

- **Stretches**

1. **Dominoes on a Chessboard:**

You have a pile of dominoes and a chessboard. Can we cover the entire chessboard with dominoes? Now say you remove two opposite corners of the chessboard. Can you still cover the chessboard with dominoes?

2. **Three smart people and five hats:**

There are 5 hats in a dark closet: 3 are red and 2 are blue. Three smart people go into the closet, put on hats, and come out. They cannot see their own hats.

The first person says, "I can see the other two peoples' hats, but I cannot determine my own."

The second guy says the same thing.

The last guy is blind, but he says, "I know exactly what color hat I'm wearing."

What color hat is the blind man wearing?

- **Classwork**

1. **Changing 50 cents**

*In how many ways can you change a 50 cent piece?*

2. *Five circles balance six triangles. One square balances a circle and triangle together. How many squares balance eleven triangles?*

3. **Milk and Coffee**

An 8-ounce cup of coffee and an 8-ounce cup of milk are sitting side by side. You take an ounce of milk and stir it into the coffee. Then you take an ounce of the mixture and stir it back in the milk. Is there more milk in the coffee or coffee in the milk, or is it equal?