FRACTALS ALL AROUND!

Elsa's not the only one who thinks that fractals are pretty cool! She was singing about ice crystals, but that's just one example. Fractals are mathematical patterns that never end. They repeat and are similar no matter the size. The Sierpinski Triangle is one example of a fractal not found in nature. Notice how the triangles repeat, no matter how closely you look at it. In nature, an example is a fern frond. Each leaf on the frond looks like the larger frond.

BEFORE YOU GET STARTED

Recommended Ages: Grades 2-5

Estimated Time: 30 – 45 minutes

Stuff you'll need: Camera or Pencil and Paper

Caregivers should consider: Girl Scouts may use a camera on a cell phone or tablet, although it's not required. Consider the risks of allowing your Girl Scout to utilize this device outdoors. The device may also have connectivity to the internet, which can also put her at risk. Caregivers may choose to accompany their Girl Scout outdoors for safety precautions.

<div style="background:magenta">

BADGE OR JOURNEY STEPS COMPLETED

Brownie Senses Badge – Step 1
Brownie Outdoor Art Creator Badge – Steps 1, 2, 4 & 5
Junior Digital Photographer Badge – Steps 1 & 2
Junior Drawing Badge – Steps 2 & 3

</div>

THE FUN PART

1. Ask a caregiver to use a camera to take pictures outside. If you haven't already, learn how to operate the camera. If you don't have access to a camera, find a pencil and paper and head outside!

2. There are tons of fractals in nature. See how many you can capture on your camera or by drawing them on your paper. Really try and capture the repeating shapes using shading and perspective.

3. Come on back inside. (You may find some man-made fractals in your house.) With your caregivers' permission, search "fractal" on the internet. How did you do compared to the examples online? Did you also see those super cool fractals that look like tie-dye? Those were created on a computer using mathematical equations and computer code. Keep researching fractals if you want.

4. Way to go! You did it! Share on social media with your caregiver's permission. Use the hashtag #GSGIDIY