***Building A Train***

Suppose you are building a train using 2 different-colored snap cubes. In how many ways can you arrange the 2 cars (2 snap cubes)?

Draw a picture of how you were able to arrange the cars.

In how many ways can you arrange 3 different-colored cars (3 snap cubes)? Draw your result.

In how many ways can you arrange 4 different-colored cars? Draw your result.

Organize your data in a table.

Do you see a pattern in the data? Describe the pattern. How do you know this works?

Use your pattern to predict the number of ways to arrange 5 different-colored cars. Test your prediction.