

# Blocks Measure Up

Integration Cards, or *iCards*, may be used as enrichment activities by the teacher, teacher's aide or volunteer, in any sequence, to integrate Language & Literacy, Math and Creative Arts into the science content presented in this unit.

## **Language & Literacy**

- L1. Fingerplay
- L2. Sing Along Song
- L3. Picture Walk
- L4. Read Aloud

## **Math**

- M1. Row by Row
- M2. Blocks in a Row
- M3. They All Fall Down
- M4. Weight and Length

## **Creative Arts**

- C1. Block Prints
- C2. Block Collage
- C3. Block Designs
- C4. Block Puzzle

## Fingerplay

### *The Long and the Short of It*

#### Guidelines

1. Children should be standing, use a large open space for body movements.
2. Introduce the fingerplay words and hand motions one line at a time. Tell the children: **Say it after me.**
3. Use rhythm and hand motions to engage the children.
4. As the children recite the fingerplay chant, ask them to use soft voices, then loud voices.

A short block,  
A shorter block,  
The shortest block I see.  
Now help me count them,  
One, two, three!

*(Palms face each other, one foot apart.)*  
*(Move hands closer to each other.)*  
*(Palms almost touch.)*  
  
*(Count 1, 2, 3 on your fingers.)*



**A short block...**

**A shorter block...**

**The shortest block  
I see...**

A long block,  
A longer block,  
The longest block I see.  
Now help me count them,  
One, two, three!

*(Palms face each other, two feet apart.)*  
*(Move hands two and a half feet apart.)*  
*(Move hands three feet apart.)*  
  
*(Count 1, 2, 3 on your fingers.)*



**A long block...**

**A longer block...**

**The longest block I see...**

# Sing Along Song

#### Guidelines

1. Introduce the song and motions one line at a time. Tell the children: **Sing after me. Do what I do.**
2. When children know the words, sing the song together.

#### Measuring We Go

*Sung to the tune of "Row, Row, Row your Boat"*

Inch, inch, inch by inch,  
Measuring we go.

*(Align your pointer finger and thumb just one inch apart from one another and hold up your hand.)*

Using small blocks,  
Lined up in a row.

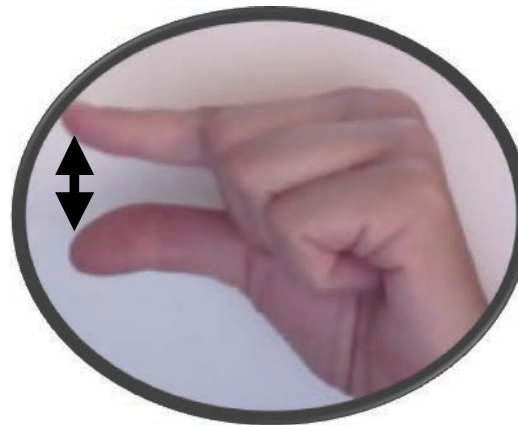
*(Move same hand from left to right across your chest.)*

Inch, inch, inch by inch,  
Block by block by block.

*(Align your pointer finger and thumb just one inch apart from one another and hold up your hand.)*

1, 2, 3, 4,  
Measuring we go!

*(Count 1, 2, 3, 4 on your fingers.)  
(Wave both hands in the air.)*



# Picture Walk

## Guidelines

### 1. Choose a book.

Select a book from the *Blocks Measure Up Picture Walk Books* list. If these books are not available, find another content-related book filled with rich, detailed pictures.

### 2. Get to know the book.

Read the story to yourself before sharing the book with the children. Notice how the illustrations tell the story.

### 3. Enjoy reading time!

Make sure everyone is comfortable and able to see the book. If needed, establish rules for good behavior.

Taking a picture walk through a book is one of the earliest stages of reading. It enables children to “read” books by looking at the pictures. Ideal Picture Walk books have rich illustrations. When a book has too much text to hold children’s attention, use it to show just the pictures. Wordless books are also a great choice for Picture Walks.

