

## Activities

**Problem 1:** Justin is forming a team of people to work on the upcoming dance. Four students: Abby, Bailey, Chris, and Dallas have volunteered to serve on the committee of three, where everyone will share the duties to see that the dance takes place. If Justin wants to make up committees of three persons from the four volunteers, how many committees can Justin form? Let capital letters represent each person: Abby (A), Bailey (B), Chris (C), Dallas (D). Use the letters to show the various committees of three persons that can be formed from the four people.

**Problem 2:** Justin is forming a team of people to work on the upcoming dance. Four students: Abby, Bailey, Chris, and Dallas have volunteered to serve on the committee. This time one person will be the chairperson, one the secretary, and finally the third person will be the treasurer. If Justin wants to make up committees of three persons from the four volunteers, how many committees can Justin form? Use capital letters to represent each person: Abby (A), Bailey (B), Chris (C), Dallas (D). Use the letters to show the various committees of three persons that can be formed from the four people.

**Problem 3:** Paige is putting a fruit salad together. For the fruit salad Paige has a choice of 5 ingredients: apples, bananas, cherries, dates, and grapes. Let capital letters to represent each fruit: apples (A), bananas (B), cherries (C), dates (D), and grapes (G). Paige decides that he will make the salad with two fruits. Use the capital letters to show how many types of fruit salads he can make.

**Problem 4:** A bicycle lock is made up a two digit number such as 12 or 34. For security reasons, no double digits are allowed such as 11 or 22. Each digit in the code can be any of the digits 1-5. Let each digit be represent itself: 1, 2, 3, 4, and 5. Use the numbers to show all the different lock numbers that can be make using the five digits.