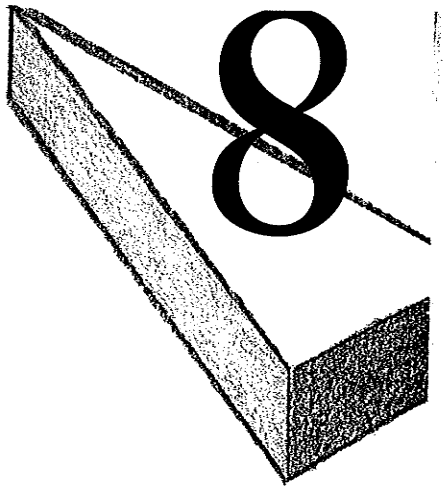


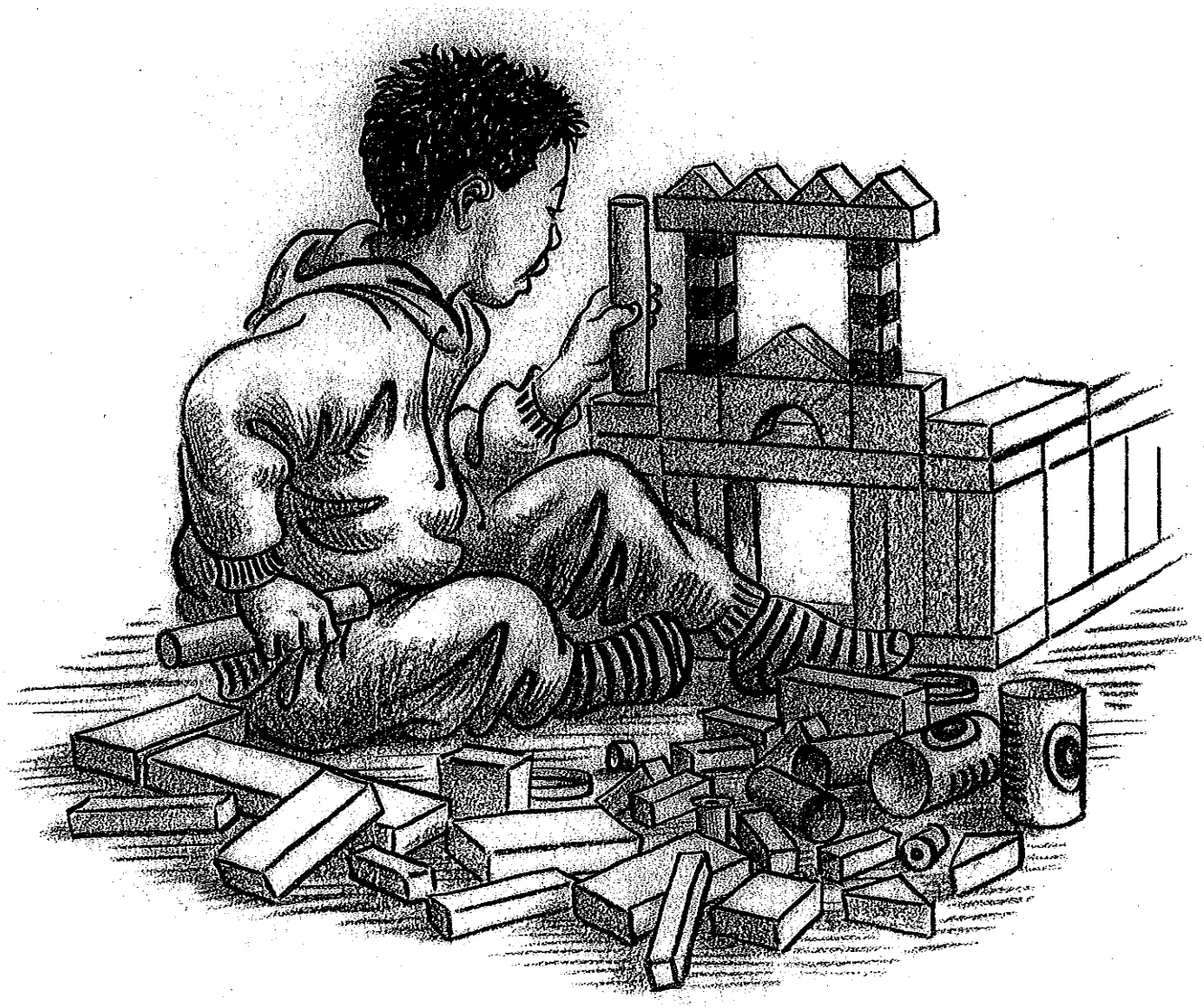
Patterns

At last, the children have learned what they need to know about what blocks can do. Now they put all they know together and truly start to create buildings that have a sense of beauty. As they build, they seem to feel an inner need for order, and they work to make the buildings the same on both sides *(symmetrical)*. They put a block on one side and then a like block in a similar place on the other side. They also feel the need to decorate what they build. They use small triangles and blocks, beads, bottle caps, and more to put patterns on their works of art. They use all they have learned about the properties of blocks to build buildings that have complex windows and arches and doorways. They have porches supported by columns. They build structures with different heights and thicknesses of columns that are symmetrical. They continue to talk to themselves and others. They work together to create buildings. At this stage, they may also prefer to create by themselves.

Start with these materials in the block corner.

Store the blocks on shelves marked with photos or tracings of each kind of unit block. (Refer to chapter 5 for a list of essential items that should be in the block corner in every developmental period.) Names of the blocks should be printed in lowercase letters on the patterns or on the photos.

- A set of wooden unit blocks. See the "Number of Unit Blocks to Have" chart on page 130 to find out how many you should have. It is more important to have the number of blocks recommended than to have a wide variety of different kinds of blocks. When you have a large number of unit blocks, the children can really explore their possibilities. Add the *small triangle, small half circles* and *quarter circles* to the large collection the children now have to work with. When children have enough blocks and enough space to spread them out, they are more likely to make real, serious constructions and less likely to misuse them.
- Bins of different kinds of small things for decorating buildings
- One-inch colored cubes
- Bottle lids—from many from kinds of bottles, in different colors
- Parquetry blocks



Watch and Listen

Does the child

- begin to make buildings that are the same on both sides?
- make more complex buildings that have sides, windows, and arches?
- put decorations on the building that form a pattern? For example, does he use small triangles and blocks in a pattern across an arched structure?