#### 1. Before conducting the picture walk:

Let the children know you are going to read this book by looking at the pictures.

- Show the cover of the book.
- Read the title, the author’s name, and the illustrator’s name.
- Ask children to predict what they think the story will be about based on the cover and the title.

#### 2. While conducting the picture walk:

- Slowly go through the book, page by page.
- Ask a few questions about each picture. For example:

**What do you see in this picture?**

**Have you ever seen \_\_\_\_\_? Tell me something about it.** (Substitute with a word related to the book; a character, animal or place)

**Where is this part of the story taking place?**

**Where do you think they are going?**

**What do you think will happen next?**

#### 3. Share the book again and again.

When children like a book, they want to “read” it over and over.

#### 4. Leave the book in the science or book area for the children to enjoy.

# Picture Walk Books

**Lesson 1: Blocks in a Row**

*Measuring Penny* by Loreen Leedy

A little girl named Lisa needs to measure things in different ways, using standard and nonstandard units of measurement. Is she up to the challenge?

**Lesson 2: Block by Block**

*How Big Is a Foot?* by Rolf Myller

This book leads young learners to understand the concept of measurement. It illustrates the difference between the length of a person's foot and a foot long ruler.

**Lesson 3: How Tall Am I?**

*Tall* by Jez Alborough

A monkey explores the concept of “tall” by standing on the heads of other animals until he finds the tallest animal in the jungle. Now he is really tall!

**Lesson 4: Speedway**

*Simple Machines* by Allan Fowler

This book features colorful photographs of simple machines, including a ramp, and how people use them.

**Read Aloud****Guidelines****1. Choose a book.**

Select a book from the *Blocks Measure Up Read Aloud Books* list. If these books are not available, find another content-related book.

**2. Get to know the book.**

- Read the story to yourself before reading the book to your class.
- Plan ways to change your voice to fit the plot and characters.
- Gather props.

**3. Enjoy reading time!**

Make sure everyone is comfortable and able to see the book. If needed, establish rules for good behavior.

When children are read to, they are likely to grow into good readers. As they listen to stories, children hear rich vocabulary and proper language structure, and learn new information about the world. Being read to can enhance imagination, creativity, and curiosity. When selecting a book for a Read Aloud, consider the amount of text and the children's attention span.

**1. Before reading the story:**

- Show the cover of the book.
- Read the title, the author's name, and the illustrator's name.

**2. While reading the story the first time:**

- Focus on the flow of the story.
- Read with expression, change your voice for different characters.
- Vary the reading speed: fast for exciting parts, slow for scary or quiet parts.

**3. After reading the story:**

- Ask a few questions about the book. For example:

**Who would you like to be in the story?**

**What would you have done?**

**Where did the story happen?**

**When did the story get exciting/scary?**

**Why did they do that?**

**How would you change the ending?**

- Have the children re-tell the story or act out their favorite part.

**4. For additional readings:**

- Invite children to ask questions or discuss the story.
- Encourage children to say words they remember from the story as you read them.
- Assist children in recognizing the sounds that make up words.

**5. Leave the book in the science or book area for the children to enjoy.**

# Read Aloud Books

**Lesson 1: Blocks in a Row**

*Inch by Inch* by Leo Leoni

In this story, an inchworm tries to escape a robin's threat of eating him by claiming that he is a useful creature. The robin watches him as he measures other birds. But when a nightingale asks the inchworm to measure his song, will he be able to?

**Lesson 2: Block by Block**

ECHOS Book: *What's Down the Block?* by Krista Kaiser

A young boy invents a new use for an old toy as he and his dad take a neighborhood walk to measure.

**Lesson 3: How Tall Am I?**

*Length* by Henry Pluckrose

This nonfiction book is full of photo examples of things we measure. The book differentiates between length and height through vivid photographs.

