

You may choose to teach the appropriate multiplication equation after the concept has been developed  $2 \times 2 = 4$ .

### DIVIDE AND CONQUER

Introduce division by starting each child with the same amount of counter chips. Have children separate their piles into smaller groups containing an equal amount. For example, give each child 8 chips and ask to separate the counters into groups of two. After the concept is developed, you may choose to teach the appropriate division equation  $8 \div 2 = 4$ .

### PROBABLE CAUSE

Remind children that when a coin is tossed, it lands on heads about half of the time, and on tails the other half. Ask them to predict the results of tossing a counting chip. Have the children test their predictions by working in pairs to toss a counter and record their results on a class chart. Although the 50-50 result may not happen on just a few tosses, it will over time. The more trials that are attempted, the closer the ratio.



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ROUND TWO-COLOR

# Counting Chips

## ACTIVITY GUIDE

### INTRODUCTION

Learning Resources round *Two-Color Counting Chips* can be used to introduce and develop a variety of mathematical concepts. This guide suggests activities that teach the basic math operations and patterns.

### EXPLORE

Encourage children to become familiar with the round *Two-Color Counting Chips* through unstructured exploration. Provide time for them to share their discoveries about their experiences with the materials.

### COUNT UP/COUNT DOWN

Have each child arrange his or her pile of chips with the red side up. Have them count each chip in sequentially ascending order and then in descending order. Help children establish a *one-to-one correspondence* between the counter chip and the number name. Determine if the child has a concept of the invariance of numbers by gathering up his or her pile and tossing the counter chips onto the desk again. Ask how many counter chips there are to test the child's understanding of the concept.

**WARNING:**  
CHOKING HAZARD - Small parts.  
Not for children under 3 years.

RISQUE D'ÉTOUFFEMENT. Petites pièces.  
Interdit aux enfants en dessous de 3 ans.  
ERSTICKUNGSGEFAHR. Kleine Teile. Nicht geeignet  
für Kinder unter 3 Jahren.  
PELIGRO. No conveniente para niños menores de 3 años por  
ser susceptible de producir piezas pequeñas que pueden ser ingeridas.

**MORE OR LESS**

Have each child toss a handful of counter chips on his or her desk top. Instruct each child to sort the chips according to color into two piles. Then, have each child arrange his or her piles into two rows. Have each child count the counters in each row, and ask:

*"How many red counters are there?"*

*"How many white counters are there?"*

Ask additional questions to establish concepts of comparison for more, less, the same, how many more, and how many less.

**GRAPHING CHIPS**

Use the previous activity as a basis for introducing graphing skills. Help each child draw a two-row grid on a piece of paper. Instruct them to place the counter chips in each row according to color to compare the amounts (see sample below). Expand the concept by having each child transfer his or her results to a picture graph or a symbolic graph.

**Reds**



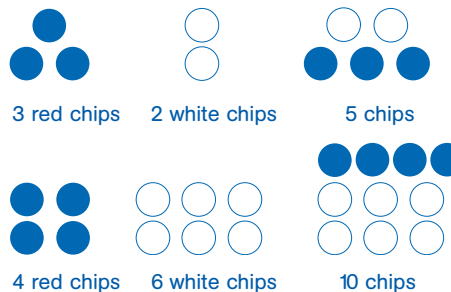
**Whites**

**PATTERN PLAY**

Have children work in pairs. Ask one child to create a pattern of red and white chips that can be repeated by his or her partner. You may choose to have the children record their patterns by drawing and coloring the chips on paper.

**ADD 'EM UP**

Have children use the counter chips to display number sequences. Start with simple sums and work up to larger ones:



Have children say the words aloud as they build each sentence. When children have mastered adding, try the activity with subtraction sentences.

**COUNTER QUESTIONS**

Direct mathematical word problems to the children as they manipulate their chips to arrive at the solutions.

For example, say:

*"I have 7 counters. 4 are red. How many are white?"*

*"I have 5 counters. There is one more red than whites. How many of each color are there?"*

Include questions that have several correct answers, such as:

*"I have 11 counters. There are more whites than reds. Give a possible solution."*

Have each child make up a riddle for a math card file.

**CHIP PRODUCTS**

Direct children to turn their counters so that they are red side up. Help them to manipulate their counters to establish basic concepts in multiplication. For example, say:

*"Make two groups of counters with 2 counters in each group. How many counters are there?"*