to start building. If bridges are not mentioned, introduce the idea through a book or the pictures in the block corner. Keep in mind children's individual stages of development. Some children may not be ready to construct bridges, but they can enjoy the river as they pursue their own level of dramatic play. Some children may start with a simple bridge laid across the river. Encourage older children to experiment with more elaborate structures. For example: "Can a boat go under your bridge?" This may lead to elevating the structure. Asking the question "Can a really large, heavy truck cross your bridge?" may lead to wider and stronger structures.

Extensions and variations:

- Play stepping stones. Place make-believe (paper) stones "in the water." Invite the children to cross the river on the stones. This game helps to develop large muscles and coordination.

- Plan a visit to a bridge near the classroom. What does the bridge carry—cars, people, animals, trains? What is the bridge made of—brick, stone, wood, steel?

The Hoist



HOME CONNECTION

Encourage parents to take children on an elevator ride. Go up the elevator and walk down the stairs. Explain that machines make work easier for people. What machines make work easier at home?

Purpose: Through block play, children learn about stability and balance and enhance their spatial skills. They acquire the foundations they need to understand length, width, height, and area. Teachers can stimulate block play by providing simple props such as a hoist or elevator to bring people or things to the top of the block buildings. Children in rural settings may be unfamiliar with elevators but may have seen a hoist.

Materials:

- toilet paper tube
- scissors
- paper punch or sharp point
- string
- small box

Preparation:

1. Punch a hole in 4 sides of a small box from which one end has been removed.

2. Punch holes near the ends of the paper tube. To attach the box, thread the string through the two holes in the tube and tie a knot at each end of the string on the outside of the box.

3. By rolling the string around the tube, you have an "elevator."

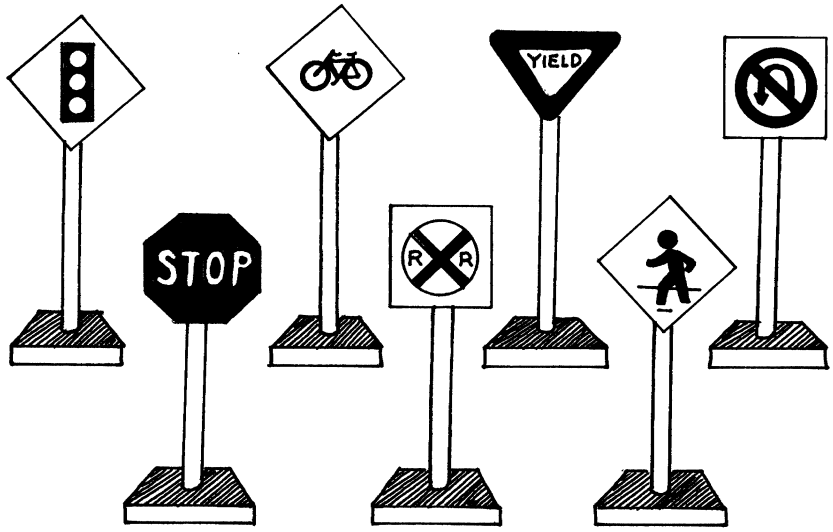
Activity: Place the hoist on a shelf in the block corner. The teacher might encourage exploration by saying, "I wonder how the workers would get materials up to such a tall building?" or "I wonder how a person would get to the top of your building?" It may be necessary to show the child how the elevator works. Place a small block or some pegs into the elevator/hoist and demonstrate. Then let the child explore.

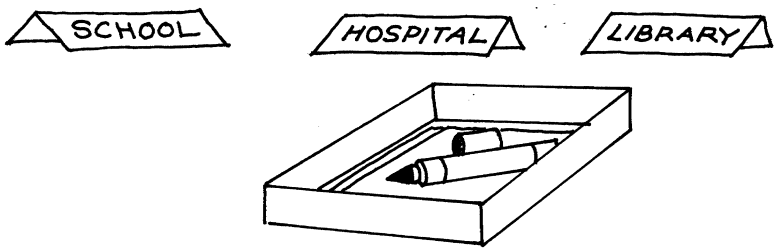
Extensions and variations:

- Depending on the age of the children, the teacher might explain the difference between an elevator or lift for people and a hoist for things.