**Lesson 4: Speedway**

*Hamster Champs* by Stuart J. Murphy

This book tells the story of how a trio of hamsters use different instruments to create a ramp to help them fly high. The story engages children's interest as they read to see whether the Hamster Champs will be able to outsmart Hector the Cat.





### Materials

- 1' cardboard brick block
- 72 1" blocks
- large container

### Preparation

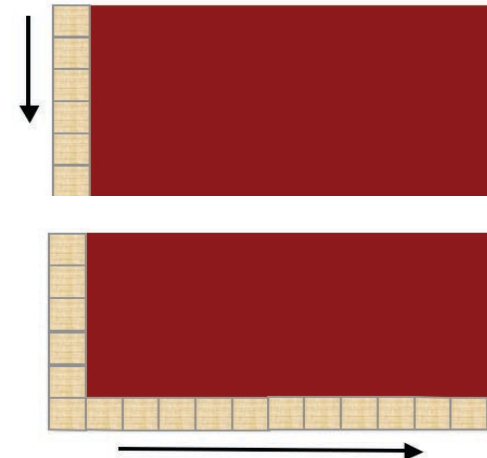
1. Fill large container with 72 1" blocks.
2. Place the 1' cardboard brick block in the center of the table, where each child can easily reach it. Lay the cardboard block flat on the table.

# Row by Row

Children measure a 1' cardboard brick block using smaller 1" blocks.

### Procedure

1. **Today we are going use many small blocks to measure one big block row by row.**
2. Give the container of 1" blocks to one child to begin the game. **Choose a block from the bucket and place it in one of the four corners.** Assist as needed. **Now pass the bucket of blocks along to someone else and say: Row by row, it's your turn to go.** Prompt the child to repeat the phrase.
3. Instruct each child thereafter, during his/her turn, to place one block on the surface of the big block next to the previous block, creating a row first along the short side (or the width of the block). Guide the children and prompt them to pass the bucket along, repeating the phrase, "row by row, it's your turn to go." Continue until one row along the short side is covered with 1" blocks.
4. When the short side of the block is covered (after the 6<sup>th</sup> child's turn), create a long row and measure the length of the block. Guide the children and prompt them to pass the bucket along, repeating the phrase, "row by row, it's your turn to go." Some children may have more than one turn.
5. **Let's count how long this side is** (point to the short side of the block). Count out loud with the children.
6. **Now let's count how long this side is** (point to the long side). **Do you think we will count more blocks on the long side or the short side?** Count out loud with the children.





# Blocks in a Row

### Materials

- Paper Strips Stencils page
- construction paper
- scissors

### For each child:

- small bowl with 15 1" blocks
- set of paper strips

### Preparation

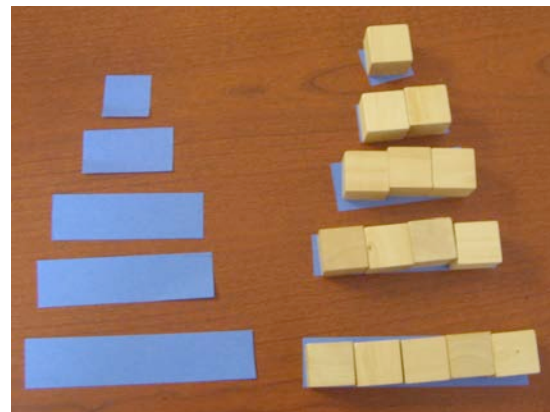
1. Photocopy the *Paper Strips Stencils* page.
2. Cut out the strips to use as stencils.
3. Trace the strips onto construction paper and cut them out. Place one set per child on the table.
4. Place one bowl of 15 blocks per child on the table.

Children use 1" blocks to measure paper strips of various lengths.

