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Mysterious Patterns: Finding Fractals in Nature

Make a Fractal Pop-Up

## To Make a Fractal Pop-Up

1. Fold an 8 ½” by 11” piece of paper in half vertically and set the paper in front of you horizontally, with the fold facing you.
2. Make two vertical cuts about a quarter of the way in from the sides and about halfway up the paper.
3. Fold the piece between the two cuts up so that it lines up with the top edge of the paper.
4. Make two more vertical cuts a quarter of the way in from your last two cuts and halfway up the rest of the paper.
5. Continue folding and cutting this way as long as you can. Can you describe the fractal rule for this activity? In other words, what patterns of actions are you repeating over and over?
6. When you can't cut anymore, open up the paper to see the three-dimensional fractal you've created. Starting with the largest box you can see in the fractal, reverse some of the folds so that box sticks out. Then move to the next box and repeat this action, and so on until all of the boxes pop up.

\*Adapted from Big Ideas for Small Mathematicians, 2007, Zephr Press.