- If the children have not had experience with an elevator or a hoist, arrange a trip to see either or both of these, if possible.

Traffic Signs





HOME CONNECTION

Parents are always welcome in the classroom. When they are dropping off or picking up their children, invite the parents to come in and look around. This is a good time to point out the structures that the children have been working on in the block area. Call attention to the signs and labels that have been made for the roads and buildings. Ask the parents to help their children focus on signs in the environment as they walk or ride through town. This will help their children gather ideas for making signs, a first step in early writing.

Purpose: Block play is both structured and open ended. The blocks are limited in shape and number, but the play itself follows the individual interest and skill of each child. By creating traffic signals and other signs and placing them in the block corner, teachers set the stage for children to develop a sight vocabulary.

Materials:

cardboard	wood sticks
small blocks of wood	drill
markers	glue

Preparation:

1. On sturdy cardboard, in large letters and appropriate colors, create a series of traffic signs and signals, including: Red Light, Yellow Light, Green Light, Stop Sign, Rail Road Crossing, No Passing.

2. Drill holes in the small blocks of wood.

3. Glue each sign to a stick and glue the stick into the small block of wood.

4. Place the signs in the block corner.

Activity: Observe the way children build in the block corner. Listen to their conversations with themselves and other children. If they use cars and make roads, introduce the road signs and give a simple explanation of each.

When children identify what they are building, create a sign for them by writing the name of their building on paper. Use a sheet of thick paper, folded horizontally so that the sign can stand on the floor near the building. Present the sign with a statement: "I thought you might like a sign for your building." Signs might read: The Farm, Our School, The Firehouse, The Castle, The Police Station, The Hospital, The Library. At the end of each day, place the signs in a box or file folder on a shelf that children can reach near the block corner. Children often repeat their buildings or get new ideas from other children. If they ask for the signs, show them how you pick out the sign. After a while, some children will be able to select the sign without help. Some will be ready to read the signs.

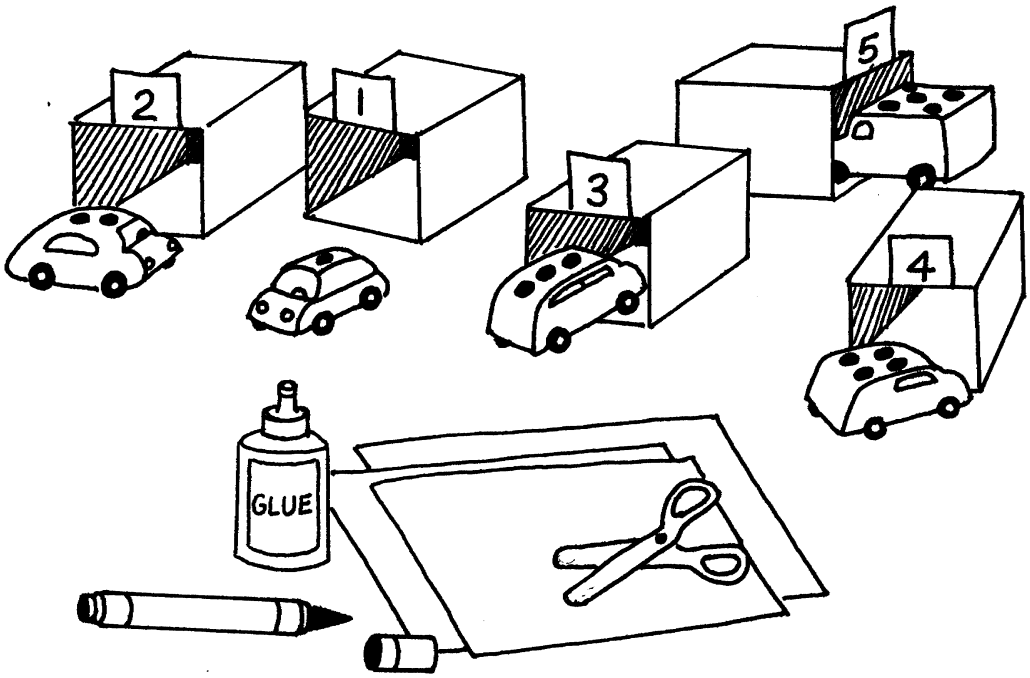
If children have not identified what they built, ask if they want a sign and what they want you to write.