### Procedure

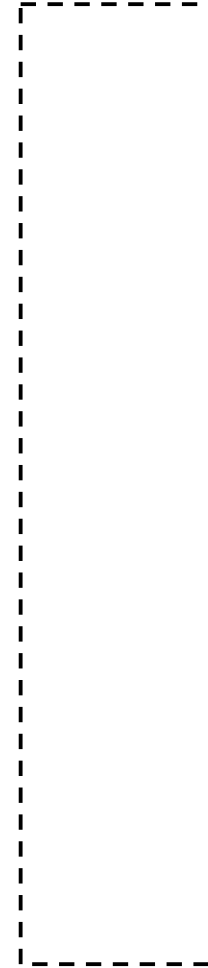
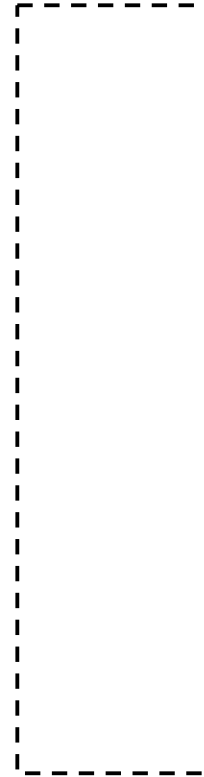
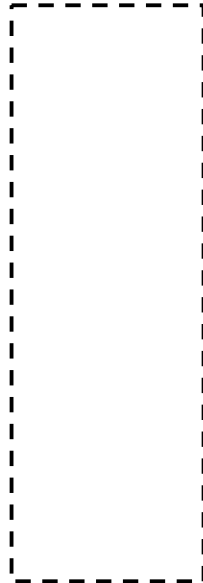
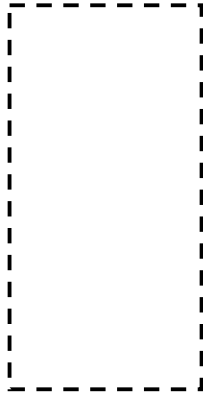
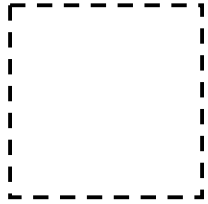
1. Say: **Today we are going to use blocks to measure.**
2. Give each child a set of paper strips and a bowl of 15 blocks.
3. Prompt children to notice the strips are different lengths.
4. Assist children in arranging the strips of paper from shortest to longest.
5. Direct the children to measure the strips of paper. For each strip:
  - Ask children to estimate how many blocks long they think the strip of paper is.
  - Help children put one block next to another on the strip of paper.
  - When the line of blocks is the same length as the paper, have them stop.
  - Help each child count how many blocks they used to measure the strip of paper.
6. Repeat, rearranging paper strips from longest to shortest.

*Strips of paper arranged  
from shortest to longest*



*Strips of paper covered  
by corresponding blocks*

# Paper Strips Stencils



# They All Fall Down

### Materials

- spinner
- toy dump truck with twenty 1" blocks
- "brad" fastener
- scissors
- crayons
- sheet of white cardstock
- *Game Spinner* page

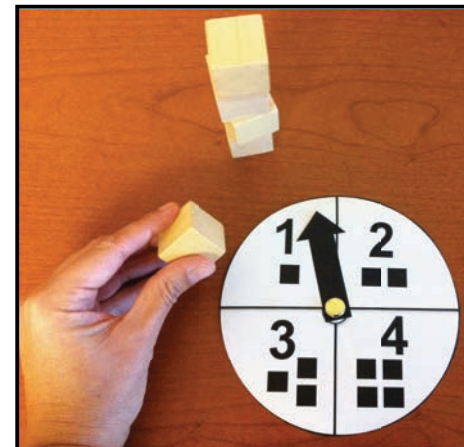
### Preparation

1. Follow the *Game Spinner* instructions to make a spinner.
2. Place the toy dump truck filled with blocks on the table.

Children use 1" blocks to create towers.