- seem to make a pattern with the blocks just for the pattern itself, without any structure in mind?
- work with other children in making patterns and buildings with decorations?

What to Do

If the child is doing a number of the things in "Watch and Listen," you can

- sit quietly and watch what the child is doing. (Support the child by being there.)
- ask yourself these questions: Does he seem to be planning the pattern? Does the pattern just seem to happen? Does he talk about what he is doing?
- make notes about what you see happening. What blocks does he place first, second, and so forth? Does he try a block somewhere, remove it, and put it somewhere else?
- talk with the child about what you see him doing.
- talk about the kinds of blocks the child is using.
- play with blocks yourself and make patterns.
- listen and respond to his comments naturally, if the child talks about his construction. Encourage conversation.

What to Say

If the child has little language, you might say

"A pattern. Red, blue, red, blue, red, blue. A pattern." (Point to the parts of the pattern.)

"A pillar here. A pillar here." (Point to like items on each side of the building.)

"A pillar." (Point to one.)

"A pillar." (Point to the other.)

Talk about what you see. Say things like

"Did you notice how you have put a row of small triangles across the top of your building? It makes a pretty decoration."

"Look, you've made a pattern. See, a triangle here, then a square, then a triangle, then a square. That is a pattern."

"You used symmetry in your building. Look, you have put the same things on both sides." (Tell what is alike on each side as you point them out.)

"I really like the pattern you made with your blocks. May I copy it?"

"It is interesting the way you made a pattern with red and yellow cubes. A red cube, a yellow cube, a red cube, a yellow cube."

"Oh, I see, a big block, a little block, a big block, a little block. You are making a pattern. Did you notice that?"

"It is interesting the way you made a pattern with red and yellow cubes. May I copy it?"

Ask open-ended questions.

"I notice that everything you put on this side is the same as everything you put on that side. How did you do that?"

"I see you have made a pattern. Can you tell me how you made it? I wonder how you will decide what to put next?"

Use the block names in talking about them.

"A unit, a double unit, a unit, a double unit, a unit. I see a pattern here."

