

Name(s) \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

## Activity Guide: Circle-Triangle-Square

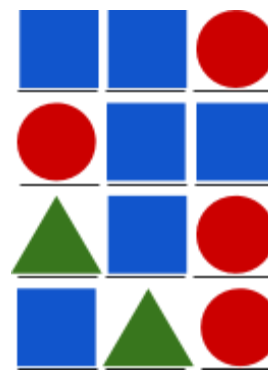


### Instructions

Given 3 places to work with, make as many *unique* patterns as you can using only circles, triangles and squares.

The diagram on the right shows a few examples of some 3-place patterns.

*NOTE: Order matters, so, for example: Circle-Triangle-Square is a different pattern than Square-Circle-Triangle, even though both have one of each shape.*



### Challenge 1 - Find all of the 3-place patterns

**Record** all of the unique 3-place patterns you can find in the template started below.

**How many are there?** Number each one you find to keep track. (Note there may be more or fewer total patterns than spaces provided)

**Suggestion:** *think about trying to find the patterns in an organized or systematic way, rather than just randomly.*

...

(keep going)

## Challenge 2 - make a system for generating all the patterns

Now that you've listed out all of the 3-place patterns of circles, triangles, and squares, let's put them in a systematic order. You can use any system you like, as long as you create and follow a clear set of rules for getting from one line to the next.

**Jot down the rules of your system below.**

**Suggestion:** *to test your rules, have someone follow them to see if they can recreate your organized list above.*