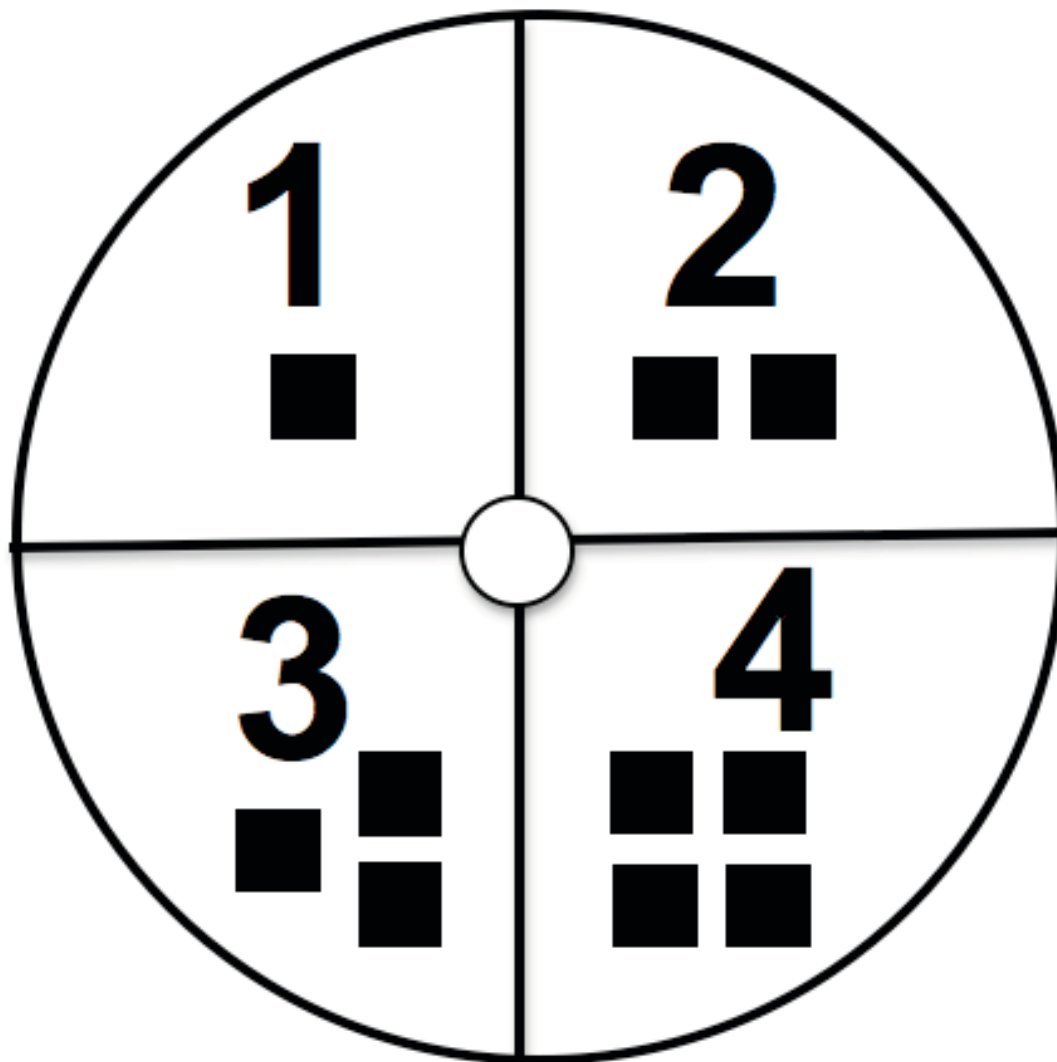
### Procedure

1. Say: **Today we are going to make tall towers.**
2. Show the children the spinner. Model how to spin the spinner. Spin the spinner and identify the number the spinner points to.
3. Model how to get the blocks from the toy dump truck and stack the same number of blocks on top of each other.
4. Give one child the spinner to determine how many blocks to stack to form a tower. Children will take turns to spin and determine how many blocks to add to the tower.
5. Invite children to count how many blocks tall the tower is after each turn, before it collapses!
6. When the tower collapses, start again to create a new tower, until every child has a turn.



