

Sierpinski Tree Challenge

This activity is designed to get you and your child working together to build a Sierpinski Christmas tree from small tetrahedrons (triangular pyramids).

Required Materials: Green Cardstock
Scissors
Glue Sticks
Sticky Tape
Sequins / stickers / pens / pom poms

GOAL: To make a giant Sierpinski Tree we need to make several small tetrahedrons (triangular pyramids). Four can be joined to make a larger one, then four of these can be joined to make a sixteen unit tree and so on!

To make a good sized tree we need 64 small pyramids. What is the biggest Sierpinski Tree you and your child can make?



Instructions:

Step 1: Print pyramid templates from the next page onto green cardstock.

Step 2: Cut out each pyramid template.

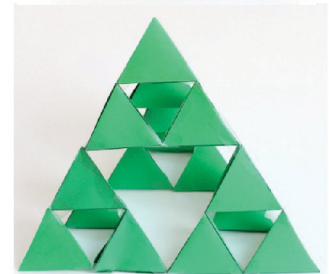
Step 3: Fold along the dotted lines and fold the tabs inward.
Secure your pyramid with glue or sticky tape.

Step 4: Individual pyramids can be decorated with stickers / pens / sequins
/ pom poms / glitter.

Step 5: Four small pyramids can be built into one,
bigger unit by sticking the vertices together.



Step 6: Four of these units can be stuck together to make
a 16-unit tree.



Step 7: Continue making and contributing pyramids to
your Sierpinski Tree / Trees.

Step 8: Cut out a yellow star and attach it to the top of your tree!

Step 9: Close out the challenge by asking these questions:

1. How many pyramids are in the tree?
2. Could we make a tree with ___ pyramids? (*Insert any number and ask your child to reason out loud.*) How do we know how many pyramids we would need for the next size of tree?
3. What is the rule for finding the number of pyramids needed?