"Wow, you used pillars and columns and made a pattern with them."

What to Add

As the children get used to what you have out, add some of the things you kept back and remove some of the things the children seem tired of.

- Think about what you see the children doing. What will help them develop further?
- Add to what you say when you add things. For example, as you give the children a bin of large, clear-colored beads, say, "You were making really nice patterns on your buildings yesterday. Here are some beads I thought you might like to use."
- Have a digital camera for taking pictures of the children's work. Use the pictures in books or on the walls of the center at the children's eye level.
- Be sure the children have enough blocks to work with.
- Add a set of colored blocks. Sometimes they come in a wagon. Provide a storage place for them, like the wagon they came in.
- Add a set of foam blocks, so the children can experience a different material with different properties.
- Have some pattern cards. (Do not make the child use them, but point out when he makes one of the patterns naturally. You can also compare a pattern the child has made to one of the cards. Use them yourself so the children can see how it is done.)
- Have photos of buildings that show patterns or symmetry on the wall.
- Have books that show pictures of different kinds of symmetry or pattern.
- Add shells, beads, pebbles.
- Add three or four sets of blocks with different architectural elements, such as roofs and turrets. Sets can be found with names like *architectural blocks, Arabian blocks, Oriental blocks, Baroque blocks,* etc.

What Are Children Learning in the Patterns Period?

MATH

What the Child Does	A Sample Learning Standard	Notes
Decorates her buildings with patterns in blocks	•Sorts, categorizes, classifies, and orders objects by one attribute	The child is sorting, classifying, and ordering objects when she puts them in a pattern like red, blue, green, red, blue, green. For example, Destiny puts a line of colored cubes in a pattern across the front of her building.
Notices patterns others have made and begins to copy them	•Recognizes, describes, and extends patterns	The child understands that a pattern can be copied. She can use pattern cards. The child will use and become good at using pattern cards after she has shown the ability to make patterns somewhere else, as in blocks.
Sorts objects by size and color in decorating a building	•Sorts, categorizes, classifies, and orders objects by more than one attribute	The child will be able to sort by color and shape, not just by color. She will sort from a pile of different-colored objects all the red circles and the blue triangles.
Begins to build structures that are symmetrical	•Shows an awareness of symmetry	The child understands that things can be balanced by weight. She now also sees how a building can look balanced (the same on both sides). For example, Crystal carefully places an upright unit block on one side of a Gothic door. Then she puts one just like it on the other side. She will place similar pieces one at a time on each side until she has made a symmetrical building.
Makes long blocks balance on top of tall blocks by putting similar things on each side of the center point	•Develops an awareness of seriation. Compares attributes such as length (shorter/taller), size (bigger/smaller), and weight (heavier/lighter) in everyday situations.	The child understands how the balance used in weighing works. If one side goes down, she adds weight to the other side.

•Quoted from the Pennsylvania Early Learning Standards

What Are Children Learning in the Patterns Period?

TALKING AND LISTENING

What the Child Does	A Sample Learning Standard	Notes
Talks about large triangles and a rectangle as he plays with blocks	•Recognizes geometric shapes in books, artwork, and the environment	The child shows an understanding of different shapes. He can use the names of them in conversation. He can make one shape out of two others. For example, Jamari says, "Ms. Smith, look! I made a square with two small triangles."
Talks about how one building is different from another building	•Demonstrates awareness of measurement attributes (length, volume, weight, area, time, and temperature)	The child begins to understand and use words like *measure, close together, far apart, closer, farther away, wide, narrow, like, different,* and *compare*. For example, Dakota says to Mike, "Look at all the triangles Hans used in his building. Sam used pillars and columns. They are really different."
Talks about the patterns he has put on his buildings when asked about them by an adult	•Explains why and how objects are organized	The child uses and understands words like *arch, column, pillar, symmetry, pattern, castle, temple, fort, mansion, construction, building, design, alike, repetition, copying,* and *crenellation* (a serrated or wavy edge) when an adult has used them in conversation about blocks. For example, Austin tells his teacher, "My castle has tall towers made of columns. See the design I put here on the front." He can give an explanation to an adult.
Starts to tell stories with plot about the buildings he is building	•Responds and makes connections to story events and characters by relating personal experiences	The child is beginning to tell stories through dramatic play with blocks. For example, Raja excitedly tells Ms. Palmer, "My fort has a giant ogre. He is going to eat up all the ladies of the village."