**Game Spinner****Instructions:**

- Copy this page on 8½" X 11" white card stock.
- Cut out the arrow and spinner circle.
- Use four different crayons to color each section of the spinner a different color.
- Use a brad fastener to poke a hole in the center of the spinner and the arrow shape.
- Attach the arrow to the spinner using the brad fastener.



# Weight and Length

#### Materials

- container with 30 1" inch blocks
- balance scale

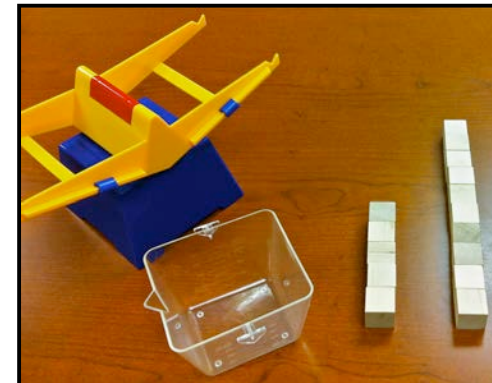
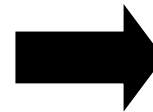
#### Preparation

Place the balance scale and container with blocks on the table.

Children compare weight and length using 1" blocks.

#### Procedure

1. Say: **Today we are going to compare weight and length using 1" blocks.**
2. Ask two children to reach into the container and grab a handful of blocks and place them inside each measuring bin. (They can use two hands if needed.)
3. Say: **Let's compare the *weight* of your handful of blocks. Let's predict which bin is heavier. The *heavy* side will go down, and the *light* side will go up.** Listen to the children's predictions. Place the bins with blocks on the scale. Once the scale tips to one side, or remains balanced, explain the results.
4. **Now, let's compare the *length* of your handful of blocks by laying them side by side on the table. Which is longer? Which is shorter? Are they the same length? Let's compare!** Guide the children as they lay their blocks down.
5. Repeat Steps 1–4 until every child has had a turn working in pairs.



# Block Prints

### Materials

- twelve 1" blocks
- three different colors of paint
- three paper plates
- paper towels
- sheet of 9" x 12" white construction paper

### For each child:

- sheet of 9" x 12" white construction paper
- paper towel

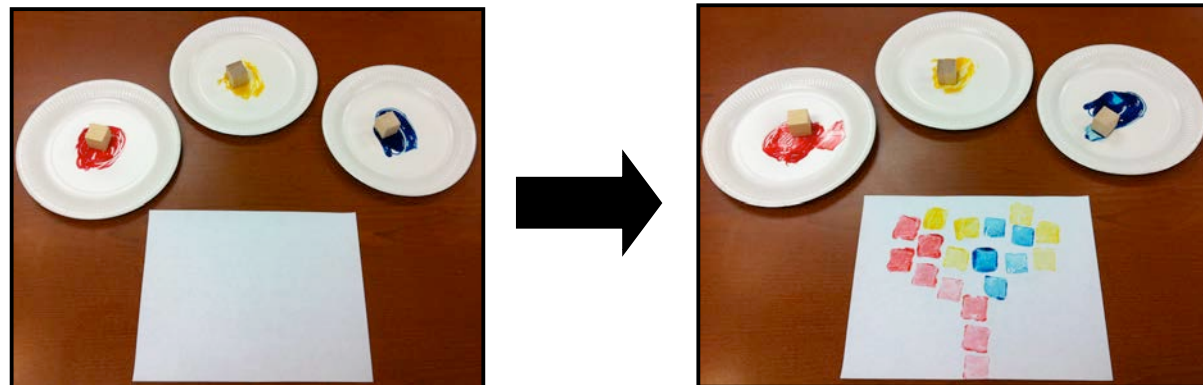
### Preparation

1. Pour a small amount of paint on each paper plate, one color on each plate.
2. Place four 1" blocks on each plate, children can share the materials.