Extensions and variations:

- Plan walking trips near the classroom. What signs do you see along the way? What do the children think the signs say? Listen for the different sounds of traffic.

- Read aloud a book with pictures of vehicles. Point out any signs in the book.

Parking Garage



HOME CONNECTION

Explain to parents they should take advantage of the presence of numbers in the environment. Daily routines and common situations involve opportunities to help children understand the importance of counting and number relationships.

Purpose: When children are freely engaged in block building, they often use small cars and trucks as they build. An alert teacher observes, listens, and supports children's endeavors by introducing props that will expand thinking and problem solving in their play. Selecting a car with dots on the roof and "driving" it into a garage with the corresponding numeral on the top is a way for children to learn matching, counting, and ordering.

Materials:

- 5 milk cartons
- thick colored paper
- scissors
- clear contact paper (if available)
- small cards
- black markers
- small plastic cars or trucks

Preparation:

1. To make garages, cover the cartons with thick colored paper, then, if available, with clear contact paper.

2. Make number cards: On one side of the card, put dots (for children who have not yet mastered numerals); on the other side, write the corresponding numeral. Use the numbers 1 to 5. Place a number card on top of each garage.

3. Take 5 small plastic cars or trucks and mark 1 dot on top of the first car, 2 dots on the second car, 3 dots on the third car, etc.

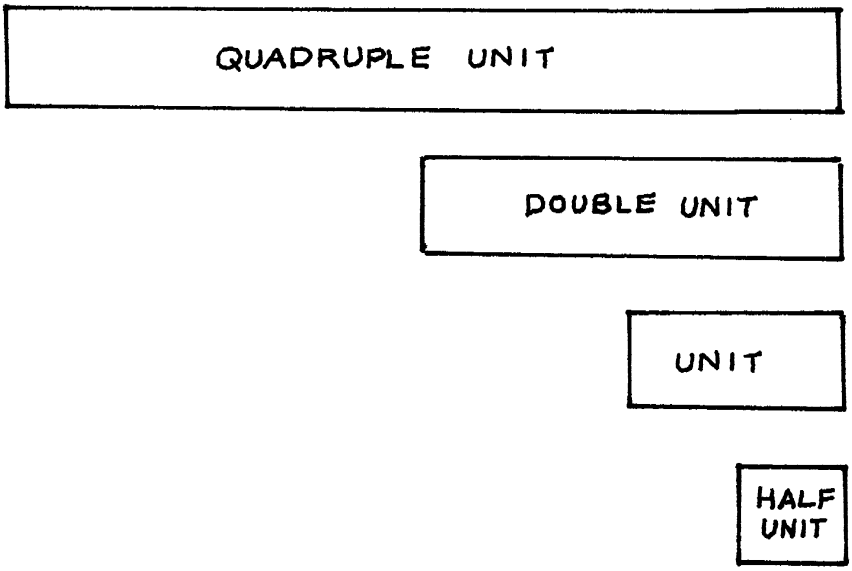
Activity: Introduce the activity with a suggestion to the children in the block area: "When the weather is bad, you may need to park your cars in garages. I have some numbered garages and cars. If you like, you can choose from among these." Draw the children's attention to the dots on the cars. Ask the children to count the dots. "How many dots are there? Can you find the garage for this car? Why do you think this car should be parked in this garage? Where do you think this car goes?"