•Quoted from the Pennsylvania Early Learning Standards

What might this little girl be doing?

Your thoughts:

Your thoughts:

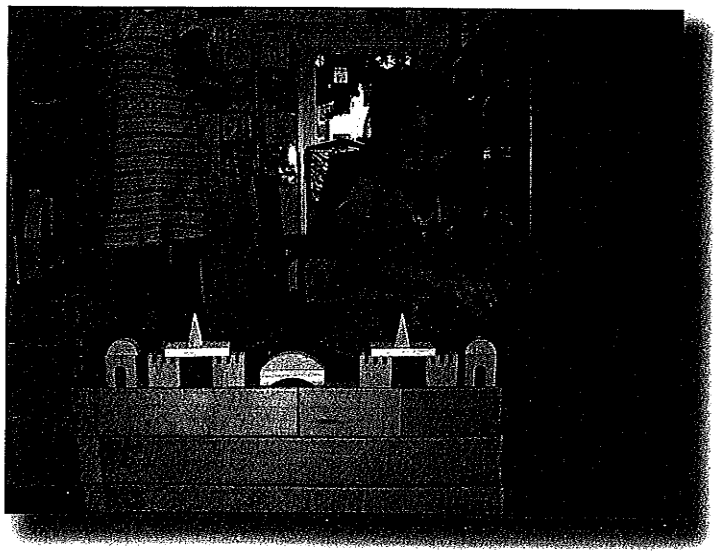
You might say to her:

You might say to her:

If she has little language, you might say to her:

If she has little language, you might say to her:

What might this little girl be doing?



Our thoughts:

1. She is making a *symmetrical pattern.*
2. She seems to have just put the *half circle* needed for the *pattern* on the *arch.*
3. She appears to be right-handed.
4. She seems to be really concentrating on what she is doing.

Notice how the *pattern* moves out from a central *single* block. She is using a complicated *design* with a *number* of *different* types of blocks. This program has an *extra small* block set that the girl is using *on top* of the *units.* See how the variety helps her *creativity.* Notice how she has used a *double unit* and two *unit* blocks to make a *quadruple unit* for her building base. You might want to note the different types of blocks she is using. We wonder what she would do with a box of plastic lids to choose from.

It would be interesting to ask her about her *construction.* If she is really *concentrating,* you may want to watch and listen to find out more about it.

You might say to her:

"I am interested in your building. Would you like to tell me about it?"

"I see *symmetry* in your building. See how you have made it to look *the same* on each side. That is called *symmetry."*

"How did you make it look that way?"

"You solved the problem when you didn't have enough *quadruple* blocks. You used *one double unit* and *two unit* blocks."

If she has little language, you might say:

(Point to the blocks.) "The same. That's symmetry."

"What do you think?"

"Half circles. Rectangles. Arches."

"Lots of different shapes."

What might this little girl be doing?

Your thoughts:

Your thoughts:

You might say to her:

You might say to her:

If she has little language, you might say to her:

If she has little language, you might say to her:

What might this little girl be doing?

Our thoughts:

1. She is making a number of symmetrical buildings.
2. A few things she has made are not symmetrical, but the more we look at the picture, the more symmetrical constructions we see.
3. She seems to be trying out different block shapes to see their symmetrical properties.
4. She is also experimenting with balance, both physical and visual.
5. She is concentrating on her work.
6. She appears to be right-handed.

We would really be interested in what she would say about all her constructions. Do they represent something? For example, is the construction with a square at the bottom, two pillars next, a unit block next, and a triangle on top a person?

You might say to her:

"You have really been working hard. Look at all the things you have made. Would you like to tell me about any of them?"

"Did you notice that they are the same on both sides? When something is the same on both sides, we call it symmetrical. You have made a lot of symmetrical things. I wonder how you did that."

"You had to really use your eyes to see the symmetry in your constructions."

If she has little language, you might say:

"Look! You made this, and this, and this." (Point to them.)

"You worked hard."

(Pointing the parts.) "Square. Two pillars. Unit block. Triangle. That's a lot."