Take a Guess

Use what you know about probability to figure out what is in the bag.

What you need
20 Crayons (10 per color of any 2 colors)
Paper bag
Paper

What to do
1. Decide who will be the Guesser and who will make the mystery bag.
2. Make the mystery bag when the Guesser is not looking: choose 10 crayons—some of one color and some of another color—to put into the bag.
   (ex. 2 red and 8 yellow)
3. The Guesser will draw a crayon from the bag, record what color it is and put the crayon back in the bag.
4. The Guesser will do Step 3 nine more times.
5. The Guesser will look at the results and guess how many of each color of crayons are in the bag.
6. The other player shows the crayons.
7. The players switch roles and play again.

What to ask
• Is there a color that you will never draw?
• If you draw 10 more times from the same mystery bag, will the results be the same?
• What combination of crayons will be the hardest to guess? The easiest?
• When you are the Guesser, how would it help you if you drew more times?

Did you know?
Analyzing data provides the opportunity to make the best choice by comparing. Everyday, we have to make decisions such as which product is the best buy. By looking at a set of criteria and thinking through the data, children can further develop an ability to make wise choices.

The Children's Museum of Houston

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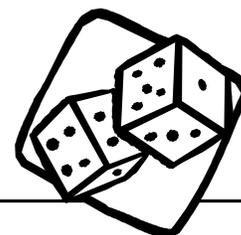
What's next?

- Add more colors of crayons.
- Research a real life question and use sampling to draw conclusions. For example, how many insects are in the yard or how many fish in the pond/aquarium?

To learn more

The Crayon Counting Book

by Pam Munoz Ryan

Colorful pictures, words and numbers are found on each page of this book that teaches counting by twos-two different ways. First it is the even numbers 0-24. The second half of the book has the same format but uses the odd numbers from 1-23. The crayon and gouache illustrations feature crayons with creative names such as iguana and fiddlehead.

How it Helps with School

Texas Essential Knowledge and Skills (TEKS) Standards:
Probability and Statistics: 3.14; 4.13A; 5.12B
Underlying Processes and Mathematical Tools: 3.16A, 3.17A; 4.15A, 4.16A; 5.15A, 5.16A

National Council of Teachers of Mathematics (NCTM) Standards:
Data Analysis and Probability, Connections, Representation