Extensions and variations:

- Have some extra cars and number-and-dot cards ready for children who want to number cars beyond the ones the teacher provides.

- Ask the children to think of other things-that-go-into-things—for example, birds and nests, babies in buggies. Have each child draw a picture of her chosen object in its corresponding place. Put the pictures together in book form. Older children will enjoy looking at this book in the future.

4 to 6 Discovering Equivalence



Purpose: This activity encourages children to measure, using blocks as the unit of measurement. Children observe the proportional relationship of one size block to another and become exposed to mathematical terms.

Materials: a chart
classroom blocks: half unit blocks, unit blocks, double unit, and quads

The unit is a rectangle (3.5 x 7 x 14 cm.).
The half unit is square (3.5 x 7 x 7 cm.).
The double unit block is a rectangle (3.5 x 7 x 28 cm.).
The quadruple unit is a rectangle (3.5 x 7 x 56 cm.).

Activity:
As children are building, they usually discover *on their own* equivalency among the different sized blocks. For example, they are able to use 2 unit blocks to substitute for 1 double unit block. The teacher can use this opportunity to acquaint children with mathematical terminology by using the word *equivalent*: "Maria, I see you have found that two units are equivalent to (the same length as) one double unit. Good for you! Let's write this on a chart." " Emil, you have been using the double units. How many did you need to match a quad? Yes—2 doubles. I wonder how many units you would need to be the equivalent of a quad. Yes—4 units. Let's draw pictures of what you discovered on the chart."

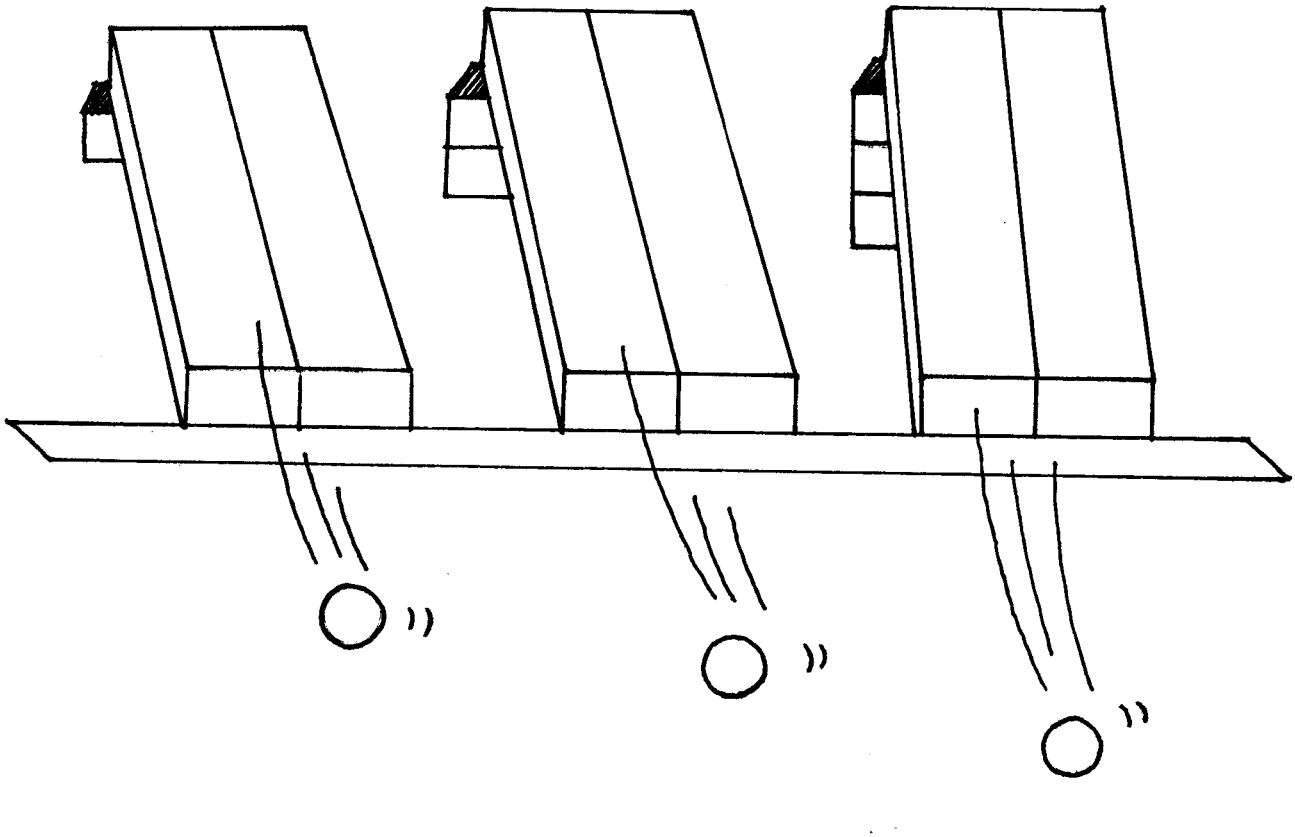
When a child builds vertically or horizontally, a rope or string may be used to measure the height or length of the structure. Suggest the children try measuring a table's length, height of chairs from floor, etc.