Children use 1" blocks to make block prints.

### Procedure

1. Say: **Today we are going to use 1" blocks to make block prints.**
2. Model for the children how to make block prints using different colors of paint.
3. Encourage the children to make a design on their own.
4. Prompt children to use language to describe their design. Use suggested prompts:
  - **Tell me about your picture.**
  - **Why did you choose those colors?**
  - **How did you make your block prints?**
5. If children want to add a title to their creation, assist as needed.
6. Display the children's work.





# Creative Arts *i*Card Block Collage

### **Materials**

- newspaper
- paper towels
- white drawing paper
- several sheets of construction paper in assorted colors

### **For each child:**

- piece of white drawing paper
- glue
- bowl with twenty 1" paper squares of various colors

### **Preparation**

1. Cut construction paper into 1" squares.
2. Cover the table with newspaper.
3. Place materials on the table: glue sticks, bowls of 1" squares and paper towels.

Children create a collage by gluing 1" paper squares onto construction paper.

### **Procedure**

1. Say: **Today we will make a block collage using 1" paper squares and glue.**
2. Model how to create a collage on a piece of paper.
3. Encourage the children to use their imagination. They are free to create any picture or pattern they choose.





### **Materials**

- large assortment of blocks
- pencils, crayons or markers

### **For each child:**

- sheet of drawing paper
- hard surface to support their drawing paper, such as a clipboard or book

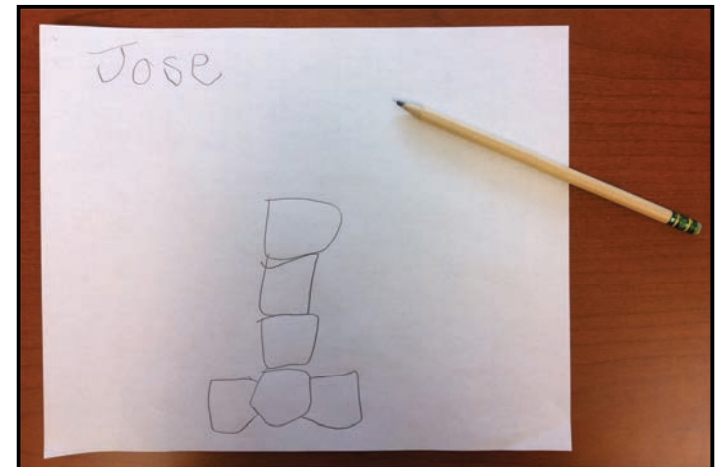
### **Preparation**

Place the materials on the table or floor. Each child should have enough space to build a small structure.

Children design block constructions and then make observational drawings.

### **Procedure**

1. Say: **Today we will use blocks to design constructions and then draw what we see.**
2. Ask the children to work independently or with a friend as they build. Encourage them to build using their own creativity.
3. After they build their design, give each child a sheet of drawing paper and drawing materials. Ask them to observe their construction and draw what they see.



## Creative Arts iCard Block Puzzle

### Materials

- crayons or markers
- copy paper
- sheet of 9" x 12" white construction paper

### For each child:

- sheet of 9" x 12" white construction paper
- scissors
- envelope or small plastic bag

### Preparation

1. Cut the sheets of construction paper to make a 9" x 9" square.
2. Make one for each child and one for the teacher.
3. Place the materials on the table.

Children make a drawing and cut it into four blocks that can be used as a puzzle and arranged in different ways.

### Procedure

1. Say: **Today we will draw a picture or color on this piece of paper. Then, we will cut it into four squares that look like blocks to make a puzzle.**
2. Ask children to use the crayons or markers to color or draw a picture on the 9" x 9" piece of construction paper.
3. Fold the construction paper in half horizontally and then in half vertically to make lines. Cut along the lines so all squares are the same size. If children want to cut their own squares, assist as needed.
4. Encourage children to arrange the puzzle squares in different ways.
5. Send puzzles home in an envelope or small plastic bag.