Extensions and variations:

- At a parents' meeting, have them use the blocks to build as they wish.
- Prepare a display, showing how valuable blocks are to teach mathematical concepts.
- Show how blocks are placed on the shelves so that children can recognize sizes and can have a classification activity by putting them away.

Inclined Planes

5 to 6



Purpose: This activity is designed to show the effect of inclined planes on speed and distance. It lays a foundation for children to become familiar with the scientific investigation processes of predicting, experimenting, observing, discovering, describing, comparing, inferring, classifying, and communicating. Encourage girls' and boys' interest in science by conducting simple active experiments.

Materials:

- 6 unit blocks
- 6 quadruple unit blocks
- 3 small hard balls
- masking tape
- paper dots

Preparation:

1. This is an activity for 3 children at one time. Explain to the total group that each child will have a turn being a scientist and experimenting with these materials.

2. Find a spacious area to conduct this experiment, such as a hallway, a paved smooth surface outdoors, or a gym. The teacher and children build 3 ramps of varying heights and then see how far the same ball travels after it rolls down them. The steeper the incline, the farther the ball goes.

3. To build the ramps, each child gets 2 quadruple unit blocks and either 1, 2, or 3 unit blocks. Each ramp will be the width of 2 quadruple blocks (or long boards). The height of the ramp is determined by the number of unit blocks: the first 2 quadruple blocks will be placed on top of 1 unit block; the next 2 will be placed on 2 unit blocks; and the next 2 will be placed on 3 unit blocks. Place a strip of masking tape along the floor so that the ends of the ramps will line up and the ball will always travel from the same place. Point out that since this is a science experiment, it is important that all the ramps end at the strip of masking tape.

Activity: When the ramps are built, ask each child to predict how far the ball will roll. Have each child go to the spot where she predicts the ball will stop and mark the spot with a large dot. Explain to the children that in this experiment, they cannot throw the ball; they must place the ball on the top of the ramp and just let go.

Children should experiment with their own ramps and balls a few times. After they have done so, ask some questions such as, "Did the ball go farther than you predicted, or not? Which ball rolled the farthest? Which ball stopped closest to the ramp?"

At this point, have the children take turns with each ramp. Then ask, "Why do you think the ball rolled farther on one ramp than another? Did the ball roll faster on any ramp?" Eventually, help the children to understand that the higher the ramp, the faster and farther the ball will roll.

Extensions and variations:

- Explain that scientists document their observations. Make a chart with the children to document their experiment.

- Give children turns rolling a ball down the slide on the playground.

- Make a ramp outdoors. Using the ramp, experiment with balls of differing sizes and weight. What conclusions can the children draw from their observations?